

One Horton Heath

Southern Green Infrastructure (GI) Biodiversity Net Gain (BNG) Assessment

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DOCUMENT REVISIONS

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1.0 Draft	Draft Southern GI BNG Report issued to Client for review.	5 January 2024
1.1 Final	Final Southern GI Parcel BNG Report issued to Client for submission. Updates to post-development hedgerow BNG included. Pending an addendum with River BNG results.	8 February 2024

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NON-TECHNICAL SUMMARY

Purpose of the Report	To provide information baseline condition assessments of OHH Southern GI Parcel and to provide the Statutory Biodiversity Metric assessment results of the post-development habitat BNG.
Proposed Development Information	The proposals will include construction of the Southern Green Infrastructure including open space landscaping, bridleways, footpaths, SuDS, play areas and ecological and biodiversity enhancements at One Horton Heath.
Surveys Undertaken	An extended Phase 1 habitat survey of the Site was conducted in 2018-2020. An updated UKHab habitat survey was conducted on 1 and 13 March 2023 to transpose the Phase 1 survey results into UKHab and to provide condition assessment results for the habitats present. A Statutory Biodiversity Metric assessment has then been conducted for the Southern GI Parcel of OHH and a summary of the results is provided within this report. The Statutory Biodiversity Metric spreadsheet calculator is provided separately to this report.
Summary of Results	- The baseline value of the area-based habitats within the development area (Phases 5A-5C) is 98.32 Units. - The baseline value of the hedgerows is 17.35 Units. - Following the assessment, it is anticipated that the value of the post-development area-based habitats within the development area will be 126.06 Units. The trading rules are satisfied. - The post-development value of the hedgerows is 19.09 Units. The trading rules are satisfied. - The proposals will therefore result in a net gain of 28.22% for habitat Units, and a net gain of 10.03% for hedgerow units. - In order to offset the anticipated loss in habitat units at the Secondary Infrastructure Road (SIR), some of the Southern GI habitat units have been used to ensure a net gain and satisfaction of the trading rules for the SIR. Given that both of these areas are considered to be on the same site (i.e. One Horton Heath OPA ref. O/20/89498), and therefore not subject to a penalty for 'off-site' offsetting. The mechanism for implementing the offsetting involved moving certain habitats from the Southern GI baseline into the SIR baseline such that the overall habitat unit value of the SIR is increased, and the Southern GI is decreased. - Following offsetting, baseline value of the area units is 73.21 Units and the post-development result is 90.16 Units. This is equivalent to a 23.15% net gain. The trading rules are satisfied.
Conclusions	Providing the recommendations for the creation and management of new habitats stated within this report are adhered to, it is considered likely that the development will exceed the mandatory requirement for development to enhance the ecological value of a site by a minimum of 10% which is outlined within the Environment Act 2021 and will become a statutory requirement from February 2024.
Monitoring & Management	A 30-year Habitat Monitoring and Management Plan (HMMP) will be implemented on Years 1, 2, 3, 5, 7, 10, 15, 20, 25 and 30.
Data Valid Until	February 2025

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1 INTRODUCTION

1.1 BACKGROUND

Johns Associates Ltd was commissioned by the One Horton Heath team on behalf of Eastleigh Borough Council to provide a Statutory Biodiversity Metric Biodiversity Net Gain (BNG) assessment of the Southern GI Parcel development (hereafter referred to as the "Site"). The Site has a central Ordnance Survey (OS) grid reference of the Site is SU 48571 16467. The Site location is shown in Figure 1. The BNG will supersede and update all previous BNGs conducted for the Site and will form the baseline from which all future monitoring of the Site will be compared and assessed against.

The BNG has been informed by previous habitat surveys conducted at the Site in 2018, 2019 and 2020 conducted in season and by an updated UKHab assessment in early March 2023 and further walkover updates in July 2023 to ground truth the transposition of the previous Phase 1 Habitat survey into UKHab habitat survey results.

The proposed development has been designed in full accordance with the Development Plan and Outline Planning Application (OPA) O/20/89498, which has a resolution to grant consent subject to S106 negotiations relating to education. The application is for full planning consent due to the time for these negotiations to complete. Submitting details of the Green Infrastructure Landscaping (GI) as a full planning application will deliver the GI in accordance with, and as part of the OPA, but enable commencement more quickly than waiting for the resolution of the OPA S106 and the determination of an application for Reserved Matters Approval of details of the GI.

1.2 SUMMARY OF PROPOSALS

The proposals will include construction of the Southern Green Infrastructure including open space landscaping, bridleways, footpaths, SuDS, play areas and ecological and biodiversity enhancements at One Horton Heath.

1.3 PURPOSE OF THIS REPORT

This report has been produced to provide the Statutory Biodiversity Metric BNG assessment for the Site based upon the previous Phase 1 Habitat survey baseline results conducted in July/August 2018, August 2019 and July/August 2020. The Site was re-surveyed in March 2023 using the UKHab system to convert the previous Phase 1 habitat survey results into the most current system for habitat survey and condition assessment.

The post-development landscape and ecological plans produced by Deacon Design have informed the post-development BNG calculations and the plans were designed with ecological advice and through consultation with the landscape team and Eastleigh Borough Council ecology team to avoid habitats of higher distinctiveness and to maximise the BNG through the proposed plans connecting habitats within the site to the wider landscape.

1.4 STATUTORY BIODIVERSITY METRIC

The Statutory Biodiversity Metric uses habitat as a proxy for overall biodiversity within different habitat types. Habitats are assigned a value based on their intrinsic biodiversity value or 'distinctiveness', which is predefined for each habitat within the metric. This value is then multiplied based on the size, condition and geographical location of the habitat in order to ascertain its absolute value in 'biodiversity units'. Separate calculations are used within the metric for area-based habitats, linear habitats (such as hedgerows) and watercourses (including ditches and streams). These units are non-transferable and must therefore be considered individually for each project or development. Hereafter they will be

referred to as “habitat units”, “hedgerow units” and “river units” respectively. Collectively, they will be referred to as “biodiversity units”.

Natural England provides a Calculation Tool with all calculations built in to aid in the assessment process. This report should be read in conjunction with the Calculation Tool provided for the assessment of this Site.

Underlying this assessment process are a key set of principles which explain the intended use of the Metric 4.0. They are as follows:

- Principle 1 – The metric assessment should be completed by a competent person;
- Principle 2 – The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands;
- Principle 3 – This biodiversity metric should be used in accordance with established good practice guidance and professional codes;
- Principle 4 – This biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice;
- Principle 5 – Biodiversity units are a proxy for biodiversity and should be treated as relative values;
- Principle 6 – This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance;
- Principle 7 – Habitat interventions need to be realistic and deliverable within a relevant project timeframe;
- Principle 8 – Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation; and
- Principle 9 – This biodiversity metric does not enforce a minimum habitat size ratio for compensation of losses. Proposals should aim to:
 - maintain habitat extent - supporting more, bigger, better and more joined up ecological networks;
 - ensure that proposed or retained habitat parcels are of sufficient size for ecological function.

During the process of undertaking a biodiversity net gain assessment using the Statutory Biodiversity Metric, the following rules must be followed to ensure its proper use:

- Rule 1 – The trading rules of this biodiversity metric must be followed;
- Rule 2 – Biodiversity unit outputs, for each type of unit, must not be summed, traded, or converted between types. The requirement to deliver at least a 10% net gain applies to each type of unit;
- Rule 3 – To accurately apply the biodiversity metric formula, you must use the biodiversity metric calculation tool or small sites biodiversity metric tool (SSM) for small sites. The tools remove the need for a user to manually calculate the change in biodiversity value. The tool will summarise the results of the calculation and inform a user whether the biodiversity net gain objective has been met;
- Rule 4 – In exceptional ecological circumstances, deviation from this biodiversity metric methodology may be permitted by the relevant planning authority.

1.5 PERSONNEL

The updated Condition Assessments and BNG calculations were led by Lexi Dowson Wallace BSc (Hons) MSc ACIEEM and supported by Tessa Pepler BSc (Hons) MSc MCIEEM. Lexi is a Senior Consultant at Johns Associates who has worked as an ecological consultant since 2015. Lexi is highly experienced in conducting BNG assessments and is the BNG Lead at Johns Associates.

Tessa is a Principal Ecologist at Johns Associates who has worked as an ecological consultant since 2005 and has a BSc (Hons) in Environmental Studies and an MSc in Ecology and Management of the Natural Environment. Tessa is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and holds Natural England Class 1 survey licences for bats, great crested newts and dormice.

1.6 LEGISLATION AND POLICY

The legislation and national and local planning policies which are relevant to this assessment are provided in Appendix A to this report.

Figure 1: Site Location



2 METHODOLOGY

2.1 STRATEGIC SIGNIFICANCE

As part of the BNG assessment, habitats are afforded different levels of strategic significance, which describes the local significance of the habitat based on its location and the habitat type. Habitats were assigned a strategic significance value using the Biodiversity Action Plan (BAP) for Eastleigh Borough 2012-2022 and the Hampshire Ecological Network Mapping document provided as part of the data search by HBIC. The strategic significance is assigned to be high, moderate, and low.

2.2 DISTINCTIVENESS

For the purposes of the metric assessment, distinctiveness refers to the relative scarcity of the habitat and its importance for nature conservation. The actual values assigned to each habitat type used in the metric are given in the Technical Supplement. These are automatically applied by the calculator tool based on the habitat type.

2.3 HABITAT CLASSIFICATION AND CONDITION ASSESSMENT

2.3.1 UKHab Field Survey

A UKHab survey of the Site was undertaken on 1 and 13 March 2023 by experienced ecologists Tessa Pepler BSc (Hons) MSc MCIEEM and Lexi Dowson-Wallace BSc (Hons) MSc ACIEEM from Johns Associates Ltd. The weather was dry and sunny with good visibility. This survey was completed in accordance with the UK Habitat Classification (UKHab) (2020) guidelines, Preliminary Ecological Appraisal (CIEEM, 2017) and BS 42020:2013 Biodiversity - Code of practice for planning and development (British Standards Institute, 2013).

The previous Phase 1 Habitats surveyed in July/August 2018, August 2019, and July/August 2020 by Katherine Newbert BSc (Hons) MSc, Wiltshire County Botanical Recorder were reviewed and transposed into UKHab habitats (Appendix B) with an updated condition assessment where this information was not available within the previous Phase 1 Habitat Report (OHH, Environment Statement Chapter 10: Ecology - Appendix 10.2).

2.3.2 Habitat Classification

The on-Site habitats were classified following UK Habitat Classification (UKHab) (2020) guidelines (which were the most up to date guidelines at the time of survey), which provides a more detailed interpretation of baseline habitat survey data than previous habitat classifications systems, such as Phase 1 Habitat Assessments. The professional edition of UKHab "UK Habitat Classification –Professional Edition¹" (UKHab-P) was used which includes Priority Habitat Types, all Annex 1 Habitats and the habitats listed in EUNIS.

The classification of primary habitats is hierarchical with five levels, which include terrestrial/freshwater/marine, ecosystem types, broad habitats, priority habitats and Annex 1 habitats. Habitat types were assigned a primary code to a hierarchical level of at least three, and secondary codes were used to further clarify the habitat and record additional information linked to the primary habitat such as habitat management. The full range of secondary codes following

¹ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>

UKHab-P were used, which are grouped under the following headings of which the first three listed are considered mandatory sections.

- Habitat Mosaics (10 - 18)
- Habitat Complexes (19 – 32)
- Origin (33 – 49)
- Management (51 – 85)
- Land Use (86 – 116)
- Environmental Qualifier (117 – 138)

2.3.3 Condition Assessment

An annotated habitat map together with descriptions of the recorded habitat types was produced, which was subsequently digitised using a geographical information system (ArcGIS). The survey also included identification of any non-native invasive plant species. Flora taxonomy follows the nomenclature detailed in New Flora of the British Isles (4th Edition) (Stace C. , 2019). Flora, where appropriate, are given a descriptive score of abundance using the DAFOR scale, as follows:

- D – Dominant
- A – Abundant
- F – Frequent
- O – Occasional
- R – Rare
- L – Locally (to be used as a prefix for any of the above)
- V – Very (to be used as a prefix for any of the above)

Each habitat parcel is assessed on its condition via a series of relevant criteria as per The Statutory Biodiversity Metric User Guide (draft) and The Statutory Biodiversity Metric – Technical Annex: Condition Assessment Sheets and Methodology.

Information recorded including species abundance, presence of non-native species, undesirable species, management, habitat structure, human impacts and age of habitats were recorded using the Statutory Biodiversity Metric Habitat Condition sheets in the field which are appended to this report.

2.4 STATUTORY BIODIVERSITY METRIC METHODOLOGY

The Statutory Biodiversity Metric provides a nationally measurable structured calculation methodology to account for biodiversity losses and gains resulting from development or land management change. The Statutory Biodiversity Metric uses habitat, the places in which species live, as a proxy to describe biodiversity. These habitats are converted into measurable 'biodiversity units'. These biodiversity units are the 'currency' of the metric.

Biodiversity units are calculated using the size of a parcel of habitat and its quality. The metric uses habitat area as its core measurement, except for linear habitats where habitat length is used. To assess the quality of a habitat the metric scores habitats of different types, such as woodland or grassland, according to their relative biodiversity value. Habitats that are scarce or declining typically score highly relative to habitats that are more common and widespread. The metric

also takes account of the condition of a habitat. The metric accounts for the location of the habitat relative to other similar habitats to measure its connectedness in the landscape. Being 'better' and 'more joined-up' are important facets of habitats that can contribute to halting and reversing biodiversity declines. Lastly, the metric also accounts for whether or not the habitat is sited in an area identified locally, typically in a relevant policy of plan, as being of significance for nature.

Where new habitat is created, or existing habitat is enhanced the difficulty and associated risks of doing so are taken into account by the metric. If habitat is created to compensate for losses elsewhere, then the metric also takes account of its proximity to the impact site. The metric incentivises delivery that is on or close to the impact site.

The Statutory Biodiversity Metric score has been calculated for the existing habitats at the Site and for the habitats proposed within the masterplan. The site was split into distinct habitat parcels and linear habitats based on the UKHab system, which were then mapped and measured using the ArcGIS mapping tool. Baseline habitats are shown in Figure 2.

The area or length of each habitat type was entered into the Calculation Tool along with the condition and strategic significance (informed by the desk study) in order to obtain the baseline (i.e. existing) value of each in biodiversity units. This process was repeated for the post-development habitats to be retained, enhanced and/or newly created. The post-development habitat plan is shown in Figure 3.

BNG is an approach to development that seeks to halt the current loss of biodiversity through development and through the planning system; restore ecological networks through early masterplanning and increase the natural habitat resource and ecological features. This has been included within the Environment Act 2021, and a mandatory requirement for development to enhance the ecological value of a site by a minimum of 10% will come into force in February 2024.

2.5 LIMITATIONS, CONSTRAINTS AND ASSUMPTIONS

The findings of this report are valid at the time of reporting. Should there be delays to the project timetable and/or implementation of the proposed development, updated desk study and/or site survey work may be required. In this instance, advice should be sought to ensure the data, recommendations and conclusions set out in this report remain valid.

The original extended Phase 1 Habitat Survey was undertaken in early March, which is outside of the JNCC's optimum field survey season for the south of England (from late March to Mid-October), wherein the most accurate picture of the vegetation communities present can be gained. The results of the previously recorded species from botanical surveys conducted in July/August 2018, 2019, and 2020 and updated walkover inspection in July 2023 have been used to inform the condition assessments. Where these are not present for a parcel; a precautionary approach has been applied e.g. the criteria for 6-8 species present (g4 Modified Grassland) or over 10 species present (g3c Other Neutral Grassland) were passed despite the number of species recorded being less than this when surveyed in March 2023.

No other limitations or constraints with regard to the field survey or desk study were encountered and therefore the BNG calculations are considered valid.

3 BIODIVERSITY NET GAIN RESULTS

3.1 STRATEGIC SIGNIFICANCE

The Site is adjacent to strategic locations identified in the Eastleigh Borough Council Biodiversity Action Plan 2012-22. This assessment concluded that the habitats on site are well connected to the wider landscape via suitable, high value connective habitats and have the potential to for valuable connective habitats as part of the wider Hampshire biodiversity network. This level of strategic significance is applied consistently to both lost and enhanced/created habitats. The results of the strategic significance assessment are as follows:

High

- All areas included within the HBIC Ecological Network Map. This includes biodiversity opportunity areas, core statutory sites, core non-statutory sites and network opportunity areas.
- Priority habitats as identified within the Biodiversity Action Plan (BAP) for Eastleigh Borough 2012-2022. Priority habitats relevant to this application include: lowland mixed deciduous woodlands; pond; lowland fens; reedbeds; and hedgerows.

Medium

- Areas located adjacent to 'high' strategic significance areas which are considered to provide ecological connectivity to the wider landscape such as woodland and grassland were categorised as having 'medium' strategic significance.

Low

- Areas that are not included in or are adjacent to the HBIC Ecological Network Map were categorised as having 'low' strategic significance. Areas adjacent to areas of high strategic significance that do not provide ecological connectivity to the wider landscape such as cereal crops, were also categorised as having a 'low' strategic significance.

3.2 BASELINE

3.2.1 Grassland - Modified Grassland g4

The modified grassland within the Site (F1, F7, F8, F35, F39) was heavily cattle-grazed or regularly topped; and fertiliser or manure were regularly applied. The sward was dominated by common and competitive grass species, with a small diversity of forb species which are tolerant of nutrient-enriched and disturbed soils. Typical species within this community included perennial rye-grass *Lolium perenne*, creeping bent *Agrostis stolonifera* and Yorkshire fog *Holcus lanatus*. Forb species present at low frequency and abundance included curled dock *Rumex crispus*, creeping thistle *Cirsium arvense*, ribwort plantain *Plantago lanceolata* and white clover *Trifolium repens*.

F9 and F2 were dominated by common and competitive grass species, with a small diversity of forb species which are tolerant of nutrient enriched and disturbed soils. Abundant grass species comprised perennial rye-grass *Lolium perenne*, creeping bent *Agrostis stolonifera* and Yorkshire fog *Holcus lanatus*. Forb species present included locally frequent hairy sedge *Carex hirta*, curled dock *Rumex crispus* and creeping thistle *Cirsium arvense*, and occasional ribwort plantain *Plantago lanceolata*, yarrow *Achillea millefolium*, common fleabane *Pulicaria dysenterica* and white clover *Trifolium repens*.

3.2.2 Wood Pasture and Parkland (Secondary Code 20)

A small area of mature parkland was located within F35 (WP1). The habitat comprised approximately 20 mature oak *Quercus robur* trees located within an area of improved grassland. This habitat should be classified under wood-pasture and Parkland BAP priority habitat. However, this parkland area was considered to be in overall poor condition due to grassland being intensively cattle-grazed, this had created a very poor and improved sward which is not recognisable as an associated NVC community for this habitat type. The heavy cattle grazing had prevented a scrub layer developing inhibiting the ability for new tree saplings to grow and develop, as a result only one age class of tree was present. There was fallen and standing deadwood evident in this area and the habitat is likely to have some value for saproxylic invertebrates, bats, and hole-nesting birds.

3.2.3 Grassland – Other Neutral Grassland g3c

Fields within the Site where the topography of the ground is lower lying and subject to wetter ground conditions throughout much of the year (F3, F4, F5, F6, F40) typically comprised wet grassland with more than 25% cover of rushes. A network of dry and wet ditches were present that were associated with swathes of marshy grassland, where the topography of the ground is lower lying and subject to wetter ground conditions throughout much of the year. Typically, these areas supported abundant soft rush *Juncus effusus* with frequent common ragwort *Senecio jacobaea*, Yorkshire fog, tufted hair-grass *Deschampsia cespitosa*, creeping buttercup *Ranunculus repens*, broad-leaved dock *Rumex obtusifolius*, water pepper *Persicaria hydropiper*, creeping bent, common fleabane, short-fruited willowherb *Epilobium obscurum*, marsh foxtail *Alopecurus geniculatus* and marsh thistle *Cirsium palustre*.

F6 comprised an area of very rank marshy grassland, which had recently been cut and grazed. The ground surface potentially has an old ridge and furrow formation. Species present included soft rush, reed sweet-grass *Glyceria maxima*, reed canary-grass *Phalaris arundinacea*, water figwort *Scrophularia auriculata*, comfrey *Symphytum* sp., hemlock water-dropwort *Oenanthe crocata*, bittersweet *Solanum dulcamara*, broad-leaved dock, lesser pond-sedge *Carex acutiformis*, water pepper, tufted hair-grass, marsh ragwort *Jacobaea aquatica* and square-stalked St. John’s wort *Hypericum tetrapterum*.

F10 was similar in composition to F9 and F2, but characterised by a greater species diversity, and having a better overall condition.

3.2.4 Other Woodland; Broadleaved – w1g7

A mature woodland belt was located on an east-facing slope (W1), with the canopy dominated by oak and ash *Fraxinus excelsior*. The understorey was well-developed with coppiced hazel *Corylus avellana*, alder *Alnus glutinosa*, bramble *Rubus fruticosus* agg., grey willow *Salix cinerea*, blackthorn *Prunus spinosa*, hawthorn *Crataegus mongyna*, and apple *Malus pumila*. Mature trees of alder, ash and oak have high bat roost potential. The ground flora is dominated by bare ground with sparse foxglove *Digitalis purpurea*, partly due to shading, but also possible due to management for pheasant rearing (a pheasant pen is present). A wet ditch runs along the eastern side of the woodland.

3.2.5 Hedgerows

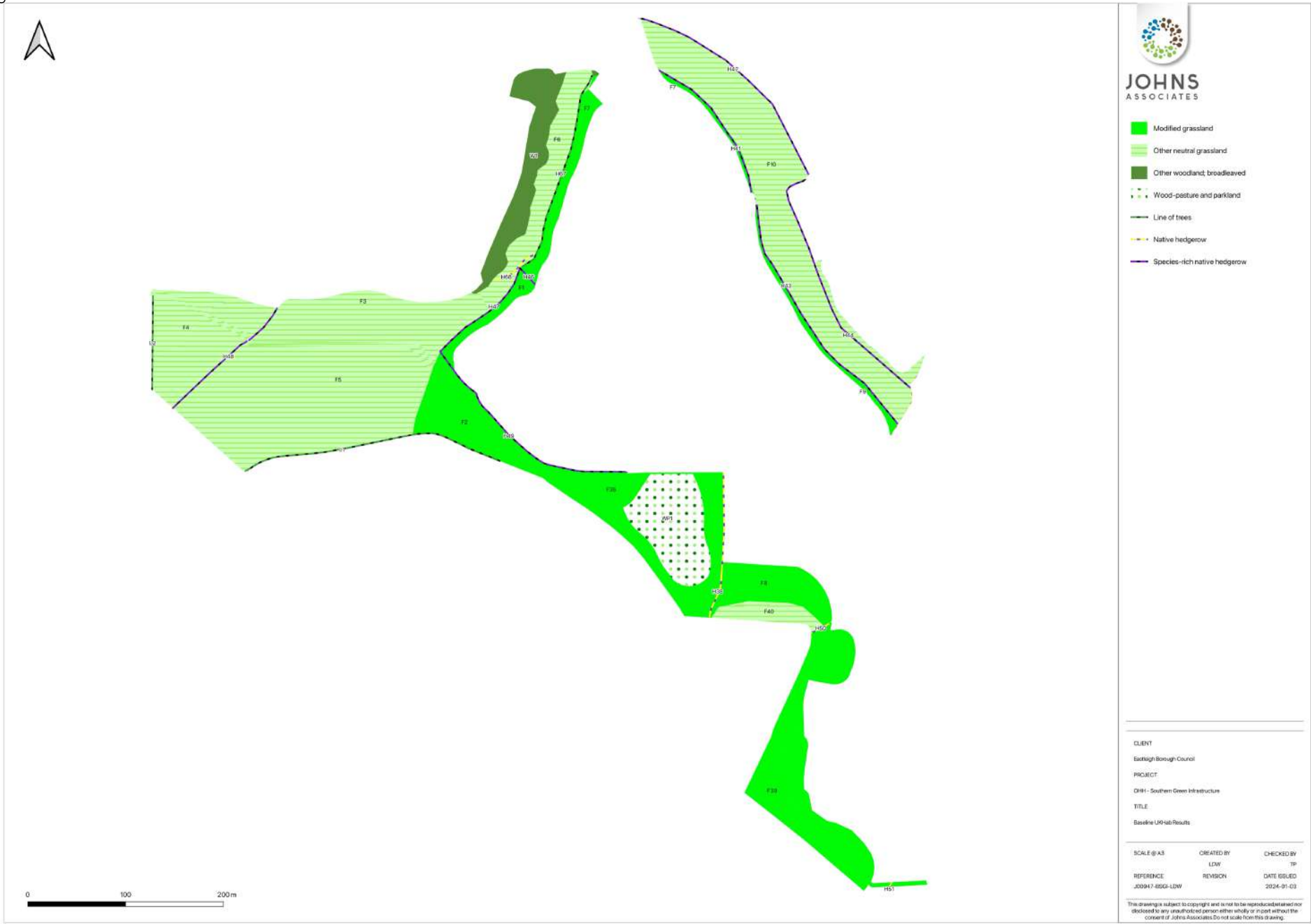
Table 1 provides the hedgerow numbers, classification, and description of the linear hedgerow/tree line habitats within the Site.

Table 1: Hedgorw numbers, classification and descripton

Hedgerow Number	Classification	Description
L1	Line of trees with ditch	Line of mature trees associated with stream and off-site woodland to the South.
L2	Line of trees	Line of mature trees bordering the Site.

Hedgerow Number	Classification	Description
H38	Species-poor native hedgerow with ditch	Hedgerow situated upon a small bank with a dry ditch on the western side of the hedge. The hedge was dense and managed by flailing to a height of 1.5 – 2 m. Field entrances were present within the hedge. Species present included hawthorn, bramble, and blackthorn.
H46	Species-rich native hedgerow with bank and ditch	A dense hedge flailed to a height of 2 – 3 m, with a small number of gaps at the base. The hedgerow was situated upon a half bank, with a ditch on the northern side. Species present included blackthorn, bramble, field maple <i>Acer campestre</i> , dog rose, dogwood <i>Cornus sanguinea</i> , hawthorn and grey willow.
H47	Species-rich native hedgerow with bank and ditch	Hedgerow was situated on a bank adjacent to a stream and comprised a line of trees and shrubs, dominated by alder with occasional ash, white willow <i>Salix alba</i> , blackthorn, bramble, hazel, dogwood, and honeysuckle <i>Lonicera periclymenum</i> .
H48	Species-rich native hedgerow with ditch	Woody species present included frequent grey willow as well as blackthorn, oak, bramble, dogwood, dog rose, and field rose <i>Rosa arvensis</i> . The hedgerow was managed to a height of 4 m and a width of 2 m, with dense growth in most places. A ditch was situated on the west side of the hedgerow, which was mostly dry at the time of survey except at the northern end.
H49	Species-rich native hedgerow with bank, ditch and trees	Dense bushy hedgerow which was flailed to height of 2 – 3 m and a width of 2 m, with gaps at the base towards the western end. The hedgerow was situated on a small bank and a shallow ditch lies on the west side of the hedge. Woody species present included blackthorn, hawthorn, ash, bramble, dog rose, hazel, oak, grey willow, and honeysuckle.
H50	Species-poor native hedgerow with bank and ditch	Hedgerow was managed through flailing and is gappy. Species present included bramble, hawthorn, hazel, and honeysuckle. The hedgerow was managed at a height of 2 m and a width of 1 m.
H51	Species-poor native hedgerow	Hedgerow was managed through flailing and very defunct at the southern end and therefore is double fenced. Gaps reached up to 5 m in length. The hedgerow was situated partly on a dry shallow depression, which was cattle poached. Species present included bramble, hawthorn, hazel, and honeysuckle. The hedgerow was managed at a height of 3 m and a width of 1 m.
H67	Line of trees with ditch	Line of trees situated on a bank adjacent to a stream and comprised a line of trees and shrubs, dominated by alder with occasional ash, white willow, blackthorn, bramble, hazel, dogwood, and honeysuckle.
H69	Species-poor native hedgerow with ditch	The hedgerow was flailed hard to a height of 1.5 m and dominated by hawthorn with occasional bramble and blackthorn.

Figure 2: Baseline Habitats



3.3 BASELINE HABITAT ASSESSMENT

Tables 2 and 3 below detail the specific area-based and linear existing habitat types respectively (Figure 2), with their relative conditions and baseline area unit values.

Table 2: Summary of baseline assessment for area-based habitats

Broad Habitat	Habitat	Distinctiveness	Area (Ha)	Condition	Units
Grassland	Modified grassland	Low	0.8303	Poor	1.83
			2.7874	Moderate	12.08
	Other neutral grassland	Medium	0.1869	Poor	0.86
			5.7813	Moderate	53.19
			1.2171	Good	16.46
Woodland and forest	Other woodland; broadleaved	Medium	0.0029	Moderate	0.03
			0.5599	Good	7.73
	Wood-pasture and parkland	High	0.6707	Poor	6.17
Totals			12.0365		98.34

Table 3: Summary of baseline assessment for linear habitats

Linear Habitat	Distinctiveness	Length (km)	Condition	Units
Line of trees	Low	0.095	Moderate	0.44
Line of trees – associated with bank or ditch		0.482	Moderate	2.18
Native hedgerow		0.005	Poor	0.01
Native hedgerow – associated with bank or ditch	Medium	0.020	Poor	0.09
		0.197	Good	2.60
Species-rich native hedgerow - associated with bank or ditch	High	0.018	Poor	0.12
		0.264	Good	5.46
Species-rich native hedgerow with trees – associated with bank or ditch	V. high	0.243	Good	6.42
Totals		1.324		17.31

3.4 POST-DEVELOPMENT HABITAT ASSESSMENT

The post-development proposals for the Site comprise largely the same habitats as the baseline, with the addition of several SuDS basins, a GCN pond and a footpath. The following calculations are based on Southern Green Infrastructure Sheets 1-6 of 6 (dwg. DD579L05-R6, DD579L06-R6, DD579L07-R5, DD579L08-R5, DD579L09-R6, DD579L10-R5 produced by Deacon Design). The landscape and ecological plan comprise retainment of existing area-based habitats, enhancement of existing habitats and also newly created habitats. See Figure 3 for the post-development UKHab habitat map.

Figure 3: Post-development Habitats



3.4.1 Habitats

Table 4 below details the specific post-development habitat types, their proposed conditions and unit values for the Southern GI parcel.

Table 4: Summary of post-development assessment for area-based habitats

Broad Habitat Type	Habitat	Distinctiveness	Area (Ha)	Condition	Units
Urban	Sealed surface/ hardstanding	V. low	0.4697	N/A	0.00
Grassland	Modified grassland	Low	0.8635	Moderate	3.30
	Other neutral grassland	Medium	0.6530	Moderate	4.75
			8.2883	Good	99.93
Heathland and shrub	Mixed scrub	Medium	0.0154	Moderate	0.11
Lakes	SuDS	Medium	0.0974	Moderate	0.75
	Great crested newt (GCN) pond		0.0387	Good	0.43
Individual trees	Rural trees (76 small trees)	Medium	0.3094	Moderate	1.04
Woodland and forest	Other woodland; broadleaved	Medium	0.0029	Moderate	0.03
			0.5599	Good	7.73
	Wood-pasture and parkland	High	0.6707	Moderate	6.82
Wetland	Fens (upland and lowland)	V. high	0.3752	Good	1.17
Totals			12.03*		124.46

* Total shown excludes additional area of individual trees and is taken directly from the Metric Calculation Tool.

3.4.2 Hedgerows

Table 5 below details the specific hedgerow types, their proposed conditions and unit values for the Southern GI parcel.

Table 5: Summary of post-development assessment for linear habitats

Linear Habitat Type	Retained/ Enhanced/ Created? (ID Code)	Distinctiveness	Length (km)	Condition	Units
Line of trees	Retained (L2)	Low	0.095	Moderate	0.44
Line of trees – associated with bank or ditch	Retained (L1)	Low	0.271	Moderate	1.25
	Enhanced (H67)		0.211	Good	1.25
Native hedgerow – associated with bank or ditch	Retained (H69)	Medium	0.047	Good	0.62
Species-rich native hedgerow – associated with bank or ditch	Retained (H47, H48)	High	0.258	Good	5.34
	Enhanced (H46, H50)		0.038		0.68
Species-rich native hedgerow with trees – associated with bank or ditch	Retained (H49)	V. high	0.237	Good	6.26
	Enhanced (H38)		0.145		3.25
		Totals	1.302		19.09

3.4.3 Headline Results

As demonstrated in Table 6 below, the biodiversity net gain results show an overall net gain of over 10% in both habitats and hedgerows. The trading rules have been satisfied for both.

Table 6: Summary of biodiversity net gain assessment before offsetting

Unit Type	Baseline Units	Post-development Units	Net Unit Change	% Change	Trading Rules Satisfied?
Habitat	98.32	126.06	27.74	28.22	Yes
Hedgerow	17.35	19.09	1.74	10.03	Yes

3.4.4 Offsetting

In order to offset for the anticipated habitat unit loss associated with the Secondary Infrastructure Road (SIR), an area of the Southern GI has been selected to provide offsetting to ensure an overall net gain of at least 10% and a satisfaction

of the trading rules at the SIR. Given that both of these phases are considered to be on the same site (i.e. One Horton Heath OPA ref. O/20/89498), they are therefore not subject to a penalty for 'off-site' offsetting, the mechanism for implementing the offsetting involved moving certain habitats from the Southern GI baseline tab of the Metric 4.0 to the SIR Baseline tab such that the overall habitat unit value of the SIR is increased, and the Southern GI is decreased. Table 7 details the specific habitats and their relative values.

Table 7: Summary of baseline habitats from Southern GI used to offset SIR losses

Broad Habitat	Habitat	Distinctiveness	Area (Ha)	Condition	Units
Grassland	Other neutral grassland	Medium	2.4559	Moderate	22.59
	Modified grassland	Low	0.1251	Poor	0.28
			0.5087	Moderate	2.24
		Totals	3.0897		25.11

Table 8 details the post-development habitats delivered for the SIR from the habitat parcels from the Southern GI.

Table 8: Summary of post-development habitats from Southern GI used to offset SIR losses

Broad Habitat Type	Habitat	Distinctiveness	Area (Ha)	Condition	Units
Grassland	Other neutral grassland	Medium	0.2784	Moderate	2.00
			2.8113	Good	33.90
		Totals	3.0897		35.90

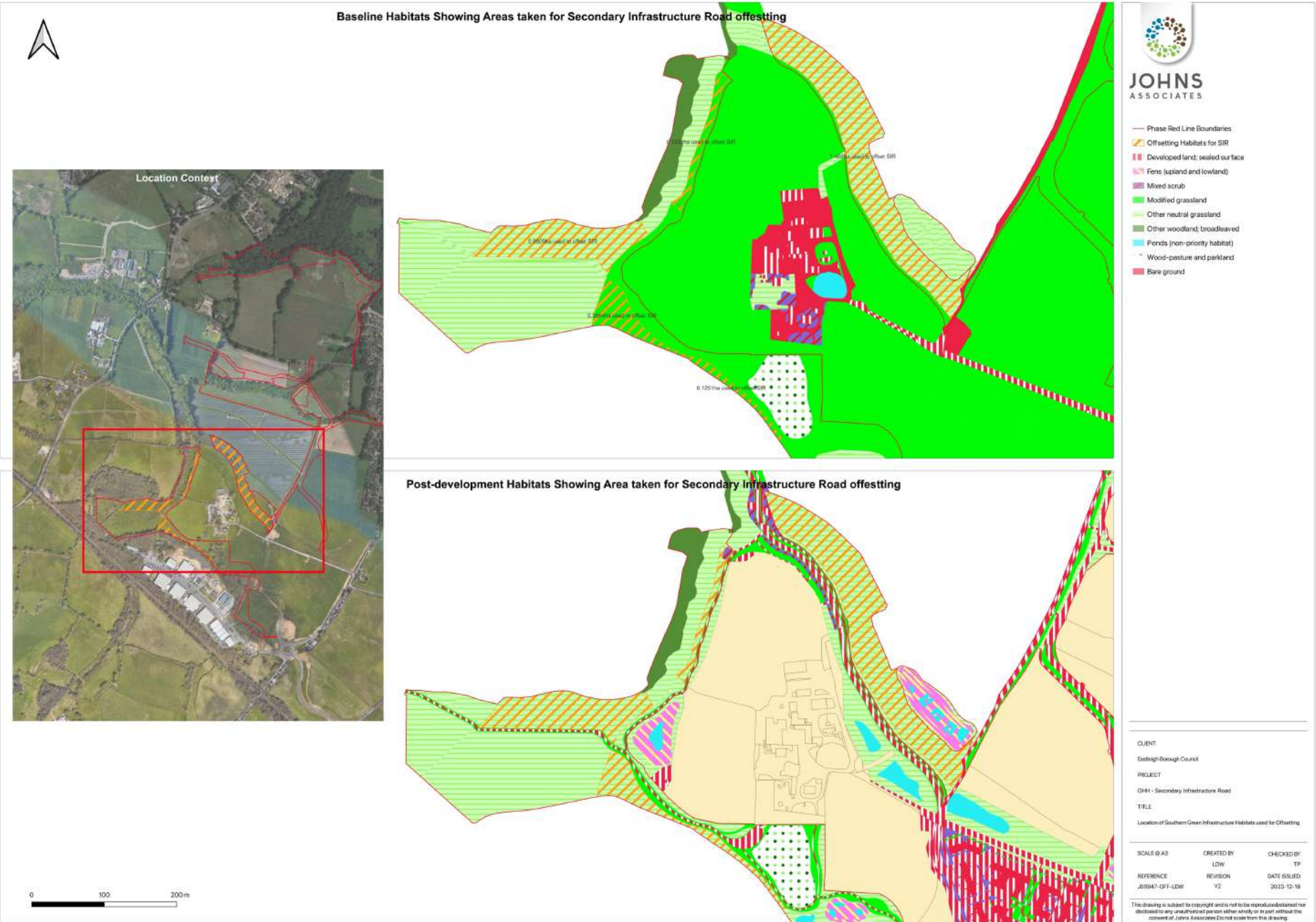
The specific habitat parcels taken from Southern GI to offset the SIR losses are highlighted in Figure 4.

Following the removal of the habitats used in the offsetting for the SIR, the Southern GI Site can be expected to achieve an overall net gain of 16.95 Units and 23.15%, as demonstrated in Table 9 below. The hedgerow results will not change, as they are not being used for any offsetting at this stage.

Table 9: Summary of biodiversity net gain assessment after offsetting

Unit Type	Baseline Units	Post-development Units	Net Unit Change	% Change	Trading Rules Satisfied?
Habitat	73.21	90.16	16.95	23.15	Yes

Figure 4: Location of Habitats in Southern GI used to Offset Losses in SIR



3.4.5 Application of the Mitigation Hierarchy

Because some area-based habitats and hedgerows are being lost in order to facilitate the proposed development, compensation and enhancement has been incorporated into the design in order to ensure compliance with Rule 1 and Principle 8 of the Metric User Guide. Table 7 demonstrates how the mitigation hierarchy has been applied to all habitats on Site in accordance with Principle 3 of the Metric User Guide. A map showing habitats to be retained (and protected during construction), enhanced, and lost can be found in Appendix B.

Biodiversity units are more easily achievable when habitats are retained and protected during construction and thereafter enhanced through improved management practices or additional planting (Principle 6 of the Metric User Guide). Therefore, as per the mitigation hierarchy, the improvement of the distinctiveness or condition (or both) of the retained habitats should always be a high priority. In this case, the enhancement of retained tree lines is not practicable, therefore new habitat creation is proposed in order to compensate for losses and provide sufficient enhancement to the Site overall.

Table 10: Application of the mitigation hierarchy (including habitats used to offset SIR losses)

Broad Habitat Type		Impacts Avoided?	Habitat Lost	Compensation to Meet Trading Rules	Details/ Recommendations to Compensate for Losses and Meet Trading Rules	Additional Measures to Achieve >10% Net Gain
Grassland		No	1.7262 ha of modified grassland (6.37 units)	Same distinctiveness or better habitat required	• 0.0062ha of modified grassland retained (0.02 units) (F1) • Create 0.8573 ha of modified grassland (3.28 units) • 1.1742ha of other neutral grassland retained (15.86 units) (F4, F6) • Create 0.0715 ha other neutral grassland (0.66 units) • Enhance 1.8852 ha of modified grassland to other neutral grassland (16.39 units) • Enhance 5.8104 ha other neutral grassland (poor and moderate condition) to good condition (71.77 units) • 0.0154 ha of mixed scrub will be created on retained grassland (0.11 units) • 76 small trees will be planted (1.04 units)	• Create 0.3752ha of fens as part of SuDS strategy (1.17 units) • Create 0.1361ha of ponds as part of SuDS and great crested newt mitigation strategies (1.18 units)
			0.1990 ha of other neutral grassland (1.94 units)	Same broad habitat or a higher distinctiveness habitat required		
Woodland and Forest		Yes	N/A	N/A	• 0.5628 ha of other broadleaved woodland retained (7.76 units) (W1, W2) • 0.6707 ha of wood pasture and parkland will be enhanced to moderate condition (6.82 units) (WP1)	
Hedgerows	Lines of Trees	Yes	N/A	Same distinctiveness band or better	• 0.366 km of lines of trees retained (1.65 units) (L1, L2)	N/A
	Species-poor Hedgerows	No	0.01 km (0.08 units)		• Enhance 0.211 km of line of trees from moderate condition to good condition (1.25 units) (H67) • 0.047 km species-poor hedgerow retained (0.62 units) (H69)	
	Species-rich Hedgerows		0.011 km (0.15 units)	Like for like or better	• Enhance 0.038 km of hedgerow to species-rich hedgerow in good condition (0.68 units) (H46, H50) • 0.258 km species-rich hedgerows retained (5.34 units) (H47, H48)	
	Species-rich Hedgerows with Trees		0.006 km (0.16 units)	Like for like	• Enhance 0.145 km of species-poor hedgerow to species-rich hedgerow with trees in good condition (3.25 units) (H38) • 0.237 km of species-rich hedgerow with trees retained (6.26 units) (H49)	

3.4.6 Compensation and Enhancements

Table 10 below details the compensation and enhancement measures which will be implemented in order to achieve the net gain in area and linear units stated in Table 5 above (before offsetting). These should be read in conjunction with the Landscape Management Plan (LMP) and Habitat Monitoring and Management Plan (HMMP).

Table 10: Proposed compensation and enhancement measures

Habitat Type	Proposed Compensation or Enhancement Measure	Target Condition	Delivery Details
Grassland	Creation and retention of 0.8635 ha of modified grassland	Moderate	In order to satisfy the criteria for moderate condition as per the Statutory Metric, the following must apply: - There must be 6-8 vascular plant species per m² - The sward height must be varied with at least 20% of the sward >7cm in height, and 20% <7cm - No bracken or scrub encroachment should be allowed to establish - No invasive non-native species should be present.
	Creation, retention and enhancement of 8.9413 ha of other neutral grassland	Moderate	In order to satisfy the criteria for moderate condition as per the Statutory Metric, the following must apply: - The appearance and composition must fit the UKHab definition of other neutral grassland - The sward height must be varied with at least 20% of the sward >7cm in height, and 20% <7cm - No bracken or scrub encroachment should be allowed to establish - No invasive non-native species should be present.
		Good	In order to achieve good condition, the following must apply: - The appearance and composition must fit the UKHab definition of other neutral grassland - At least 10 vascular plant species per m² should be present, including forbs that are characteristic of the habitat type - The sward height must be varied with at least 20% of the sward >7cm in height, and 20% <7cm - No bracken or scrub encroachment should be allowed to establish - No invasive non-native species should be present.
Woodland	Enhancement of 0.6707 ha wood pasture and parkland	Moderate	In order to achieve moderate condition, <u>at least five</u> of the following must apply, assuming that existing trees are ancient or veteran: - Three life stages (e.g. young, mature and veteran) of open grown or pollarded trees must be present - Native scrub is present with a variety of heights, widths, shapes and species compositions - as planted or naturally established individual plants, or clumps of trees or shrubs - Frequent presence of decaying wood providing ecological niches – such as standing, attached and fallen deadwood (for example, dead stems, branches and branch stubs), trees with heart-rot, or hollowing in the trunk or major limbs must be present and retained - There must be no evidence of recent adverse impact on tree health by human activities - Ground cover must comprise grassland of medium distinctiveness or higher (see other neutral grassland in moderate condition above) - Ground cover is subject to an appropriate management regime providing structural diversity (see other neutral grassland in moderate condition above) - No invasive non-native species should be present.
		Moderate	See appended Woodland Condition Assessment sheet (Appendix C).
	Retention of 0.5628 ha other broadleaved woodland	Good	

Heathland and Scrub	Creation of 0.0154 ha of mixed scrub	Moderate	In order to achieve moderate condition, <u>at least three</u> of the following must apply: - The appearance and composition must fit the UKHab definition of mixed scrub - No invasive non-native species should be present - The scrub should have a well-developed edge with scattered scrub and tall grassland and/or forbs present between the scrub and adjacent habitat - Clearings, glades or rides should be present within the scrub.
Wetland	Creation of 0.3752 ha of fens	Good	In order to achieve good condition, the following must apply: - The water table is at, or near the surface throughout the year - No more than 25% of the habitat area should have continuous litter cover preventing regeneration. In addition, <u>at least four</u> of the following criteria should be met: - The appearance and composition must fit the UKHab definition of fen - Water should be clear with no obvious signs of pollution - No scrub or scattered trees should be allowed to establish - Less than 5% of ground should be bare - No invasive non-native species should be present.
Lakes	Creation of 0.0974 ha of permanently wet SuDS	Moderate	In order to achieve moderate condition for ponds (non-priority habitats), <u>at least six</u> of the following must apply: - Good water quality with low turbidity - Habitat of at least moderate distinctiveness surrounds the pond for at least 10m from its perimeter - Less than 10% of the surface is covered with duckweed or filamentous algae - No invasive non-native animals or plants must be present - The pond should not be artificially stocked with fish - Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3m deep - The pond surface is no more than 50% shaded by trees and shrubs.
	Creation of 0.0387 ha GCN pond	Good	In order to achieve good condition for ponds (non-priority habitats), <u>all</u> of the following must apply: - Good water quality with low turbidity - Habitat of at least moderate distinctiveness surrounds the pond for at least 10m from its perimeter - Less than 10% of the surface is covered with duckweed or filamentous algae - The pond is not artificially connected to other waterbodies - Water levels can fluctuate naturally throughout the year - No invasive non-native animals or plants must be present - The pond should not be artificially stocked with fish - Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3m deep - The pond surface is no more than 50% shaded by trees and shrubs.
Trees	Planting of 76 small trees	Moderate	In order to achieve moderate condition, <u>at least two</u> of following must apply: - Tree species should be native - Trees should not be unnecessarily pruned or subjected to detrimental activities - Deadwood, cavities, ivy and loose bark should be preserved - At least 20% of the tree canopy should oversail vegetation beneath.

Hedgerows	Retention and enhancement 0.577 km of line of trees	Moderate	In order to achieve at least moderate condition, <u>at least three</u> of the following must apply: - At least 70% of trees are native - The canopy is predominantly continuous with gaps <10% and no gap >5m wide - One or more trees has veteran features and/or natural niches for vertebrates and invertebrates such as deadwood, cavities, ivy or loose bark - There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing) At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). 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.
		Good	In order to achieve at least moderate condition, all of the following must apply: - At least 70% of trees are native - The canopy is predominantly continuous with gaps <10% and no gap >5m wide - One or more trees has veteran features and/or natural niches for vertebrates and invertebrates such as deadwood, cavities, ivy or loose bark - There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing) - At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). 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.
	Retention of 0.047 km of species-poor hedgerow	Good	In order to achieve good condition, the following must apply: - The hedgerow should be >1.5m in height on average - The hedgerows should be >1.5m in width on average - Gap between ground and base of canopy should be <0.5m for at least 90% of the length - Canopy gaps make up <10% of total length and no gaps are >5m wide - Plant species indicative of nutrient enrichment should account for <20% of ground flora at the hedge base OR >1m of undisturbed ground with herbaceous perennial vegetation is present on at least one side of the hedgerow (this should be left largely unmanaged, especially over winter, to maximise the value for wildlife) - >90% of the hedgerow is free of undesirable species OR >90% of the hedgerow is free of damage from human activities
	Enhancement and retention of 0.296 km of species-rich hedgerow	Good	
	Retention and enhancement of 0.382 km of species-rich native hedgerow with trees	Good	In order to achieve good condition, the following must apply: - The hedgerow should be >1.5m in height on average - The hedgerows should be >1.5m in width on average - Gap between ground and base of canopy should be <0.5m for at least 90% of the length - Canopy gaps make up <10% of total length and no gaps are >5m wide - Plant species indicative of nutrient enrichment should account for <20% of ground flora at the hedge base OR >1m of undisturbed ground with herbaceous perennial vegetation is present on at least one side of the hedgerow (this should be left largely unmanaged, especially over winter, to maximise the value for wildlife) - >90% of the hedgerow is free of undesirable species OR >90% of the hedgerow is free of damage from human activities - At least two age-classes of tree are present, including at least one mature tree per 20 – 50m of hedgerow OR at least 95% of trees are healthy and undamaged, excluding veteran features.

4 CONCLUSIONS

Provided that the recommendations for creation and management of habitats can be adhered to, it is predicted that the Southern GI will achieve a net gain of **23.15%** and **10.03%** in hedgerows following the offsetting losses in the Secondary Infrastructure Road phase as per Section 3.4 above. In the absence of the offsetting, the Southern GI will achieve a net gain of **28.22%** in area-based habitats.

It is recommended that a CEMP be produced in order to set out avoidance and mitigation measures during construction, particularly in relation to **retained and enhanced** habitats (see Appendix B), and root protection zones. A LMP and HMMP will need to also be provided to ensure that the required habitats and habitat conditions are created, maintained, and monitored appropriately to ensure that the BNG conditions stated within this assessment are achieved. Monitoring Site visits will be required to be conducted on Years 1, 2, 3, 5, 7, 10, 15, 20, 25 and 30 and follow up Site visits will also be required following any remediation measures being implemented to ensure success.

If any significant changes to the proposals shown in Figure 3 occur, a reassessment of the potential impacts may be required.

APPENDIX A – LEGISLATION AND PLANNING POLICY

LEGISLATION

Many species of animal and plant receive some degree of legal protection. For the purposes of this report, legal protection refers to: species included on Annex II of the Habitats Directive 1992 (Council of European Communities, 22/07/1992) , Schedules 2 and 5 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended) , excluding species that are only protected in relation to their sale (see Section 9[5] and 13[2]) reflecting the fact that the proposed development does not include any proposals relating to the sale of species.

Legal offences associated with species listed on Schedule 2 of the Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act in England and Wales include inter alia:

- Deliberate capture, injury or killing of animals or taking or destroying their eggs;
- Deliberately disturb animals in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Intentional or reckless disturbance of an animal in its place of shelter or protection;
- Damaging or destroying a resting place or breeding site;
- Intentionally or recklessly obstructing access to a place of shelter or protection; and
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead animal or any part of an animal.

Relevant species listed on these Schedules that are potentially associated with this Site include bats and reptile species (e.g. slow worm). All species of bat receive full protection from all legal offences listed above. Common reptile species receive partial protection under the Wildlife and Countryside Act in that they are protected from killing and injury only.

All species of wild bird are protected under the Wildlife and Countryside Act (1981) (as amended) from killing or injury. In addition, it is an offence to take or damage/ destroy their eggs and to damage or destroy a nest whilst it is in use. Species listed on Schedule 1 (such as barn owl) receive additional protection in that it is illegal to disturb birds or their young whilst occupying, or near to, an active nest.

A number of wild plants, habitats and animals (including reptiles, hedgehog and most species of bat) are also included within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 which lists flora, fauna and habitats considered by the Secretary of State to be of principal importance for conserving biodiversity. The publication of the "England Biodiversity List" satisfies the requirements of Section 41 of the NERC Act 2006 for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires public bodies, including local planning authorities, to have regard for the conservation of biodiversity in England, when carrying out their normal functions.

Badgers are protected under the Protection of Badgers Act 1992 (UK Government, 1992) which makes it an offence to willfully kill, injure or take (or attempt to kill, injure or take) a badger; or to disturb badgers whilst occupying their setts.

NATIONAL PLANNING POLICY

There are numerous national and local planning policies associated with flora and fauna (also referred to as biodiversity) that need to be addressed as part of the planning process. The Government has issued its National Planning Policy Framework (NPPF) 2021, which requires impacts to biodiversity to be minimised. Paragraph 181 of the NPPF applies the same protection to Ramsar sites as that conferred by the Habitats Regulations to SACs and SPAs. The NPPF requires development to apply the following principles (Paragraphs 179-180):

- Minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressure;
- Identify and pursue opportunities for securing measurable net gains for biodiversity;
- Ensure that there will be no adverse impacts to SSSIs (such development would not normally be permitted);
- Ensure that there will be no loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- Where significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequate mitigation, or as a last resort compensation, must be provided.
- The NPPF and associated Planning Practice Guidance also emphasise the requirement for ecological networks and wildlife corridors to be created throughout the wider landscape (paragraph 179).

Planning authorities should follow key principles to ensure that the potential impacts of planning decisions on biodiversity conservation are considered. Circular 06/05: Biodiversity and Geological Conservation provides guidance on the application of the law relating to planning and nature conservation and complements the NPPF.

The Natural Environment Paper

“The Natural Choice: Securing the Value of Nature” outlines the Government’s approach and vision for nature in the UK including protecting and improving our natural environment, growing a green economy and reconnecting people and nature.

Biodiversity 2020

A strategy for England’s wildlife and ecosystem services, are the country level strategies for England and builds on the natural Environment White Paper. It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea. The priorities for action include a more integrated large-scale approach to conservation, putting people at the heart of biodiversity policy, reducing environmental pressure and improving knowledge.

LOCAL PLANNING POLICY

Eastleigh Borough Council’s Local Plan 2016 to 2032 (dated April 2022) contains Policies relating to the natural environment which are reproduced below:

Policy DM11, Nature Conservation

1. The Council will work with statutory and voluntary agencies and developers, and will determine planning applications, to:
 - a. protect, conserve, enhance and facilitate adaption to climate change:
 - i. international, national and local nature conservation designations; and
 - ii. networks of natural habitats and features, including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character.
 - b. assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);

- c. seek a net gain of biodiversity on all development sites (including sites for redevelopment) through the protection, enhancement and connection of existing and provision of new habitats and features of nature conservation interest compatible with the native biodiversity characteristics of the Borough, having regard to local geodiversity and soils; and
 - d. contribute to major elements of the PfSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see strategic policy S9).
2. Development which is likely (either individually or in combination with other developments) to adversely affect the integrity of an international or European nature conservation site will not be permitted subject only to imperative reasons of overriding public interest and securing any necessary compensatory measures in the absence of alternative solutions. A 'project level' Habitat Regulations Assessment will be required where there are likely significant effects or uncertainty. Any mitigation measures required to ensure no adverse impact must be implemented at the appropriate time.
3. The Council will work with PfSH, Natural England, the Environment Agency and other wildlife organisations to develop and implement with developers a strategic approach to the protection and enhancement of international and European sites from the direct and indirect effects of development. Within Eastleigh Borough this will include:
- a. implementing:
 - i. the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and
 - ii. the interim and any future New Forest Recreation Mitigation Strategy if required;or alternative agreed site specific measures to address recreational disturbance;
 - b. preserving the water quality and flows within the Itchen and Hamble, Southampton Water and Solent;
 - c. protecting the River Itchen SAC, in particular the maintenance and where appropriate restoration of habitats and qualifying species to favourable conservation status (as defined by article 1 of the Habitats Directive); and
 - d. seek contributions towards measures set out in the Southern Damselfly Conservation Strategy (or other strategy) specifically to deliver biodiversity net gain.
4. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI), Site of Importance for Nature Conservation (SINC) or Local Nature Reserve (LNR) as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre) unless it can be demonstrated that:
- a. there are no alternative solutions;
 - b. the adverse effects are unavoidable;
 - c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;
 - d. there is an overall biodiversity net gain; and
 - e. if there are any residual adverse effects which cannot be avoided, mitigated or compensated, the benefits of the development must clearly outweigh the adverse effects on the nature conservation value of the site and any broader impacts on national and local designations.

5. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on **priority habitats, protected priority species, or on the local ecological network** unless it can be demonstrated that:
 - a. there are no alternative solutions;
 - b. the adverse effects are unavoidable;
 - c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;
 - d. there is an overall biodiversity net gain; and
 - e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.
6. Development will not be permitted if it results in the loss or deterioration of **irreplaceable habitats** (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists.
7. **Buffers** free from development will be provided to designated sites to avoid/mitigate impacts, including recreational impact and impacts on edge habitats, and to maintain dark skies.
8. Development will not be permitted unless it can be demonstrated that:
 - a. there have been thorough habitat and species **surveys**;
 - b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and
 - c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.

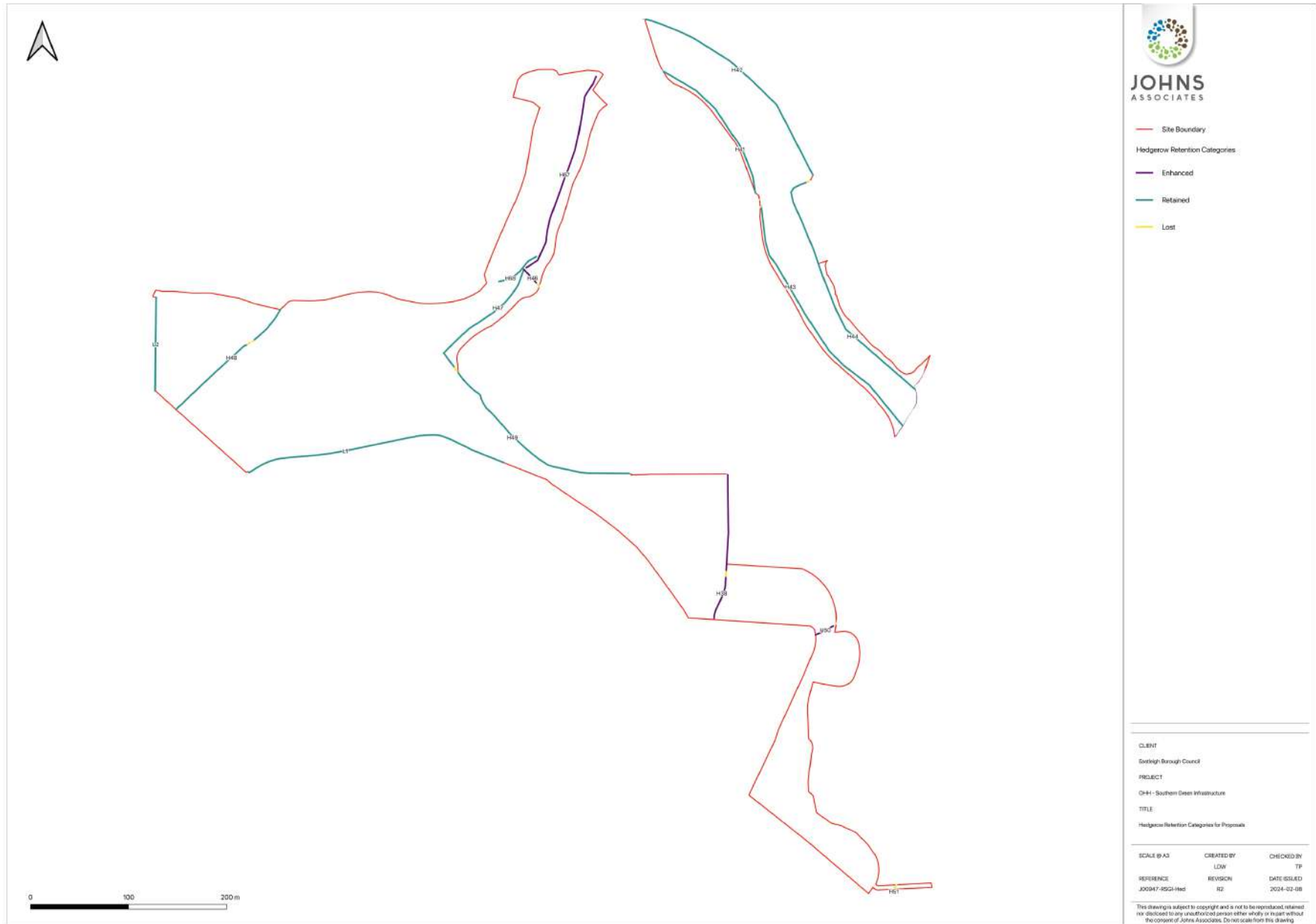
Strategic Policy S9, Green Infrastructure

1. Through new development and other initiatives and the Borough Council will seek to achieve the provision, retention and/or enhancement of the following forms of multi-functional green infrastructure, including provision of:
 - a. landscape scale strategic links across the Borough boundary, to and between the Borough's settlements, the countryside, the coast, and the major areas of open space including the country parks (see strategic policy S12);
 - b. interlinked publicly accessible open space through new and existing development including for example formal sports facilities and informal amenity spaces and cemeteries (see policies DM32-DM34, Chapter 5 and detailed proposals in Chapter 6);
 - c. green infrastructure incorporated into all new development with multifunctional spaces connected by primary, secondary and tertiary green links;
 - d. interconnected urban green infrastructure within the fine grain of existing and new development including green, cycle ways, paths and linkages between community facilities and open spaces to link community facilities;
 - e. green stepping stones such as street trees, green roofs and walls, pocket parks and urban copses (see policy DM1, Chapter 5);
 - f. connected habitats linking the network of designated sites and existing priority habitats, taking account of the Hampshire ecological network map (see policy DM11, Chapter 5);

- g. incorporation of historic buildings and landscapes, including historic parks and gardens within the wider Green Infrastructure to protect their setting (see policy DM12, Chapter 5); and
- h. opportunities for local food growing including allotments, community orchards and farms (see policies DM32 to DM34, Chapter 5 and detailed proposals in Chapter 6).

APPENDIX B – AREAS TO BE LOST, RETAINED AND ENHANCED





APPENDIX C – WOODLAND CONDITION ASSESSMENT CRITERIA SHEET

Condition Assessment Criteria				
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per Indicator
A Age distribution of trees	Three age-classes ¹ present.	Two age-classes ¹ present.	One age-class ¹ present.	
B Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ² .	Evidence of significant browsing pressure is present in 40% or less of whole woodland ² .	Evidence of significant browsing pressure is present in 40% or more of whole woodland ² .	
C Invasive plant species	No invasive species ³ present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species ³ <10% cover.	Rhododendron or cherry laurel present, or other invasive species ³ >10% cover.	
D Number of native tree species	Five or more native tree or shrub species ⁴ found across woodland parcel.	Three to four native tree or shrub species ⁴ found across woodland parcel.	Two or less native tree or shrub species ⁴ across woodland parcel.	
E Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native ⁵ .	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native ⁵ .	<50% of canopy trees and <50% of understory shrubs are native ⁵ .	
F Open space within woodland	10 - 20% of woodland has areas of temporary open space ⁶ . Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted ⁷ .	21 - 40% of woodland has areas of temporary open space ⁶ .	<10% or >40% of woodland has areas of temporary open space ⁶ . But if woodland <10ha has <10% temporary open space, please see Good category ⁷ .	
G Woodland regeneration	All three classes present in woodland ⁸ ; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland ⁸ .	No classes or coppice regrowth present in woodland ⁸ .	
H Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback ⁹ .	11% to 25% mortality and/or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .	
I Vegetation and ground flora	Recognisable NVC plant community ¹⁰ at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community ¹⁰ at ground layer present.	
J Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland ¹¹ .	Two storeys across all survey plots ¹¹ .	One or less storey across all survey plots ¹¹ .	
K Veteran trees	Two or more veteran trees ¹² per hectare.	One veteran tree ¹² per hectare.	No veteran trees ¹² present in woodland.	

L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities ¹³ .	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	
M	Woodland disturbance	No nutrient enrichment or damaged ground evident ¹⁴ .	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground ¹⁴ .	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground ¹⁴ .	
Total Score (out of a possible 39)					
Condition Assessment Result			Condition Assessment Score		
Total score >32 (33 to 39)			Good (3)		
Total score 26 to 32			Moderate (2)		
Total score <26 (13 to 25)			Poor (1)		

APPENDIX D – BASELINE CONDITION ASSESSMENTS

Modified Grassland

Habitat parcel	F1	F2	F7	F8	F9	F39
Average sward height (cm)	20-30	<20	25	20	<15	20
Percentage cover						
Rye grass (%)	98	95	99	99	99	
Wild flowers and sedges (%)	1	5	0.5	0	0	
Undesirable species (%)	1	<5	1	1	1	
Management	None		Cut	Cut	Cut	Cut
Condition assessment criteria						
A. 6 - 8 species per m2	No (2)	Yes	Yes	No (4)	No (3)	No (4)
B. Varied sward height	Yes	Yes	Yes	Yes	Yes	Yes
C. Scattered scrub <20%	None	Yes	Yes	Yes	Yes	Yes
D. Physical damage <5%	Yes	No	Yes	Yes	Yes	Yes
E. Bare ground 1 - 10 %	None	Yes	No	No	No	No
F. Bracken <20%	Yes	Yes	Yes	Yes	Yes	Yes
G. No invasives	Yes	Yes	Yes	Yes	Yes	Yes
Condition	Poor	Good	Good	Poor	Poor	Poor

Other Neutral Grassland

Habitat parcel	F3	F4	F5	F6	F10	F40
Average sward height (cm)	30	30	40	40	15	20 - 30
Management		Cut	Not cut	Not cut	Occasionally cut	Cut
Condition assessment criteria						
A. Good representation of habitat	Yes	Yes	Yes	Yes	Yes	Yes
B. Varied sward height	Yes	Yes	Yes	Yes	Yes	Yes
C. Bare ground 1 - 5 %	Yes	Yes	No	No	No	No
D. Bracken <20% and scrub <5%	Yes	Yes	Yes	Yes	Yes	Yes
E. Undesirable species and physical damage < 5%	Yes	Yes	Yes	Yes	Yes	No
F. 10 or more species per m2	No (5)	No (7)	No (4)	No (4)	No (3)	No
Condition	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

Wood Pasture and Parkland

Habitat parcel	WP1 (F35)
Condition assessment criteria	
A. Ancient or veteran trees	Yes
B. Three age classes present	No
C. Standing or fallen deadwood	Yes
D. No adverse impact on tree health	Yes
E. semi-natural ground cover	No
F. Appropriate management	No
Condition	Poor

Other Broadleaved Woodland

Habitat parcel	W1	W2
Condition assessment criteria		
A. Age distribution of trees	3	2
B. Wild, domestic and feral herbivore damage	3	3
C. Invasive plant species	3	3
D. Number of native tree species	3	3
E. Cover of native tree and shrub species	3	3
F. Open space within woodland	3	3
G. Woodland regeneration	2	2
H. Tree health	3	3
I. Vegetation and ground flora	1	2
J. Woodland vertical structure	3	2
K. Veteran trees	2	1
L. Amount of deadwood	2	1
M. Woodland disturbance	3	3
Score	34	31
Condition	Good	Moderate

Lines of Trees

Tree Line No.	L1	L2	H67
Tree Line Type	Line of trees with ditch	Line of trees	Line of trees with bank and ditch
CONDITION ASSESSMENT CRITERIA (tick or cross)			
1. >70% of trees are native	Yes	Yes	Yes
2. Gaps in canopy <10% AND all gaps <5m	Yes	No	Yes
3. 1 or more mature or veteran tree present	No	Yes	No
4. Undisturbed vegetated strip at least 6m wide on both sides	Yes	Yes	No
5. 95% of the trees are in healthy condition (excluding veteran features)	Yes	Yes	Yes
Condition	Moderate	Moderate	Moderate

Hedgerows

Hedgerow No.	H38	H46	H47	H48	H49	H50	H51	H69
Hedgerow type	Species-poor native hedgerow with ditch	Species-rich native hedgerow with bank and ditch	Species-rich native hedgerow with bank and ditch	Species-rich native hedgerow with ditch	Species-rich native hedgerow with bank, ditch and trees	Species-poor defunct native hedgerow with bank and ditch	Species-poor defunct native hedgerow	Species-poor defunct native hedgerow with ditch
ASSOCIATED FEATURES (yes or no)								
Bank or wall (at least half of length)	No	Yes	Yes	No	Yes	Yes	No	No
Gaps <10%	Yes	Yes	Yes	Yes	Yes	No	No	No
1 or more standard tree per 50m	No	No	No	No	Yes	No	No	No
Ditch (at least half of length)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
CONDITION ASSESSMENT (yes or no)								
A1 - Height >1.5m on average	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
A2 - Width >1.5m on average	Yes	Yes	Yes	Yes	Yes	No	No	Yes
B1 - Base gap <0.5m for >90% length	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
B2 - Gaps <10% AND all gaps <5m	Yes	Yes	Yes	Yes	Yes	No	No	No
C1 - >1m undisturbed ground for 90%	Yes	No	Yes	Yes	Yes	No	No	Yes
C2 - Nettles/cleavers/docks <20%	No	No	Yes	Yes	Yes	No	No	Yes
D1 - >90% free of invasives/neophytes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
D2 - >90% free of human damage	Yes	Yes	Yes	Yes	Yes	No	No	Yes
ADDITIONAL CRITERIA FOR HEDGEROWS WITH TREES								
E1 - At least 1 mature tree per 30m					Yes			
E2 - 95% of trees are in healthy condition					Yes			
Condition	Good	Poor	Good	Good	Good	Poor	Poor	Good

