

# BIODIVERSITY NET GAIN (BNG) CALCULATIONS

LAND REAR OF 36 TO 44, MARSHALLS ROAD, RAUNDS, NN9 6ET



Report produced by:		Produced for:	
Eco-Check Consultancy Ltd, White House Cottage Knapton Green North Walsham Norfolk, NR28 0RU		Alpine Planning The Buttery Tithe Farm Holcot Northampton NN6 9SH	
Tel/ 01263 722199 -07914 130493			
<a href="mailto:ecocheckconsultancy@gmail.com">ecocheckconsultancy@gmail.com</a>			
Author:	Date:	Reviewed by:	Date:
James Hodson	04.08.23	Cherece Snook	07.08.23

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## **Biodiversity Net Gain- No.36-No.44 Marshalls Road, Raunds, Wellingborough, Northants, NN9 6ET**

Eco-Check Ltd was commissioned by Tophaven Homes Ltd to undertake BNG calculations at land to the rear of Marshalls Road, Raunds (hereafter referred to as "the Site"). The survey area/application site comprises part garden land and part disused paddock land, in all extending to approximately 0.46 hectares. There is also a public right of way which bisects the western part of the site. The majority of the trees and hedgerows are situated on the boundaries of the land. The proposed development of the site, briefly comprises the demolition of the existing property at No.36-No.44 Marshalls Road, followed by the erection of nine new dwellings with shared access road.

The Site itself is not subject to any statutory or non-statutory designation. There is one statutory designation within 2km of the Site namely, Stanwick Lakes SPA, SSSI and LWS located 1.87 km west of the Site. There were four non-statutory designations, the closest being Raunds, Pocket Park located approximately 0.86km south-west of the Site.

A range of protected mammal and bird species were identified within 2km of the Site by the desk study. The Preliminary Ecological Appraisal (PEA) Survey was undertaken on 31st May 2022 by Nicholsons Lockhart Garratt. The habitat within the Site consisted of buildings, poor semi-improved grassland and species poor semi-improved grassland bound by hedgerows and scattered trees with areas of introduced shrub and tall ruderal vegetation.

Biodiversity Net Gain- Paragraph 170 of the National Planning Policy Framework (NPPF-2021) states that 'Planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on biodiversity and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.' Furthermore Policy 4 of the North Northamptonshire Joint Core Strategy requires developments to demonstrate that a biodiversity net gain can be achieved.

In order to demonstrate measurable biodiversity net gain, the Defra Small Sites Metric Calculation Tool has been used to calculate the biodiversity value of the Site both for the pre-development and post-development scenarios. The Biodiversity Defra Metric 4.0 is considered to be the emerging national standard for small sites under 10,000m<sup>2</sup> and therefore appropriate to apply for this proposed development. There is also no existing locally derived metric that can be applied.

### **Site Description**

The Site is located at grid reference SP 99599 72804. The assessment covered the whole of the Site. At the time of the assessment the Site mostly comprised buildings, poor semi-improved grassland and improved grassland bound by hedgerows and scattered trees with areas of bare ground, sealed surfaces, introduced shrub and tall ruderal vegetation.

The Site was located within the town of Raunds and was surrounded by residential housing and associated roads and gardens. Located 0.11km to the east of the Site was an area of grassland sports fields and allotments surrounded by trees. The site extends to approximately 0.46ha or 4,616m<sup>2</sup>.

## **Baseline Conditions**

A site survey was conducted by James Hodson of Eco-Check (BSc, MSc, Natural England, Level 2 Bat Survey License 2017-30927-CLS-CLS and Great Crested Newt Licence 2018-36283-CLS-CLS on the 26<sup>th</sup> June 2023 in order to complete the pre-development net gain calculation to establish the biodiversity value of the Site, quantified by the number of biodiversity units. The site was previously surveyed in May 2022 and a preliminary ecological appraisal report is submitted with the application.

The full Phase 1 Habitat Survey Map detailing the location of the below habitats and other features of ecological interest with Target Notes (TN) is presented at Appendix 1. The habitat descriptions below should be read in conjunction with this plan and any associated Target Notes. Habitats identified during the Phase 1 Habitat Survey included improved grassland (modified grassland), buildings, bare ground, hardstanding, hedgerows, scattered scrub, scattered trees and ruderal vegetation.

A total of 12no. individual trees, 2no. groups of trees and 2no. hedgerows have been surveyed. A breakdown of the numbers of trees in each retention category can be seen in Appendix 1. To facilitate the development works it will be necessary to remove all but one of the trees (T7), and both hedgerows H1 & H2. The loss of trees, and in particular T1, will have an immediate and significant impact upon visual amenity, which will be partially mitigated by the proposed new planting. The one retained tree on site, and the two off-site trees T10 & T11 will be unaffected by the development, subject to the provision of suitable temporary protection measures.

## **BNG Assessment**

Baseline habitat survey information and the proposed site layout plan have been used to calculate the post-development scenario calculation. The calculator requires that habitat distinctiveness and condition are determined together with the area of habitat that will be affected (or the length of habitat when considering linear features such as hedgerows).

Relevant policies and policy maps, particularly those concerning green infrastructure provision and habitat connectivity / wildlife corridors, that might affect the positioning and type of habitat created were also reviewed. Taken together, the above calculations will identify the net gain/loss in 'biodiversity unit' (BU) terms. Following the initial calculation, the proposed development is reviewed to help achieve further BU through habitat retention, creation and enhancement, both within and off-site (if appropriate). The outcome of the above process then determines whether the proposed development is likely to result in an overall BU loss or gain.

A detailed landscaping schedule and drawings are submitted with this application and are detailed below along with a habitat map by area and calculation using the BNG Small Sites Metric Version 4 (supporting Excel worksheet provided).

## **Habitat Loss**

The proposal requires the clearance of the majority of the improved (modified) grassland and shrub/ruderal/ephemeral/scrub vegetation within the site. In addition, a total of 9 trees are to be removed, 8 of these trees are less than 300mm DBH (diameter basal height) and a single tree T1 a mature ash 300mm-900mm DBH. A further two tree groups G1 (leylandii) and G2 (ash) are also to be removed which are also <300mm DBH.

Two hedgerow sections H1 & H2 will also require removal and these total approximately 130m in length and comprises two species poor hedges or reduced ecological value.

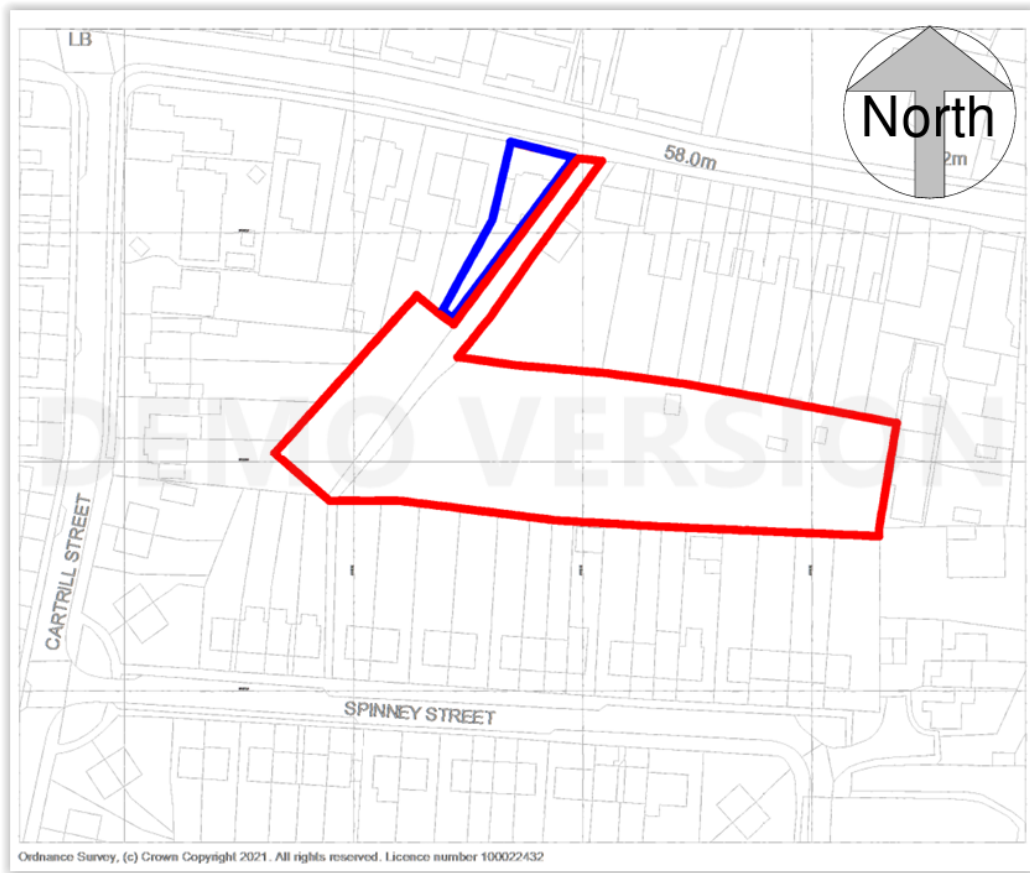
### **Habitat Creation/Enhancement**

The proposal includes the planting of 11 trees (small DBH <30cm) and creation of 75m of native mixed species hedging forming the boundary between the existing dwelling curtilage and that of the new dwelling. An additional 400m<sup>2</sup> of introduced shrub is proposed within the garden area. The proposal requires the loss of approximately 2,820m<sup>2</sup> of modified grassland for the proposed access, parking, dwellings and patios.

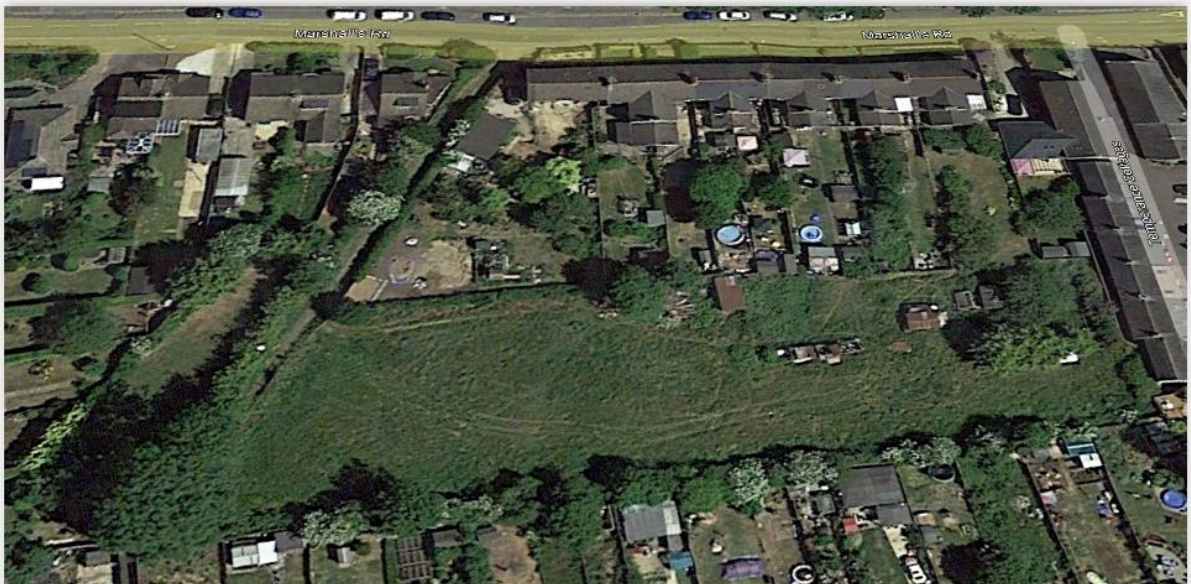
### **BNG Result**

The summary calculations show a biodiversity net loss of approximately **29% habitat units (0.77 habitat units) and a gain of 19.89% hedgerow units**. The scheme is therefore considered to be policy non-compliant with the BNG net gain of 1% (10% from November 2023, small sites from April 2024). Additional landscaping and planting schedules may be required as part of any soft landscaping planning conditions. Due to the extent of development within the site a payment will be required into a suitable BNG credit trading scheme to achieve a 1% BNG post development. Any such payment must be secured through a unilateral undertaking or Section 106 agreement.

APPENDIX 1



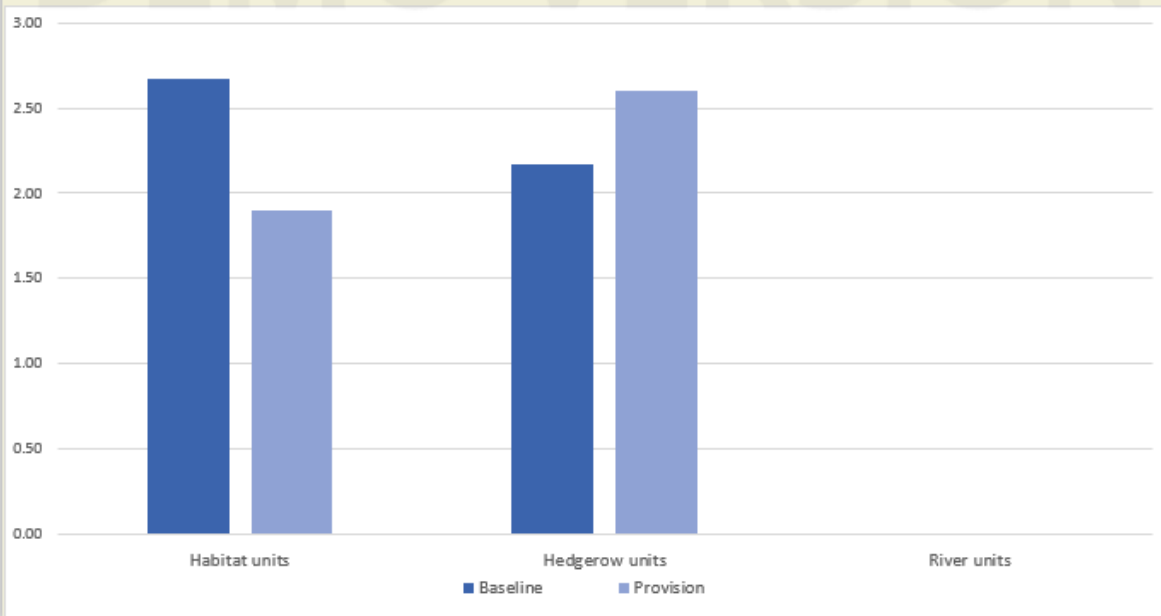
Site Location and Red Line Boundary-



Aerial Image of Site- May 2020

Baseline Units	Habitat units	2.6704	
	Hedgerow units	2.1670	
	River units	Zero Units Baseline	
Post-development Units	Habitat units	1.8980	
	Hedgerow units	2.5974	
	River units	0.0000	
Total net unit change	Habitat units	-0.7724	▲
	Hedgerow units	0.4304	▣
	River units	0.0000	▣
Total net % change	Habitat units	-28.92%	▲
	Hedgerow units	19.86%	▣
	River units	% target not appropriate	
Habitats units required to meet target		0.7724	
Hedgerow units required to meet target		0.0000	
River units required to meet target		0.0000	

**Chart 1 - Unit change by habitat group**



BNG Results Summary



**1 Proposed Site Access**  
**SCALE - 1 : 200@A1**

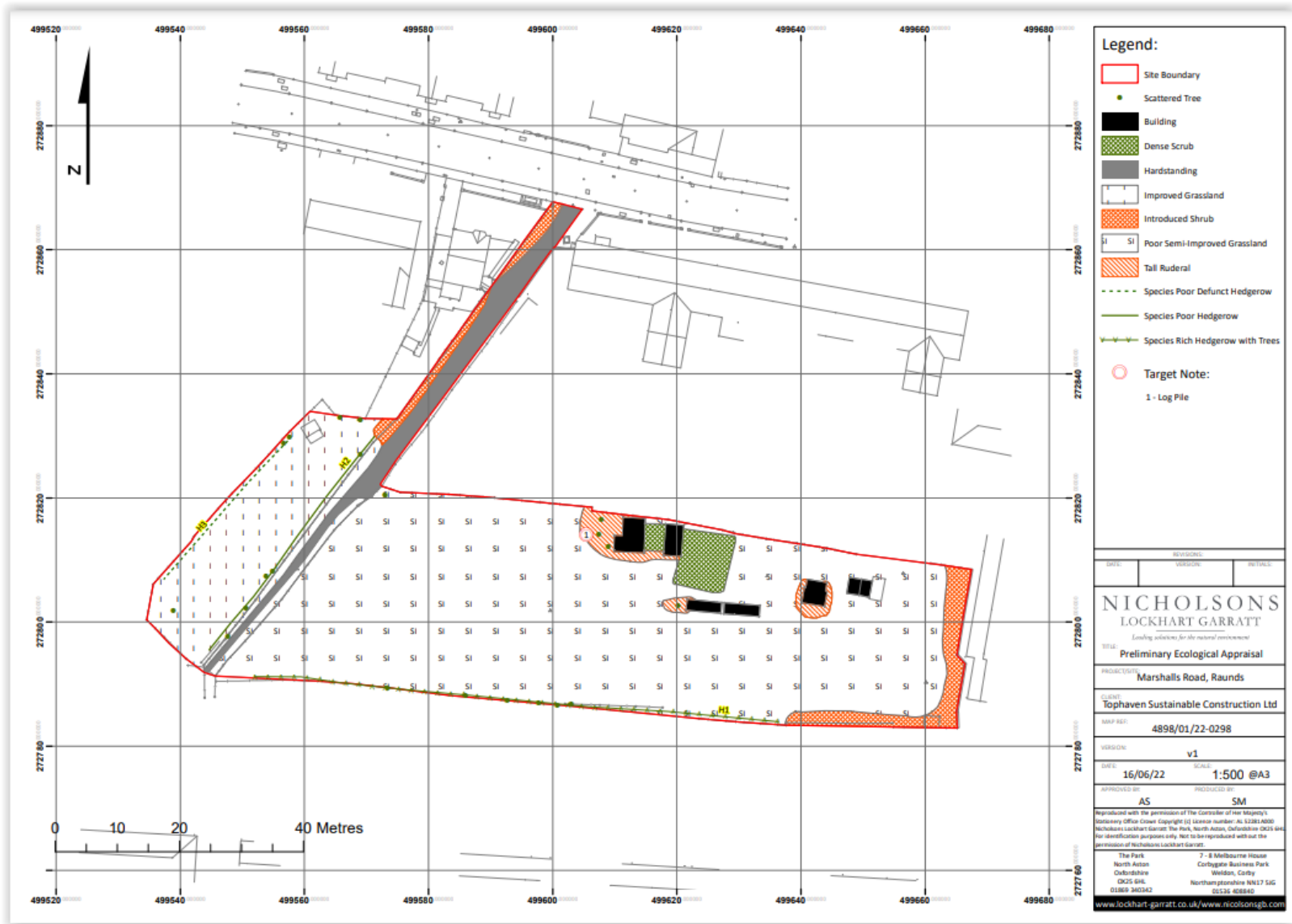


No.	Name	Room	Class	Description
1	The Bakery			
2	The Park			
3	Bin Personal			
4	Bin Public			
5	Part 1 - BLD DETACHED			
6	Part 2 - BLD DETACHED			
7	Part 3 - BLD DETACHED			
8	Part 4 - BLD DETACHED			
9	Part 5 - BLD DETACHED			
10	Part 6 - BLD DETACHED			
11	Part 7 - BLD DETACHED			
12	Part 8 - BLD DETACHED			
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14	Part 10 - BLD DETACHED			
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18	Part 14 - BLD DETACHED			
19	Part 15 - BLD DETACHED			
20	Part 16 - BLD DETACHED			
21	Part 17 - BLD DETACHED			
22	Part 18 - BLD DETACHED			
23	Part 19 - BLD DETACHED			
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25	Part 21 - BLD DETACHED			
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37	Part 33 - BLD DETACHED			
38	Part 34 - BLD DETACHED			
39	Part 35 - BLD DETACHED			
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41	Part 37 - BLD DETACHED			
42	Part 38 - BLD DETACHED			
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102	Part 98 - BLD DETACHED			
103	Part 99 - BLD DETACHED			
104	Part 100 - BLD DETACHED			

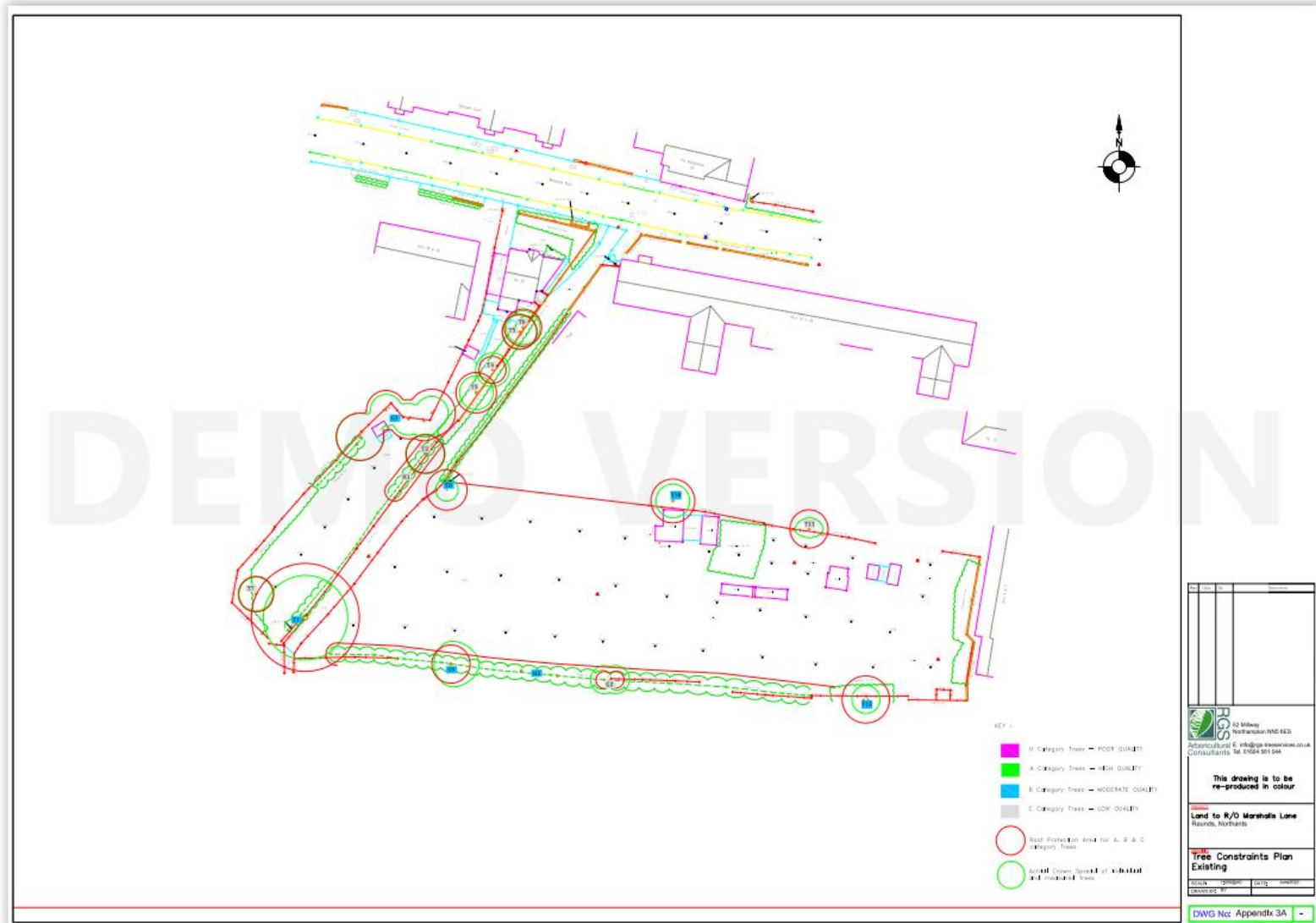
Proposed Site Layout Plan







Phase 1 Habitat Map-2022



Tree Survey Existing



Retained trees post development.

## APPENDIX 2

36 TO 44, MARSHALLS ROAD, RAUNDS, NN9 6ET  
5. Area Habitats

**Instructions:**  
 1. Enter data into 1a. Baseline habitats table  
 2. Enter data on habitats to be created into 1b. Habitats to be created  
 3. Enter data on habitats to be enhanced into 1c. Habitats to be enhanced  
 4. Enter data on individual trees into 1d. Tree area calculator

**Rule Based Errors Present On Sheet - Red Cells Or ▲ Highlight Errors**

Retained Units
Lost Units
Created Units
Enhancement Units
Net Change

**1a. habitats**

Habitat		C. Strategic significance	Areas (m <sup>2</sup> )			Baseline results			Comm
A. Broad Habitat	B. Habitat type		D. Total Area	E. Area retained	F. Area enhanced	Total habitat units onsite	Area Lost	Units lost	User comments
Grassland	Modified grassland	Area/compensation not in local strategy/ no local strategy	2820.00			1.13	2820.00	1.128	Species poor nutrient enriched semi and improved grassland >50% perennial ryegrass
Urban	Built linear features	Area/compensation not in local strategy/ no local strategy	120.00	120.00		0.00	0.00	0.000	Boundary fences and walls to be retained along site boundaries.
Sparsely vegetated land	Ruderal/Ephemeral	Area/compensation not in local strategy/ no local strategy	145.00			0.06	145.00	0.058	Common ruderal and ephemeral species regenerating on disturbed and excavated ground.
Sparsely vegetated land	Tall forbs	Area/compensation not in local strategy/ no local strategy	125.00			0.05	125.00	0.050	Tall forbs along edges of fences, hedges and outbuildings
Urban	Developed land; sealed surface	Area/compensation not in local strategy/ no local strategy	390.00			0.00	390.00	0.000	The driveway and hard standing of No.36
Urban	Artificial unvegetated, unsealed surface	Area/compensation not in local strategy/ no local strategy	80.00			0.00	80.00	0.000	Gravel track leading into site and along west boundary off Marshalls
Urban	Bare ground	Area/compensation not in local strategy/ no local strategy	620.00			0.25	620.00	0.248	Soil scrapes from archaeological investigations and other
Urban	Introduced shrub	Area/compensation not in local strategy/ no local strategy	316.00	260.00		0.06	56.00	0.011	Encroaching ornamental plants and shrubs from adjacent gardens and

Ref	A. Broad Habitat	B. Habitat type	Condition Assessment		D. Strategic significance	E. Total Area (m <sup>2</sup> )	Habitat units created onsite	Comments	
			Acceptable condition options	C. Targeted condition				User comments	LPA comments
1	Urban	Artificial unvegetated, unsealed surface	N/A - Other	N/A - Other	Area/compensation not in local strategy/ no local strategy	576.00	0.0000	Permeable block paving parking spaces and Cell-Web tree protection matting	
2	Grassland	Other neutral grassland	Moderate_Good	Moderate	Area/compensation not in local strategy/ no local strategy	1140.00	0.7632	Germinally WF-G20 species rich lawn seed mix	
3	Urban	Rain garden	Moderate_Good	Moderate	Area/compensation not in local strategy/ no local strategy	195.00	0.0701	Grass Crete	
4	Urban	Developed land; sealed surface	N/A - Other	N/A - Other	Area/compensation not in local strategy/ no local strategy	1925.00	0.0000	Pavement, shared access road, buildings	
5	Urban	Introduced shrub	Condition Assessment N/A	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	400.00	0.0772	Ornamental plantings within gardens	

**1d. - Tree area calculator**

Tree size (Diameter at breast height)	A. Total number of trees pre development	B. Number of trees retained (but not enhanced)	C. Number of trees enhanced	D. Number of new trees planted post development	Areas			
					Area pre development	Area retained	Area Enhanced by development	Area of new trees planted post development
Small - DBH ≤ 30cm	21	12	0	12	855	488	0	488
Medium - DBH > 30 to ≤ 90cm	1	1	0	0	366	366	0	0
Large - DBH > 90cm					0	0	0	0
<b>Total</b>	<b>22</b>	<b>13</b>	<b>0</b>	<b>12</b>	<b>1221</b>	<b>855</b>	<b>0</b>	<b>488</b>

**1a. Baseline habitats**

Ref	Habitat		C. Strategic significance	Length (m)			Baseline results		
	A. Broad Habitat	B. Habitat type		D. Total Length	E. Length retained	F. Length enhanced	Total units onsite	Length Lost	Units lost
1	Hedgerows and Lines of trees	Non-native and ornamental hedgerow	Area/compensation not in local strategy/ no local strategy	135.00	135.00		0.1350	0.00	0.0000
2	Hedgerows and Lines of trees	Native hedgerow with trees	Area/compensation not in local strategy/ no local strategy	176.00	176.00		1.4080	0.00	0.0000
3	Hedgerows and Lines of trees	Native hedgerow	Area/compensation not in local strategy/ no local strategy	156.00	156.00		0.6240	0.00	0.0000

**1b. Habitats to be created**

Ref	A. Broad Habitat	B. Habitat type	Condition Assessment		D. Strategic significance	E. Total Length created (m)	Units created on-site
			Acceptable condition options	C. Targeted condition			
1	Hedgerows and Lines of trees	Native hedgerow	Moderate, Good	Good	Area/compensation not in local strategy/ no local strategy	110.00	0.4304