Royal Hill Road, Spondon

BIODIVERSITY NET GAIN ASSESSMENT

784-B038315

Miller Homes Limited

August 2023

Prepared on Behalf of Tetra Tech Limited. Registered in England number: 01959704

Tetratecheurope.com

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Consultant Ecologist	Principal Ecologist		Principal Ecologist

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Revision of report and Defra metric following design freeze to Illustrative Masterplan.

This report is a draft report. The report will be amended and finalised once the final layout is produced.

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The site is located off Royal Hill Road, Spondon, to the east of Derby and was centred at Ordnance Survey National Grid Reference SK 39603 36712.
Proposals	The site proposals include an outline planning application for a residential development for up to 90 dwellings including related infrastructure, landscaping and open space. All matters reserved except for access into the site from Royal Hill Road.
Scope of this Survey(s)	The scope of this survey and report was to: • Assess the distinctiveness and condition of the vegetation types and other habitats present within the site; and • Present biodiversity net gain calculations, based on the most recent proposals, to inform the project on any potential biodiversity losses / gains as a result of the proposal site layout and landscaping.
Results	Based on the current Post-Development Plan, the proposed development would result in a net gain of **+ 1.16** habitat units **(+ 11.31 %),** a gain of **+ 4.18** hedgerow units **(+ 32.25 %)** and a net gain of **+ 0.49** watercourse units **(78.09%).** Trading rules have also been satisfied.
Recommendations	The DEFRA Metric V4.0 has a net gain of 11.31% for habitats, a net gain of 32.25% for hedgerows and a net gain of 78.09% for watercourses with the trading rules satisfied. Best practice relating to Biodiversity Net Gain (BNG) includes a 10% or above net gain. It is recommended that an update BNG assessment and habitat management plan is produced at the reserved mattered stage to detail the habitat retention, creation and enhancement required for a 30-year period, that will detail how the 10% net gain will be achieved at for this site.

GLOSSARY

ACIEEM	Associate Member of the Chartered Institute of Ecology & Environmental Management
CIEEM	Chartered Institute of Ecology & Environmental Management
DEFRA	Department for the Environment, Food and Rural Affairs
HAP	Habitat Action Plan
LBAP	Local Biodiversity Action Plan
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
W&CA	Wildlife & Countryside Act 1981 (as amended)

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech was commissioned by Miller Homes in March 2022 to prepare a Biodiversity Net Gain (BNG) Assessment for Royal Hill Road, Spondon, hereafter referred to as "the site", this was followed by a further instruction to update the BNG assessment in May 2023 to support an outline planning application for the site following alterations of the illustrative masterplan.

This report has been prepared by Tetra Tech Consultant Ecologist Athina Constantinou ACIEEM MSc, BSc (Hons), and the conditions pertinent to it are provided in Appendix A.

1.2 SITE LOCATION

The site is located off Royal Hill Road, Spondon, a suburb of Derby, DE21 7AH (nearest postcode) and was centred at Ordnance Survey National Grid Reference SK 39603 36712 – see Figure 1. It comprises hedgerows, improved grassland, scattered broadleaved trees, scattered scrub, buildings, bare ground, hardstanding, fencing and a ditch. The site is bounded by agricultural (arable and pastoral) farmland to the north and west of the site, Royal Hill Road to the east and residential area to the south. The wider landscape comprises mainly residential areas, with the City of Derby to the west and Spondon, a suburb of Derby to the east. Beyond Longley Lane to the north are further areas of agricultural farmland.

1.3 DEVELOPMENT PROPOSALS

The site proposals include an outline planning application for a residential development for up to 90 dwellings including related infrastructure, landscaping and open space. All matters reserved except for access into the site from Royal Hill Road.

1.4 PURPOSE OF THE REPORT

The purpose of this report is to:

- Assess the distinctiveness and condition of the vegetation types and other habitats;

- Quantify the pre-development baseline habitat and hedgerow units present on site;

- Quantify the post-development biodiversity units on site based on the Concept Masterplan within the development based on the latest illustrative Masterplan for Land off Royal Hill Road, Spondon (Reference: 'P19-2639_DE_001') (See Appendix J).

The details of this report will remain valid for eighteen months post survey, until **October 2024**. Scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

2.0 METHODOLOGY

2.1 BIODIVERSITY METRIC 4.0

A Biodiversity Net Gain (BNG) assessment involves making a comparison between the biodiversity value of habitats present within the site prior to development (i.e., the 'baseline') and the predicted biodiversity value of habitats following the completion of the development (i.e., 'post-development'). The comparison is made in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.

The previous BNG assessment (V1) was completed in Biodiversity Metric version 3.1. Biodiversity Metric version 4.0 is now available and has been used as part of this assessment, as the most up to date version of the metric and is the metric version named within the Environment Act 2021. Biodiversity Metric version 4.0 (Natural England, 2023a) in conjunction with the user guide (Natural England, 2023b) calculates the overall loss or gain of biodiversity for development projects by assessing the distinctiveness (i.e., type of habitat and its value), condition, extent, and strategic significance of habitats on site pre- and post-development. To achieve biodiversity net gain, the biodiversity unit score must have a post-development score higher than the baseline score.

The metric assesses and generates separate outputs for area-based habitats (measured in habitat units) and linear based habitats, including hedgerows (measured in hedgerow units) and watercourses (measured in watercourse units). For the purpose of the BNG assessment, the output with the lowest value is used to determine whether following development there has been a net gain in biodiversity. A development cannot claim to achieve an overall net gain unless this is predicted across all area-based and linear based habitats.

When calculating the post-development biodiversity units, the metric includes a series of standard 'risk multipliers' to account for the inherent risk of creating and restoring habitats, the time taken to establish habitats and the location of the mitigation in relation to the habitats lost on site. The risk multipliers have the effect of reducing the value of the proposed habitats, which means larger areas, habitats of higher distinctiveness, and/or condition are required to achieve net gain.

All habitats surveyed within the development site boundary have been included within the calculation to provide the baseline and post-development biodiversity values calculations. The aim of this is for any proposed enhancements recommended to improve the condition of retained habitats can be implemented and are therefore robust.

The information required to undertake the calculation is described below.

2.1.1 Distinctiveness

Each habitat is assigned a score for distinctiveness. Distinctiveness includes parameters such as species richness, diversity, rarity (at local, regional, national, and international scales) and the degree to which a habitat supports species rarely found in other habitats (Treweek et al., 2010). The categories for distinctiveness within the metric are shown within the Natural England, *Biodiversity Metric 4.0 - Technical Annex 1 - Condition Assessment Sheets and Methodology* (Natural England, 2023c). The scores for each distinctiveness criteria are given in Table 1.

Table 1: Categories and score for distinctiveness

Categories		Score
Very High	Priority Habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act that are highly threatened, internationally scarce and require conservation action, for example blanket bog. Small amount of remaining habitat with a high proportion unprotected by designation. Critically Endangered European Red List habitats. Species-rich native hedgerow with trees - associated with bank or ditch.	8
High	Priority Habitats as defined in Section 41 of the NERC Act requiring conservation action, for example lowland fens. Remaining Priority Habitats not in very high distinctiveness band and other Near Threatened and Vulnerable Red List habitats. Species-rich native hedgerow with trees; Species-rich native hedgerow - associated with bank or ditch; or Native hedgerow with trees - associated with bank or ditch.	6
Medium	Semi-natural habitats not classed as a Priority Habitat but with significant wildlife benefit, for example mixed scrub. Arable field margins (Priority Habitat only). Species-rich native hedgerow; native hedgerow – associated with bank or ditch; native hedgerow with trees; ecologically valuable line of trees; or ecologically valuable line of trees - associated with bank or ditch.	4
Low	Habitat of limited biodiversity value for example temporary grass and clover ley. Agricultural and urban land of lower biodiversity value. Native hedgerow; Line of trees; or Line of trees - associated with bank or ditch.	2
Very Low (hedgerow module)	Non-native and ornamental hedgerow	1
Very low (area and watercourse module)	Little or no biodiversity value for example hard standing or sealed surface	0

2.1.2 Condition

The condition of each habitat is assessed using the methods set out in the *Biodiversity Metric 4.0 -Technical Annex 1 - Condition Assessment Sheets and Methodology* (Natural England, 2023c).

This approach determines how many of the condition criteria descriptions for each habitat type are met or are not met. For each habitat type, thresholds then apply for the numbers of condition criteria that must be met.

This is used as a guide but may be superseded where appropriate by other evidence and best ecological judgement. Where this is the case, additional information is provided in the tables used to the condition assessment.

Conditions and associated scores in the Biodiversity Metric 4.0 are as follows:

- Good: 3
- Fairly Good: 2.5
- Moderate: 2
- Fairly Poor: 1.5
- Poor: 1
- Condition Assessment N/A: 1
- N/A - Other: 0

Hedgerows and Lines of Trees have a simplified condition assessment of Good, Moderate or Poor.

A number of lower distinctiveness habitats including cropland, urban habitat and bramble *Rubus fruticosus* scrub are assigned default values and do not require a detailed condition assessment. The details of all habitats, hedgerows and watercourses which are automatically assigned a poor condition value are set out in *Biodiversity Metric 4.0 - Technical Annex 1 - Condition Assessment Sheets and Methodology* (Natural England, 2023c).

The baseline condition assessment data results can be found in Appendices B, E and H.

2.1.3 Strategic Significance

The strategic significance of a site within the Biodiversity Defra Metric 4.0 is based upon several factors;

- If the site is identified within a local planning policy as a biodiversity and nature or green infrastructure improvement areas; and

- If the habitats are identified as habitats of principal importance (HPIs) or LBAP habitats.

Strategic significance scores in the Biodiversity Defra Metric 4.0 are detailed in Table 2 below.

Table 2: Relevant Planning Polices within Derbyshire

Plan	Policy	Score
High strategic significance	Where the location has been identified within a local plan, strategy or policy as being ecologically important for the specific habitat type or where that habitat has been identified as being locally ecologically important.	1.15
Medium strategic significance	Where there is no relevant plan, strategy or policy in place, professional judgement may be used to justify the use of the medium strategic significance category. This judgement should consider the importance of that habitat in providing a linkage between other strategic locations.	1.1
Low Strategic Significance	If the habitat is not included in local plans, strategy or policy, and there is no evidence to suggest that the habitat is of medium strategic significance.	1

As part of this assessment, the relevant local planning policy documents listed in Table 3 were reviewed to determine the strategic significance of the habitats on site.

The only habitat on site pre-development that is mentioned within the Lowland Derbyshire Biodiversity Action Plan is hedgerows, therefore all hedgerows have been given a high strategic significance pre-development. The only habitats post-development to be mentioned are hedgerows and traditional orchards.

Hedgerows post development have been given high strategic significance. The proposed post-development traditional orchards although are mentioned within the Lowland Derbyshire Biodiversity Action Plan, will likely not meet the criteria fully to be a habitat of principal importance long term due to their location close to a residential development. However, the proposed orchard planting on site is considered to at least be moderate strategic significance as this habitat will be ecologically desirable as an ecological stepping stone through the wider landscape for a range of notable species and contribute to local planning policy CP16 and CP19 (Table 3).

Table 3: Relevant Planning Polices within Derbyshire

Plan	Policy
Lowland Derbyshire Biodiversity Action Plan (Partnership, 2011)	Habitat Action Plans include; • Arable Field margins • Calaminarian grassland • Coastal and Floodplain grazing marsh • Hedgerows • Inland Rock outcrop and scree habitats • Lowland calcareous grassland • Lowland mixed deciduous woodland • Lowland dry acid grassland • Lowland Fens • Lowland heathlands • Lowland meadows • Mesotrophic lakes • Open mosaic habitats on previously developed land • Ponds • Reedbeds • Rivers • Traditional orchards • Wet woodland • Wood pasture and Parkland (including veteran trees)
Local Plan	DERBY CITY LOCAL PLAN - PART 1 CORE STRATEGY includes policy CP16 – Green Infrastructure stating: 'The Council will: (a) minimise and mitigate impacts and overall decline of biodiversity and, where possible, provide net gains Policy CP19 – Biodiversity also states: 'The Council will: (a) seek to avoid, minimise and mitigate the impacts on biodiversity and contribute to the City's ecological and geological resources resulting in a net gain in biodiversity over the plan period.'

2.1.4 Risk Factors

As part of any proposed habitat creation and enhancement, risk multipliers must be considered for:

- Difficulty of creation or enhancement;
- Temporal risk; and
- Spatial risk.

Temporal risk looks at the time to target condition, advance or delayed habitat creation or enhancement, and accounting for temporary losses.

The spatial risk multiplier reflects the relationship between the location of on-site biodiversity loss and the location of off-site habitat compensation. It affects the number of biodiversity units provided to a project by penalising proposals where off-site habitat is located at distance from the impact site.

To take this into account, creation of a habitat which will take many years to get to target condition, is difficult to recreate or is located far from the original site, would have a reduced biodiversity value compared to the same habitat already in situ. Therefore, to compensate for loss of that original habitat a larger area would be required as an offset.

Default values are provided for a range of habitats as part of the Biodiversity Metric 4.0. These may be altered if informed by knowledge of the site and proposed management prescriptions, as detailed within the habitat assessment tables. The habitat creation in advance or delay can change based on proposed timelines of the development.

2.2 PRE-DEVELOPMENT BASELINE DATA

A BNG assessment survey was undertaken on the 20th April 2022 by Tetra Tech Consultant Ecologist, Athina Constantinou ACIEEM MSc, BSc (Hons).

The pre-development habitats were mapped in accordance with the JNCC Phase 1 habitat types (JNCC, 2010). Further detail of habitat descriptions and target notes can be found in the Preliminary Ecological Appraisal (Tetra Tech, 2022). These habitats were assessed during the site survey and, where necessary, were updated to reflect the habitats as currently present on site. The habitats were converted into UKHab classification (Treweek et al., 2020) for using the Biodiversity Defra Metric 4.0 which are shown on Figure 2 and set out in Table 4. The areas of identified habitats were calculated in hectares (ha) to two decimal places. The area of identified habitats is calculated in hectares (ha), ignoring linear features such as hedgerows or ditches (the area should be measured to the centre line of such features). The length of linear features is measured separately in kilometres (km).

Table 4: Phase 1 habitats, hedgerows and watercourses present on site pre-development and their conversion into UKHab

Phase 1 habitat Category	Corresponding UKHab Category (Figure 2)
Bare ground	Urban - Bare ground
Hardstanding	Urban - Developed land; sealed surface
Buildings	Urban - Developed land; sealed surface
Scattered broadleaved trees	Individual trees – Rural tree
Running water	Ditches
Improved grassland	Grassland – Modified grassland
Scattered scrub	Heathland and scrub - Hawthorn scrub
Species-poor defunct hedgerow	Native hedgerow

| Species-poor hedgerow with trees | Native hedgerow with trees |
| Intact species-poor hedgerow | Native hedgerow |

2.3 POST-DEVELOPMENT DATA

The latest illustrative Masterplan for Land off Royal Hill Road, Spondon (Reference: P19-2639_018_01') has been used to determine the extent and type of habitats to be retained, created and enhanced post-development (collectively referred to as the 'Site proposal plan' located within Appendix F). The habitats were converted to UK Habitat Classification categories before being digitised into GIS to produce the Post-Development Habitat Plan (Figure 3).

Table 5: Habitats, hedgerows and watercourses present on site post development

UKHab present on site post-development (Figure 2)
Urban – Sustainable drainage system
Urban - Developed land; sealed surface
Grassland – Traditional orchards
Individual trees – Urban tree
Individual trees – Rural tree
Grassland – Modified grassland
Grassland – Other neutral grassland
Species-rich native hedgerow with trees
Species-rich native hedgerow
Native hedgerow
Native hedgerow with trees
Ditches

Target condition scores for the proposed habitats were selected in accordance with *Biodiversity Metric 4.0 - Technical Annex 1 - Condition Assessment Sheets and Methodology* (Natural England, 2023c) using professional judgement to establish that the condition scores selected were realistic. The data was utilised to predict the post development biodiversity units.

2.4 LIMITATIONS

To conduct the assessment of habitats post-development required conversion of the Post Development Habitat Plan (Figure 3) into UKHab habitat categories. This information is then input into the Metric in terms of the habitat areas being retained, lost or enhanced. Whilst not a significant limitation, any final proposals should be cross referenced with the assigned categories even if the masterplan categories remain unchanged. At the time of this assessment no detailed planting plans, including species proposed, finalised landscape plans and proposed timelines of the development were available, as such a number of assumptions have been made as detailed in Section 2.2 and 2.3.

Note that scores for habitats, hedgerows and watercourses are reported separately and therefore should not be summed or averaged to produce a final overall biodiversity value for the site.

The outputs of the metric are not absolute values but provide a proxy for the relative biodiversity worth of a site pre- and post-development. The calculations within this report should be reviewed and updated should

there be any changes to the habitats on site currently. As the change in biodiversity units is determined by subtracting the number of pre-intervention biodiversity units (i.e., those originally existing on-site and off-site) from the number of post-intervention units (i.e. those projected to be provided), this report should be updated should the proposals for the site change (Figure 3).

The metric does not override or undermine any existing planning policy or legislation, including the mitigation hierarchy, which should always be considered as the metric is applied. Furthermore, the metric does not change the protection afforded to biodiversity. Existing levels of protection afforded to protected species (such as for bats) and to habitats, are not changed by use of this or any other metric.

The optimal period to undertake a botanical survey is April-September. The condition assessment surveys were completed in April which is within the optimal survey window. As such this is not considered to be a limitation to the accurate assessment of the habitats and the dominant species of the respective vegetation types were visible and identifiable.

3.0 HABITAT DESCRIPTIONS

3.1 CONDITION ASSESSMENTS

All condition assessments for habitats both pre-and-post development are listed within Appendices C – I.

3.2 ONSITE BASELINE HABITAT SUMMARY

The following habitats have been identified through our assessment:

3.2.1 Grassland – Modified grassland

The majority of the site comprised improved grassland which was used as grazing fields for horses at the time of survey. The fields were grazed to approximately 5 cm with the boundaries being overgrown to 20 cm. This was dominated by perennial rye grass *Lolium perenne* with broadleaved dock *Rumex obtusifolius*, common ragwort *Jacobaea vulgaris*, broadleaved plantain *Plantago major*, white dead nettle *Lamium album*, common mouse ear *Cerastium fontanum* and creeping buttercup *Ranunculus repens* occasionally occurring.

3.2.2 Hedgerows and lines of trees - Native hedgerow

Hedgerow 1 (H1) was a species-poor intact hedgerow located on the east boundary of the site. This was dominated by hawthorn *Crataegus monogyna* with bramble *Rubus fruticosus* agg. cleavers *Galium aparine*, cow parsley *Anthriscus sylvestris*, common nettle *Urtica dioica*, perennial rye grass, common ragwort, broadleaved dock, with hawthorn and elder *Sambucus nigra* saplings occasionally occurring.

Hedgerow 5 (H5) was a species-poor defunct hedge located in the centre of the site. This was dominated by hawthorn with occasionally occurring holly *Ilex aquifolium* and field rose *Rosa arvensis*. The understorey included common nettle and bramble.

Hedgerow 6 (H6) was a species-poor defunct hedgerow located on the northern boundary of the site. This was dominated by hawthorn with occasionally occurring blackthorn *Prunus spinosa*. Understorey included cleavers, perennial rye grass and bramble frequently occurring.

3.2.3 Hedgerows and lines of trees - Native hedgerow with trees

Hedgerow 2 (H2) was a species-poor hedgerow with trees, located in the centre of the site. This was dominated by hawthorn with crab apple *Malus sylvestris* and elder trees frequently occurring and holly occasionally occurring. The understorey included white dead nettle *Lamium album*, broadleaved dock, common nettle and bramble occasionally occurring. Hedgerow H2 will be entirely removed as part of the site proposals.

Hedgerow 3 (H3) was a species-poor hedgerow with trees, located in the centre of the site. This was dominated by blackthorn with elder frequently occurring, English oak *Quercus robur*, wild cherry, holly and juniper *Juniperus sp*. rarely occurring. The understorey included bramble, common nettle, common ivy *Hedera helix* and broadleaved dock. Approximately 16 m of hedgerow H3 is to be removed as part of the site proposals.

Hedgerow 4 (H4) was a species-poor hedgerow with trees, located on the southern boundary of the site. This was dominated by hawthorn, with blackthorn frequently occurring and ash *Fraxinus excelsior* trees rarely occurring. The understorey included common hogweed *Heracleum sphondylium*, common nettle, bramble, perennial rye grass, green alkanet *Pentaglottis sempervirens* and common ivy frequently occurring and garlic mustard *Alliaria petiolata* with Spanish bluebells *Hyacinthoides hispanica* occasionally occurring.

Hedgerow 7 (H7) was a species-poor hedgerow with trees located on the western boundary of the site. This was dominated by hawthorn with occasionally occurring elder and rarely occurring English oak. The understorey included bramble, common nettle and dandelion.

3.2.4 Heathland and shrub – Hawthorn scrub

Heathland and shrub – hawthorn scrub was located around the site within the improved grassland. This was dominated by hawthorn with elder frequently occurring and field rose rarely occurring. Understorey included common nettle *Urtica dioica*, broadleaved dock *Rumex obtusifolius* and white dead nettle *Lamium album* occasionally occurring.

3.2.5 Ditches

A ditch with flowing water was located on site. Ditch D1 was located on the south of the site. D1 was 2 m wide with a 30cm depth and 65° angle banks. The ditch was slow flowing towards the west of the site. The banks of the ditch included hedgerow H4 on the north and tall ruderal vegetation on the south. No emergent vegetation is located within the ditch section which holds water. Sections of the ditch are culverted with a small section close to the road being dry.

3.2.6 Urban – Bare ground

Urban - bare ground was located within the improved grassland in centre of the site.

3.2.7 Urban - Developed land; sealed surface

Urban - Developed land; sealed surface was located around the site in the form of buildings and hardstanding.

3.2.8 Individual tree – Rural tree

Individual tree – Rural tree was located around the site in the form of scattered broadleaved trees. This was comprised of wild cherry *Prunus avium* which were semi-mature in age. A single tree was of mature age and was an English oak *Quercus robur*.

4.0 BASELINE HABITAT UNITS

The respective baseline biodiversity value for area-based and linear habitats and watercourse habitats are provided in Tables 5, 6 and 7 respectively. In total, the baseline biodiversity value of the habitats present was calculated as **10.28** area-based habitat units, **12.97** linear hedgerow units and **0.63** watercourse units.

Table 6: Baseline Area-based Habitats

Habitat Type (UKHab)	Distinctiveness	Condition	Area (ha)	Habitat Units
Heathland and shrub – Hawthorn scrub	Medium	Poor	0.06	0.24
Grassland – Modified grassland	Low	Poor	4.37	8.74
Urban – Developed land; sealed surface	Very Low	N/A - Other	0.03	0.00
Urban – Bare ground	Low	Poor	0.05	0.10
Individual tree – Rural tree	Medium	Good	0.1	1.20
Total			**4.61**	**10.28**

Table 7: Baseline Linear Habitats

Habitat Type (UKHab)	Distinctiveness	Condition	Length (km)	Habitat Units
Hedgerow 1: Native Hedgerow	Low	Moderate	0.07	0.32
Hedgerow 2: Native Hedgerow with trees	Medium	Good	0.21	2.90
Hedgerow 3: Native Hedgerow with trees	Medium	Good	0.3	4.14
Hedgerow 4: Native Hedgerow with trees	High	Good	0.18	2.48
Hedgerow 5: Native Hedgerow	Low	Good	0.06	0.41
Hedgerow 6: Native Hedgerow	Low	Moderate	0.05	0.23
Hedgerow 7: Native Hedgerow with trees	Medium	Good	0.18	2.48
Total			**1.05**	**12.97**

Table 8: Baseline Watercourse Habitats

Watercourse Type (UKHab)	Distinctiveness	Condition	Length (km)	Watercourse Units
Ditches	Medium	Poor	**0.18**	**0.63**

5.0 POST-DEVELOPMENT HABITAT UNITS

5.1 RETAINED AND CREATED HABITAT

In total, the post-development biodiversity value is predicted to be **+11.44** area-based habitat units, **+17.16** linear hedgerow units and **+1.12** watercourse-based units (Tables 9 - 12). The proposed post-development habitats include retaining and enhancing the northern section and part of the southwest section of the site and the majority of the hedgerows on site.

Table 9: Created Post-development Habitat Data

Habitat Type (UKHab)	Distinctiveness	Condition	Area (ha)	Habitat Units
Urban - Developed land; sealed surface	V.Low	N/A - Other	2.19	0.00
Urban - Sustainable drainage system	Low	Moderate	0.12	0.29
Grassland – Modified grassland	Low	Poor	1.43	2.76
Grassland – Other neutral grassland	Medium	Good	0.48	4.03
Individual trees - Urban Tree	Medium	Moderate	0.48	1.47
Grassland - Traditional orchards	High	Moderate	0.28	1.81
Total			**4.98**	**10.36**

Table 10: Created Post-development Hedgerow Data

Habitat Type (UKHab)	Distinctiveness	Condition	Length Created (km)	Habitat Units
Native Species-Rich Hedgerow with trees	High	Good	**0.57**	**5.79**

Table 11: Enhanced Post-development Hedgerow Data

Habitat Type (UKHab)	Distinctiveness	Condition	Length Enhanced (km)	Habitat Units
Hedgerows and lines of trees - Native Species-Rich Hedgerow (Hedgerow H1)	Medium	Moderate	0.05	0.42
Hedgerows and lines of trees - Native Species-Rich Hedgerow with trees (Hedgerow H3)	High	Good	0.25	4.89
Hedgerows and lines of trees - Native Species-Rich Hedgerow (Hedgerow H5)	Medium	Good	0.05	0.67
Hedgerows and lines of trees - Native Species-Rich Hedgerow (Hedgerow H6)	High	Moderate	0.05	0.55
Total			**0.40**	**6.53**

Table 12: Enhanced Post-development Watercourse Data

Habitat Type (UKHab)	Distinctiveness	Condition	Length Enhanced (km)	Habitat Units
Ditches	Medium	Moderate	**0.18**	**1.12**

5.2 HABITATS LOST TO PROPOSED DEVELOPMENT

The majority of habitats on site will be lost to facilitate the proposed development. A summary of the areas lost is presented in Table 13.

Table 13: Habitats Lost due to Proposed Development

Habitat Type (UKHab)	Distinctiveness	Condition	Area (ha)	Habitat Units
Grassland – Modified grassland	Low	Poor	4.37	8.74
Urban –Bare ground	Low	Poor	0.05	0.10
Urban - Developed land; sealed surface	V.Low	N/A - Other	0.03	0.00
Heathland and shrub - Hawthorn scrub	Medium	Poor	0.06	0.24
Individual trees - Rural Tree	Medium	Good	0.01	0.12
Total			**4.52**	**9.20**

Table 14: Hedgerows and Ditches Lost due to Proposed Development

Habitat Type (UKHab)	Distinctiveness	Condition	Length (km)	Habitat Units
Hedgerows and lines of trees - Native Hedgerow (Hedgerow H1)	Low	Moderate	0.02	0.09
Hedgerows and lines of trees - Native Hedgerow with trees (Hedgerow H2)	Medium	Good	0.21	2.90
Hedgerows and lines of trees - Native Hedgerow with trees (Hedgerow H3)	Medium	Good	0.05	0.69
Hedgerows and lines of trees - Native Hedgerow (Hedgerow H4)	Medium	Good	0.01	0.14
Hedgerows and lines of trees - Native Hedgerow (Hedgerow H5)	Low	Good	0.01	0.05
Total			**0.30**	**3.87**

6.0 CONCLUSION

6.1 SUMMARY OF RESULTS

All habitats present within the baseline plan and the Proposed Development (including baseline, retained, and created) are present within the accompanying biodiversity metric calculation tool assessment for the Proposed Development; refer to Appendix B - C.

A summary of the results is shown in Table 15 Based on the current Post-Development Plan, the development would result in a net gain of **+ 1.16** habitat units **(+ 11.31 %),** a gain of **+ 4.18** hedgerow units **(+ 32.25 %)** and a net gain of **+ 0.49** watercourse units **(+ 78.09%).** Note that these are separate measurements

and in accordance with the guidance on Metric 4.0 they should be reported separately, and not summed or averaged.

Table 15: Summary of Results

Area / Linear Units	On site baseline	On site post-development	Total net unit change	Total net % change
Habitat Units	10.28	11.44	+ 1.16	+ 11.31%
Hedgerow Units	12.97	17.15	+ 4.18	+ 32.25%
Watercourse Units	0.63	1.12	+ 0.49	+ 78.09%

6.2 RECOMMENDATIONS

The site proposals above show that the site achieves an overall net gain of biodiversity units. The current net gain for habitats for this site is 11.31%. This does meet the 10% net gain target required by the upcoming Environment Act 2021. Best practice relating to Biodiversity Net Gain (BNG) includes a 10% or above net gain. The site is also shown to satisfy the trading rules of the Natural England Metric V4.0.

6.3 CONCLUSION

The biodiversity net gain metric for the proposed development predicts that the current landscape layout for the site will result **in an overall net gain of biodiversity units for habitats, hedgerows and watercourses on site which will be above the current proposed 10% net gain required by the Environment Act 2021, post November 2023. The site does currently meet local and national planning requirements of delivering a measurable net gain as per CP19, part a, and the NPPF paragraph 174, part d, and paragraph 180, part d.** The application is outline only and as such the current site proposals plan does not provide a detailed layout of the proposed site. The results of this report are therefore considered to represent a conservative assessment of the biodiversity units that can be achieved on site. It is considered that a detailed layout of the proposals plan will be available at the reserved matters application stage when detailed landscape proposals are produced and at this stage the design should be tailored to meet the likely post November 2023 requirement for 10% net gain.

As referenced in the revised NPPF paragraph 174, section D "*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*" and paragraph 180, section D "*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*", LPA's should determine development on their opportunities to incorporate measurable net gains for biodiversity.

The outputs of the metric are dependent on all created, retained and enhanced habitats meeting the target conditions, subject to the criteria outlined within Natural England's Biodiversity Metric 4.0. These conditions would therefore also need to be outlined within an overarching Landscape Masterplan / Ecological Management Plan for the proposed development at the reserved matters stage.

The monitoring of habitats over a 30-year period need to be outlined within such a document to establish that habitats develop in line with the predicted biodiversity as calculated within the Biodiversity Metric. This would also be used to inform the management adapted where required to achieve the objectives. Indicative management prescriptions have been outlined in Appendix D.

7.0 REFERENCES

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FIGURES

Site Location Plan
Royal Hill Rd, Spondon

Miller Homes Ltd

Legend

☐ Site boundary

Notes:

Drawn by: CD

Checked by: AC

Office: Southampton

Figure No. 1

Revision No. A

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Scale 1:5,000 @A3

09 May 2022

NGR: 439610E 336751N

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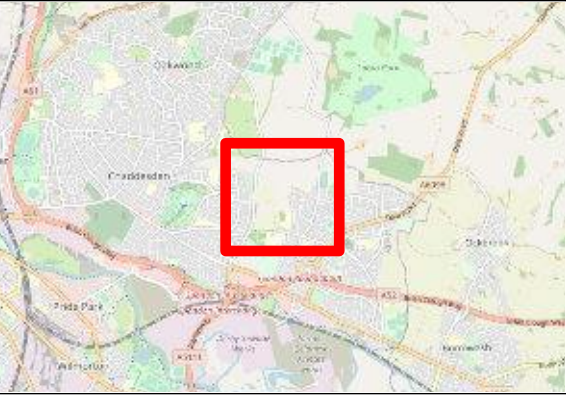
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Pre-Development Habitat Plan
Royal Hill Rd, Spondon

Miller Homes Ltd

Legend

- ▭ Site boundary
- ▧ Grassland - Modified grassland
- ▧ Heathland and scrub - Hawthorn scrub
- ▧ Urban - Developed land; sealed surface
- ▧ Urban - Bare ground
- —+— Fence
- 〰 Hedgerows and lines of trees - Native hedgerow
- 〰 Hedgerows and lines of trees - Native hedgerow with trees
- 〰 Hedgerows and lines of trees - Native hedgerow with trees - associated with bank or ditch
- 〰 Rivers and streams - Ditches
- ♣ Individual trees - Rural trees

Notes:

Drawn by: CD   Figure No. 2

Checked by: AC   Revision No. A

Office: Southampton

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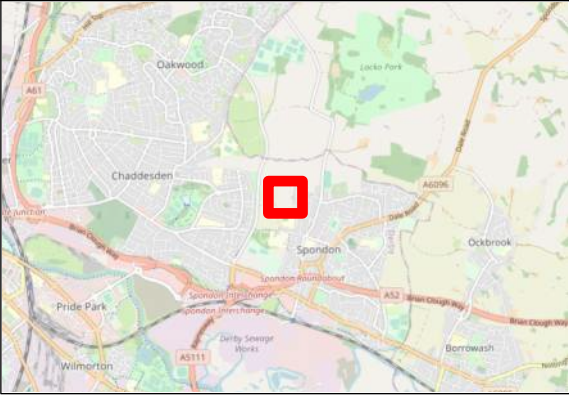
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Post-Development Habitat Plan
Royal Hill Rd, Spondon

Miller Homes Ltd

Legend

- **Site Boundary**
- Grassland - Modified grassland
- Grassland - Other neutral grassland
- Grassland - Traditional orchard
- Urban - Developed land; sealed surface
- Urban - Sustainable drainage system
- Ditches
- To be retained and enhanced: Hedgerows and lines of trees – Species-rich native hedgerow
- To be retained and enhanced: Hedgerows and lines of trees – Species-rich native hedgerow with trees
- To be created: Hedgerows and lines of trees – Species-rich native hedgerow with trees
- To be created: Individual trees – Urban tree (small)
- To be retained: Individual trees – Rural tree (small)
- To be retained: Individual trees – Rural tree (large)

Notes:

Drawn by: M.COLLISHAW-LOCK   Figure No. 3

Checked by: AC   Revision No. B

Office: Southampton

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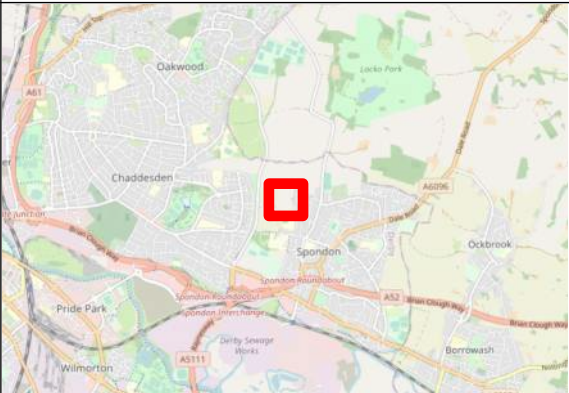
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APPENDIX A – REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Miller Homes Limited ("the Client") for the proposed uses stated in the report by Tetra Tech Limited ("Tetra Tech"). Tetra Tech exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX B – A-1 ON-SITE HABITAT BASELINE

Table 16: Heathland and shrub – Hawthorn scrub

Habitat condition:			
The hawthorn scrub was assessed as being of poor condition, passing 1 out of 5 criteria.			
Distinctiveness:			
Medium			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species[1], with no single species comprising more than 75% of the cover (except hazel Corylus avellana, common juniper Juniperus communis, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).		X
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[2]) shrubs are all present.		X
C	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]) and species indicative of sub-optimal condition[5] make up less than 5% of ground cover.		X
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	X	
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.		X
	Total	**1**	**4**

Notes:	
Footnote 1 – Native woody species as defined and listed in the Hedgerow Survey Handbook: DEFRA (2007) Hedgerow Survey Handbook: A standard procedure for local surveys in the UK. 2nd ed. [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).	
Footnote 2 - See gov.uk standing advice on ancient and veteran species. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)	
"Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.	
Footnote 4 – Wildlife and Countryside Act 1981 (as amended).	

Habitat condition:
Footnote 5 - Species indicative of sub-optimal condition for this habitat type may include: non-native conifers, tree-of-heaven *Alianthus altissima*, holm oak *Quercus ilex*, European turkey oak *Quercus cerris*, cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos spp.*, shallon *Gaultheria shallon*, American skunk cabbage *Lysichiton americanus*, buddleia *Buddleja spp.*, cotoneaster *Cotoneaster spp.*, Spanish bluebell *Hyacinthoides hispanica* and hybrid bluebells *Hyacinthoides x massartiana*. There may be additional relevant species local to the region and or site.

Table 17: Grassland – Modified Grassland

Habitat condition:			
The modified grassland was assessed as being of poor condition, passing 3 out of 7 criteria.			
Distinctiveness:			
Low			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A	There are 6-8 vascular plant species per m² present, including at least 2 forbs (this may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		X
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.		X
C	Some scattered scrub (including bramble *Rubus fruticosus* agg.) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type."	X	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.		X
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)².		X
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	X	

Habitat condition:			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	X	
	Total	**3**	**4**

Notes:
Footnote 1 – Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*.
Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.
Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.
Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Table 18: Individual trees – Rural Trees

Habitat condition:
The seven rural trees on site were assessed as being of good condition, passing 5 out of 6 criteria.

Habitat Description:
The trees on site included wild cherry. These were all medium sized trees with a diameter at breast height of approximately 70cm. there was also an England oak which was of a large size with a diameter at breast height of approximately 1m.

Distinctiveness:
Medium

Criterion	Criterion Description	Result	
		Pass	**Fail**
A	The tree is a native species (or at least 70% within the block are native species).	X	
B	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).	X	
C	The tree is mature (or more than 50% within the block are mature).		X
D	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.	X	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	X	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	X	

Habitat condition:		
Total	**5**	**1**

Notes:
Footnote 1 - See gov.uk standing advice on ancient and veteran trees. Available from:
Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)
and
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Table 19: Urban – Bare ground

Habitat condition:		
The bare ground on site was assessed as being of poor condition, passing 0 out of 3 criteria available to the type of habitat present.		
Distinctiveness:		
Low: Default score		

Criterion	Criterion Description	Result	
		Pass	**Fail**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.		X
B	The 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 year.		X
C	"Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).		X
	Total	**0**	**3**

Notes:
Footnote 1 – Wildlife and Countryside Act 1981 (as amended).
Footnote 2 – Sources of information about detrimental non-native species can be found on the GB Non-native Species Secretariat (GBNNSS) website:
Home » NNSS (nonnativespecies.org)
and Natural England Access to Evidence page should also be checked for up-to-date information: Horizon-scanning for invasive non-native plants in Great Britain - NECR053 (naturalengland.org.uk)
For criterion C – For green roof habitat types only – buddleia *Buddleja davidii* should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not been planted and seeded correctly in subsequent years.

Habitat condition:
Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

APPENDIX C – A-2 ON-SITE HABITAT CREATION

Table 20: Urban – Developed land; sealed surface

Habitat Condition:			
This includes the newly constructed buildings and hard standing (roads, pavements and built infrastructure) on site. The condition is predicted to be N/A – Other.			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
No condition assessment required.			
	Total	**N/A**	
Notes:			
-			

Table 21: Grassland – Modified grassland

Habitat condition:			
The condition of the modified grassland was predicted to be of poor condition according to the criteria mentioned below, passing 2 out of 7 the criteria.			
Distinctiveness:			
Low			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (this may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		X
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.		X

Habitat condition:			
C	Some scattered scrub (including bramble *Rubus fruticosus* agg.) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type."		X
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.		X
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	X	
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	X	
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).		X
	Total	**2**	**5**

Notes:
Footnote 1 – Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*.
Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.
Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.
Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Table 22: Grassland – Other neutral grassland

Habitat condition:			
This habitat is to be created on site. The condition of the other neutral grassland was predicted to be of good condition according to the criteria mentioned below, passing 5 out of 5 the criteria. In order to achieve the condition mentioned below, it is recommended that the habitat is seeded using N5 Long Season Meadow Mix (available from Naturescape) and managed in a way that would achieve the criteria to be passed below.			
Distinctiveness:			
Medium: Default score			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
A	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	X	

Habitat condition:			
	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.**		
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	X	
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[1].	X	
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	X	
E	Combined cover of species indicative of sub-optimal condition[2] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]) are present, this criterion is automatically failed.	X	
	Total	**5**	**0**

Notes:
Footnote 1 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.
Footnote 2 - Species indicative of sub-optimal condition for this habitat type include:creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*. There may be additional relevant species local to the region and or site.
Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.
Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Table 23: Individual Trees – Urban tree

Habitat Condition:
The condition of the urban trees to be planted on site was predicted to be of moderate condition according to the criteria mentioned below, passing 3 out of 6 the criteria. In order to achieve the criteria mentioned below, it is recommended that the habitat is planted with native species such as field maple (*Acer campestre*), apples (*Malus domestica agg.*), plums (*Prunus domestica agg*.), blackthorn (*Prunus spinosa*), cherry plum (*Prunus cerasifera*), hawthorn (*Crataegus monogyna*), rowan (*Sorbus aucuparia*) and willows (*Salix spp.*). It is recommended that the trees are managed based on the criteria below.

Criterion	Criterion Description	Result

Habitat Condition:			
		Pass	**Fail**
A	The tree is a native species (or at least 70% within the block are native species).	X	
B	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).	X	
C	The tree is mature (or more than 50% within the block are mature).		X
D	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.		X
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		X
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	X	
	Total	**3**	**3**
Notes:			
Footnote 1 - See gov.uk standing advice on ancient and veteran trees. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)			

Table 24: Urban – Sustainable urban drainage feature

Habitat condition:			
The condition of the sustainable urban drainage feature was predicted to be of moderate condition according to the criteria mentioned below, passing 3 out of 5 the criteria. In order to achieve the criteria mentioned below, it is recommended that the habitat is seeded using N7F wetland mix flowers (available from Naturescape) and managed in a way that would achieve the criteria below.			
Distinctiveness:			
Low			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	X	

Habitat condition:				
B	The 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 year.			X
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**			X
Additional Criterion – only applicable to Bioswale and SUDS habitat type:				
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife[4].		X	
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.		X	
	Total		**3**	**2**

Notes:
Footnote 1 – Wildlife and Countryside Act 1981 (as amended).
Footnote 2 – Sources of information about detrimental non-native species can be found on the GB Non-native Species Secretariat (GBNNSS) website:
Home » NNSS (nonnativespecies.org)
and Natural England Access to Evidence page should also be checked for up-to-date information: Horizon-scanning for invasive non-native plants in Great Britain - NECR053 (naturalengland.org.uk)
For criterion C – For green roof habitat types only – buddleia *Buddleja davidii* should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not been planted and seeded correctly in subsequent years.
Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.
Footnote 4 – Use professional judgement. Sources of information about non-native species that area not detrimental to native wildlife can be found on the GBNNSS website:
Alternative plants » NNSS (nonnativespecies.org)

Table 25: Grassland – Traditional Orchard

Habitat condition:
The condition of the traditional orchard was predicted to be of moderate condition according to the criteria mentioned below, passing 4 out of 8 the criteria. In order to achieve the criteria mentioned below, it is recommended that the habitat is planted with native species such as field maple (*Acer campestre*), apples (*Malus domestica agg.*), plums (*Prunus domestica agg.*), blackthorn (*Prunus spinosa*), cherry plum (*Prunus cerasifera*), hawthorn (*Crataegus monogyna*), rowan (*Sorbus aucuparia*) and willows (*Salix spp.*). It is recommended that the trees are managed based on the criteria below.
Distinctiveness:

Habitat condition:			
High			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A	Presence of ancient[1] and or veteran[1] trees. **Note - this criterion is essential for achieving Good condition.**		X
B	Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them. Some examples of deadwood are: standing, attached and fallen trees or limbs; dead stems; branches and branch stubs greater than 10 cm diameter; and internal cavities. The types and distribution of deadwood provide a range of habitats suitable to support a wide assemblage of saproxylic invertebrates. **Note - this criterion is essential for achieving Good condition.**	X	
C	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however these occupy less than 10% of ground cover.	X	
D	There is evidence of formative and or restorative pruning to maintain longevity of trees.		X
E	At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping or rubbing on non-adjusted ties.		X
F	Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.	X	
G	Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.		X
H	There is an absence of invasive non-native plant species[2] (as listed on Schedule 9 of WCA[3]) and species indicative of sub-optimal condition[4] make up less than 10% of ground cover.	X	
	Total	**4**	**4**

Notes:
Footnote 1 - See gov.uk standing advice on ancient and veteran trees. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and: Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Habitat condition:

Footnote 2 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 - Species indicative of sub-optimal condition for this habitat type include: creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius* and common nettle *Urtica dioica*. There may be additional relevant species local to the region and or site.

APPENDIX D – B-1 ON-SITE HEDGE BASELINE

Table 26: Hedgerows and lines of trees - Native hedgerow (Hedgerow 1 - H1)

Habitat condition:			
Hedgerow H1 was assessed as being of moderate condition, passing 6 out of 8 criteria.			
Distinctiveness:			
Low			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and • Is present on one side of the hedgerow (at least).		X
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.		X
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
	Total	6	2

Notes:

A series of ten attributes, representing key physical characteristics are used for this assessment. This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

Footnote 1 – DEFRA (2007) Hedgerow Survey Handbook. A standard procedure for local surveys in the UK. [online] Available on:

layout (hedgelink.org.uk)

Footnote 2 – STALEY, J.T. ET AL. (2020) Definition of Favourable Conservation Status for Hedgerows. [online] Available on:

Definition of Favourable Conservation Status for Hedgerows - RP2943 (naturalengland.org.uk)

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Table 27: Hedgerows and lines of trees - Native hedgerow with trees (Hedgerow 2 – H2)

Habitat condition:
Hedgerow H2 was assessed as being of good condition, passing 9 out of 10 criteria.
Distinctiveness:

Habitat condition:			
Medium			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m		X
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	X	
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Notes:			
E1.	Tree age: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[4]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	X	
E2.	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	X	
	Total	**9**	**1**
Notes:			

A series of ten attributes, representing key physical characteristics are used for this assessment. This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

Footnote 1 – DEFRA (2007) Hedgerow Survey Handbook. A standard procedure for local surveys in the UK. [online] Available on:

layout (hedgelink.org.uk)

Footnote 2 – STALEY, J.T. ET AL. (2020) Definition of Favourable Conservation Status for Hedgerows. [online] Available on:

Definition of Favourable Conservation Status for Hedgerows - RP2943 (naturalengland.org.uk)

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 – Footnote 8 – See gov.uk standing advice on ancient and veteran trees. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)

Habitat condition:
and
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Table 28: Hedgerows and lines of trees - Native hedgerow with trees (Hedgerow 3 – H3)

Habitat condition:			
Hedgerow H3 was assessed as being of good condition, passing 10 out of 10 criteria.			
Distinctiveness:			
Medium			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	X	
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Notes:			
E1.	Tree age: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[4]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	X	
E2.	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	X	
	Total	**10**	**0**
Notes:			
Refer to Table 27 above for details.			

Table 29: Hedgerows and lines of trees - Native hedgerow with trees (Hedgerow 4 – H4)

Habitat condition:			
Hedgerow H4 was assessed as being of good condition, passing 10 out of 10 criteria.			
Distinctiveness:			
Medium			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	X	
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Notes:			
E1.	Tree age: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[4]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	X	
E2.	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	X	
	Total	**10**	**0**
Notes:			
Refer to Table 27 above for details.			

Table 30: Hedgerows and lines of trees - Native hedgerow (Hedgerow 5 – H5)

Habitat condition:
Hedgerow H5 was assessed as being of good condition, passing 7 out of 8 criteria.
Distinctiveness:
Low

Habitat condition:			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).		X
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Total		**7**	**1**
Notes:			
Refer to Table 26 above for details.			

Table 31: Hedgerows and lines of trees - Native hedgerow (Hedgerow 6 – H6)

Habitat condition:			
Hedgerow H6 was assessed as being of moderate condition, passing 5 out of 8 criteria.			
Distinctiveness:			
Low			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m		X

Habitat condition:			
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).		X
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.		X
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Total		**5**	**3**

Notes:
Refer to Table 26 above for details.

Table 32: Hedgerows and lines of trees - Native hedgerow with trees (Hedgerow 7 – H7)

Habitat condition:			
Hedgerow H7 was assessed as being of good condition, passing 9 out of 10 criteria.			
Distinctiveness:			
Medium			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).		X
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	

	Habitat condition:		
	Notes:		
E1.	Tree age: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[4]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	X	
E2.	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	X	
	Total	**10**	**0**
	Notes:		
	Refer to Table 27 above for details.		

APPENDIX E – B-2 ON-SITE HEDGE CREATION

Table 33: Hedgerows and lines of trees - Native species rich hedgerow

Habitat condition:			
Eight new Hedgerows and lines of trees - Native Species Rich Hedgerows with trees are being planted on the North, east and centre of the site. All hedgerows are predicted to be of good condition, passing 8 out of 10 criteria. All newly planted hedgerows need to contain 5 or more woody species. In order to achieve the criteria mentioned below, it is recommended that the habitat is seeded using N9F Hedgerow Mix Flowers (available from Naturescape) and managed in a way that would achieve the criteria to be passed below.			

Distinctiveness:			
High			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	X	
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.		X

Notes:			
E1.	Tree age: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[4]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.		X
E2.	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	X	
	Total	**9**	**1**

Notes:	
Refer to Table 27 above for details.	

APPENDIX F – B-3 ON-SITE HEDGE ENHANCEMENT

Table 34: Hedgerows and lines of trees – Native Species Rich Hedgerow (Hedgerow 1 - H1)

Habitat condition:			
Hedgerow H1 is to be mostly retained and enhanced to native species rich hedgerow by being seeded using N9F Hedgerow Mix Flowers (available from Naturescape). This was predicted as being of moderate condition, passing 6 out of 8 criteria.			
Distinctiveness:			
Medium: Default score			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).		X
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.		X
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Total		6	2

Notes:			
Refer to Table 26 above for details.			

Table 35: Hedgerows and lines of trees - Native Species Rich Hedgerow with trees (Hedgerow 3 – H3)

Habitat condition:		
Hedgerow H3 is to be mostly retained and enhanced to Native Species Rich Hedgerow with trees by being seeded using N9F Hedgerow Mix Flowers (available from Naturescape) and planting with a mix of woody species within gaps. This was predicted as being of good condition, passing 10 out of 10 criteria.		
Distinctiveness:		
Low: Default score		
Criterion	**Criterion Description**	**Result**

Habitat condition:			
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	X	
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Notes:			
E1.	Tree age: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[4]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	X	
E2.	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	X	
	Total	**10**	**0**
Notes:			
Refer to Table 27 above for details.			

Table 36: Hedgerows and lines of trees - Native Species Rich hedgerow (Hedgerow 5 – H5)

Habitat condition:			
Hedgerow H4 is to be retained and enhanced to a Native Species Rich hedgerow by being seeded using N9F Hedgerow Mix Flowers (available from Naturescape) as well as planting with a mix of woody species within gaps. This was predicted as being of good condition, passing 7 out of 8 criteria.			
Distinctiveness:			
Low: Default score			
Criterion	**Criterion Description**	**Result**	
		Pass	**Fail**

Habitat condition:			
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m	X	
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).		X
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	X	
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
Total		**7**	**1**
Notes:			
Refer to Table 26 above for details.			

Table 37: Hedgerows and lines of trees - Native Species Rich Hedgerow (Hedgerow 6 – H6)

Habitat condition:			
Hedgerow H6 is to be retained and enhanced a Native hedgerow by being seeded using N9F Hedgerow Mix Flowers (available from Naturescape) as well as planting with a mix of woody species within gaps. This was predicted as being of moderate condition, passing 5 out of 8 criteria.			
Distinctiveness:			
Low: Default score			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A1.	Height: >1.5 m average along length	X	
A2.	Width: >1.5 m average along length	X	
B1.	Gap - hedge base: Gap between ground and base of canopy <0.5 m for >90% of length	X	
B2.	Gap - hedge canopy continuity: Gaps make up <10% of total length; and No canopy gaps >5 m		X
C1.	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length:		X

Habitat condition:			
	• Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).		
C2.	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.		X
D1.	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	X	
D2.	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	X	
	Total	**5**	**3**
Notes:			
Refer to Table 27 above for details.			

APPENDIX G – C1 ON-SITE WATERCOURSE BASELINE

Table 38: Ditches (D1)

Habitat condition:			
The ditch D1 was assessed as being of poor condition, passing 5 out of 8 criteria.			
Distinctiveness:			
Medium			

Criterion	Criterion Description	Result Pass	Result Fail
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	X	
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.		X
C	There is less than 10% cover of filamentous algae and or duckweed *Lemna* spp. (these are signs of eutrophication).	X	
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	X	
E	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.	X	
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.		X
G	Less than 10% of the ditch is heavily shaded.		X
H	There is an absence of non-native plant and animal species[1].	X	
	Total	5	3

Notes:
Footnote 1 – This includes any species listed on the Water Framework Directive UKTAG GB High Impact Species List: Water Framework Directive (WFD) UKTAG (2021) Classification of aquatic alien species according to their level of impact [online]. Available from:

UKTAG classification of alien species working paper v8.pdf (wfduk.org)

- Frequently occurring non-native plant species include water fern *Azolla filiculoides*, Australian swamp stonecrop *Crassula helmsii*, parrot's feather *Myriophyllum aquaticum*, floating pennywort *Hydrocotyle ranunculoides*, Japanese knotweed *Reynoutria japonica* and giant hogweed *Heracleum mantegazzianum* (on the bank);
- Frequently occurring non-native animals include signal crayfish *Pacifastacus leniusculus*, zebra mussel *Dreissena polymorpha*, killer shrimp *Dikerogammarus villosus*, demon shrimp *Dikerogammarus haemobaphes*, and carp *Cyprinus carpio*.

APPENDIX H – C3 ON-SITE WATERCOURSE ENHANCEMENT

Table 39: Ditches (D1)

Habitat condition:			
The ditch D1 is to be retained on site and enhanced to moderate condition. passing 6 out of 8 criteria. In order to achieve the criteria mentioned below, it is recommended that the ditch is seeded with N7F Wetland Mix Flowers Only (available from Naturescape).			

Distinctiveness:			
Medium			

Criterion	Criterion Description	Result	
		Pass	**Fail**
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	X	
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	X	
C	There is less than 10% cover of filamentous algae and or duckweed *Lemna* spp. (these are signs of eutrophication).	X	
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	X	
E	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.		X
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	X	
G	Less than 10% of the ditch is heavily shaded.		X
H	There is an absence of non-native plant and animal species[1].	X	
	Total	**6**	**2**

Notes:			
Footnote 1 – This includes any species listed on the Water Framework Directive UKTAG GB High Impact Species List: Water Framework Directive (WFD) UKTAG (2021) Classification of aquatic alien species according to their level of impact [online]. Available from: [UKTAG classification of alien species working paper v8.pdf (wfduk.org)](wfduk.org) • Frequently occurring non-native plant species include water fern *Azolla filiculoides*, Australian swamp stonecrop *Crassula helmsii*, parrot's feather *Myriophyllum aquaticum*, floating pennywort *Hydrocotyle ranunculoides*, Japanese knotweed *Reynoutria japonica* and giant hogweed *Heracleum mantegazzianum* (on the bank); Frequently occurring non-native animals include signal crayfish *Pacifastacus leniusculus*, zebra mussel *Dreissena polymorpha*, killer shrimp *Dikerogammarus villosus*, demon shrimp *Dikerogammarus haemobaphes*, and carp *Cyprinus carpio*.			

APPENDIX I – BIODIVERSITY METRIC 4.0 CALCULATION

Table 40: Tab 1 – A1-Site Habitat Baseline

Ref	Existing area habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Grassland	Modified grassland	4.37	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	8.74
2	Urban	Bare ground	0.05	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.10
3	Urban	Developed land; sealed surface	0.03	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00

	Existing area habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
4	Heathland and shrub	Hawthorn scrub	0.06	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.24
5	Individual trees	Rural tree	0.1	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	1.20
	Total habitat area		4.61									
	Site Area (Excluding area of Individual trees and Green walls)		4.51									10.28

Table 41: Tab 2 – A1-Site Habitat Baseline

Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments		
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		User comments	Consenting body comments	GIS reference number
0	0	0.00	0.00	4.37	8.74		See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0	0.00	0.00	0.05	0.10		See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0	0.00	0.00	0.03	0.00		See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0	0.00	0.00	0.06	0.24		See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0.09	0	1.08	0.00	0.01	0.12		Retained four small rural trees and the one large rural tree. See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0.09	0.00	1.08	0.00	4.52	9.20				

Total area lost (excluding area of Individual trees and Green walls)	4.51

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Table 42: Tab 1 – A-2 Site Habitat Creation

Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		Strategic significance		
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier
Urban	Developed land; sealed surface	2.19	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Urban	Sustainable drainage system	0.12	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Grassland	Modified grassland	1.43	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Grassland	Other neutral grassland	0.48	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Individual trees	Urban tree	0.48	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Grassland	Traditional orchards	0.28	High	6	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1
Total habitat area		**4.98**							
Site Area (Excluding area of Individual trees and Green walls)		**4.50**							

Table 43: Tab 2 – A-2 Site Habitat Creation

Temporal multiplier						Difficulty multipliers				Habitat units delivered	Comments		
Standard time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied		User comments	Consenting body comments	GIS reference number
0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
3	0	0	Standard time to target condition applied	3	0.899	Medi um	Standard difficulty applied	Medium	0.67	0.29	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	2.76	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	4.03	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		

Temporal multiplier						Difficulty multipliers				Habitat units delivered	Comments		
Standard time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied		User comments	Consenting body comments	GIS reference number
27	0	0	Standard time to target condition applied	27	0.382	Low	Standard difficulty applied	Low	1	1.47	130 small urban trees to be created on site. See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
20	0	0	Standard time to target condition applied	20	0.490	Low	Standard difficulty applied	Low	1	1.81	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
									Total Units	10.36			

Table 44: Tab 1 – B-1 Site Hedge Baseline

Baseline ref	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Total hedgerow units
1	1	Native hedgerow	0.07	Low	Moderate	Formally identified in local strategy	Same distinctiveness band or better	0.32
2	2	Native hedgerow with trees	0.21	Medium	Good	Formally identified in local strategy	Same distinctiveness band or better	2.90
3	3	Native hedgerow with trees	0.3	Medium	Good	Formally identified in local strategy	Same distinctiveness band or better	4.14
4	4	Native hedgerow with trees	0.18	Medium	Good	Formally identified in local strategy	Same distinctiveness band or better	2.48
5	5	Native hedgerow	0.06	Low	Good	Formally identified in local strategy	Same distinctiveness band or better	0.41
6	6	Native hedgerow	0.05	Low	Moderate	Formally identified in local strategy	Same distinctiveness band or better	0.23
7	7	Native hedgerow with trees	0.18	Medium	Good	Formally identified in local strategy	Same distinctiveness band or better	2.48
			1.05					12.97

Table 45: Tab 2 – B-1 Site Hedge Baseline

Retention category biodiversity value						Comments		
Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	User comments	Consenting body comments	GIS reference number
0	0.05	0.00	0.23	0.02	0.09	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0	0.00	0.00	0.21	2.90	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0.25	0.00	3.45	0.05	0.69	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0.17	0	2.35	0.00	0.01	0.14	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0.05	0.00	0.37	0.01	0.05	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0	0.05	0.00	0.23	0.00	0.00	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0.18	0	2.48	0.00	0.00	0.00	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0.35	**0.40**	**4.83**	**4.28**	**0.30**	**3.87**			

Table 46: Tab 1 – B-2 Site Hedge Creation

Baseline ref	New hedge number	Proposed habitats		Distinctiveness		Condition		Strategic significance		
		Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier
1		Species-rich native hedgerow with trees	0.57	High	6	Good	3	Formally identified in local strategy	High strategic significance	1.15
			0.57							

Table 47: Tab 2 – B-2 Site Hedge Creation

Temporal multiplier						Difficulty risk multipliers				Hedge units delivered	Comments		
Standard Time to target condition (years)	Habitat created in advance (years)	Delay in starting habitat creation (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied		User comments	Consenting body comments	GIS reference number
20	0	0	Standard time to target condition applied	20	0.490	Low	Standard difficulty applied	Low	1	5.79	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
										5.79			

Table 48: Tab 1 – B-3 Site Hedge Enhancement

| | Baseline Habitats | | | | | | | | | | Proposed (Pre-populated but can be overridden) | Change in distinctiveness and condition | | Length (km) |
Baseline ref	Baseline habitat	Length (km)	Baseline distinctiveness band	Baseline distinctiveness score	Baseline condition category	Baseline condition score	Baseline strategic significance category	Baseline strategic significance score	Baseline habitat units	Required Action to Meet Trading Rules		Distinctiveness movement	Condition movement	
1	Native hedgerow	0.07	Low	2	Moderate	2	High strategic significance	1.15	0.322	Same distinctiveness band or better	Species-rich native hedgerow	Low - Medium	Lower Distinctiveness Habitat - Moderate	0.05
3	Native hedgerow with trees	0.3	Medium	4	Good	3	High strategic significance	1.15	4.14	Same distinctiveness band or better	Species-rich native hedgerow with trees	Medium - High	Lower Distinctiveness Habitat - Good	0.25
5	Native hedgerow	0.06	Low	2	Good	3	High strategic significance	1.15	0.414	Same distinctiveness band or better	Species-rich native hedgerow	Low - Medium	Lower Distinctiveness Habitat - Good	0.05
6	Native hedgerow	0.05	Low	2	Moderate	2	High strategic significance	1.15	0.23	Same distinctiveness band or better	Species-rich native hedgerow with trees	Low - High	Lower Distinctiveness Habitat - Moderate	0.05
														0.40

Table 49: Tab 2 – B-3 Site Hedge Enhancement

Distinctiveness		Condition		Strategic significance			Temporal multiplier						Difficulty risk multipliers				Hedge units delivered	Comments		
Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat enhanced in advance (years)	Delay in starting habitat enhancement (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Hedge units delivered	User comments	Consenting body comments	GIS reference number
Medium	4	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.42	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		

Distinctiveness		Condition		Strategic significance			Temporal multiplier						Difficulty risk multipliers					Comments		
Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat enhanced in advance (years)	Delay in starting habitat enhancement (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Hedge units delivered	User comments	Consenting body comments	GIS reference number
High	6	Good	3	Formally identified in local strategy	High strategic significance	1.15	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	4.89	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
Medium	4	Good	3	Formally identified in local	High strategic significance	1.15	5	0	0	Standard time to targe	5	0.837	Low	Standard difficulty	Low	1	0.67	See report '784-B038315_Royal		

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Distinctiveness		Condition		Strategic significance			Temporal multiplier						Difficulty risk multipliers				Hedge units delivered	Comments		
Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat enhanced in advance (years)	Delay in starting habitat enhancement (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Hedge units delivered	User comments	Consenting body comments	GIS reference number
				strategy						t condition applied				applied				Hill Rd, Spondon_BNG_V2' for full condition assessment.		
High	6	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	10	0	0	Standard time to target condition applied	10	0.700	Low	Standard difficulty applied	Low	1	0.55	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full		

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Distinctiveness		Condition		Strategic significance			Temporal multiplier						Difficulty risk multipliers				Hedge units delivered	Comments		
Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition (years)	Habitat enhanced in advance (years)	Delay in starting habitat enhancement (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Hedge units delivered	User comments	Consenting body comments	GIS reference number
																		condition assessment.		
																	6.54			

Table 50: Tab 1 – C-1 Site Watercourse Baseline

	Existing watercourse type		Distinctiveness		Condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Required Action to Meet Trading Rules	Ecological baseline
Baseline ref	Watercourse type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic significance multiplier	Extent of encroachment	Multiplier	Extent of encroachment for both banks	Multiplier		Total watercourse units
1	Ditches	0.18	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	No Encroachment	1	Major/No Encroachment	0.87	Same habitat required =	0.63
		0.18													0.63

Table 51: Tab 2 – C-1 Site Watercourse Baseline

Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments		GIS reference number
Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost		User Comments	Consenting body comments	
0	0.18	0.00	0.63	0.00	0.00		See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
0.00	**0.18**	**0.00**	**0.63**	**0.00**	**0.00**				

Table 52: Tab 1 – C-3 Site Watercourse Enhancement

Baseline ref	Baseline habitat	Length (km)	Baseline distinctiveness band	Baseline distinctiveness score	Baseline condition category	Baseline condition score	Baseline strategic significance category	Strategic significance	Baseline strategic significance	Required Action to Meet Trading Rules	Total units	Proposed Watercourse Type (Pre-populated can be overridden)	Distinctiveness movement	Condition movement	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier
							Baseline habitats						Change in distinctiveness and condition			Habitat distinctiveness		Habitat condition		Strategic significance		
1	Ditches	0.18	Medium	4	Poor	1	Area/compensation not in local strategy/no local strategy	Low Strategic Significance	1	Same habitat required =	0.624	Ditches	Medium - Medium	Poor - Moderate	0.18	Medium	4	Moderate	2	Area/compensation not in local strategy/no local strategy	Low Strategic Significance	1
															0.18							

Table 53: Tab 2 – C-3 Site Watercourse Enhancement

Temporal multiplier						Difficulty multipliers				Watercourse encroachment		Riparian encroachment		Watercourse units delivered	Comments		GIS reference number
Standard Time to target condition (years)	Habitat enhanced in advance (years)	Delay in starting habitat enhancement (years)	Standard or adjusted time to target condition	Final time to target condition (years)	Final Time to target multiplier	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Extent of encroachment	Multiplier	Extent of encroachment for both banks	Multiplier		User comments	Consenting body comments	
4	0	0	Standard time to target condition applied	4	0.867	Medium	Standard difficulty applied	Medium	0.67	No Encroachment	1	Minor/ No Encroachment	0.98	1.12	See report '784-B038315_Royal Hill Rd, Spondon_BNG_V2' for full condition assessment.		
														1.12			

Table 54: Headline Results

Royal Hill Road, Spondon		
Headline Results		
Scroll down for final results ⚠		

Return to results menu

On-site baseline	Habitat units	10.28	
	Hedgerow units	12.97	
	Watercourse units	0.63	

On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	11.44	
	Hedgerow units	17.16	
	Watercourse units	1.12	

On-site net change (units & percentage)	Habitat units	1.16	11.31%
	Hedgerow units	4.18	32.25%
	Watercourse units	0.49	78.09%

Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	

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	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	1.16	
	Hedgerow units	4.18	
	Watercourse units	0.49	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	**1.16**
	Hedgerow units	**4.18**
	Watercourse units	**0.49**
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	**11.31%**
	Hedgerow units	**32.25%**
	Watercourse units	**78.09%**
Trading rules satisfied?	**Yes ✓**	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	**10.00%**	10.28	11.31	0.00	**Unit requirement met or surpassed ✓**
Hedgerow units	**10.00%**	12.97	14.27	0.00	**Unit requirement met or surpassed ✓**
Watercourse units	**10.00%**	0.63	0.69	0.00	**Unit requirement met or surpassed ✓**

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SPONDON 8

SPONDON 6
SINGLE LANE
SINGLE LANE

Wildflower & Grasslands

Kickabout area

SPONDON 7

SPONDON 5

SPRINGFIELD PRIMARY SCHOOL

CHARLES AVENUE

AVONDALE ROAD

ROYAL HILL ROAD

MARINA DRIVE

SUNNINGDALE AVENUE

SPONDON 4 - PEDESTRIAN FOOTPATH TO CHADDESDEN

WEST PARK MEADOW NATURE RESERVE

WEST PARK SECONDARY SCHOOL

WEST ROAD

ST. WERBURGH'S PRIMARY SCHOOL

0   25   50 m

Key

Development

Site Boundary
4.51Ha

Residential Development Area
2.19Ha = Circa 90 dwellings
Dependent on housing mix

Illustrative Built Form

Equipped Play Space
LEAP

Movement

Site Access
Vehicle and Pedestrian

Streets

Lanes

Shared Private Drives

Public Rights of Way

Footpaths &/or Cycleways
Infrastructure to connect to the wider existing network of routes and PRoWs to adjacent schools

Pedestrian Connections at Site Boundary

Landscape

Retained Trees & Hedgerows
With associated RPAs

Structural Landscaping
Planting buffer along eastern boundary

Illustrative Landscape Strategy
Includes opportunities for a kickabout area, orchard and grasslands (to be agreed as part of detailed applications)

Drainage Basin

Illustrative Location of Pumping Station

Flood Zones