

**Land East of Merrill Road
Thurnscoe
Barnsley**

Phase 2

Pre-development Arboricultural Report

Revision 1

**Prepared at the request of
Gerald Duniec**

07 February 2022

**By
Ian Kennedy
Wharnccliffe Trees and Woodland Consultancy**

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means, electronic, mechanical, recording or otherwise, or stored in any retrieval system of any nature, without written permission. Its content and format are for the exclusive use of the addressee in respect of this site. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without written consent.

Summary

I have been instructed to carry out a pre-development tree survey of the significant trees growing on land to the east of Merrill Road, Thurnscoe, Barnsley. Trees close to the boundary on neighbouring land that could be impacted by development have also been included.

The approximate locations of the trees are recorded on Plan 1 that shows the existing site layout. This shows the crown spreads and root protection areas (RPAs) of the trees.

Table 1 records their species, dimensions, age, life expectancy, any defects and their amenity value. This information was collected, interpreted and recorded in accordance with BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. The information is used to attribute retention categories to the trees; A, B, C and U. These retention categories are described in Appendix 2.

There are 18 trees included in this report. Eight are growing on neighbouring land close to the boundary.

All but two of the trees are included in the lowest retention category (C) because they are low value trees, either because they are small or are in poor condition with limited future prospects. All of the trees within the site are included in the lowest retention category.

Two trees growing in a neighbouring garden have been included in the higher retention category (B) because they are larger, better quality trees that are likely to live for much longer.

Section 4 of this report is the impact assessment that considers the impact of development on the trees.

I do not believe that any of the trees within the site are worthy of retention as part of development.

CONTENTS

1	INTRODUCTION	6
1.1	Instruction	6
1.2	Documents and Provided Information	6
1.3	Limitations.....	6
2	SITE VISIT AND OBSERVATIONS	7
2.1	Site visit.....	7
2.2	Brief Site description	7
2.3	Development Proposals.....	7
2.4	Locations of the Trees	8
2.5	Tree observations	9
3	Interpretation of Information and References.....	15
3.1	BS5837:2012 Tree Retention Categories	15
3.2	Below Ground Constraints; Root Protection Areas (RPAs).....	15
3.3	Above Ground Constraints; Crown Spreads	16
3.4	Conception and Design.....	16
4	ARBORICULTURAL IMPACT ASSESSMENT.....	17
4.1	Discussion of the trees	17
4.2	Arboricultural Impact Assessment.....	19
5	ARBORICULTURAL METHOD STATEMENT.....	20
5.1	Specific Tree Protection Measures	20
5.2	Levels.....	20
5.3	Ground surface materials.....	20
5.4	Site access	20
5.5	Storing fuel, materials and equipment.....	20
5.6	Activity under tree canopies.....	21
5.7	General Tree Protection Measures.....	21
6	REFERENCES, PLANNING POLICY AND GUIDANCE	22
6.1	National policy	22
6.2	British Standard: Trees in relation to design, demolition and construction – Recommendations (BS 5837, 2012).....	23
6.3	Barnsley Metropolitan Borough Council.....	23
7	CONCLUSIONS	24
8	LEGAL CONSIDERATIONS.....	25
8.1	Protected trees	25
8.2	Wildlife conservation legislation	25

TABLES

Table 1	The Tree Survey.....	9
---------	----------------------	---

PLANS

Plan 1	Tree constraints plan of the existing site layout.....	26
Plan 2	Tree constraints plan of the proposed site layout.....	27

APPENDICES

Appendix 1	The Experience and Qualifications of Ian Kennedy	28
Appendix 2	Tree Retention Categories	30
Appendix 3	Explanatory notes for some of the terms used in this report.....	31
Appendix 4	Example of an engineering solution for parking within an RPA.....	33

1 INTRODUCTION

1.1 Instruction

I have been instructed by Mr Gerald Duniec, the owner, to carry out a pre-development tree survey of the significant trees growing on or close to a small site to the east of Merrill Road, Thurnscoe, Barnsley.

The tree survey is intended to provide a structured, impartial assessment of the tree population that could be affected by a proposed development.

The survey is intended to be informative to all stages of the development process and was carried out in accordance with *BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations*.

1.2 Documents and Provided Information

I was provided with the following plan:

A topographical survey produced by Rowley Surveying dated August 2021. This shows the position of most of the trees within the site.

A drawing of the proposed layout. Reference: 020XXX-AAD-01-ZZ-DR-A-0001-P01

1.3 Limitations

This report is concerned only with assessing the condition of the trees, their importance in the local landscape and any cultural and conservation values.

It takes no account of the affects the trees may have on the soil, such as heave where trees are removed or shrinkage where trees are retained.

Trees are dynamic organisms influenced by weather, pests and diseases. Therefore, this report can only remain valid for a period of 24 months.

Any works around the trees such as trenching, pruning, storage of materials and trafficking that has not first been approved by a suitably qualified arboriculturalist will invalidate this report.

This report has been prepared for pre-development purposes. Whilst the condition of the trees has been assessed this is primarily to attribute a retention category. It is not a tree condition and safety report and may not include the same level of detail on tree health and structural condition.

No decay detection equipment was used to gather information on the condition of the trees.

All survey and inspection was completed at ground level.

2 SITE VISIT AND OBSERVATIONS

2.1 Site visit

I visited the site on 17 January 2022 to complete the survey.

All dimensions were taken using recognised methodology and arboricultural measuring equipment, unless otherwise stated. The methodology used in the survey recognises the guidance set out in BS5837 for measuring trees:

Stems are measured at 1.5m above ground level.

Where a stem divides below 1.5m both stems are measured.

The crown spread is measured at the four main cardinal points of north, south, east and west as a minimum.

The principles of BS5837:2012 were applied to the assessment and evaluation of the trees.

The weather at the time of inspection was sunny. Visibility was good and winds were light.

2.2 Brief Site description

The site is located to the east of Merrill Road in Thurnscoe, Barnsley at Ordinance Survey grid reference: SE 45237 06027.

The land is roughly triangular in shape and is accessed along a short drive from Merrill Road.

The site appears to be a brown field site because most of it is currently surfaced with tarmac or concrete.

The trees are mostly growing around the boundaries. They are very low value. I would expect that they have grown naturally from seed without management of the site.

There are a number of trees growing in neighbouring gardens.

2.3 Development Proposals

The development proposes four dwellings, together with two parking spaces for each property.

2.4 Locations of the Trees

The positions of Trees 1, 3 and 9 to 14 were included on the topographical survey by Rowley Surveying.

I plotted the position of the other trees using fixed know points such as the existing buildings. I am not a surveyor but I believe that the positions are sufficiently accurate for the purposes of this report.

Trees 5, 6, 7, 8, 15, 16, 17 and 18 are growing on neighbouring land. Inspection of these trees was limited to the application site.

2.5 Tree observations

Table 1. The Tree Survey

Tree number and area of the site	Species	Height (M)	Stem diameter in MM at 1.5m	Branch spread (M)	Ht first branch above GL* (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Habitat value	Category
T1	Goat willow	9.0	400#	North – 5.0 South – 4.5 East – 4.0 West – 5.0	1.0	0.0 to the west	Mature	Normal	A small trees growing in the south eastern corner. It is an insignificant tree that contributes little to the amenity of the area.	10+	Low	Low	C 1
T2	Sycamore	9.0	350#	North – 2.0 South – 1.0 East – 3.0 West – 2.0	2.5	2.5	Juvenile mature	Moderate	A small and insignificant tree growing close to the south east corner of the site. There is significant ivy growing in the tree.	10+	Low	Low	C 1
T3	Goat willow (12 stems)	5.0	<50	North – 2.5 South – 2.0 East – 2.0 West – 3.0	0.0	0.0	Juvenile mature	Normal	A very small and insignificant, multi-stemmed tree growing out of the tarmac. The tree has no value.	10+	Low	Low	C 1

Tree number and area of the site	Species	Height (M)	Stem diameter in MM at 1.5m	Branch spread (M)	Ht first branch above GL (* ₁) (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Habitat value	Category
T4	Sycamore	10.0	180, 220, 220, 240, 240	North – 6.0 South–5.0# East – 5.5 West – 1.0	1.8	2.0	Young mature	Normal	A small, insignificant tree growing on the southern boundary. There are multiple and long bark wounds to the stems. These are occluding but are moderate defects.	10+	Low	Low	C 1
T5	Silver birch	16.0	360#	North – 5.0 South–5.0# East – 3.0 West – 3.0	3.0	3.0	Mature	Normal	The tree is growing in the neighbouring garden. It has no apparent significant defects. It is one of the larger trees close to the southern boundary.	10+	Low	Low	C 1
T6	Sycamore	14.0	350 & 300#	North – 4.0 South–4.0# East – 5.0 West – 2.5	2.5	2.5	Young mature	Normal	The tree is growing in the neighbouring garden. It has no apparent significant defects. It is one of the larger trees close to the southern boundary but is nevertheless an insignificant tree.	10+	Low	Low	C 1

Tree number and area of the site	Species	Height (M)	Stem diameter in MM at 1.5m	Branch spread (M)	Ht first branch above GL (* ₁) (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Habitat value	Category
T7	Sycamore	15.0	350#	North – 5.0 South–3.0# East – 1.0 West – 1.0	2.5	2.5	Young mature	Normal	The tree is growing in the neighbouring garden. It has no apparent significant defects. It is one of the larger trees close to the southern boundary but is nevertheless an insignificant tree.	10+	Low	Low	C 1
T8	Cherry	10.0	460#	North – 6.4 South–6.0# East – 2.0 West – 6.0	1.5	1.5	Mature	Normal	The tree is growing in the neighbouring garden. It has no apparent significant defects. It is one of the larger trees close to the southern boundary.	10+	Low	Low	C 1
T9	Sycamore	12.0	130 & 170	North – 3.5 South – 0.5 East – 2.0 West – 1.0	GL	1.0	Juvenile mature	Normal	A small and insignificant young tree with little value.	10+	Low	Low	C 1
T10	Sycamore	11.0	130 & 160	North – 2.5 South – 0.5 East – 1.0 West – 1.0	GL	1.0	Juvenile mature	Normal	A small and insignificant young tree with little value.	10+	Low	Low	C 1

Tree number and area of the site	Species	Height (M)	Stem diameter in MM at 1.5m	Branch spread (M)	Ht first branch above GL (* ₁) (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Habitat value	Category
T11	Sycamore	10.0	240	North – 1.0 South – 3.0 East – 1.0 West – 4.0	GL	GL	Juvenile mature	Normal	A small and insignificant young tree with little value.	10+	Low	Low	C 1
T12	Goat willow (9 stems)	4.0	<50	North – 2.0 South – 2.0 East – 2.0 West – 2.0	0.0	0.0	Juvenile mature	Normal	A very small and insignificant, multi-stemmed tree growing out of the tarmac. The tree has no value.	10+	Low	Low	C 1
T13	Sycamore	10.0	180 & 200	North – 2.5 South – 2.5 East – 2.0 West – 3.5	GL	0.5	Juvenile mature	Moderate	A small and insignificant young tree with very little value. One of the stems is dead.	10+	Low	Low	C 1
T14	Sycamore	11.0	410 @ 0.75 m	North–8.0# South – 3.0 East – 3.0 West – 2.0	2.5	2.5	Young mature	Normal	A small and insignificant young tree. There are a number of pruning wounds, including one larger wound where a stem has been removed. The tree has little value.	10+	Low	Low	C 1

Tree number and area of the site	Species	Height (M)	Stem diameter in MM at 1.5m	Branch spread (M)	Ht first branch above GL* (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Habitat value	Category
T15	Sycamore	16.0	600#	North – 6.2 South – 4.0 East – 5.5 West – 5.0	3.0	3.0 to the east	Mature	Normal	The tree is growing in the neighbouring garden on the western boundary. There is significant ivy growing up the stem limiting inspection. It, together with Tree 16, is the largest tree included in the survey. The tree has no apparent significant defects visible from the site.	20+	Medium	Low	B 2
T16	Sycamore	16.0	550#	North – 2.0 South – 6.0 East – 4.5 West – 5.0	4.0	4.0 to the south	Mature	Normal	The tree is growing in the neighbouring garden on the western boundary. It, together with Tree 15 is the largest tree included in the survey. The tree has no apparent significant defects visible from the site.	20+	Medium	Low	B 2
T17	Laurel	6.0	12.0	North – 1.0 South – 2.0 East – 1.0 West – 1.0	4.0	4.0 over the site	Juvenile mature	Moderate	A very small and insignificant tree growing in the neighbouring garden next to the access road.	10+	Low	Low	C 1

Tree number and area of the site	Species	Height (M)	Stem diameter in MM at 1.5m	Branch spread (M)	Ht first branch above GL* (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Habitat value	Category
T18	Goat willow and sycamore	10.0	550# & 250	North-5.0# South-5.0# East - 5.0# West - 6.0	3.0	3.0 to the east	Mature	Normal	The two trees are growing very closely together. The willow is the larger of the trees. The trees are growing in the neighbouring garden to the north of the access road. The willow significantly overhangs the access road. Some minor crown lifting may be needed to provide adequate clearance for construction works.	10+	Medium	Low	C1

*₁ GL – Ground Level. *₂ Please see appendix 2 below for sub category definitions. # - Estimated measurement

3 Interpretation of Information and References

My interpretation and appraisal of information gathered from the survey is based on experience of tree species, visual risk hazard assessment and the guidance set out in BS5837:2012 *Trees in Relation to Design, Demolition, Construction – Recommendations*.

3.1 BS5837:2012 Tree Retention Categories

All trees have been assessed and assigned a retention category in accordance with Table 1 of the standard. A copy of Table 1 from BS5837: 2012 is included as Appendix 2.

This categorisation is intended to rank trees according to their importance in terms of quality, health, life expectancy, amenity and landscape value, together with wildlife and cultural importance. This ranking assists in determining the suitability and appropriateness of trees for retention in any development. Categories A to C are those considered for retention, 'A' being highest.

Category A and B trees tend to be considered more valuable for retention than category C trees.

Category 'U' trees are those not suitable for retention because of impaired condition.

3.2 Below Ground Constraints; Root Protection Areas (RPAs)

The root protection area is the area of land considered necessary for trees should they be retained as part of any development. This is calculated using the stem diameter measured at 1.5 metres from ground level. This protection area is shown diagrammatically as a circle centred on the base of the tree where it is expected that rooting has not been impeded in any one direction and where disturbance has not taken place. Where rooting has been impeded or disturbance taken place then the shape and size of the root protection area is modified according to an assessment of where rooting is likely to take place.

Where trees are to be retained, it is optimal to locate structures and services outside the RPA. However, where incursion becomes necessary, technical solutions may be possible to limit damage, areas lost can be compensated elsewhere, or the soil environment can be improved. In these circumstances an arboricultural method statement will be necessary to ensure that works are undertaken sympathetically and do not damage the below ground parts of the trees.

3.3 Above Ground Constraints; Crown Spreads

Ideally, working areas will be out with the crown spreads of trees to be retained.

Any permanent development proposed within the canopy spread of a tree should be assessed to determine whether the level of pruning necessary to accommodate the layout would be acceptable. However, the effects of shade and other perceived inconveniences of trees this close to property should also be considered, together with the future growth potential of the trees and the maintenance obligation this will bring.

Where temporary access by high sided vehicles and machinery for construction or erection of scaffolding is necessary within the crown spreads of trees to facilitate development an arboricultural method statement will be necessary to ensure pruning works are carried out sympathetically prior to demolition or construction works commencing.

3.4 Conception and Design

The constraints imposed by trees should assist with site design and layout, together with the other competing needs of development.

The provisions of services and the access space required for construction itself should be considered.

4 ARBORICULTURAL IMPACT ASSESSMENT

This section of the report considers the impact that the proposed layout could have on the trees that are included in Table 1 and shown on Plan 1; *Tree Constraints Plan showing the existing layout*.

This section discusses the engineering solutions that may be available to retain trees where development is proposed within their RPAs or the pruning options available where development might affect crown spreads.

Where there is no option but to remove a tree to accommodate the proposed layout this section will discuss the impact on amenity and ecology and any mitigation that could be offered such as opportunities for replacement planting.

4.1 Discussion of the trees

The trees on the site are all low value because they are young and/or small.

Many are likely to be self-seeded because the site has not been managed for some years. For example, some of the trees are growing out of the existing hard surfacing.

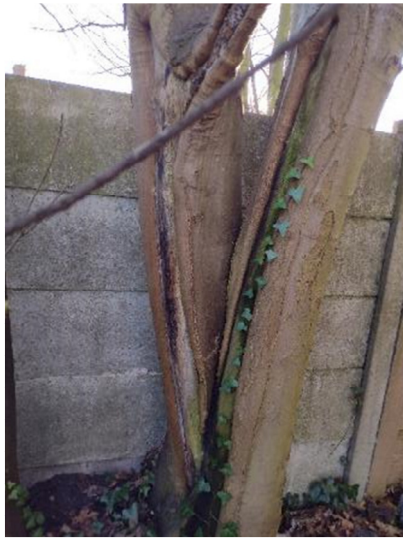
The photos below are representative of the typical trees on the site.



Tree 1



Tree 3



Bark wounds to Tree 4



Trees 6 to 11

Some of the trees in the neighbouring gardens are larger and better specimens than the trees on the site.

4.2 Arboricultural Impact Assessment

Trees 1 and 2

These trees could be retained within the layout if so desired.

Trees 3 to 4 and 9 to 13

These trees would need to be removed to accommodate the proposals. They are all growing within the red line boundary of the site. They are all low value trees. Their loss would have no impact on the amenity of the area.

Trees 5 to 8

These trees are growing in neighbouring gardens. The dwelling in plot 2 and the parking and roadway would encroach significantly into the crown spreads and RPAs of these trees. They would need to be removed to accommodate the proposed layout. Whilst these trees are considered low value and included in the lowest retention category they are on third party land.

Tree 14

This tree could probably be retained if resurfacing of the access road is done carefully. However, this tree is very low value and I would recommend removal.

Trees 15 and 16

These trees are growing in a neighbouring garden. The dwelling in plot 1 is located outside the crown spreads and RPAs of these trees.

One of the parking spaces for the plot is proposed within the RPAs of these trees. Only a small part of the RPA of Tree 16 would be impacted and could be tolerated by the tree. The parking space would impact more on the RPA of Tree 15. There are 'no-dig' solutions available for parking spaces and roads within RPAs of trees. These sit on top of existing ground levels acting as a raft and preventing soil compaction. An example of one is included in Appendix 4. This, or an alternative could be considered to protect Tree 15.

Tree 18

The willow might need to be crown raised over the access point to give adequate clearance for construction traffic.

5 ARBORICULTURAL METHOD STATEMENT

It is important that a method statement appropriate to the scale of development is prepared to protect retained trees, particularly where development or access is necessary within the RPAs and crown spreads of retained trees. This should address any eventuality that may involve working within the RPAs or crown spreads of existing trees. This will include temporary workings during construction as well as permanent incursion for surfacing.

5.1 Specific Tree Protection Measures

Tree protective fencing, together with ground protection will be required to protect the trees being retained. This should be in place before any other work takes place.

Some general tree protection measures are discussed below.

5.2 Levels

Altering the ground level within the RPAs of the trees may have a detrimental impact on their health and longevity.

5.3 Ground surface materials

Altering the ground cover, such as by using impervious or semi-pervious surface materials to cover areas that were previously vegetated soil, will alter the moisture content and recharge of the soil and its oxygen and carbon dioxide content. This could have a detrimental effect on the health of tree roots growing in it.

5.4 Site access

Vehicles and plant operating or parking on unprotected soil within the RPA of a retained tree could compact or contaminate it and this could have a detrimental impact on its long-term condition and longevity.

5.5 Storing fuel, materials and equipment

Storing fuel, equipment and materials close to trees increases the risk of damage to their trunks and branches, soil compaction and/or contamination with toxic substances.

5.6 Activity under tree canopies

Activity under tree canopies, such as mixing cement, lighting bonfires or storing equipment, plant and materials, may damage branches or stems. It may also be detrimental to soil within its RPA that is utilised by its roots.

5.7 General Tree Protection Measures

To avoid damage to retained trees where no construction or access within RPAs and crown spreads is necessary the following general precautions should be followed during the construction phase.

- No dumping or storing materials or waste, whether in a skip or on the ground.
- No temporary buildings, sheds, or offices without prior discussion with an arboriculturalist and agreement of the LPA.
- No storage of materials, equipment, plant, fuel or cement.
- No bonfires within 10m of the outer edge of the crown or RPA.
- No refuelling mechanical equipment or mixing of cement.
- No washing cement mixers within or uphill of the RPA.
- No vehicles and plant unless the soil is suitably protected as recommended an arboriculturalist and agreed by the LPA.
- No raising the soil level without prior discussion with an arboriculturalist and agreement of the Local Planning Authority (LPA).
- No excavations without prior discussion with an arboriculturalist and agreement of the LPA.
- No redirection of surface water runoff into or out of the RPA.
- Follow the guidance contained within the National Joint Utilities Group Volume 4 (Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2, 2007); www.njug.org.uk) when installing underground services within the RPA of a retained tree.

6 REFERENCES, PLANNING POLICY AND GUIDANCE

6.1 National policy

Section 197 in the Town and Country Planning Act 1990 makes it the duty of Local Planning Authorities (LPAs), ‘*in the interests of amenity,*’ to protect trees, when granting planning permission, either by the imposition of conditions or serving Tree Preservation Orders (TPOs).

The National Planning Policy Framework (NPPF) mentions trees and should be taken into account.

131. *Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.*

174. *Planning policies and decisions should contribute to and enhance the natural and local environment by:*

(b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

180. *When determining planning applications, local planning authorities should apply the following principles:*

(a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

(b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

(c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be

refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; ...

(d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Annex 2: Glossary

Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.

Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS).

Irreplaceable habitat: Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.

6.2 British Standard: Trees in relation to design, demolition and construction – Recommendations (BS 5837, 2012)

The British Standard: *Trees in relation to design, demolition and construction – Recommendations* (BS 5837, 2012) contains guidance on how to assess trees in or close to proposed development and information to include in pre-development arboricultural reportssubmitted with planning applications. Appendices 2 and 3 contain relevant extracts from BS 5837 (2012).

6.3 Barnsley Metropolitan Borough Council

Barnsley Local Plan. Adopted January 2019

17. Green Infrastructure and Green Space

7 CONCLUSIONS

There are 18 trees included in this report. Eight are growing on neighbouring land.

All of the trees on the site are included in the lowest retention category (C) because they are low value.

Only two trees in one of the neighbouring gardens are included in the higher retention category (B) because they are more significant and better quality trees.

I do not believe that any of the trees within the site are worthy of retention as part of development.

Trees 1 and 2 could be retained if desired but they are very low value.

The layout would require the removal of all the remaining trees on the site.

The layout would also require the removal of Trees 5, 6, 7, and 8 in neighbouring gardens.

One of the parking spaces for Plot 1 is proposed within the RPAs of Trees 15 and 16. A 'no dig' engineering solution could be used to protect the RPAs.

Pruning of Tree 18 may be necessary for access.

8 LEGAL CONSIDERATIONS

8.1 Protected trees

No checks have been made with the Local Planning Authority (LPA) for trees included in a Tree Preservation Order (TPO) or within a Conservation Area.

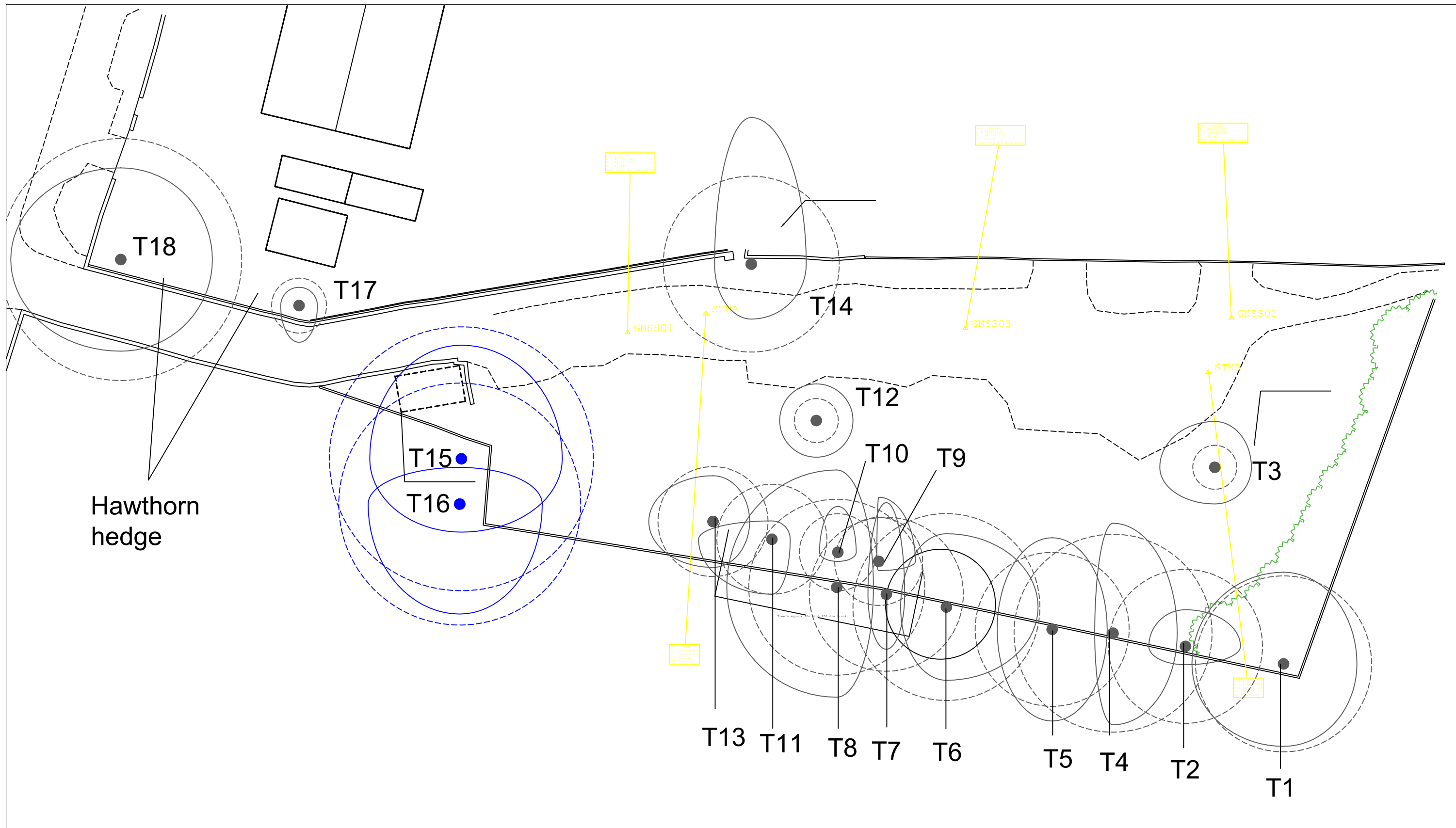
If any trees are protected by a TPO, are located in a conservation area or protected by planning conditions, it will be necessary to obtain permission from the LPA before any work, other than certain exempted operations, can be carried.

8.2 Wildlife conservation legislation

Breeding birds are protected, together with bats and their roosts are, whether their roosts are in use or not.

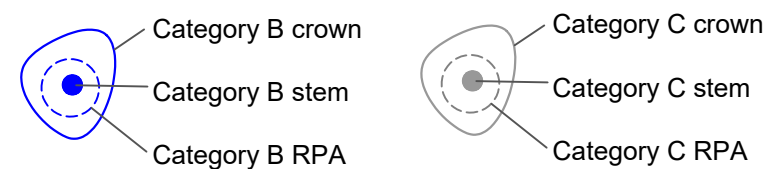
Consideration should be given to the presence of protected species prior to any proposed tree removal or maintenance. This will include breeding birds, principally between March and August, and bats at any time of year.

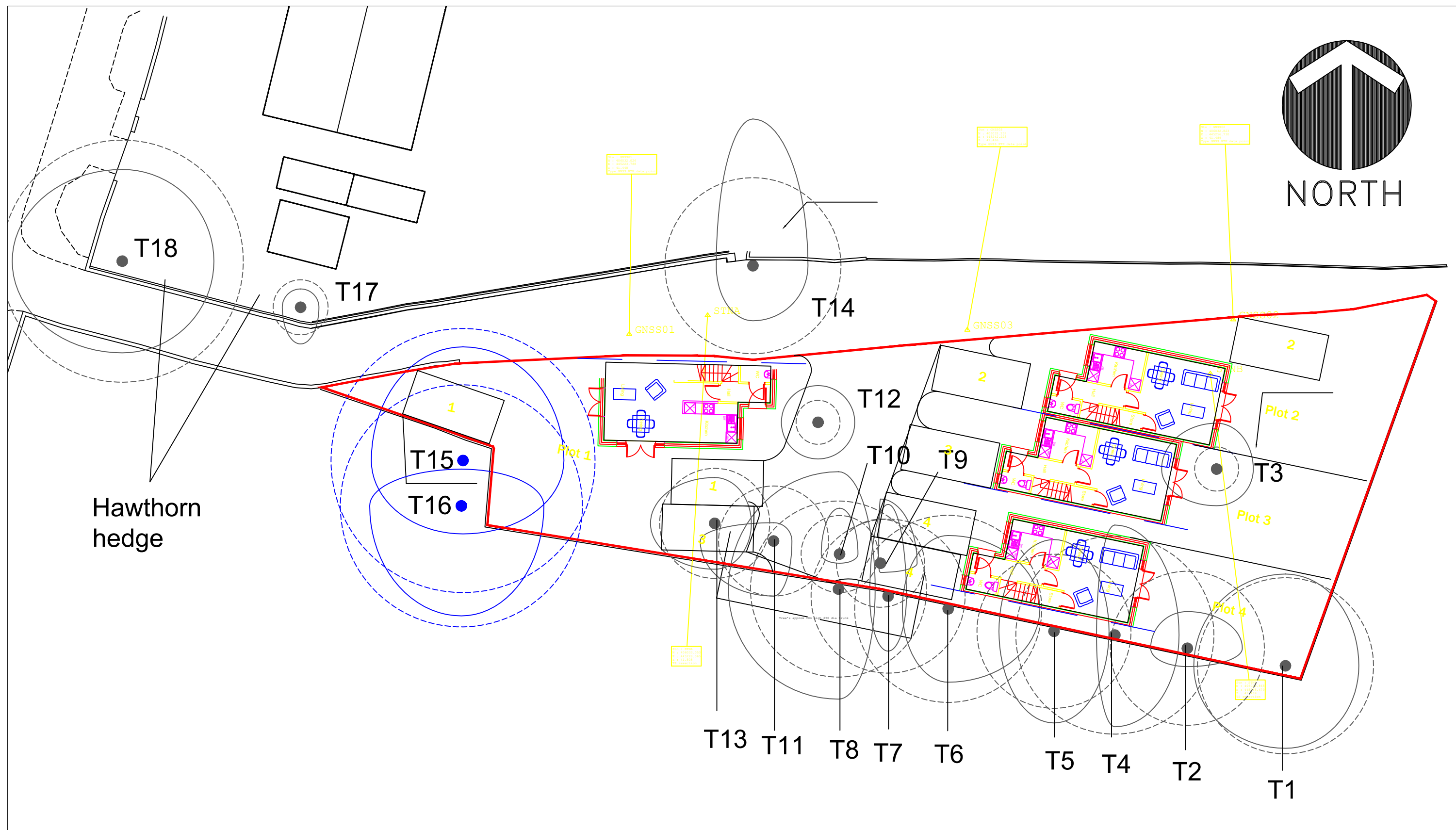
Tree surgeons should also be aware of their duties under legislation to protect wildlife and carry out their site assessment and work accordingly.



Plan 1: Tree Constraints Plan showing the existing layout.

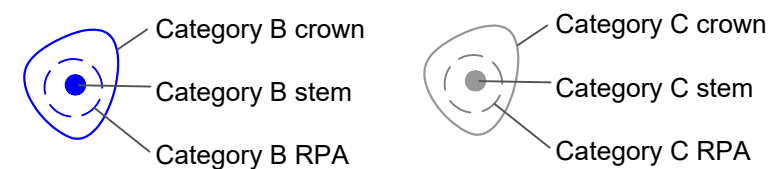
Scale 1:200 @ A3





Plan 2: Tree Constraints Plan showing the proposed layout.

Scale 1:200 @ A3



Appendix 1

The Experience and Qualifications of Ian Kennedy

1. Qualifications

Ian graduated from the Scottish Agricultural College in August 1995 with a Higher National Diploma in Horticulture (HND) with Distinction.

In 1998 Ian graduated from the University of Aberdeen with a BSc (Hons) Upper second class in Forestry with Arboriculture and Amenity Forestry.

He passed the LANTRA Professional Tree Inspection examination in (2006).

In 2009 his application to become a professional member of the Arboricultural Association was assessed to fulfil all the necessary requirements and he became a professional member of the Association that year.

In 2011 he passed the final examination of the Institute of Chartered Foresters and become a member of that institute in January 2012.

2. Practical experience

Presently Ian is working in private practice as an independent arboricultural and woodland management consultant undertaking tree conditions surveys, pre-development tree surveys to the BS5837:2012 standard, mortgage reports and woodland management planning works. Clients range from home owners and farmers to architects, building companies, local authorities, schools and larger development companies.

Prior to private practice Ian held a number of positions in local government. Firstly, he was the arboriculturalist within a planning office in Essex. Ian gained considerable experience regarding trees in relation to development, in particular BS 5837.

Development work formed the core of his duties and applications ranged from small back garden developments to major schemes such as the redevelopment of Ministry of Defence land for private residential development. Ian also undertook all functions associated with Tree Preservation Orders (TPOs), including the making of new TPOs, assessing suitability of applications to work on protected trees and trees in conservation areas.

Ian went on to manage a 500 hectare woodland estate for a local authority in South Yorkshire that included a mix of urban and rural woodlands. This included preparation and implementation of detailed management plans for multiple use woodlands. He undertook all aspects of silvicultural management from marking to contract tendering and monitoring. He also managed the access, conservation, landscape and archaeological requirements of the estate.

Ian was directly involved in the estate achieving Forest Stewardship Council certification in 2003 and personally ensured continued certification.

Ian has worked extensively with Forestry Commission to obtain the necessary licences for management works and ensured the estate benefited fully from the full range of grants available.

Latterly at the same authority Ian went on to manage the trees and woodlands unit, having overall responsibility for management of the authority's tree and woodland stock and associated staff, together with delivery of other tree related services such as those associated with the Town and Country Planning Acts.

3. Continuing professional development

Ian regularly attends meetings, seminars and training events hosted by The Arboricultural Association, Institute of Chartered Foresters, Royal Forestry Society and Forestry Commission and benefits from the respective journals, briefings and newsletters available to members of the first three of the organisations listed.

4. Relevant experience

Ian Kennedy has spent 22 years working with trees, including as the arboricultural advisor to planning officers for a Local Planning Authority and manager of a trees and woodlands unit for another local authority with overall responsibility for trees, including in relation to the Town and Country Planning Acts.

Appendix 2

Tree Retention Categories

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

BRITISH STANDARD

BS 5837:2012

© The British Standards Institution 2012 • 9

Appendix 3

Explanatory notes for some of the terms used in this report

- **Stem Diameter:** The diameter of the trunk at 1.5m above ground level and recorded in millimetres measured with a diameter tape.
- **Compass Bearing:** N = north; S = south; E = east; W = west;
- **Life Stage:** Assessed as either:
 - Semi-mature = a size which could be easily transplanted;
 - Juvenile mature = prior to seed bearing age and could be transplanted with care;
 - Young Mature = early maturity, not fully grown but of seed bearing age and may have achieved mature height;
 - Mature = fully grown, annual growth is much reduced;
 - Old Mature = old for the species, possibly starting to decline;
 - Veteran = Beyond maturity for the species. This can be characterised by larger than average stem diameters, scaffold branches or crown spreads. Often still growing with full crowns.
 - Ancient = Well beyond normal mature age. It will have special characteristics associated with its age, including biological, cultural. Growth rates will significantly reduced and the tree may be declining in size.
- **Estimated size: #**
- **Health:**
 - Normal Vitality = normal growth and twig extension;
 - Moderate Vitality = reduced twig extension but other than that few signs of ill-health;
 - Early Decline = reduced twig extension and some dead twigs in the outer canopy;
 - Mid-decline = small internodes, the canopy may be thinning and contain dead twigs and/or branches in the outer canopy, older branch wounds that haven't occluded may be decaying and forming cavities;
 - Severe Decline = sparse crown, numerous dead twigs and branches in the outer canopy, older branch wounds likely to be decaying and forming cavities;
 - Dead.
- **Structural Condition**
 - Acute stem union = a weak union between two or more stems at the main forking point caused by the formation of reaction wood. Mechanical pressure at the forking point increases as secondary thickening occurs increasing the risk of failure at that point.

- Acute branch union = the same principle as acute stem unions but between a stem and a branch or two branches rather than 2 main stems.
- **Estimated life**
 - The life expectance brackets of <10 years, 10+ years, 20+ years and 40+ years accord with the guidance in BS5837:2012 and should be considered as the useful life expectancy in the location the trees are growing in. For example, a tree with significant defects growing in a quiet area could be retained for longer than a tree growing next to a busy highway or a residential building.
- **Amenity**
 - High = Growing in a place that is very publicly visible such as a next to a busy road or places where people gather. The tree is also likely to be large or very large.
 - Medium = A smaller tree growing in a very publicly visible place or a large tree growing in a place with reduced public access.
 - Low = A small to medium sized tree growing in a quiet location where it is barely or not visible to anyone other than the landowner.

Appendix 4

Example of an engineering solution for parking within an RPA



ROOTBRIDGE

Green Grid Systems

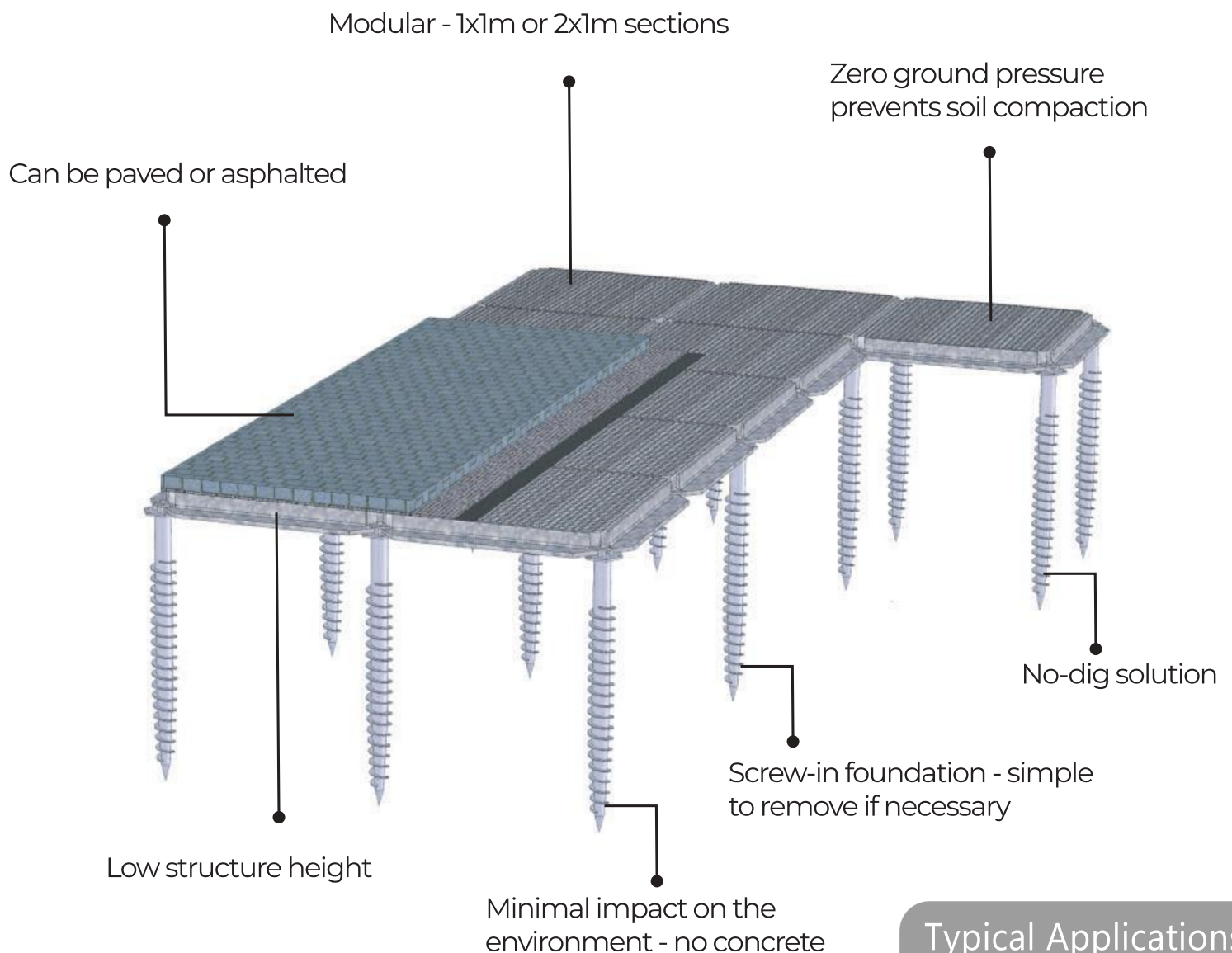
Providing a comprehensive solution for
the ongoing preservation of all trees

ROOTBRIDGE SS7.5-57

Innovative tree root protection

What is RootBridge?

The RootBridge System is a steel frame construction, that essentially bridges the RPA of the tree. The main platform area of the system sits on a foundation of groundscrews, ensuring a no-dig, no-concrete and no soil compaction solution.



Typical Applications

- Carparking areas
- Walkways
- Driveways
- Access roads

Variants/Capability



Pedestrian Duty - SS7.5

Designed for use in pedestrianised areas and to create pedestrian access across otherwise under utilised space in the RPA, this variant is the thinnest option, only adding 60mm to the existing ground level.



Light Duty - SS15

Designed for light vehicular traffic - vehicles up to 4 ton, the light duty system is used mainly for parking spaces and driveways.



Heavy Duty - SS50

The heavy duty version has been designed to take a point load of 50kN (approx 5 ton). This makes it best suited to access roads.



Extra Heavy Duty - SS57

The heaviest duty variant available - able to take axle loading up to 11 ton. This capability makes it suitable for articulated lorries up to 30 ton

Grid Finishes

The system is finished with press-lock grating panels. The 30x30mm mesh grids can be covered with a membrane, and an extra surface finish such as asphalt can be laid on top. Alternatively, heel-safe grating can be supplied with anti-slip serrations as the final finish.



Standard 30x30mm mesh



Heel-safe 11x33mm Mesh

Why are roots important?

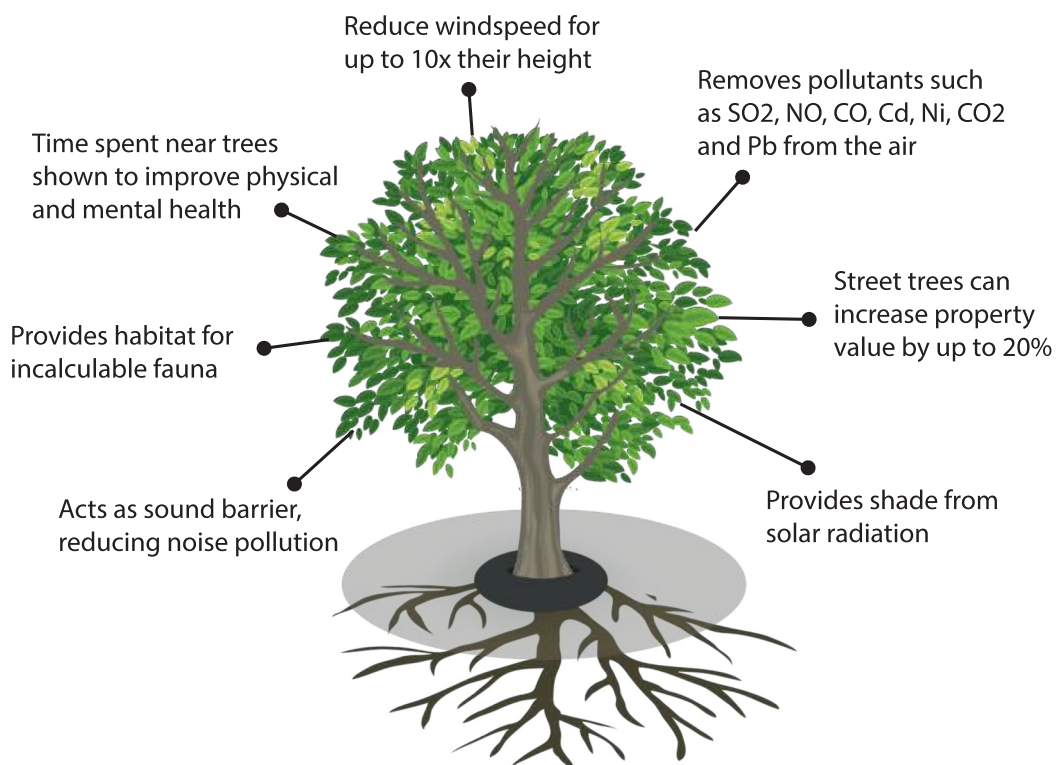
Trees depend on their roots to provide support and stability, as well as to draw in water, minerals and nutrients from the soil to support growth. It is the fine root hairs on the tips of the roots that are responsible for the latter. These tips are very sensitive, and rely on consistent soil conditions to perform their duties.

One of the primary dilemmas affecting the rooting environment of trees is soil compaction in the RPA (root protection area). Soil typically has 50% pore space, and reducing this when soil is compacted can have a serious impact on the water and air reaching the roots. When soil compaction occurs, the trees growth slows, and may reach a point where the tree itself dies.

What does RootBridge do?

The RootBridge system effectively bridges the RPA, transferring the load to the ground screws. This means zero pressure is put onto the ground omitting the risk of soil compaction in the RPA.

Why are trees important?



Green Grid - The Brand

Founded on a knowledge and understanding of trees and their importance, we seek to offer a range of solutions for tree sustainability.

Our innovative product range is headed up with our flagship RootBridge product, and includes geosynthetic cellular confinement and ground reinforcing systems.



Light duty install in a carpark, heels-safe mesh finish.

'A lasting solution for existing tree root protection with simple installation and minimum impact on the tree and the rooting environment.'



GREEN GRID SYSTEMS
INNOVATIVE TREE ROOT PROTECTION

+44 (0)1962 433460
info@greengridsystems.com
www.greengridsystems.com

The Nursery, Littleton Lane, Nr Sparsholt, Winchester, SO21 2LS

**Ian Kennedy
Wharncliffe Trees and Woodland Consultancy
16 Hartcliffe View
Thurgoland
Sheffield
S35 7BD**

**0114 288 5501
07891 488303**

info@wharncliffetwc.co.uk