

Biodiversity Net Gain Assessment



Land at Hoodlands Farm, Stoke Gifford



**Tyler
Grange**

12th July 2021

TG Report No. 11857_R04_LT_MM

Report No:	Date	Revision	Author	Checked
11857_R04	12 th July 2021	-	Lindsay Taylor BSc (Hons) MSc ACIEEM	Joseph Dance BSc (Hons) MCIEEM

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produced by Neil Tully Associates

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Summary

- S.1. Tyler Grange Group Ltd was instructed by Boklok in July 2021 to undertake a Biodiversity Net Gain (BNG) assessment of land at Hoodlands Farm, Stoke Gifford, Bristol, hereafter referred to as the 'site'.
- S.2. Data collected from habitat surveys and information from the Softworks Landscaping Plan (see Appendix 1) were applied to the Defra Biodiversity Metric 2.0 (JP029).
- S.3. Post-development, the proposals will result in a net gain of +23.64% in Habitat Units.
- S.4. Enhancement of all the hedgerows within the site results in a total gain of +78.09% in Hedgerow Units.
- S.5. Proposals are therefore compliant with regards to policy on biodiversity enhancements within the NPPF and local policy.



Section 1: Introduction

- 1.1. Tyler Grange Group Ltd was instructed by Boklok in July 2021 to undertake a Biodiversity Net Gain (BNG) assessment of land at Hoodlands Farm, Stoke Gifford, Bristol, hereafter referred to as the 'site'.
- 1.2. The site comprises buildings, hardstanding, non-native species poor hedgerows and introduced shrub of negligible ecological importance and poor semi-improved grassland, native species-rich hedgerows with trees, native species-poor hedgerows and scattered trees of local ecological importance.
- 1.3. An Ecological Assessment (EA) (Tyler Grange Report ref: 11857_R02a) to accompany a full planning application comprising a residential development of 50 dwellings was produced by Tyler Grange in 2021, which included the results of a Phase I habitat survey and assessment of the potential presence of protected species. This BNG assessment note must, therefore, be read alongside the existing EA report for context.
- 1.4. The ecological surveys have been used to inform the design of the scheme to avoid impacts as much as possible, and to ensure that opportunities for protected species are maintained and enhanced where possible.
- 1.5. As part of this planning application, the local planning authority has requested the completion of the DEFRA BNG metric in order to establish the biodiversity value of the site and to demonstrate the delivery of a net gain in biodiversity post-development.
- 1.6. All habitats were assessed with reference to the UK Habitat Classification (The UK Habitat Classification Working Group, 2018) and the Biodiversity Metric technical supplement (Crosher et al 2019) to determine their condition and ecological importance.
- 1.7. A hedgerow survey was also undertaken using the methodology detailed in 'The Hedgerow Survey Handbook. 2nd Edition' (DEFRA 2007), in order to determine hedgerow species-richness, as recommended in the latest version of the Biodiversity Metric 2.0.
- 1.8. Based on this survey methodology, 30m sections of each hedgerow were surveyed and if 5 or more native wooded species were recorded in that section, the hedge was classified as species-rich. If a hedge was less than 30m in length, the entire length of hedge was surveyed using this methodology. In addition, to identifying the species growing in the hedgerows, all hedge features, apparent management and dimensions were recorded, along with their condition.
- 1.9. Ecological survey work enabled the accurate completion of Natural England's latest Biodiversity Net Gain (BNG) Metric (The Biodiversity Metric 2.0 (JP029)) which should be looked at in conjunction with this note (ref: 11857_Biodiversity Metric 2.0_09072021_LT).



Section 2: Existing Baseline

- 2.1 Habitats present within the site and adjacent to it, along with their ecological importance are detailed in **Table 2.2** in the EA (**11857_R02a**). This note should be read in conjunction with **Appendix 3** of the EA for referenced site photographs and habitats mapped on the **Habitat Features plan 11857/P03**.
- 2.2 The site supports the following habitats:
- Buildings;
 - Grassland – Poor semi-improved;
 - Hardstanding, fence and wall;
 - Hedgerows - Native species-rich;
 - Hedgerows – Species-poor;
 - Introduced shrub; and
 - Scattered trees.



Section 3: Proposals

- 3.1. The design of the scheme has been informed by a review of data collected during the surveys undertaken, including ecology, and has avoided ecological impacts where possible.
- 3.2. The mitigation hierarchy has been applied to where possible retain and protect ecological features of highest ecological importance on the site, including the hedgerows, and boundary trees. However, the proposals will result in the loss of:
 - the buildings, hardstanding, fences, walls, non-native species-poor hedgerow (H3) and introduced shrub, all of negligible ecological importance;
 - poor semi-improved grassland of local ecological importance;
 - sixteen trees (see Tree Retention and Removal Plan (Tyler Grange Reference **11857/P04**) of local ecological importance; and
 - discrete sections of native species-poor hedgerow of local ecological importance, to make way for access roads and footpaths.
- 3.3. Specific measures will be undertaken to compensate and mitigate any loss of habitats and impacts that occur, to ensure opportunities for wildlife are provided for the long-term, and an overall ecological enhancement occurs.
- 3.4. By retaining and protecting the habitats of highest ecological importance, providing appropriate compensatory planting to replace losses and creating new habitats at the site that are not currently present, such as native wildflower / neutral grassland and scrub, an overall net gain in biodiversity has been achieved.
- 3.5. Protective measures will be implemented during construction to prevent impacts occurring to retained habitats, such as fencing around retained hedgerows and trees.
- 3.6. The habitat creation and enhancement measures that will occur at the site to achieve a biodiversity net gain are provided in separate sections below. These will be completed with a phased approach with new habitats within the main footprint of the development being created/enhanced at the time of development; and those within the proposed 'green lane' being created/enhanced at such a time when the permanent access road through the adjacent Crest development is introduced and the initial access road downgraded to a green cycle path.

Habitat Creation and Enhancement

- 3.7. The main habitats to be lost to the proposed development are hardstanding and poor semi-improved grassland.
- 3.8. Tables 3.1 and 3.2 give a summary of the habitats pre- and post-development which are further described below.



Table 3.1: Habitats on site pre- and post-development.

Phase I Habitat	UK Habitat classification	Pre-development (ha) (baseline)	Post-development (ha) (created)
Grassland – species poor semi-improved	Grassland – modified	1.126	0.1986
Grassland – amenity	Urban – Amenity grassland	0.06	0.4105
Hardstanding/ buildings	Urban – developed land; sealed surface	0.34	0.757
Introduced shrub	Urban - introduced shrub	0.023	0.0025
Drainage pond	Urban – Sustainable urban drainage feature	0.048	0.0179
Scattered trees	Urban – street tree	0.0529	0.3011
Dense scrub	Heathland and shrub – Mixed scrub	N/A	0.2115

Table 3.2: Linear features on site pre- and post-development.

UK Habitat classification	Pre-development (km) (baseline)	Post-development (km) (enhanced)	Post-development (km) (created)
Native species-rich hedgerow with trees	0.13	0.13	N/A
Native species-rich hedgerow	0.49	0.49	N/A
Native hedgerow with trees	0.289	0.274*	N/A
Native hedgerow	0.16	0.14	0.387

*discrete sections will be lost to make way for access roads and footpaths.

- 3.9. The habitats that will be present at the site post-development will comprise neutral/wildflower grassland, amenity grassland, ornamental and herbaceous scrub planting, mixed scrub/infill planting, waterside planting, hedgerows and trees (see Appendix 1). These habitats will all be part of the public open space within the development therefore it is unlikely that they will reach good condition. As such, the management of these habitats will be focussed on reaching and maintaining a fairly poor or moderate condition, depending on the habitat type (see metric ref: 11857_R05_Biodiversity Metric 2.0_09072021_LT).
- 3.10. Existing hedgerows will be complemented with infill/scrub planting to provide Green Infrastructure corridors which link through the site and onto habitats off site.
- 3.11. New tree planting will occur across the site in association with new habitat areas. These trees will comprise a mix of native species, including fruiting species. Post-development these trees will achieve a moderate condition which is the only condition available for this habitat within the BNG.



Habitat Management

- 3.12. Management measures will be implemented at the site to ensure that the required habitat conditions are achieved, biodiversity is increased and opportunities for wildlife maximised. Such measures will be included within a Landscape and Ecological Management Plan (LEMP).



Section 4: Summary

- 4.1. Overall, the site has been sensitively designed to avoid impacts by retaining the majority of habitats of ecological importance and new habitats of ecological importance are to be created, such as neutral/wildflower grassland and scrub. These measures will overall result in a net gain of +23.64% in Habitat Units.
- 4.2. Enhancement of all the hedgerows results is a total gain of +78.09% in Hedgerow Units. In addition, a gain in tree numbers will also be achieved, further increasing biodiversity, as well as opportunities for wildlife.



Appendix 1: Softworks Landscape Plan – Ref HST-NTA-XX-XX-DR-L-PL-0502_P02 produced by Neil Tully Associates



Existing trees and buffer planting

Proposed trees semi mature and ANS specimen trees:

- Semi-mature:**
Total number of trees = 26No
 3No Al Alnus incana (Grey Alder) -25-30cmg
 2No AcS Acer campestre Struetzwise (Upright field maple) -25-30cmg
 1No Cr Quercus robur (English oak) -25-30cmg
 10No CrF Quercus robur Fastigiata Kostler (Cypress Oak) -25-30cmg
 3No FsD Fagus sylvatica Dawyck (Fastigiata Beech) -25-30cmg
 4No SIB Sorbus intermedia Brouwers (Swedish Whitebeam) -35-40cm
ANS - Extra Heavy standards:
 1No Mt Malus tschonoskii (Crab Apple) -18-20cmg
 1No Pc Pyrus 'Chanticleer' (Ornamental Pear) -18-20cmg
 1No Tc Tilia cordata Rancho (Small Leaved Lime) -18-20cmg
 All trees - size ave. 4.5/5.5m high, RB, clear stem minimum 2.5 m.

- Proposed Small trees: either short stem SS or multi stem MS.**
Total number of trees = 13No
 4No Al Amelanchier lamarckii (Service Berry) - 250cm, MS
 2No CpP Crataegus persimilis 'Prunifolia' (Broad-leaved Cockspur) - 300cm, MS
 5No Sh Sorbus hupehensis (Mountain Ash) - 250cm, SS
 2No KCX Cornus Kousa Chinensis (Chinese dogwood) - Bush, 100cm, SS

- Pleached Trees pocket park**
Total number of trees = 11No
 11No TeA Pleached Limes (Tilia x europaea 'Palida')
 Size 4.5m high, 2m wide head, RB, clear stem minimum 2.5 m.

- Proposed Low Ornamental Hedges - maintained at 0.5-1.5m height**
 H1 25% Escallonia laevis - EG 0.5m H
 H2 25% Euonymus japonicus 'Jean Hugues' - EG 0.8m H
 H3 25% Lonicera nitida Elegans - EG 0.7m H
 H4 25% Carpinus betulus - D 1.5m H
 planted as single species pre-clipped to rectangular, instant hedge 400mm wide bushy plants, clipped to shape, pre-formed 1 metre units at 1 per lin m
 Topsoil backfill to BS 3882 to trench min 500mm deep
Total lin m = 387 lin m

- Proposed Lawn - amenity mix grass seeded areas**
Total area approx 4105m²

- Proposed Ornamental Herbaceous and Shrub planting**
 Planted in groups of 3.5 and 7. Topsoil to BS 3882
 Mulch all areas with fine compost to 50mm depth.
Herbaceous and groundcover
 (60% of total area) - 3 litre pots bushy plants, density 6/m²
 25% Alchemilla mollis
 25% Geranium Whiteless
 25% Festuca glauca
 25% Nepeta x faassenii
Shrubs
 (40% of total area) - 10L pots, Bushy, well formed plants, density 3/m²
 30% Lavandula Hidcote
 30% Rosa 'Kent'
 20% Hebe Purple Beauty
 20% Pittosporum 1 Nanum
Total area approx 25m²

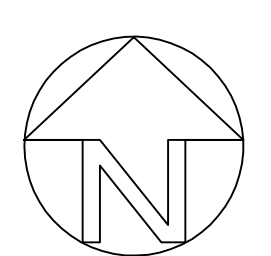
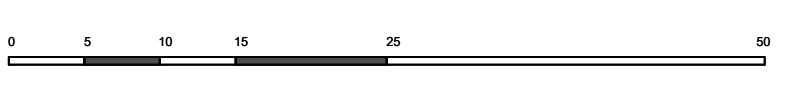
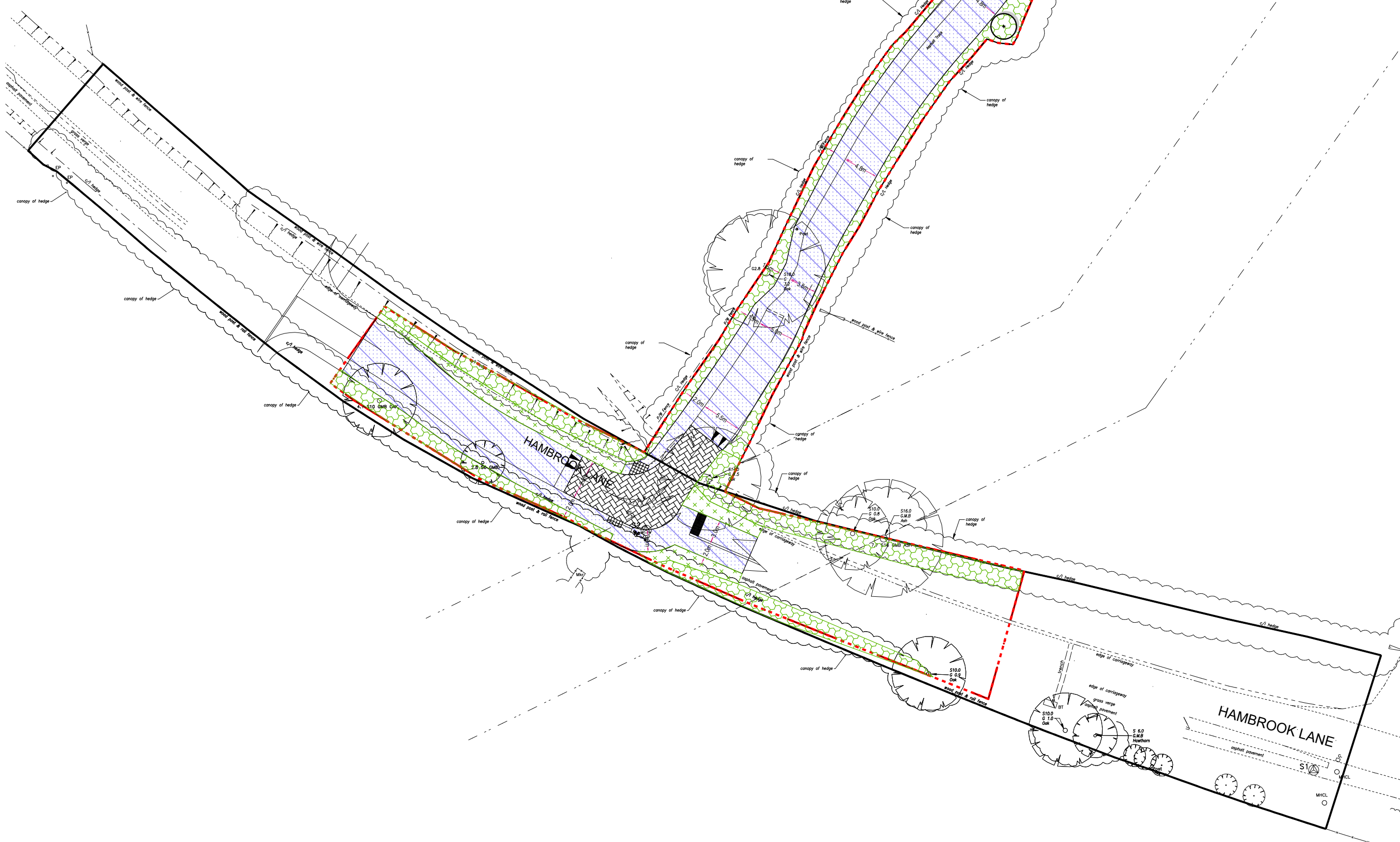
- Waterside planting mix**
Proposed feathered trees
Total number of trees = 11No
 Alnus glutinosa EHS 18-20cm 4.0-5.0 m feathered to base
 Betula pubescens EHS 16-18cm 4.0-5.0 m feathered to base
Proposed mixed shrubs
 Euonymus europaeus 1+1 40-60cm
 Viburnum opulus 1+1 40-60cm
 Salix purpurea 0+1 40-60cm
 Salix viminalis 0+1 40-60cm
 Cornus sanguinea 1u1 40-60cm
Total area approx 45m²

- SuDS Basins in landscape area**
 seeded with Emorsgate EM8 grass and wildflower mix for wetlands
Total area approx 14m²

- Proposed wildflower wild grass species meadow**
 EM4 wildflower/grass meadow mix at 4g/m², <http://wildseed.co.uk>
Total area approx 860m²

- Native mixed wildlife infill hedging mix**
 Bare root 80-120cm, 2 Years (2+1)bushy, 5 plants per linear metre in double staggered row - 50cm between rows with spiral guards.
 50% Crataegus monogyna (Hawthorn)
 30% Prunus spinosa (Blackthorn)
 5% Corylus avellana (Hazel)
 5% Cornus sanguinea (Common Dogwood)
 5% Acer campestre (Field Maple)
 5% Malus sylvestris (Crab Apple)
Total area approx 2115m²

Site boundary



REV.	DESCRIPTION	APP.	DATE
1	020 76171786		

N

Hoodlands Farm
 Hardworks Landscape Masterplan
 Job Ref: 0422

DATE	11-06-21	DRAWN	JB
SCALE	1:500 @ A1	CHECKED	NT
STATUS	S2 - Information	APPROVED	NT
DWG. NO	HST-NTA-XX-XX-DR-L-PL-0501-P02		

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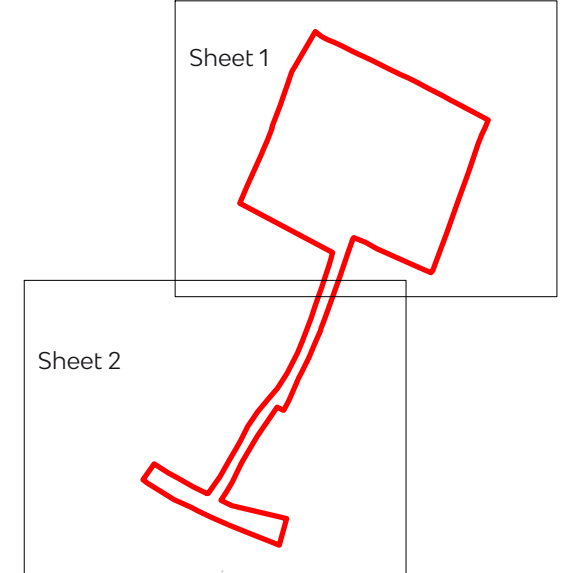
No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.

Appendix 2: Tree Retention and Removal Plan – Tyler Grange 11857/P04





- Key:
- Site Boundary
 - Category A Trees Retained
 - Category B Trees Retained
 - Category C Trees and Hedgerows Retained
 - Category U Trees Removed
 - Category C Trees and Hedgerow Removed
 - Tree and Hedgerow Pruning Works
 - BS 5837 Calculated Tree Shadow Constraints



Project Name
Land at Hoodlands Farm, Harry Stoke

Drawing Title
Tree Retention and Removal Plan

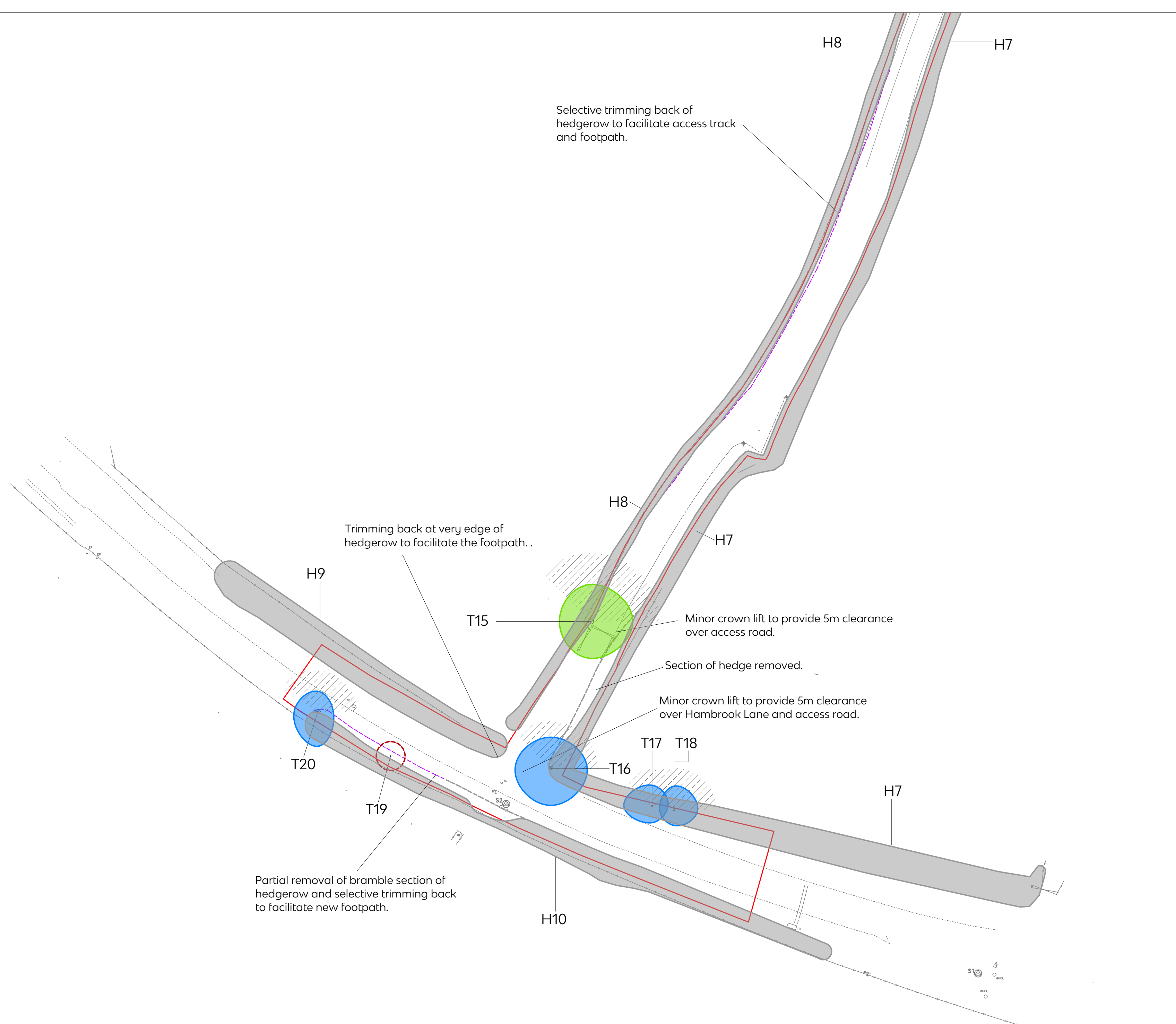
Tyler Grange
Marsden Estate, Rendcomb, Cirencester, Gloucestershire, GL7 7EX
E: info@tylergrange.co.uk
W: www.tylergrange.co.uk









Scale 1:500 @ A2	Date June 2021
Drawn by JP	Checked by JJ
Drawing No. 11857/P04	Revision -

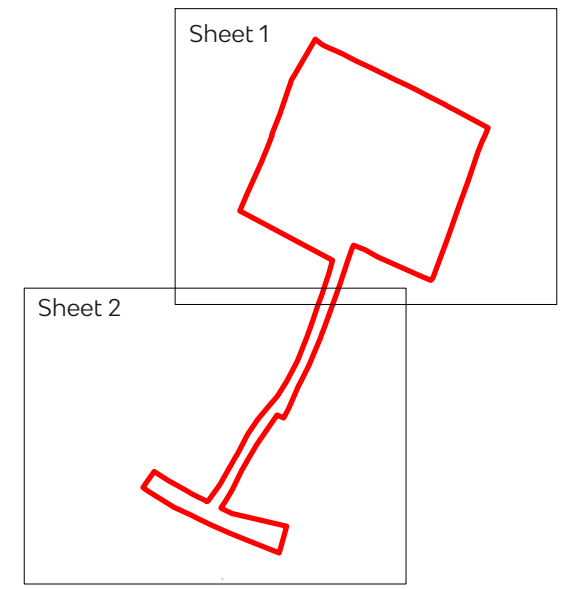
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- Key:
-  Site Boundary
 -  Category A Trees Retained
 -  Category B Trees Retained
 -  Category C Trees and Hedgerows Retained
 -  Category U Trees Removed
 -  Category C Trees and Hedgerow Removed
 -  Tree and Hedgerow Pruning Works
 -  BS 5837 Calculated Tree Shadow Constraints



Project Name
Land at Hoodlands Farm, Harry Stoke

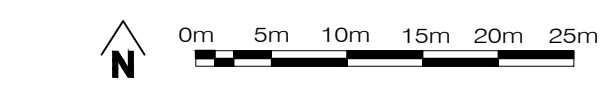
Drawing Title
Tree Retention and Removal Plan



Scale 1:500 @ A2	Date June 2021
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