



Dogs Trust

Dogs Trust, Merseyside

BIODIVERSITY NET GAIN REPORT

May 2024

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Ltd on behalf of Dogs Trust and Dogs Trust Merseyside, Whiston Lane, Huyton, Liverpool, Merseyside L36 6HP ('the Site').
- 1.2 This report has been prepared with reference to the following documents:
- Ecological Appraisal, FPCR, August 2023;
 - DTRC Merseyside Landscaping Plan 1 of 2, Drawing No. ADL386 Rev D. Brewood Landscapes, 10/05/2024
 - DTRC Merseyside Landscaping Plan 2 of 2, Drawing No. ADL386 Rev D. Brewood Landscapes, 10/05/2024
- 1.3 This report is an update of the report and metric originally submitted to support the planning application for the Site (dated 08/08/23, with calculations completed on 28/07/23). This report considers post-submission changes to the proposed layout of the Site and presents an updated BNG assessment. It is noted that the proposals continue to provide a biodiversity net gain.

Site Location and Context

- 1.4 The Site is centred on Ordnance Survey grid ref. SJ 4590 9132 and lies to the east of Huyton, a suburban area of Merseyside approximately 11km east of the centre of Liverpool. The Site is bound to the north by a railway line running in a general south-west/north-east orientation, beyond which is Huyton and Prescot Golf Club; to the east by the M57 motorway is an area of parkland associated with Stadt Moers Park and further east is the residential area of Prescot; to the south by an area of parkland associated with Stadt Moers Park and residential housing; and to the west by Whiston Lane, beyond which is the railway line and residential areas of Huyton.
- 1.5 The Site at the time of survey, comprised an active dog rescue centre with a mix of managed habitats including amenity grassland, plantation woodland, scrub, areas of bare ground, ornamental hedgerow and shrub planting, buildings, a car parking area, and access tracks.

Site Proposals

- 1.6 Proposals are for the clearance of existing buildings and redevelopment of the dog rescue centre with new facilities, including buildings, access tracks, and outdoor areas for training and exercise of rescued dogs.

Aims and Objectives

- 1.7 This Biodiversity Net Gain Report is based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance¹. The scope and objectives of this report are to:
- Summarise the results of the baseline UKHab Survey undertaken on the Site and to present the results of habitat condition assessment surveys following the Natural England Biodiversity Metric 4.0 Technical Guidance.
 - Provide an overview of the proposed habitats following completion of the scheme.

¹ CIEEM (2021) Biodiversity Net Gain Report and Audit Templates Chartered institute of Ecology and Environmental Management, Winchester, UK.

- Present the results of the Natural England Biodiversity Metric 4.0 assessment completed for the proposals.
- Assess the feasibility of the proposals to achieve a net gain in biodiversity through the Natural England Biodiversity Metric 4.0.
- Recommendations for the proposals to maximise the biodiversity potential of the scheme.

Legislative and Policy Context

- 1.8 The UK Government, as signatory to the Rio Convention on Biological Diversity, is committed to conserving and enhancing biodiversity. This commitment is further enforced in the Natural Environment and Rural Communities Act (NERC) 2006 and the Natural Environment White Paper (June 2011).
- 1.9 DEFRA's 25 Year Environment Plan (2018) seeks to embed a 'net environmental gain' principle for development to deliver environmental improvements locally and nationally. Current policy is that the planning system should provide biodiversity net gains where possible; however, this is moving towards a mandatory requirement.
- 1.10 The NPPF (2021) in particular seeks to ensure that the planning system contributes to and enhances the natural and local environment, protect and enhance biodiversity and geodiversity by:
- "174. 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;*
- 179. b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*

The Environment Act

- 1.11 In England, biodiversity net gain is now required under statutory frameworks introduced by Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021). Under this framework, every grant of planning permission will be deemed to have been granted subject to a general biodiversity gain condition. This will require an objective for developments to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of all onsite habitats.
- 1.12 This is a pre-commencement condition requiring the provision of a Biodiversity Gain Plan to be submitted and approved before works can be commenced, but after planning permission has been granted.
- 1.13 In principle, the grant of planning permission is not within the scope of BNG, however it is important to consider as part of the consenting body's decision-making process how a scheme will be able to demonstrate BNG after permission is granted.
- 1.14 The application that this biodiversity net gain report supports was submitted prior to the statutory framework for BNG being introduced and as such it is considered that statutory BNG requirements would not be applicable to this application. However, the applicant has sought to provide a net gain in biodiversity, and this is presented in this report.

- 1.15 The original calculations for the application were produced on 28th July 2023 using the biodiversity metric version 4.0. This report presents an update to the original calculations as a result of post-submission revisions to the proposed layout of the Site. It is considered appropriate to continue to use metric version 4.0 for the BNG assessment and consistent with previous Natural England guidance to continue to use previous versions of the metric (unless requested to do otherwise by their client or consenting body) for the duration of the project it is being used for. This is because users may find that certain biodiversity unit values generated in later biodiversity metric versions will differ from those generated by earlier versions.

Measurable Net Gain

- 1.16 In the absence of secondary legislation coming forward, making the requirements of the Environment Act mandatory, the term “measurable net gain” is not defined. Additionally, this term currently has no agreed definition in local or UK policy. Whilst a figure of 10% is widely viewed as best practice, it currently has no adopted policy support at either a local or national level, and is therefore considered an aspirational target, and not a mandatory requirement.

Knowsley Metropolitan Borough Council Local Policy

- 1.17 The site lies within the administrative area of Knowsley Metropolitan Borough Council and is covered by the Knowsley Local Plan² (adopted January 2016).
- 1.18 The Local Plan policies map shows the Site is located within land allocated to Greenbelt. Greenbelt is not considered to be of strategic ecological significance in relation to biodiversity net gain.
- 1.19 The Local Plan Strategic Objectives includes the following relevant objective;

Strategic Objective 8

Green Infrastructure and Rural Areas

To support and strengthen the role of Knowsley's Green Infrastructure (in rural and urban areas), promote biodiversity, and maintain the character of rural settlements including Cronton, Tarbock and Knowsley Village

- 1.20 The Local Plan also includes the following relevant policies;
- 1.21 Policy CS2: Development Principles
- Principle 4: Recognise environmental limits, protect and enhance environmental assets, enhance local character and promote quality of place by...*
- f) Supporting policies relating to Green Infrastructure and the greening of towns and cities;*
- g) Maintaining or enhancing the tranquillity of open countryside and rural areas;*
- h) Maintaining or enhancing the quantity and quality of biodiversity and habitats, including potential impacts on nationally and internationally important sites for biodiversity;*
- 1.22 Policy CS8: Green Infrastructure. Maintenance and Enhancement of Knowsley's Existing Green Infrastructure.

² Knowsley Local Plan Core Strategy January 2016. Available at: <https://localplanmaps.knowsley.gov.uk/documents/knowsley-local-plan-adopted-core-strategy.pdf>

1) Knowsley's existing Green Infrastructure and its beneficial functions will be protected, managed and/or enhanced, primarily to:

- a) Ensure more attractive and cleaner residential neighbourhoods;*
- b) Sustain and promote biodiversity (including designated sites, priority habitats and protected and endangered species) in accordance with importance and contribution to ecological networks;*
- c) Preserve the character and function of historic environments and valued landscapes;*
- d) Mitigate the effects of climate change and flood risk;*
- e) Mitigate air, water and noise pollution;*
- f) Provide local opportunities for sport, recreation and allotments; and*
- g) Provide sustainable transport linkages between residential neighbourhoods and easy access to employment and services.*

1.23 Policy CS8: Green Infrastructure. Maintenance and Enhancement of Knowsley's Existing Green Infrastructure.

2) To achieve the above, planning powers and other interventions will be used to:

- a) Protect and enhance strategically important areas of greenspace;*
- b) Ensure an appropriate quantity and improved quality of locally important open spaces, including outdoor sports provision (and ancillary facilities of appropriate scale);*
- c) Promote effective movement of wildlife through a network of strategic green links, by protecting, maintaining and improving existing and new open spaces, water courses (including water quality) and biodiversity assets;*
- d) Protect, enhance and/or introduce biodiversity into existing areas of Green Infrastructure, through integration into the design of new development and public realm projects;*
- e) Improve accessibility for communities to greenspace offering leisure and recreation opportunities;*
- f) Protect and where possible improve green paths and cycleways linking residential areas, existing strategic areas of greenspace, employment locations, local community services and leisure facilities;*
- g) Work in partnership with other districts and relevant bodies at a landscape scale to minimise the impact of development upon Knowsley's existing biodiversity and geological assets, and sustain the protection afforded to internationally important sites, including supporting habitat, for biodiversity outside of the borough; and*
- h) Deliver new integrated and functional Green Infrastructure that helps to mitigate and adapt to climate change, such as sustainable drainage systems, carbon capture and storage, soft landscaping and green roofs.*

1.24 Policy CS8: Green Infrastructure. Approach to Green Infrastructure and New Development

6) New development must be served by Green Infrastructure to meet the needs of residents and the local environment, in a manner which will:

- a) Contribute to the creation of a high quality residential environment;*

- b) Provide access to high quality open space for leisure and recreational purposes;*
- c) Seek to protect, maintain and where possible enhance biodiversity within and around new developments according to their designation and significance to provide space for nature; and*
- d) Provide adequate mitigation and/or, as a last resort, compensation for Green Infrastructure or biodiversity loss, in circumstances where harm resulting from the development is otherwise unavoidable.*

1.25 Policy CS21 Greenspaces and Trees: Enhancement of Natural and Semi-Natural Greenspace and Tree Protection

10) The Council will encourage proposals for new development to incorporate:

- a) Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of visual amenity, recreation value or biodiversity/wildlife interest;*
- b) Appropriate planting of trees, other soft landscaping and installation of habitat features for the benefit of biodiversity; and*
- c) Adequate replacement provision where tree loss is unavoidable, comprising two additional trees for every tree lost and taking account of species and size.*

2.0 METHODOLOGY

Baseline Habitat Assessment

- 2.1 A survey of the Site was originally undertaken on the 29th September 2022 by an FPCR ecologist with over 18 years' experience. For each habitat recorded, a list of botanical species present was produced. This list is not considered to be exhaustive, but sufficient information was gained to ascertain broad habitats and features of interest present.
- 2.2 The Site was assessed using the Phase 1 Habitat Survey Methodology (JNCC, 2010³) and the UKHab Classification Methodology⁴ as recommended by Natural England⁵ and the Chartered Institute of Ecology and Environmental Management⁶. Condition assessments for each habitat following the stated criteria within the 4.0 Biodiversity Metric Technical Annex⁷. A desk study was undertaken using third party biological data and publicly available resources. Detailed results are provided in the Ecological Appraisal Report (FPCR August 2023).
- 2.3 Hedgerows within the Site were assessed;
- In accordance with the wildlife and landscape criteria contained within Part II of the Hedgerow Regulations 1997, to determine whether the hedgerow qualified as an 'Important Hedgerow'; and
 - In accordance with the Hedgerow Evaluation and Grading System (HEGS) to establish the conservation value of the hedgerows.
- 2.4 The above information was used to inform this Biodiversity Net Gain Assessment, utilising Natural England's Biodiversity Metric 4.0.

Natural England's The Biodiversity Metric 4.0

- 2.5 Natural England's published biodiversity net gain metric is an MS Excel spreadsheet that is used to quantify the predicted net-change in biodiversity value ("biodiversity units") of a proposed development site before and after development. It treats the flat "habitats" and linear features "hedgerows" separately, and is based on pre-determined values, along with published written guidance, set by a Natural England-led team of experts. The latest version of this metric is 4.0, published in March 2023.
- 2.6 To facilitate this, the Site has been mapped and digitised using the Biodiversity Metric QGIS Template, with the existing habitats identified and areas automatically generated. In accordance with the Natural England BNG Metric 4.0 User Guide⁸, habitats have been defined under UK Habitat Classification (UKHab). The detailed landscaping proposals for the Site were then

³ Joint Nature Conservation Committee. (2010) handbook for Phase 1 Habitat Survey. A Technique for Environmental Audit. Available at: <https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf>

⁴ UK Habitat Classification Working Group. (2019). UK Habitat Classification. Available at: <http://ecountability.co.uk/ukhabworkinggroup-ukhab/>

⁵ Natural England, 2014. Protected species and development: advice for local planning authorities. (updated 2021) [online] Available at: <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

⁶ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

⁷ Natural England, The biodiversity metric 4.0 Technical Annex 1 – condition sheets and methodology (2023) Available at: <https://publications.naturalengland.org.uk/publication/5850908674228224>

⁸ Natural England, The biodiversity metric 4.0 User Guide (2023) Available at: <https://publications.naturalengland.org.uk/publication/5850908674228224>

uploaded into the QGIS template, and the proposed habitats mapped and digitised to generate areas for each of the habitats proposed for creation.

- 2.7 These pre- and post-development habitat areas were then inputted into the Natural England BNG Metric 4.0 Calculation tool. Pre-development habitats were grouped into their habitat type and condition based on the results of the UKHab and condition assessment surveys, while post-developments were classified into their UKHab type as identified through the classification of proposed habitats within landscaping plans into appropriate UKHab types and their target condition scores. The metric then provides a habitat distinctiveness score for each of the baseline and proposed habitats which are pre-assigned scores based on the habitat type.
- 2.8 The strategic significance of the habitats was also assessed for both the pre- and post-development habitats based on the location of the site, its proximity to existing areas of biodiversity interest and its setting within wider habitat corridors.
- 2.9 The metric then assigns a range of pre-assigned factors to each of the proposed habitats. These have been advised by subject knowledge experts and are universal multipliers generated by the metric itself for the following variables relevant to habitat creation, enhancement, or restoration proposals:
- Difficulty of creating or restoring/enhancing a habitat: This pre-assigned score is based on how difficult a particular habitat type is to create or restore/enhance.
 - Temporal risk: This is the 'time to target condition' for any particular habitat and determines how long a particular habitat type is likely to take to reach the condition score that the desired condition score assigned to it.
 - Spatial risk: This score is based on the distance between the site of habitat loss and any habitats creation or enhancement proposals at any offsite offsetting solutions.
- 2.10 Full details of the calculation methodology used is provided in the Biodiversity Metric 4.0 – User Guide.

Limitations

- 2.11 The UKHab habitat map has been produced from detailed field notes and informed by aerial imagery, OS mapping and previous reports provided by the client. The accuracy of this figure is ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.
- 2.12 Natural ecological communities are susceptible to change; at times this change can be rapid as a result of internal and external environmental factors. The biodiversity offsetting calculations are based on ecological assessments of habitats carried out during 2022; as a result, changes which may affect the conclusions of this report may occur, if a prolonged period of time elapses prior to the commencement of the project. At
- 2.13 No other limitations are considered to have influenced this assessment.

3.0 BASELINE CONDITIONS

Desktop Study

- 3.1 Full details of the desktop study are provided in the Ecological Appraisal report (FPCR August 2023).

Internationally Designated Sites of Nature Conservation Importance

- 3.2 One internationally designated site of nature conservation interest was located within 15km of the Site. The Mersey Estuary is located approximately 8.4km south of the Site (at the nearest point) and is designated as a Special Protection Area (SPA) and RAMSAR Site which are of international importance, as well as also being designated as a Site of Special Scientific Interest (SSSI) which is of national importance. The Estuary is designated for importance to wildfowl species and intertidal habitats.

Nationally Designated Statutory Sites of Nature Conservation Importance

- 3.3 No statutory designated sites of national nature conservation interest are present within 2km of the Site.
- 3.4 The Site falls into the Impact Risk Zone (IRZ) of the Mersey Estuary SPA, RAMSAR, SSSI but the proposed development does not meet any of the categories listed as likely to impact the Site.

Non-Statutory Sites

- 3.5 There are seven non-statutory designated sites within 1km of the subject Site; all of which are Sites of Biological Interest. The nearest site is Huyton and Preston Golf Club, approximately 45m north (beyond a railway line) which is described as a mix of managed and less managed grasslands, plantation woodland, ponds, and watercourses. The citation for the Golf Club states a mix of habitats are present including Prescott Brook which is noted to support water voles *Arvicola amphibius*.

Strategic Significance

- 3.6 The habitats on-site are of limited extent and have been modified through management and continual use within the dog rescue centre for exercising dogs. As such, the habitats within the Site are not considered to represent any intrinsic strategic significance.
- 3.7 The Site does not hold any statutory or non-statutory designations and no other ecologically relevant allocations were identified on-site from review of the Knowsley Local Plan.

Habitats

Ecological Appraisal (FPCR August 2023)

Modified Grassland

- 3.8 Throughout the Site grassland areas were all noted to be heavily managed, short mown, amenity type modified grassland (classified as UKHab g4) and assessed to be in moderate condition. These areas were dominated by rough meadow grass *Poa trivialis* with occasional annual meadow grass

Poa annua, red fescue *Festuca rubra* and perennial rye-grass *Lolium perenne*. Forbs within the grasses were only occasionally or rarely encountered, often at the edges of grassland areas and included greater plantain *Plantago major* and ribwort plantain *Plantago lanceolata*, common mouse-ear *Cerastium fontanum*, daisy *Bellis perennis*, white clover *Trifolium repens* and dandelions *Taraxacum officinale* spp.

- 3.9 The area of grassland in the far north/north-east of the Site was noted to have colonised through a textile membrane which appeared to be degraded artificial turf. In places the artificial membrane was bare, without grass or forbs, but the entire area was considered to be modified grassland as a broad habitat type, including patches of bare ground.

Other Broadleaved Woodland

- 3.10 Compartments of plantation woodland are located throughout the Site with two broadly distinctive sections, one in the central area of the Site (W1) and a second area in the northern area of the Site (W2) (see FPCR Ecological Appraisal August 2023 and refer to Figure 3 Phase 1 Habitat Plan). Both areas of plantation woodland were classified as UKHab w1g7 other broadleaved woodland types.
- 3.11 Compartment W1 was observed to have two sections, a northern and southern section divided by an access track and area of amenity grassland. Both sections extend close to the Site boundary (in the north and south of the Site) and there was noted to be similar scrub/woodland habitat beyond the Site boundaries to the north and south providing some connectivity of habitat offsite. It was noted that very little ground flora was present within both areas of W1 and the centre of the northern section of W1 was mapped as bare ground, having no ground flora or trees present. Trees were observed to be mature with the crown tops of the canopy around 10-12m high. The species were varied and comprised occasional non-native acer species, sycamore *Acer pseudoplatanus*, field maple (possibly an ornamental variety) *Acer campestre*, horse chestnut *Aesculus hippocastanum*, alder *Alnus glutinosa*, red alder (non-native) *Alnus rubra*, silver birch *Betula pendula*, black (Lombardy) poplar *Populus nigra (Italica)*, rowan *Sorbus aucuparia*, and crack willow *Salix fragilis*. Rarely encountered within the mix was Scot's Pine *Pinus sylvestris*, although insufficient standards were recorded to warrant classification as a mixed plantation. Understory included shrubs of dogwood *Cornus sanguinea* and box *Buxus sempervirens* between 1-2m in height. For the most part, the woodland area had bare ground without much ground flora other than occasional low growing nettles *Urtica dioica*, though in places the amenity grassland encroaches below the woodland canopy.
- 3.12 Woodland W2 in the northern area was similar in composition to W1 however was divided into small sections and observed to be more open with younger trees, though still established. Species noted included rowan, field maple, sycamore, a non-native acer, red alder (non-native), silver birch, black (Lombardy) poplar, and rarely encountered Scots pine. The black (Lombardy) poplar was estimated to be around 15m tall with characteristic thin profile in some cases.
- 3.13 Both woodland compartments supported a limited vertical structure (1-2 storeys), no signs of regeneration were apparent, only one (possibly two) age classes were noted (highly likely to be planted, not self-seeded or regenerated), no disease or significant damage, no wood enrichment/disturbance, and no non-native invasive species. Both compartments supported <25% deadwood, though log piles had been artificially created within W1. Both compartments are subject

to disturbance through Site activities and management. As such, all areas of woodlands were considered to be in moderate condition.

Introduced/Ornamental Shrub

- 3.14 There were three small areas of introduced shrub or ornamental planting within the central area of the Site. One area was observed to be predominately low growing introduced ornamental planting with a number of large leafy non-native ornamental plant species that were not identified. In addition, abundant low growing strawberry *Fragaria × ananassa* was observed on the edge of this planted area.
- 3.15 Of the two other small areas of introduced shrub, one was occupied by a shrub of Stag's-horn sumach *Rhus typhina* whilst the second area had a small variety of non-native planting with a New Zealand Cabbage Tree *Cordyline australis*, a small shrub of dogwood and buddleia *Buddleia davidii* as well as some non-native ornamental grasses.

Individual Broadleaved Trees

- 3.16 Occasional planted individual broadleaved trees, either as individual trees or in small groups, were observed across the Site. Also observed were lines of black (Lombardy) poplar within the central and northern areas, which in some cases had been heavily pruned/pollarded and a number of which were considered to be dead (confirmed by arboricultural report Brewood Landscapes Tree Hazard Evaluation Survey August 2022). Dead trees were noted to have no canopy and exhibited no significant ecological value or bat roost potential and were excluded from further consideration within the BNG calculation (given that Metric 4.0 places a high value on individual trees and this would be considered to be unrepresentative of the actual value of these dead specimens).
- 3.17 Further individual species encountered included silver birch, red alder, hazel *Corylus avellana*, field maple and rarely encountered were cherry *Prunus avium* and whitebeam *Sorbus aria*. All trees have been mapped as urban trees within the metric calculation.

Mixed Scrub

- 3.18 At the rear of the Site, beyond the boundary fence for the rescue centre is an area of scrub and woodland edge, considered to be UKHab h3 dense scrub habitat, of which a small amount was noted to be within the Site boundary.
- 3.19 This area was noted to be less managed, and the habitats intersect with those associated with the adjacent railway embankment to the north and motorway embankment to the east. Within the scrub area bramble *Rubus fruticosus* and nettle were frequent with frequent hedge bindweed *Calystegia sepium* growing over and throughout the scrub and on the security fence. Semi-mature trees had become established within the scrub with occasional large specimens of hazel, silver birch, alder and rowan, and larger specimens of field maple and occasional shrubs of dogwood.

Bare Ground

- 3.20 Areas of bare ground were located along both the northern and southern Site boundaries; these areas are used frequently as tracks for walking dogs within the centre.
- 3.21 A further area of bare ground was noted within the plantation woodland area in the south/central area of the Site (referred to as W1 within FPCR Ecological Appraisal August 2023) and was

associated with an area used for exercising dogs within the woodland. Within this area of bare ground, a number of piles of logs, leaves, and other debris were noted to have been left out as habitat piles.

Hedgerow

- 3.22 Three hedgerows were observed on-site all of which were of an ornamental nature likely for aesthetics and visual screening within the landscaped areas of the Site. None were species-rich or would be considered 'Important' under the Hedgerow Regulations, hedgerow H3 comprises almost entirely of a non-native rhododendron (*Rhododendron* sp.) and therefore is not considered to be a native hedgerow. *Rhododendron ponticum* is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as a non-native invasive species and it is considered an offence to allow the spread of this species in the wild. Hedgerows are generally analogous with the broad UKHab h2 hedgerow category.

4.0 PROPOSED DESIGN

- 4.1 Habitat proposals have been informed by the DTRC Merseyside Landscaping Plan 1 of 2 and 2 of 2, Drawing No. ADL386 Rev D. Brewood Landscapes, 10/05/2024. Proposals aim to create habitats appropriate to the local area, with conditions targeted to be realistically achievable.

Retained Habitats

- 4.2 Habitat retention is illustrated in Figure 3.
- 4.3 It is assumed that all grassland areas, ornamental shrub, ornamental hedgerows, and scrub within the Site will be cleared prior to development in order to level the development area and allow the installation of drainage and other services.
- 4.4 Habitat parcels to be retained include the majority of the woodland parcels without enhancement and some of the existing individual trees.

Habitat Enhancement

- 4.5 No habitat enhancement is proposed within the development.

Habitat Creation

- 4.6 Post-development habitats are shown in Figure 4. Habitat creation proposals include the creation of a range habitats suited to an urban location and use of the Site, including other neutral grassland, mixed scrub, modified grassland, broadleaved woodland, ornamental introduced shrub planting, new native hedgerow, an area of traditional orchard, and planted urban trees.
- 4.7 The existing woodland area in the central/south of the Site (referred to as W1 in FPRC Ecological Appraisal August 2023) will be extended with additional planting to fill gaps at the edges.
- 4.8 The area in the far north of the Site will be planted as a traditional orchard with around ten trees comprising a mix of apple *Malus x domestica* and pear *Pyrus communis* species within a neutral grassland area.
- 4.9 Throughout the Site the grassland areas will include small swale features which will introduce a range of wet grassland species and have been mapped and included as urban “bioswales” within BNG metric 4.0.
- 4.10 Small areas of mixed scrub will be planted in the central area of the Site, providing additional structure and diversity to the grassland areas as well as visual screening to car parking areas.
- 4.11 Small areas of introduced shrub include ornamental planting including a number of small rain gardens in the central area of the Site and low shrub planting within verges of the main car park area.
- 4.12 Within the car parking area, small areas of verge will be managed as modified grassland.
- 4.13 Native hedgerows will be provided around the Site boundary and within the Site to provide additional screening of certain areas.
- 4.14 A range of individual trees will be planted within Site.

Biodiversity Units

- 4.15 The biodiversity units for each habitat on the Site have been calculated and are presented in Table 1, along with a description of the management recommendations which will be employed to achieve the target conditions for each habitat type.

Table 1: Summary of Proposed Habitat Management

Habitat (Proposed Site Plan)	Habitat (UKHab Type)	Targets for Creation/Management	Area (ha) / Length (m)	Target Condition	Distinctiveness	Biodiversity Units
Proposed Grass Areas	Modified Grassland	Small areas of managed grass verge within the main car parking area. Turf is to be selected that will provide at least 6 - 8 species per m2 or else will be maintained and overseeded to increase the species diversity to achieve moderate condition.	0.0302ha	Moderate	Low	0.10
Proposed Grass Areas (EG10 Tussock Mix, EH1 Hedge Mix, EM8 Water Mix)	Other-neutral grassland	Areas of public open space will be managed as neutral grassland and seeded with a variety of seed mixes to match conditions within the local areas of the Site including small scale Sustainable Urban Drainage Systems (SUDS) features and hedgerow bases. Standard Emorsgate seed mixes have been prescribed, but where necessary, additional seeding of wildflowers or plug planting of herbs will be undertaken to increase diversity. Areas that fail or are subject to deterioration due to public use should be resown to prevent more than 5% bare ground establishing. Small areas of bare ground (1-5%) are desirable. Given that these areas will be subject to public access it is considered that habitat condition may be impacted and most likely that management would only maintain moderate condition. Annual management would include management of scrub and woodland edges to prevent excess encroachment,	0.4369ha	Moderate	Medium	2.92

		removal of undesirable species including tall herb, weeds, and invasive species. No fertilizer or other nutrient input should be applied. Cutting should be minimal with only one or two cuts per year (a cut in late summer is recommended) with arisings being removed from the grassland area to prevent additional input of nutrients. Management should look to provide areas where the sward is varied, this might include a regime of rotational cutting to allow some areas to remain tall whilst others are lower.				
Grassland with fruit tree planting (Orchard)	Traditional Orchard	The area of grassland in the north-east of the Site will be managed as Other Neutral Grassland, with fruit tree planting (apple <i>Malus sp.</i> varieties) within the grassland. The fruit trees should be subject to formative and restorative pruning (where necessary) to maintain longevity and health (see individual trees below). Grassland should be managed to maintain moderate condition and medium distinctiveness (Other neutral grassland) with a target of 10 species per m2. Areas of the grassland should be managed to provide a variety of sward heights with at least 20% less than 7cm and at least 20% more than 7cm. Annual management should remove any encroaching scrub, tall ruderal/undesirable species, and invasive species (if present). No fertilizer or other nutrient input should be applied. Cutting should be minimal with only one or two cuts per	0.0432ha	Moderate	High	0.25

		year (a cut in late summer is recommended) with arisings being removed from the grassland area to prevent additional input of nutrients.				
Swale Mix	Bioswale	Linear Sustainable Urban Drainage System (SUDS) are proposed at the edges of grassland areas and comprise depressions planted with species tolerant of wet and damp conditions and which will provide ephemeral wet and damp areas in suitable weather conditions. Habitat should be managed to achieve moderate condition (though good condition may be sought) by managing a varied structure within the habitat, maintaining flowering species and species beneficial to wildlife and removal of any invasive non-native species.	0.0244	Low	Moderate	0.06
Proposed Native Planting	Mixed Scrub	Small areas of native scrub will be planted in the central area of the Site. The following management prescriptions should be adopted to achieve moderate condition: • Planting mix to use a diverse range of native species, with no one species compromising more than 50% of the mix. • Replace any failed woody specimens. • Targeted weeding/treatment to limit/remove invasive/undesirable species to below 5% ground cover (typical species include, but are not limited to creeping thistle <i>Cirsium arvense</i>, cleavers <i>Gallium aparine</i>, and common nettle <i>Urtica dioica</i>). • Allow a graduated edge to form with scattered scrub and tall grassland along the periphery. • Rotational clearance/coppicing of selected areas to allow opportunities for natural regeneration.	0.0182ha	Moderate	Medium	0.12

Proposed Artificial Grass	Artificial unvegetated, unsealed surface	Areas of artificial grass and sand provided for dog exercise areas. Not a natural habitat, no ecological management proposed.	0.0684ha	N/A	V.Low	0.00
Roads, car parking, pathways, and buildings	Developed Land Sealed surface	Roadways, car parking areas, pedestrian paved pathways, and buildings. Not a natural habitat, no management proposed.	0.7795ha	N/A	V.Low	0.00
Proposed shrub planting	Introduced Shrub	Introduced ornamental planting, includes low growing shrubs and rain garden areas. Regular maintenance should be undertaken to ensure the health of the ornamental planting, replacing individual plants if they fail and light pruning/trimming of shrubs as required.	0.0547ha	N/A	Low	0.10
Woodland Planting	Other Woodland: broadleaved (Created)	Woodland planting will increase the area of existing woodland by filling in gaps and extending the edges of the woodland. The following management prescriptions should be adopted to achieve moderate condition: • Planting mix to use a diverse range of native species, with no one species compromising more than 50% of the mix. • Replace any failed woody specimens. • Targeted weeding/treatment to limit/remove invasive/undesirable species to below 5% ground cover (typical species include but are not limited to creeping thistle, cleavers, and common nettle). • Allow a graduated edge to form with scattered scrub and tall grassland along the periphery. • Rotational clearance/coppicing of selected areas to allow opportunities for natural regeneration.	0.0961ha	Moderate	Medium	0.45

Woodland Planting	Other Woodland: broadleaved (Retained)	Retained woodland areas will remain in the central area of the Site with smaller fragments of woodland planting remaining in the northern part of the Site. Woodland management should continue to maintain the habitat in moderate condition and may include: • Replace any failed woody specimens. • Targeted weeding/treatment to limit/remove invasive/undesirable species to below 5% ground cover (typical species include but are not limited to creeping thistle, cleavers, and common nettle). • Allow a graduated edge to form with scattered scrub and tall grassland along the periphery. • Rotational clearance/coppicing of selected areas to allow opportunities for natural regeneration.	0.1734ha	Moderate	Medium	1.39
Proposed tree planting	Urban tree (Created)	25 small-sized trees will be planted throughout the Site. These will include hornbeam <i>Carpinus betulus</i>, midland hawthorn <i>Crataegus laevigata</i>, silver birch <i>Betula pendula</i>, alder <i>Alnus glutinosa</i>, goat willow <i>Salix caprea</i>, Rowan <i>Sorbus aucuparia</i>, and field maple <i>Acer campestre</i>. Urban trees will provide ecological value and a filtering/screening function in some areas to minimise visual impacts of the development as well as providing aesthetics. Trees will be managed to achieve moderate condition. • Area beneath trees maintained as vegetation (not paved/gravelled over). • Avoid herbicide use in close proximity to trees (<1m). • Replace any failed specimens.	0.1018ha	Moderate	Medium	0.31
Proposed tree planting	Urban tree (Created)	11 trees are proposed to be planted as heavy standards in the western part of the Site and will be managed to achieve medium size and good condition over a 30-year period.	0.4031ha	Good	Medium	

		Trees will be managed to achieve good condition. • Area beneath trees maintained as vegetation (not paved/gravelled over). • Avoid herbicide use in close proximity to trees (<1m). • Replace any failed specimens. • Prune as necessary and manage to provide ecological niches (if required)				
Proposed tree planting	Urban tree (Created)	10 individual apple trees will be planted in the area of traditional orchard, these will be of traditional native varieties. Trees will be managed to achieve moderate condition (though good condition will be sought if possible). • Area beneath trees maintained as vegetation (not paved/gravelled over). • Avoid herbicide use in close proximity to trees (<1m). • Replace any failed specimens.	0.0407ha	Moderate	Medium	0.12
Existing tree	Urban tree (Retained)	Existing trees will be retained in the central and northern areas of the Site. These trees should be managed to maintain moderate condition. • Area beneath trees maintained as vegetation (not paved/gravelled over) • Avoid herbicide use in close proximity to trees (<1m). • Replace any failed specimens.	0.0366ha	Moderate	Medium	0.29
Proposed Hedge Planting	Native hedgerow (Created)	New native hedgerow planting will be provided on the Site boundary and in selected areas of the Site. The category of Native Hedgerow has been selected but dependant on the density of planting the hedgerow on the Site boundary may,	773m	Moderate	Low	2.59

		once established, meet the criteria of Species Rich Native Hedgerow. Species within the boundary hedgerow will include; field maple <i>Acer campestre</i>, hazel <i>Corylus avellana</i>, hawthorn <i>Crataegus monogyna</i>, holly <i>Ilex aquifolium</i>, wild privet <i>Ligustrum vulgare</i>, dog rose <i>Rosa canina</i>, and guelder rose <i>Viburnum opulus</i>. The following management prescriptions should be adopted to increase the value of the hedgerows: • Planting will ensure a diversity of native species with a target for five different native woody species every 30m to create species rich hedgerows. • The borders of the hedgerow (where appropriate) will be subject to relaxed management to encourage a diverse interface between habitats. • On-going treatment and management will remove any invasive non-native species and undesirable species (e.g. common nettle). • Replacement planting to compensate for failed specimens during establishment period. Canopy height allowed to reach and be maintained above 1.5m. Hedgerows within the Site used for aesthetic and screening purposes will be planted with only beech <i>Fagus Sylvatica</i>.				
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Additional Enhancements

- 4.16 In line with the recommendations from the Ecological Appraisal (FPCR August 2023), additional mitigation measures will be implemented to contribute to a biodiversity net gain across the Site. This will focus on the provision of faunal enhancements that are not captured within the Natural England BNG Metric 4.0 calculations.
- 4.17 It is anticipated that a scheme of bat box installations on buildings or, where available, on retained vegetation, will be provided as enhancement features. Exact numbers of boxes and locations are not specified at this stage.
- 4.18 It is anticipated that a scheme of bird box installations on buildings or, where available, on retained vegetation, will be provided as enhancement features. Exact numbers of boxes and locations are not specified at this stage.
- 4.19 The following provisions will be included where appropriate:
- Habitat piles - logs will be retained from any vegetation clearance works and debris from demolition works could be used to create small habitat pile features for fauna and insects within the retained areas of woodland planting.
- 4.20 It is expected that the provision of swales will provide ephemeral wet and damp habitats beneficial for amphibians (known to be present at the Site and wider area), invertebrates, birds, and potentially a range of other wildlife.
- 4.21 Planting, both native and ornamental, includes flowering and fruit bearing species that will be of benefit to birds and pollinating invertebrates and would be expected to increase invertebrate prey for species such as bats.

5.0 BIODIVERSITY NET GAIN (BNG) METRIC

- 5.1 The habitat retention, enhancement, and creation proposals detailed within this report have all been inputted into the Biodiversity Metric 4.0. Table 2 provides a summary of the headline results of the Biodiversity Metric 4.0 assessment completed for the proposals. The full metric has been provided in Appendix A.

Table 2: Biodiversity Metric 4.0 Headline Results

Baseline	Habitat Units	6.91
	Hedgerow Units	0.12
	Watercourse Units	0.00
Post-Intervention	Habitat Units	7.69
	Hedgerow Units	2.59
	Watercourse Units	0.00
Total Net Unit Change	Habitat Units	+0.78
	Hedgerow Units	+2.46
	River Units	0.00
Total Net Percentage Change	Habitat Units	+11.23%
	Hedgerow Units	+2003.64%
	Watercourse Units	0.00%

Please note there may be minor discrepancies (rounding errors) between the columns and the totals, however, the numbers duplicate those presented within the matrix calculator.

- 5.2 As shown in Table 2, assessment has demonstrated proposals will lead to a gain in area-based units for habitats, and hedgerows, with no watercourse units present at the Site.

Habitat Trading

Trading Summary

- 5.3 The proposals satisfy the trading rules as set out within the Biodiversity Metric 4.0. Table 3 summarises the habitat trading summaries across the Site.

Table 3: Habitat Trading Summary

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Bespoke compensation likely to be required	Yes
High	Same habitat required	Yes
Medium	Same broad habitat or a higher distinctiveness habitat required	Yes
Low	Same distinctiveness or better habitat required	Yes

6.0 BIODIVERSITY NET GAIN PRINCIPLES

- 6.1 The above have been guided by the Biodiversity Net Gain Principles as set out by Natural England in the Biodiversity Metric 4.0 User Guide. Table 4 lists all of the principles along with a description of how the principles has been applied to this assessment.

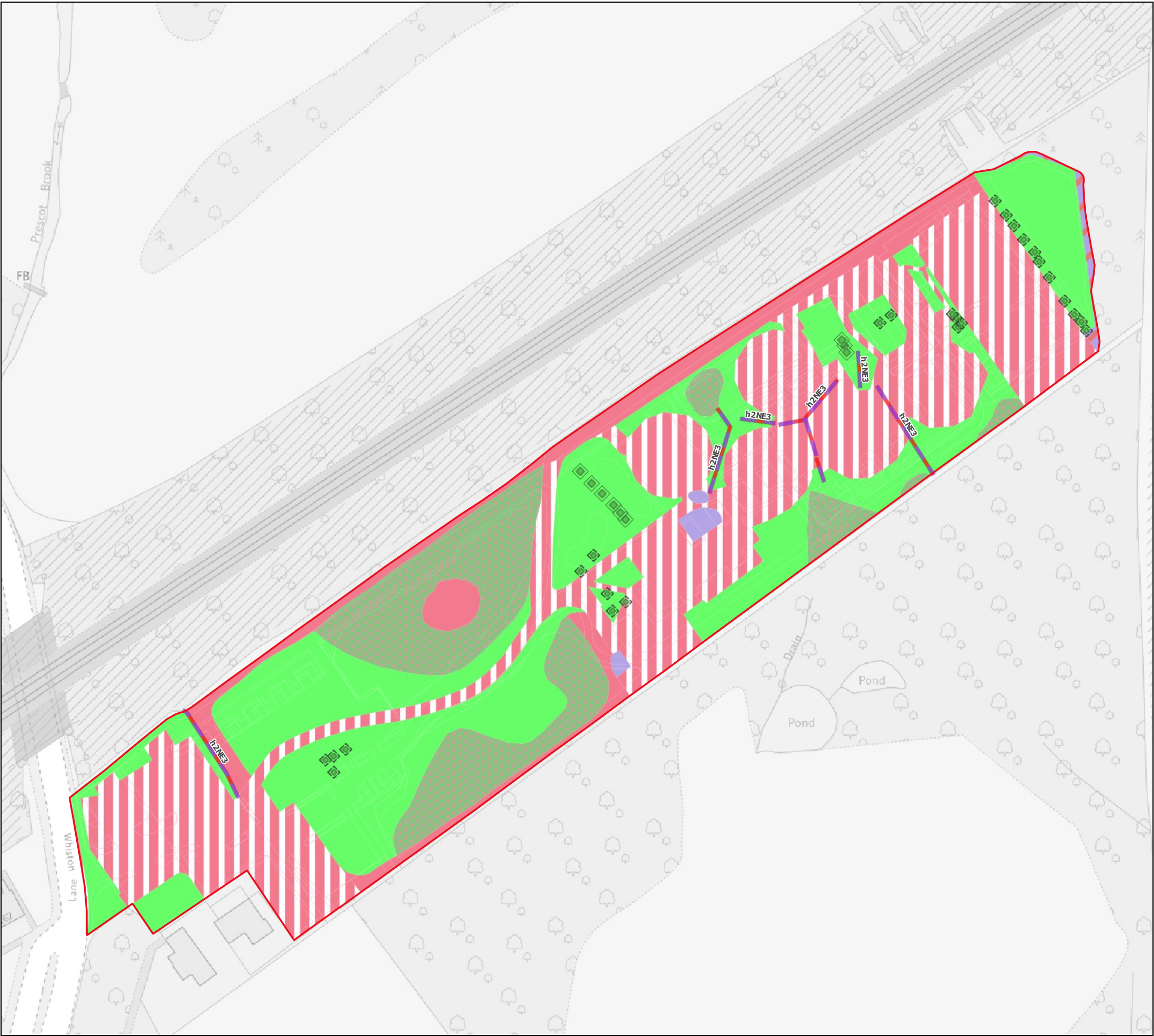
Table 4: Application of the Biodiversity Net Gain Principles to the Proposals

Principle	Indicators
Principle 1: Apply the Mitigation Hierarchy	The Proposed Development is required to replace buildings and facilities that are at the end of their useful lifespan with more efficient, sustainable, and practical equivalents. Where possible existing habitats have been retained within the proposals. All compensatory habitat creation has been provided on-site. The proposals have aimed to provide the most benefit for nature conservation as possible within the confines and proposed use of the Site. The resulting scheme will lead to a biodiversity net gain.
Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere	The proposals have sought to retain woodland planting (where possible). Other habitats present at the Site were not considered to be highly distinctive or unable to be offset by gains elsewhere.
Principle 3: Be inclusive and equitable	Preliminary biodiversity net gain calculations were provided during the design stage and used to inform the proposals and revise design. These were completed using the 4.0 metric. Additional engineering/technical requirements led to further amendments proposed and updated BNG using 4.0 metric.
Principle 4: Address risks	The habitats recommended for creation include those that would be suitable for establishment in the urban setting and appropriate for the use of the Site as a dog rescue centre. The condition scores have been set at achievable levels, though management will ultimately strive to improve the condition scores above those stated above where possible. 11 trees to be planted as heavy standard individual trees are expected to reach medium size and good condition within 30 years but there is some risk that this may not be achieved, continued management and maintenance of these trees and their surroundings will strive to achieve the desired outcome.
Principle 5: Make a measurable Net Gain contribution	This assessment has demonstrated that a net gain will be achieved on-site, when compared to the pre-development baseline.
Principle 6: Achieve the best outcomes for biodiversity	

Principle 7: Be additional	The proposed habitats are appropriate and equivalent in type, extent, and condition to those proposed to be lost, as evidenced by meeting the metric 4.0 trading rules. In addition, the proposals create new habitats of equal or higher distinctiveness at the Site (e.g. traditional orchard) and provide added variety of species and habitat types present. Additional biodiversity enhancements will be incorporated in the scheme to provide further benefits for faunal species.
Principle 8: Create a Net Gain legacy	This document will inform future management provision for the Site. Management provision should be secured in the long-term to ensure that the target conditions can be achieved. It is recommended that a specific Landscape Environmental Management Plan (LEMP) is also produced to document the detailed management of the proposed habitat creation areas. The LEMP would be expected to be implemented by the management contractor and be regularly reviewed and updated.
Principle 9: Optimise sustainability	The habitat creation scheme will improve the habitat connectivity through the Site to adjacent habitats. The proposed habitats will increase the biodiversity in the local area.
Principle 10: Be transparent	All assumptions have been set out within this report and its appendices to ensure that the information used to inform the Biodiversity Metric 4.0 calculations can be reviewed.

7.0 CONCLUSION

- 7.1 The approach to habitat creation has aimed to maximise biodiversity value within the space made available within the proposals for habitat creation. The calculation of Biodiversity Net Gain, using Natural England BNG Metric 4.0, has then been used to inform the habitat creation and enhancement proposals for the scheme and to guide decisions around additional habitat provision.
- 7.2 The results of the assessment demonstrate that the outline scheme currently will lead to an overall gain in biodiversity units within the Site exceeding the aspirational target of 10% BNG, including a significant gain in hedgerow units. All of the metric trading rules have been met with proposed compensatory habitats being of either equal type and distinctiveness or greater distinctiveness.



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Key

Site Boundary

Baseline Habitats

Developed land; sealed surface

Introduced shrub

Mixed scrub

Modified grassland

Other woodland; broadleaved

Bare ground

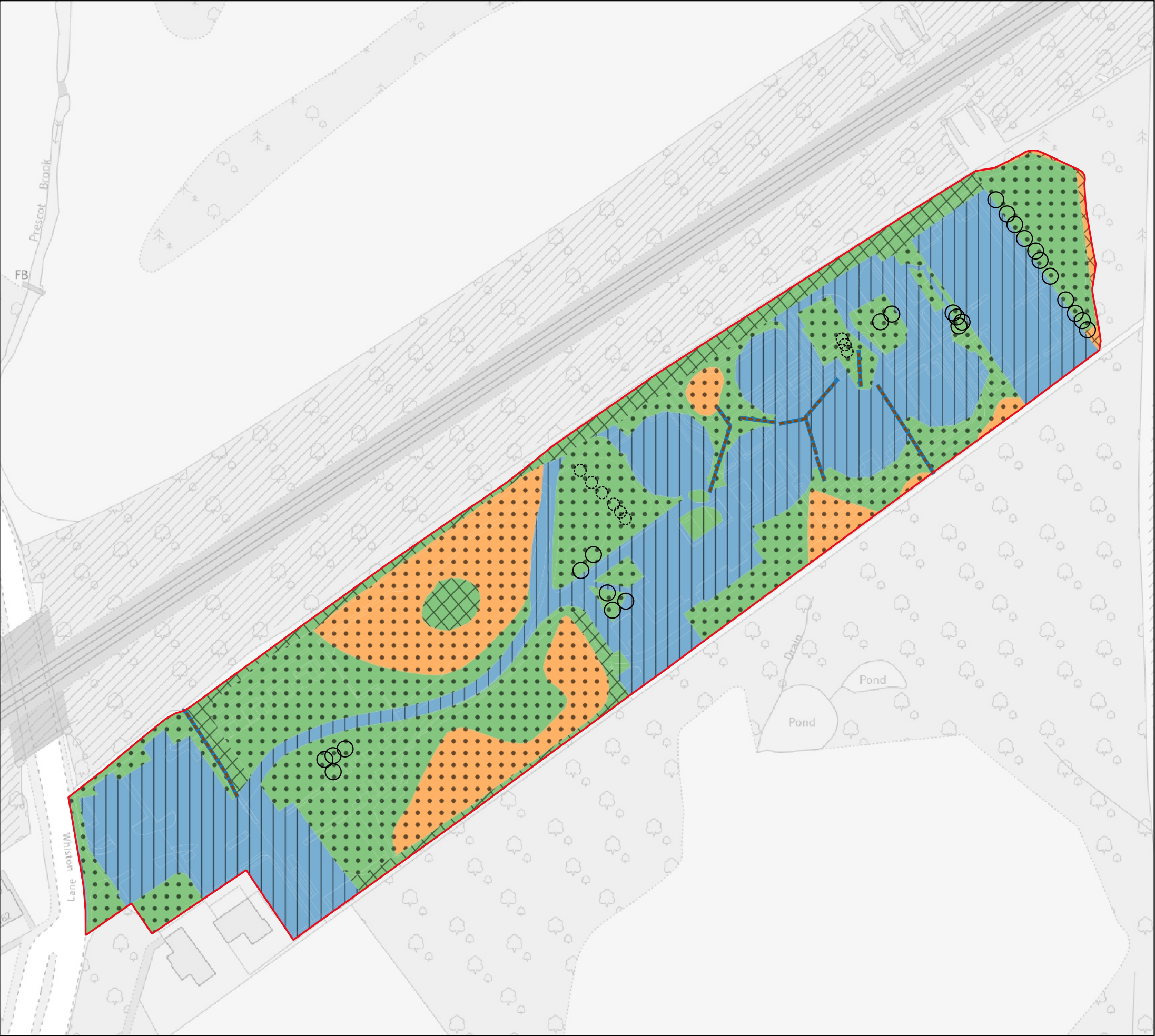
Baseline Hedgerows

Non-native and ornamental hedgerow

Baseline Trees

Existing Medium Urban Tree

Small Urban Tree



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Key

Site Boundary

Baseline Habitat Condition

Moderate

Poor

N/A - Other

Condition Assessment N/A

Baseline Habitat Distinctiveness

Medium

Low

V.Low

Baseline Hedgerow Condition

Poor

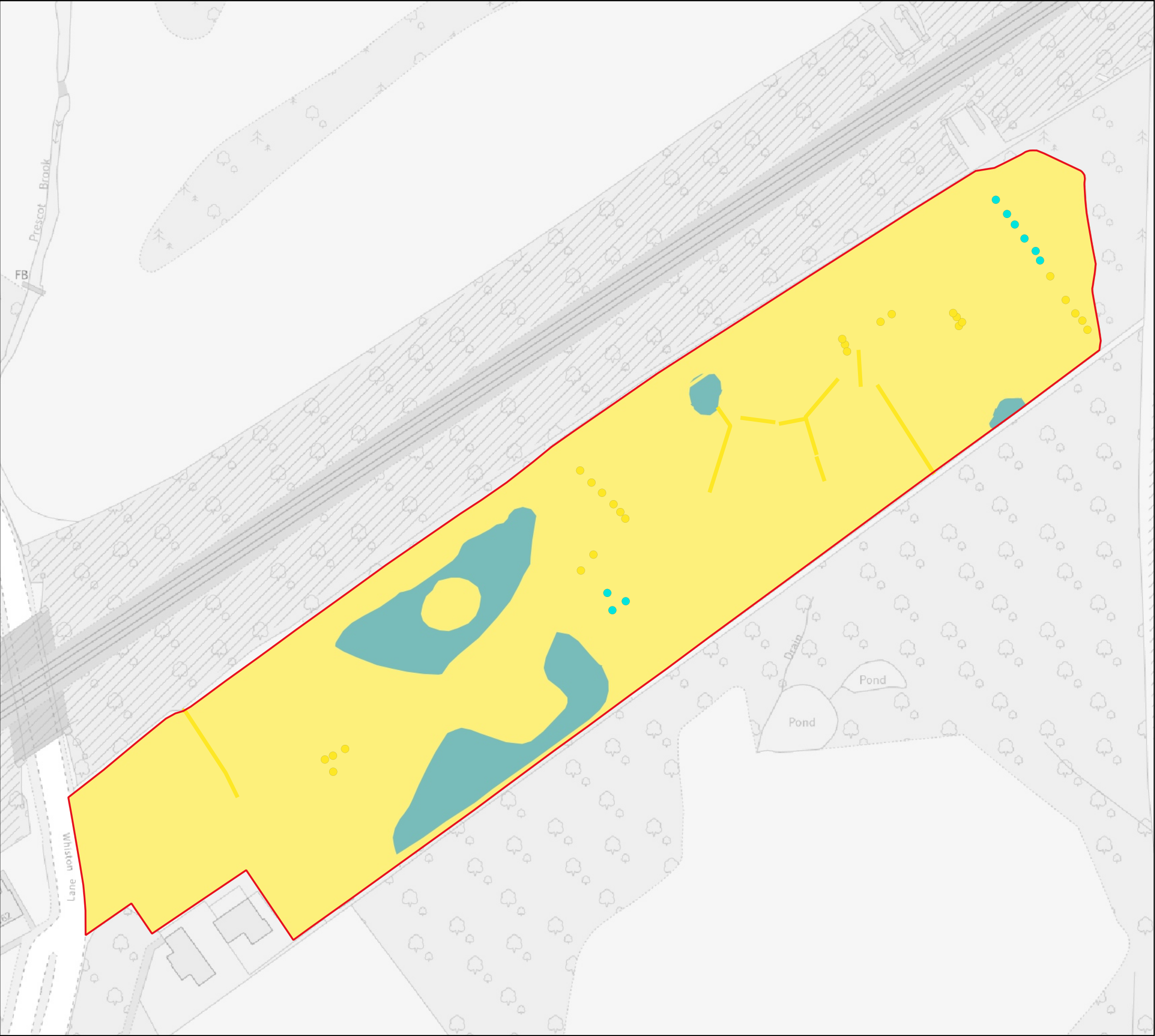
Baseline Hedgerow Distinctiveness

V.Low

Baseline Tree Condition

Poor

Moderate



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Key

Site Boundary

Habitat Retention

Retained

Habitat Retained

Hedgerow Retention

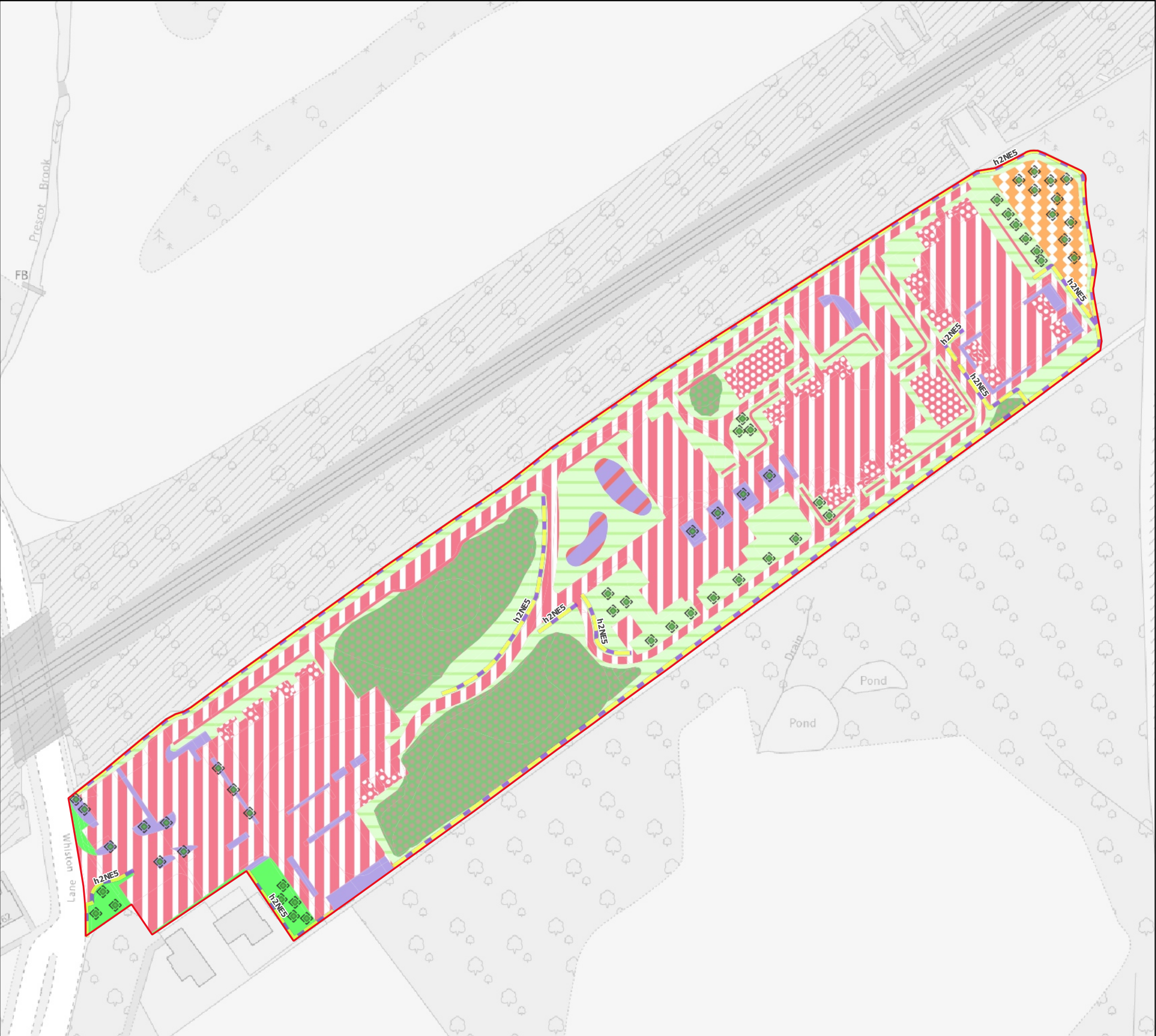
Lost

Tree Retention

Tree Retained

Tree Lost





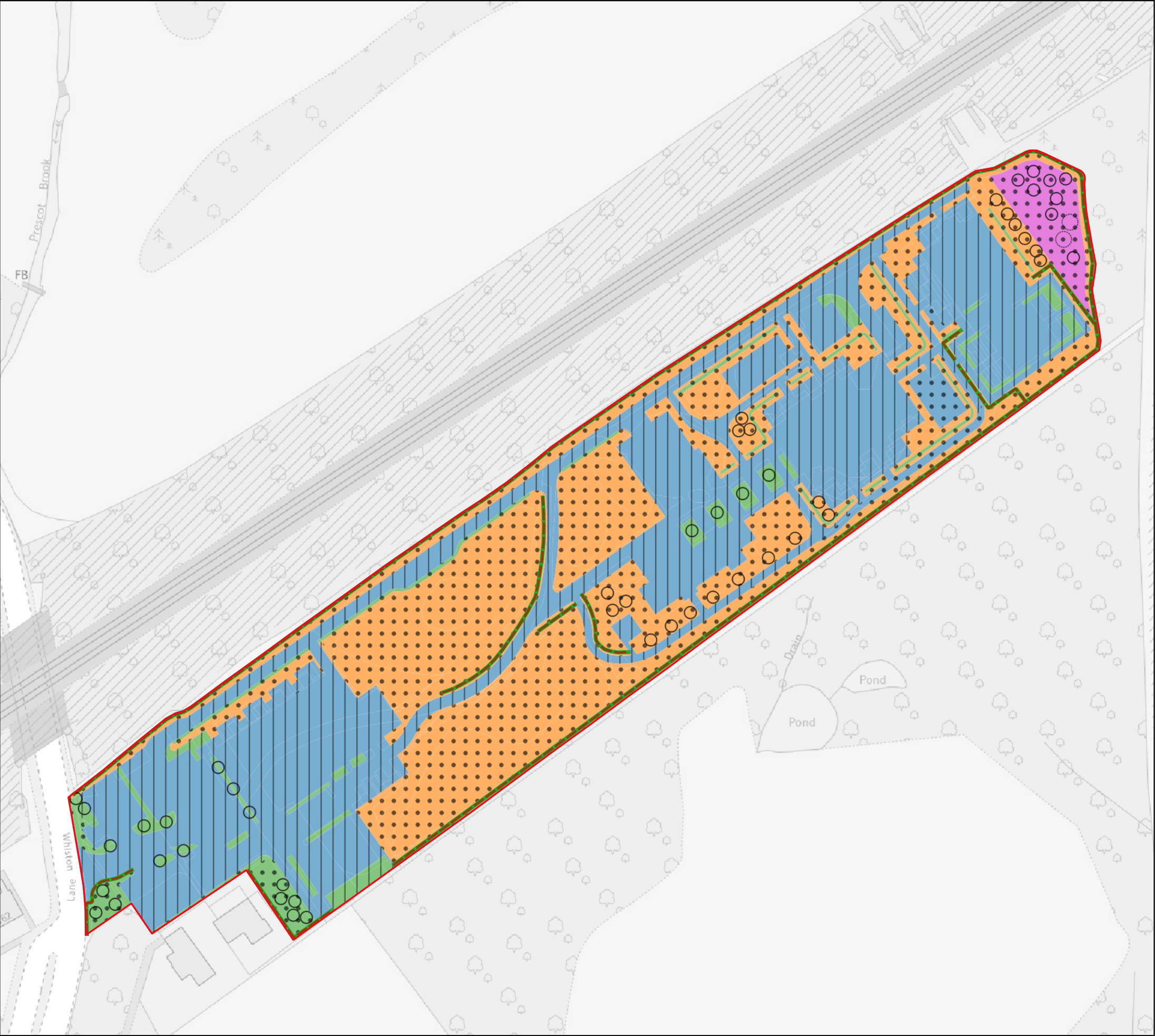
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Key

- Site Boundary**
- Proposed Habitats**
 - Artificial unvegetated, unsealed surface
 - Bioswale
 - Developed land; sealed surface
 - Introduced shrub
 - Mixed scrub
 - Modified grassland
 - Other neutral grassland
 - Other woodland; broadleaved
 - Traditional orchards
- Proposed Hedgerows**
 - Native hedgerow
- Proposed Trees**
 - Small Urban Tree



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Key

 **Site Boundary**

Proposed Habitat Condition

 **Moderate**

 **Fairly Poor**

 **N/A - Other**

 **Condition Assessment N/A**

Proposed Habitat Distinctiveness

 **High**

 **Medium**

 **Low**

 **V.Low**

Proposed Hedgerow Condition

 **Moderate**

Proposed Hedgerow Distinctiveness

 **Low**

Proposed Tree Condition

 **Poor**

 **Moderate**