

BRITISH STANDARD 5837

TREE SURVEYS ARBORICULTURAL IMPLICATION STUDIES

TPO/PLANNING ADVICE/ PROJECT MANAGEMENT

TREE INVENTORIES AND RISK ASSESSMENTS

WOODLAND MANAGEMENT PLANS

TREE PLANTING SCHEMES

TPO RE-SURVEY



Railway Street, Huddersfield

Ecological Appraisal & Biodiversity Net Gain Assessment

8th July 2026

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1 Introduction

1.1 Background

Kingdom Ecology have undertaken an Ecological Appraisal and Biodiversity Net Gain Assessment of a site located at Railway Street, Huddersfield, HD1 1JF (National Grid Reference SE 14396 16937). The site measures approximately 0.10 hectares (1,025 m²) in area and comprises an area of block-paved hardstanding, currently in use as a construction compound, together with a single medium-sized, semi-mature common lime (*Tilia × europaea*).

The proposed works are to construct an electricity substation on the existing hardstanding. The proposals will require the removal of the single common lime.

The site currently comprises block-paved hardstanding (developed land; sealed surface) supporting a single medium-sized, semi-mature common lime. No other habitats are present within the study area.

Field surveys were undertaken by Richard Roe (BSc, MSc, MCIEEM, CEnv). Richard has extensive experience of undertaking habitat and protected species surveys as a professional ecological consultant with over twenty-five years' experience. Richard holds a Level 4 Field Identification Skills Certificate (FISC) and Level 4 Bat Class Licence.

1.2 Purpose of Report

This report provides the findings of field surveys undertaken at the site. The field surveys comprised an ecological walkover survey to identify and evaluate baseline habitats, together with a ground-level bat scoping assessment of the tree present and consideration of nesting birds.

Following a description of the survey findings and an evaluation of habitats at the site, the report goes on to make recommendations for ecological enhancement measures where relevant.

A Biodiversity Metric Assessment for the site pre- and post-development has been carried out to determine whether the development will achieve a biodiversity net gain.

1.3 Protected Species and Biodiversity Legislation

1.3.1 Bats

All British bat species are fully protected under the Wildlife and Countryside Act 1981 (as amended) and through their inclusion in Schedule II of the Conservation of Habitats and Species Regulations 2017, which transpose Annex II of Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora

('EC Habitats Directive'), which defines European protected species of animals. British bat species are afforded further protection by the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006.

Taken together, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport bats, unless acquired legally.
- Sell, barter or exchange bats.

A bat roost is interpreted as 'any structure or place which any wild bat uses for shelter or protection' (*Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 4th Edition, BCT 2023). A bat roost is protected whether or not bats are present at the time.

1.3.2 Breeding Birds

All wild birds in England and Wales are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs.

1.3.3 Biodiversity Net Gain

Since 12 February 2024, most developments in England requiring planning permission must deliver a minimum 10% biodiversity net gain (BNG). This requirement was introduced through the Environment Act 2021 and is now a mandatory condition of planning permission. Biodiversity net gain is measured using the statutory biodiversity metric, which quantifies the biodiversity value of habitats before and after development in standardised biodiversity units.

Where the required net gain cannot be delivered in full on-site, the metric's on-site/off-site hierarchy requires that residual gains be secured off-site, either through registered biodiversity gain sites or, as a last resort, through the purchase of statutory biodiversity credits from the government.

1.4 Survey Methods

1.4.1 Ecological Walkover Survey

An ecological walkover of the site was undertaken on the 2nd July 2026.

The aims of the walkover survey were to assess the extent and condition of habitats using the UK Habitat Classification System. The condition assessments were used to underpin a Biodiversity Net Gain assessment. The habitats were also assessed for their potential to support protected species and non-native, invasive species.

1.4.2 Bat Tree Scoping Survey

An assessment of the suitability of the tree present to support roosting bats was undertaken following recommendations provided in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 4th Edition (BCT 2023). The survey was undertaken on the 2nd July 2026.

A visual inspection of the tree was made from ground level during daylight conditions, using binoculars and a high-powered torch, to assess the potential of any cracks and holes to support bat roosts and to search for evidence of bat use such as droppings, scratch marks and staining. Structural features that could influence the suitability of a tree to support roosting bats include frost cracks, trunk and branch splits, woodpecker holes, rot holes where branches have been removed, hollow sections of trunk, loose bark, cavities beneath old root buttresses, and dense ivy.

The assessment was based on the identification of potential roost features (PRFs) on the tree. Any PRFs identified are categorised in accordance with the Bat Conservation Trust criteria set out in Table 1 below, as either PRF-I or PRF-M.

Table 1. Bat tree potential roost feature (PRF) categories (BCT 2023)

<i>Category</i>	<i>Description</i>
PRF-I	The potential roost feature is only suitable for individual bats or very small numbers of bats, either due to its size or a lack of suitable surrounding habitat.
PRF-M	The potential roost feature is suitable for multiple bats and may therefore be used by a maternity colony.

A map of the study site is shown on Figure 1. Habitats and features recorded at the site are also shown in photographs in the Appendix.

2 Survey Results

2.1 Habitats

The study site is located within the heavily urbanised centre of Huddersfield, immediately adjacent to Huddersfield railway station and forming part of the historic setting of St George's Square. The site itself comprises an area of block-paved hardstanding, currently used as a construction compound, within which a single medium-sized, semi-mature common lime is present.

The wider area is heavily developed and comprises predominantly sealed surfaces, hardstanding and built structures, together with adopted highway and surface car parking. St George's Square, to the south-west, supports a row of semi-mature amenity trees (five plane trees) set within paved surfacing; these lie outside the study area and would not be affected by the proposals. Habitats within and immediately adjacent to the study area are otherwise limited to developed land, sealed surfaces and hardstanding, with no semi-natural vegetation, watercourses or other habitats of ecological value present in the vicinity. The site lies within a densely developed urban centre, remote from any semi-natural habitat network.

Habitats recorded at the site are shown and mapped on Figure 1 in the Appendix. Habitat descriptions are provided below. The relevant Biodiversity Net Gain condition sheet is provided in the Appendix. Photographs of the site are also provided in the Appendix.

2.1.1 Common Lime (Individual Urban Tree)

A single medium-sized, semi-mature common lime is located within the block-paved hardstanding. The tree measures approximately 350 mm in diameter at breast height (DBH) and stands within sealed surfacing, with no bare ground or vegetation present beneath the canopy. The lower crown has been historically lifted, with the lower branches cleared from the main stem to provide clearance over the adjacent footway; the tree nonetheless retains a full, healthy and well-formed crown.

The tree was assessed from ground level. No potential roost features were identified, with no cavities, crevices, woodpecker holes, loose or lifting bark, or dense ivy observed. As no potential roost features are present, neither the PRF-I nor the PRF-M category applies, and the tree is assessed as offering negligible suitability for roosting bats.

The tree offers suitable nesting habitat for common and widespread urban bird species. No current nesting was observed at the time of survey.

Common lime is a naturally occurring hybrid of two native lime species and is treated as a native species for the purposes of the condition assessment. Applying the DEFRA individual tree condition assessment, the tree passes three of the six criteria (native species; canopy continuity; and absence of adverse impact on tree health with retention of the expected canopy) and is assessed as being in moderate condition.

The tree will be removed to facilitate construction of the proposed substation.

UK Habitat Classification: Individual tree (urban tree), common lime

Condition Assessment: Moderate

Tree Retention: To be removed (1 no. medium-sized, semi-mature tree)

2.1.2 Hardstanding

The remainder of the site comprises block-paved hardstanding associated with the existing construction compound. The hardstanding is sealed and unvegetated and is of negligible ecological value.

UK Habitat Classification: Developed land; sealed surface

Condition Assessment: Not assessed (habitat of negligible value)

2.2 Protected Species and Invasive Non-Native Species

There is no evidence of any non-native invasive plant species at the site.

The site is considered unlikely to support protected species. The single common lime was assessed from ground level and no potential roost features were identified, with no cavities, crevices, loose bark or dense ivy observed. On this basis the tree is assessed as offering negligible suitability for roosting bats. The site's heavily urbanised context, the absence of nearby semi-natural foraging habitat, and high levels of artificial lighting further reduce the likelihood of significant bat activity.

The common lime offers suitable nesting habitat for common and widespread bird species. No current nesting was observed at the time of survey. All nesting birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended).

No other protected species are considered likely to be present, given the sealed, hardstanding nature of the site and its urban-centre location.

3 Summary & Recommendations

3.1 Habitats

3.1.1 Summary and Recommendations

An Ecological Appraisal and Biodiversity Net Gain Assessment has been undertaken for the proposed electricity substation at Railway Street, Huddersfield.

The site comprises block-paved hardstanding of negligible ecological value, supporting a single medium-sized, semi-mature common lime assessed as being in moderate condition. No other habitats are present.

The proposed development will result in the removal of the single common lime. There is no opportunity to retain the tree, as the proposed substation occupies the hardstanding on which the tree stands.

Given the nature of the development, being an electricity substation constructed on existing sealed hardstanding within a dense urban centre, opportunities for on-site habitat creation and enhancement are highly constrained. No new landscaped areas, or building fabric suitable for integral biodiversity features, are proposed. Biodiversity net gain will therefore be delivered off-site through the purchase of off-site habitat units, as described in the Biodiversity Metric Calculation section.

3.2 Protected Species

3.2.1 Bats

The single common lime offers negligible bat roosting suitability and no further bat survey is required. Nevertheless, as a precautionary measure, it is recommended that the tree is felled carefully. In the unlikely event that any evidence of roosting bats is encountered during felling, works should cease immediately and further advice be sought from a licensed bat ecologist.

3.2.2 Nesting Birds

Tree removal should be undertaken outside the bird nesting season (March to August inclusive) where practicable. If removal of the common lime must be undertaken during the nesting season, the tree must be checked by a suitably qualified ecologist immediately prior to works. If an active nest is found, works must cease in that area and an appropriate buffer maintained until the young have fledged.

No other protected species are considered likely to be present.

4 Biodiversity Metric Calculation

4.1 Mitigation Hierarchy

The mitigation hierarchy requires that impacts on biodiversity are first avoided, then minimised where they cannot be avoided, with new habitats created on-site wherever possible, and any residual losses compensated for, as a last resort, through off-site provision.

In this instance, the proposed substation must be located on the existing hardstanding, on which the single common lime stands, and there is no scope to relocate the structure to avoid the tree. Impacts have been minimised in that the development affects only a single medium-sized tree, with the remainder of the site comprising sealed hardstanding of negligible biodiversity value. There are no meaningful opportunities for on-site habitat creation or enhancement given the operational nature and small footprint of the development. The residual loss of biodiversity units will therefore be compensated for off-site, through the purchase of off-site habitat units, in order to secure the mandatory 10% net gain.

4.2 Biodiversity Metric Calculation Results

The relative biodiversity units at the site before and after completion of the development have been calculated following the methodologies, and using the tools, provided within DEFRA's Statutory Biodiversity Metric (July 2025).

4.2.1 Baseline Biodiversity Value

The baseline comprises the following habitats:

- Developed land; sealed surface, approximately 0.0862 ha (nil biodiversity value).
- Individual tree (urban tree), a single medium-sized, semi-mature common lime in moderate condition (approximately 0.0163 ha).

Baseline Habitat Units: 0.13 habitat units.

4.2.2 Post-Intervention Biodiversity Value

Following development the site will comprise developed land (sealed surface) associated with the substation and retained hardstanding. No on-site habitat creation or enhancement is proposed.

Post-intervention Habitat Units: 0.00 habitat units.

4.2.3 Biodiversity Net Gain

- Baseline Habitat Units: 0.13
- Post-intervention Habitat Units: 0.00
- Net change in Habitat Units: 0.13 unit loss
- Percentage change: 100% loss

The development will result in a net loss of 0.13 habitat units, representing a 100% net loss of on-site biodiversity units. There are no hedgerow or watercourse units at the site. As biodiversity net gain cannot be achieved on-site, off-site provision is required.

In order to achieve the mandatory 10% biodiversity net gain, an additional 0.14 biodiversity units would need to be provided off-site, within the individual trees habitat group (or a habitat of higher distinctiveness, in accordance with the metric trading rules).

As the residual requirement is below 0.25 units, it is recommended that this is met through the purchase of statutory biodiversity credits from the government for the purposes of the planning submission. A registered off-site biodiversity gain site (habitat bank) may offer a more cost-effective solution and could be pursued following the grant of planning permission, subject to availability.

The purchase of off-site units or statutory credits will be secured through a Biodiversity Gain Plan and appropriate planning mechanisms prior to the commencement of development, ensuring that the mandatory 10% biodiversity net gain is delivered in accordance with the Environment Act 2021.

Summary Biodiversity Metric calculations are provided in the Appendix.

5 Appendix

Railway Street, Huddersfield

Ecological Appraisal & BNG Assessment

Biodiversity Net Gain Summary Results Table

Railway Street, Huddersfield		Return to results menu		
Headline Results				
Scroll down for final results ▲				
On-site baseline		Area habitat units	0.13	
		Hedgerow units	0.00	
		Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)		Area habitat units	0.00	
		Hedgerow units	0.00	
		Watercourse units	0.00	
On-site net change (units & percentage)		Area habitat units	-0.13	-100.00%
		Hedgerow units	0.00	0.00%
		Watercourse units	0.00	0.00%
Off-site baseline		Area habitat units	0.00	
		Hedgerow units	0.00	
		Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)		Area habitat units	0.00	
		Hedgerow units	0.00	
		Watercourse units	0.00	
Off-site net change (units & percentage)		Area habitat units	0.00	0.00%
		Hedgerow units	0.00	0.00%
		Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)		Area habitat units	-0.13	
		Hedgerow units	0.00	
		Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions		Area habitat units	0.00	
		Hedgerow units	0.00	
		Watercourse units	0.00	
FINAL RESULTS				
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)		Area habitat units	-0.13	
		Hedgerow units	0.00	
		Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)		Area habitat units	-100.00%	Total net gain achieved is less than target set ▲
		Hedgerow units	0.00%	
		Watercourse units	0.00%	
Trading rules satisfied?		No - Check Trading Summaries ▲		
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Area habitat units	10.00%	0.13	0.14	0.14
Hedgerow units	10.00%	0.00	0.00	0.00
Watercourse units	10.00%	0.00	0.00	0.00
				No additional hedgerow units required to meet target ✓
				No additional watercourse units required to meet target ✓

***Railway Street, Huddersfield
Ecological Appraisal & BNG Assessment***

Photographs



Plate 1. Railway Street, Huddersfield – the subject common lime (Tilia × europaea) and surrounding hardstanding.

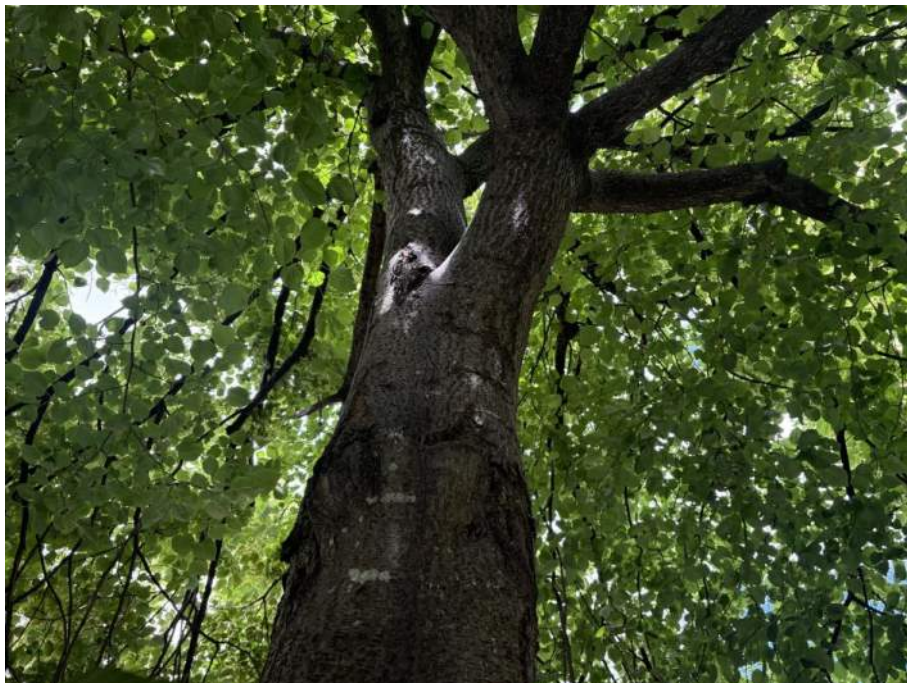


Plate 2. Railway Street, Huddersfield – the subject common lime trunk.

Railway Street, Huddersfield
Ecological Appraisal & BNG Assessment



Plate 3. Railway Street, Huddersfield - site context.



Plate 4. Railway Street, Huddersfield - wider site context.

Biodiversity Net Gain Condition Assessment Sheets
Railway Street, Huddersfield
Survey Date: 2 July 2026 | Surveyor: Richard Roe BSc MSc MCIEEM CEnv

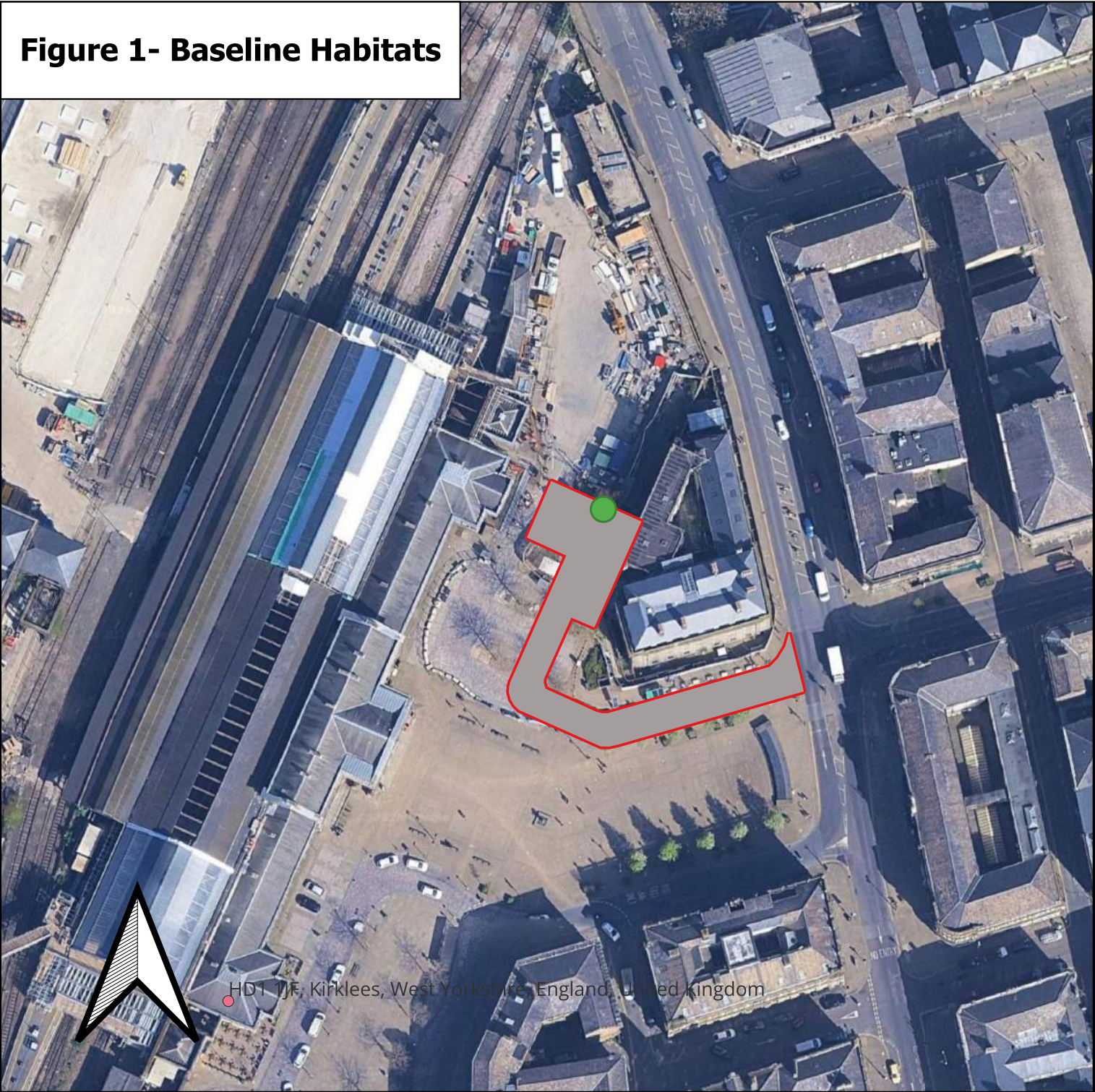
Condition Assessment: Individual Trees

Site Name	Railway Street, Huddersfield
Target Note	TN1
Surveyor	Richard Roe BSc MSc MCIEEM CEnv
Survey Date	2 July 2026
Grid Reference	SE 14396 16937
Habitat Type	Individual urban tree – semi-mature common lime (<i>Tilia × europaea</i>)
UK Hab Classification	Individual trees – Urban tree
Habitat Description	A single semi-mature common lime, approximately 350 mm DBH, standing within block-paved hardstanding with no bare ground or vegetation beneath the canopy. The lower crown has been historically lifted but the tree retains a full, healthy form.

Crit.	Criterion	Pass/Fail	Notes
A	The tree is a native species (or at least 70% within the block are native species).	Pass	Common lime (<i>Tilia × europaea</i>) is a hybrid of two native limes and is treated as a native species.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Pass	Single individual tree – passes automatically.
C	The tree is mature (or more than 50% within the block are mature).	Fail	Semi-mature specimen, approximately 350 mm DBH; not yet mature.
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass	Historic crown-lifting only; crown full, dense and healthy, retaining well over 75% of expected canopy. No active reduction regime.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Fail	No cavities, deadwood, loose bark or ivy recorded.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Fail	Canopy oversails block-paved hardstanding; no vegetation present beneath.
RESULT	3/6 criteria passed (A, B, D)	MODERATE (2)	

Individual trees: passes 5–6 criteria = Good (3); 3–4 criteria = Moderate (2); 2 or fewer = Poor (1). No essential criteria apply. Three criteria passed = Moderate (2).

Figure 1- Baseline Habitats



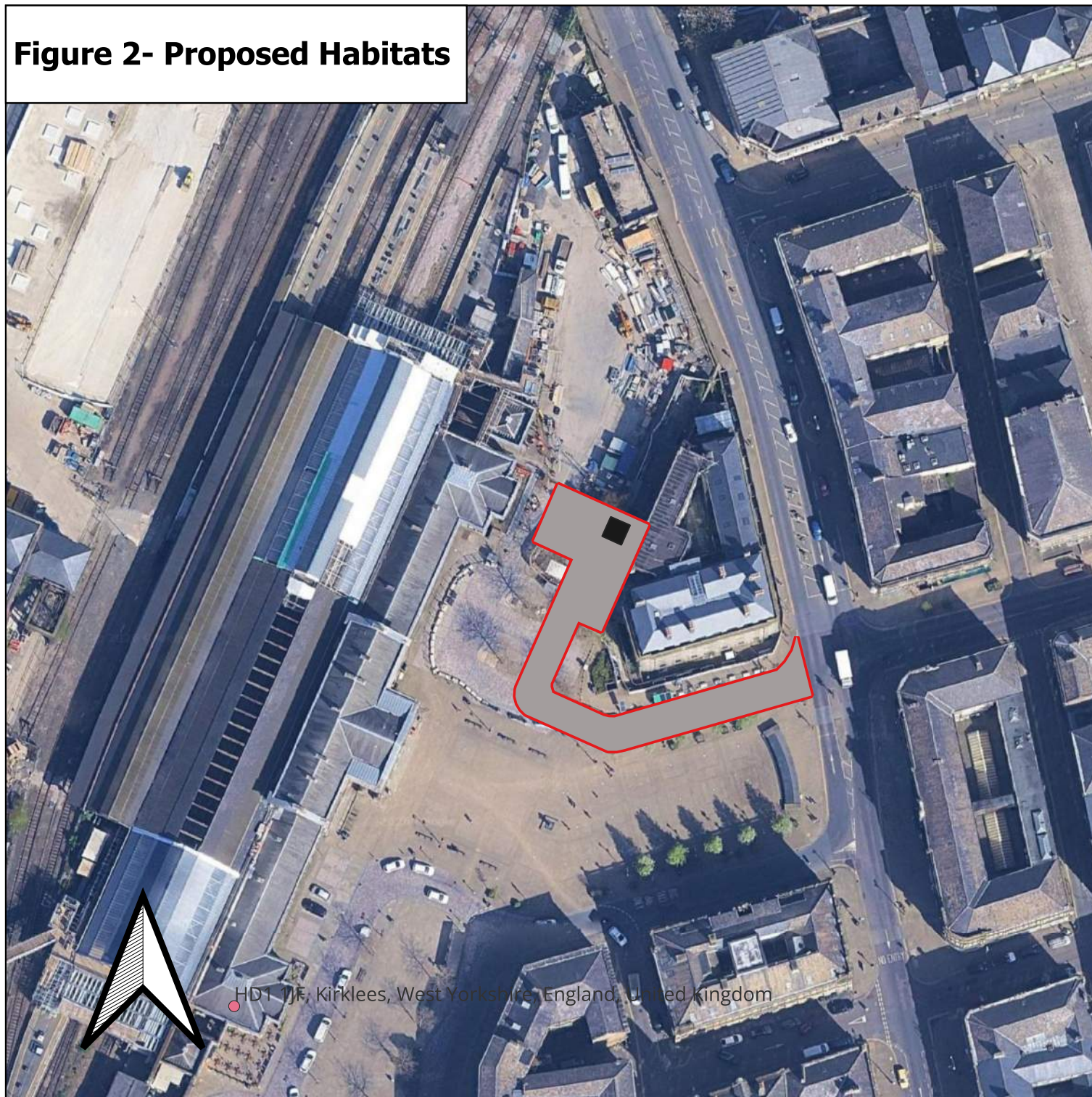
KEY

-  Red Line
-  Tree
-  Developed/Sealed Surface

0 10 20 30 40 m



Figure 2- Proposed Habitats



KEY



Red Line



Developed/Sealed Surface



Buildings

0 10 20 30 40 m



Map data ©2026 Google