

BS 5837: 2012 Arboricultural Report

Site Address:	Land east of Cranwell Road Driffield Road YO25 6UH	Client:	Martin Bengtsson
Report Ref:	CWRD01-22	Report Date:	17th August 2022
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Terms of Reference

Key Tree Solutions has been commissioned by Martin Bengtsson to undertake an arboricultural survey in accordance with the British Standard BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' in order to identify the quality and value (in a non-fiscal sense) of the existing arboricultural assets. This will allow an informed decision to be made regarding which trees can be considered for removal or retention, by identifying constraints and consideration of both above and below ground structures.

This report is to be utilised as a design tool for in house use or as part of a feasibility study.

The arboricultural survey was carried out by Laurence Smith BSc (Hons) Arb, M Arbor A, an Arboricultural Consultant. Laurence has a degree in Arboriculture, along with a BTEC National Diploma in Forestry and Arboriculture. He is a professional member of the Arboricultural Association with over a decade of experience within the arboricultural industry, initially as an arborist and for the last 7 years as a consultant.

Summary

According to the information on the local authority's website, the site is believed to be located outside of the local conservation area with no Tree Preservation Order (TPO) designations on site.

There is very little in the way of arboricultural constraints on site, with the only woody vegetation being self set trees along the beck embankment which runs down the eastern boundary. These trees block the view of the industrial region further to the east and as such, play a modest role in the site's amenity value.

A number of these trees have an imbalance in root-plate to stem size, suggesting that a number of the smaller specimens are regeneration growth from old stumps. This is particularly evident in G377, T378, T381 and G383. While not significant in itself, this does increase the possibility of decay in the lower stem or root-plate and that they have previously been cut back to ground level.

The Ash trees on site are all succumbing to Ash Dieback infection and are not considered suitable for retention. As such, they should be removed irrespective of any development proposal.

Given the assumed self set nature of the specimens, many of the arboricultural features are poorly placed, either close to walls, above the beck's retaining wall or close to the site boundary. Currently these are not necessarily significant. However the longevity of trees in these growing locations is limited with removals highly likely before maturity.

Although the constraints in terms of root protection area they pose to any development may be minimal, the value in retaining these trees is questionable due to their limited viable lifespan. It would be reasonable for many of these poorly located trees to be removed in favour of planting better specimens in more considered locations.

Two trees within the site gained a B classification as they do not appear to have any significant defects, have a reasonable form and are situated in a position where they could grow to maturity.

Any removals should be mitigated against with new planting locations incorporated into the development proposal. A replanting ratio of two replacement trees planted for each tree removed is typically preferred for class C trees.

Terms of Reference	2
Summary	2
1 Introduction	5
1.1 Arboricultural Report	5
1.2 Scope of Works	5
2. Methodology	5
2.1 General	5
2.2 Spatial Scope	5
2.3 Data Gathering	6
2.4 Survey	6
2.5 Limitation to Survey	7
3. Existing Site Conditions	7
3.1 Existing Land Use	7
3.2 Existing Trees	7
3.3 Site Topography	8
3.4 Soil Assessment	8
3.5 Statutory Protection	8
4.1 General Principles	9
4.2 Site Specific Principles	11
4.3 Preliminary Management Recommendations	12
4.4 Protection for retained trees	12
Appendix A: Key & British Standard BS5837:2012 Survey Table	13
A1. Survey Key	13
A2. BS5837 : 2012 Cascade Chart	14
Appendix B: Arboricultural Survey Data	15
Appendix C: Statutory Protection	17
Appendix D: Arboricultural Drawing	18
Appendix E: Images	19

1 Introduction

1.1 Arboricultural Report

This report categorises and reports on the trees within and directly adjacent to the site boundary and the constraints they pose within the potential development site.

1.2 Scope of Works

This report presents arboricultural information captured on Monday 15th August 2022 by Laurence Smith BSc (Hons) Arb, M Arbor A. The scope of works includes:

- A cascade chart for tree quality assessment at **Appendix A2**
- A survey of arboricultural elements at **Appendix B**
- A map of any statutory protection which may impact the site at **Appendix C**
- A scale drawing showing tree location, categorisation, stem and canopy size/distribution at **Appendix D**
- Relevant site photographs at **Appendix E**

2. Methodology

2.1 General

This tree survey has been undertaken and compiled in line with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (BS5837). This document contains guidance and recommendations regarding the relationship between trees and the design, demolition, and construction processes, providing an overview of the principles and procedures to be followed to ensure a harmonious and lasting relationship between trees and structures.

BS5837:2012 does not provide explicit parameters for measuring an arboricultural resource's sensitivity; nor does it assess the impact of a proposed development on trees (other than listing the number of trees that would have to be removed or pruned for the undertaking). By using the parameters specified in the British Standard, arboriculturists are able to determine the quality of all trees and other arboricultural features that may be affected by a development.

While the BS categories may be interpreted in different ways, the cascade chart in BS5837:2012 provides guidance on how to define a tree's qualities so that the design process can determine how to maintain the higher quality trees.

2.2 Spatial Scope

In some instances, trees may be located outside the site boundary but still have the potential to impact any development, for example, overhanging branches and root protection zones. In these instances, they have been included in the survey, however data is likely to have been estimated so as not to trespass. Trees located on access routes do not form part of this survey unless specifically requested.

2.3 Data Gathering

Data was collected in accordance with BS 5837, as outlined in Appendix A within this report. The purpose of the tree categorisation method applied by the arboriculturist was to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained if development is to occur.

For a tree to qualify under any given category, it should fall within the scope of that category's definition as defined in Appendix A (categories U, A, B, C) and, for trees in categories A to C, it should qualify under one or more of the three sub-categories (1, 2, 3). Sub-categories 1, 2 and 3 are intended to reflect arboricultural, landscape and cultural values, respectively.

Trees were recorded as individual specimens and groups. Where trees were recorded as groups, measurements were typically taken from the largest tree within the group. This level of survey meets the requirements of BS 5837:2012, which states that 'trees growing as groups or woodland should be identified and assessed as such'. The British Standard defines the term group as 'trees that form cohesive arboricultural features either aerodynamically (e. g. trees that provide companion shelter), visually (e. g. avenues or screens) or culturally including for biodiversity (e. g. parkland or wood pasture)'.

Tree diameters were measured via a specialist measuring tape and at a height of 1.5 m from ground level in all reasonable circumstances. Where access was not possible, measurements have been estimated and clearly indicated with an asterisk (*) on the arboricultural data sheets. Crown spread of the surveyed trees was measured in each of the four cardinal points using a laser distometer or paced out if access is not feasible. This level of survey is deemed sufficient by the arboriculturist in order to establish the extent of the crown spread. All crown spread measurements should be taken from the Arboricultural Data Sheet (Appendix B of this report).

The trees were assessed using Visual Tree Assessment (VTA) methodology, as devised by Mattheck and Breloer (1994). VTA is a ground-level visual assessment of a tree, carried out to identify obvious mechanical defects, signs of ill health, potential mechanical failure and the suitability of a tree to a site.

2.4 Survey

The approach to the survey involved a ground-level walked assessment.

Tree and vegetation locations have not been accurately allocated on the topographical survey provided by Piercy Design. As such, tree locations have been estimated using basic in field triangulation and a handheld GPS device with up to 5m inaccuracy. Due to the inaccuracies in this form of data collection, exact locations should not be relied upon.

Although there is a likelihood of inaccuracy in the tree locations, this method of plotting trees is considered acceptable at this stage in the planning process.

Survey elements have been prefixed with a descriptive letter which can include Trees (T), Groups (G), Woodlands (W) and Hedges (H).

2.5 Limitation to Survey

Where access permitted, trees were identified and inspected from ground level only and were not climbed. No invasive examination techniques (such as increment boring, or internal decay detection) were carried out and as such, no assessment of the internal condition of the wood of these trees can be given.

The tree survey undertaken is not intended to be a tree risk management survey targeting safety-related issues. However, where specific hazards have been identified, these have been recorded and management recommendations provided and are detailed within the tree survey schedules (see Appendix B of this report).

The BS 5837:2012 does not include arguments for or against development, or for the removal or retention of trees. Where development is to occur, the standard provides guidance on how to decide which trees are appropriate for retention.

Reliability of the tree locations will relate directly to the accuracy of the supplied topographical data if applicable, available aerial imagery and in-field plotting. As such, tree locations are potentially open to discrepancies and their exact locations may need verifying.

The report does not comment on possible effects of trees on neighbouring properties, including in relation to subsidence or heave, or with regard to possible hazards presented by trees surveyed.

Trees are living organisms subject to changes outside human control. Trees and their environment alter with the seasons and it is as well to inspect trees whilst in full leaf and when out of leaf. Following harsh or unexpected weather conditions, or heavy storms it is also prudent to inspect trees. Changes to ground water conditions will affect the root growth of a tree. Such changes are not always the result of human influence and other factors may be involved.

3. Existing Site Conditions

3.1 Existing Land Use

The land is currently not utilised and is covered in aggregate. Any vegetation growth is sprayed with a herbicide to prevent weeds colonising the site. Previous to this, the site was utilised for utility infrastructure.

3.2 Existing Trees

The site is devoid of trees with the exception of the embankment which is located outside of the perimeter fencing to the east of the site. In this region, a mixed row of trees exist, including Sycamore, Ash and Cherry.

3.3 Site Topography

The survey region has a minor fall in height from east to west with the exception of the banking which leads to the beck. This narrow region slopes steeply downward from west to east.

3.4 Soil Assessment

No soil assessment was carried out on site by the Arboriculturist, although baseline data from the British Geological Survey states that the area's underlying bedrock is considered to be part of the Flamborough Chalk Formation with superficial deposits of Till.

Further information collected from the Cranfield Soil and Agrifood Institute states that the local soil scape is a "Freely draining slightly acid but base-rich soils" with a loamy texture.

Where clay-based soils are present, the ground may be susceptible to volumetric changes resulting from the uptake and release of moisture by tree roots, which may influence any potential foundation development.

3.5 Statutory Protection

Local Planning Authorities (LPAs) have the power to preserve selected trees and woodlands through the making of Tree Preservation Orders (TPOs). Similarly, special provision is provided to trees located within Conservation Areas (CAs) which are not the subject of a TPO. The LPAs powers to do this are provided by the following Act of Parliament and its associated regulations:

- Town and Country Planning Act 1990
- Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) (Amendment) (England) Regulations 2008
- Town and Country Planning (Trees) (Amendment) (England) Regulations 2012

The principal effect of a TPO is to prohibit the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees without first obtaining the consent of the relevant Local Authority. Where works to trees within a CA are proposed, six weeks notification must first be given to the relevant Local Authority.

Unauthorised works to trees either protected by a TPO or those that are located within a CA, could result in an unlimited fine.

The interactive map on the East Riding of Yorkshire Council's website visited on the 17th August 2022 shows that the trees within the site are not the subject of a TPO nor are they located within a conservation area. The results from this search are given in Appendix C.

Trees should be checked for protected species before works are undertaken. While it is outside of the scope of this tree survey to comment on the confirmed or likely presence of protected animal species, it is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations (2010). Likewise, nesting birds are protected by the Wildlife and Countryside Act (1981) (as amended) and Badgers by the Protection of Badgers Act (1992). If protected species are discovered, then works should cease immediately and Natural England should be contacted for advice.

Alongside these protections for animals, landscape features may also be protected under the following acts and regulations.

- The Hedgerow Regulations 1997
- Countryside and Rights of Way Act 2000
- Natural Environment and Rural Communities Act 2006 & Environment (Wales) Act 2016.
Arboricultural Constraints and Considerations

4.1 General Principles

4.1.1

The quality and value of existing trees: a proposed design must make every effort to retain all category A trees and, where possible, ought to retain category B trees. Category C trees should be retained if there is scope to do so, but they should not be considered a constraint to any proposed design or subsequent development.

4.1.2

The ownership and control of existing trees: the site owner (subject to regulatory protection) has control of the trees growing on the site, but conversely the site owner has no control of the trees growing immediately adjacent to the site. Off-site trees may be privately or publicly owned. In general, private owners will often negotiate the potential removal of trees whereas public owners will not.

4.1.3

The Root Protection Area (RPA), as defined in the *BS 5837:2012*, is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. This area should be protected from disturbance "in order to avoid unacceptable damage to the tree as a result of severance or asphyxiation of the root system".

The recommended minimum area (m²) to avoid potentially harmful disturbance has been calculated and entered into the tree schedule (see Appendix B of this report) for all trees. The RPA for each individual tree has been illustrated on the site plans as a pink circle centred on the tree's stem.

This representation of the RPA does not take into account pre-existing site conditions or other factors that can influence or modify the shape and disposition of tree roots. Accordingly, the Arboriculturist may make modifications or judgements on the likely extents of RPAs, where through professional judgement it is deemed likely that the root zones have been restricted in a certain direction because of limiting factors such as topography, drainage or the presence of existing built infrastructure.

No RPAs have been modified as part of this assessment.

4.1.4

The foliage, flowers, fruit, and other debris: the foliage, flowers, fruit and other debris associated with the normal functions of a healthy tree can block gutters and be a general nuisance albeit not a nuisance in the legal sense.

4.1.5

The obstruction of sunlight or daylight by retained trees for which there are both advantages and disadvantages.

Shading of buildings: Shading of buildings by trees can be a problem, particularly where there are rooms which require natural light. Proposed buildings should be designed to take account of existing trees, their ultimate size and density of foliage, and the effect that these will have on the availability of light.

Shading of open spaces: open spaces such as gardens and sitting areas should be designed to meet the normal requirement for direct sunlight for at least a part of the day.

Benefits of shading: shading can be desirable to reduce glare or excessive solar heating, or to provide for comfort during hot weather. The combination of shading, wind reduction and evapo-transpiration effects of trees can be utilised in conjunction with the design to provide microclimatic benefits.

4.1.6

The physical presence of large trees: the physical presence of large trees can cause apprehension to occupiers and users of buildings and open space. In general, the older generation tend to worry more than the younger. Worry is an example of apprehensive behaviour. Worry is imagining that a future situation or circumstance has the potential to cause you, or someone or something you care about, harm or injury.

4.1.7

The characteristics and condition of retained trees: allowance must be made for the characteristics and condition of individual trees, for example; lime and sycamore trees are prone to aphids which typically results in honeydew, a sugar-rich sticky liquid, landing on vehicles (or anything else) parked / placed beneath the tree. Crack willows are aptly named because they are highly susceptible to wind, ice and snow damage. All parts of the yew tree contain toxic alkaloids, except for the bright red arils. The dark green seeds are especially dangerous, unless you are a nuthatch!

4.1.8

Tree Preservation Orders and Conservation Areas: there is a general presumption in favour of retaining protected trees and against development that may threaten their successful long-term retention. The extent to which the presumption applies may depend on the nature of the proposed development.

4.1.9

Ancient and veteran trees, ancient woodland and wood pasture: The National Planning Policy Framework (NPPF) states that planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss.

4.1.10

The access and working area required to enable construction, including the effects of pruning on the amenity value of retained trees.

4.1.11

Overhanging canopies: the requirement to protect the overhanging canopies of retained trees where they may be damaged by construction activity.

4.1.12

Infrastructure: the requirements of infrastructure e.g. easements for underground or above-ground apparatus; highway safety and visibility splays; substations, refuse stores, lighting, signage, solar panels, satellite dishes and CCTV sight-lines.

4.1.13

Mitigation: the potential for new planting to mitigate proposed tree loss. All new tree planting proposals are an essential consideration in the layout, design and future use of a development site, the local landscape character and the contextual surroundings. As trees generally form the dominant elements of the long-term landscape structure of a site, careful consideration needs to be given to their ultimate height and spread, form, habit and colour, density of foliage and maintenance implications.

4.2 Site Specific Principles

4.2.1

The quality and value of existing trees:

There are two category B trees on site as they reflect good example of the species and are located a reasonable distance from the local infrastructure.

4.2.2

The ownership and control of existing trees:

No offsite trees should influence the plans for development

4.2.3

Root protection areas:

The radius of the root protection areas of all trees identified within the tree survey at **Appendix B**. The root protection areas of all category A, B and C trees are annotated on the Tree Constraints Plan at **Appendix D**.

4.2.4

The obstruction of sunlight or daylight by retained trees:

The measured heights of all trees and hedges identified within the tree survey are given in the 'Height (m)' column of the tree survey at **Appendix B**. The obstruction of sunlight is represented by a segment equal to the estimated height of the tree through the main part of the day. No shadow patterns are annotated on the Tree Constraints Plan at **Appendix D**.

4.2.5

The physical presence of large trees:

The majority of the trees on site are around 15m tall, which for most people would be considered large trees. The presence of these trees and the potential threat they present needs to be considered.

4.2.6

The site is not believed to fall within the local conservation area and no TPO designations are listed at the site.

4.2.7

Ancient and veteran trees, ancient woodland and wood pasture:

There are no ancient or veteran trees on, or immediately adjacent to the site. Reference: <https://ati.woodlandtrust.org.uk/>

4.2.8

The access, working area and overhanging canopies:

Due consideration must be given to access and working area required to enable the construction of any proposed development.

4.2.9

Infrastructure:

It is often difficult to clearly establish the detail of services until the construction is in progress. Where possible, existing services should be used, and all new services ought to be outside the root protection areas of retained trees.

4.3 Preliminary Management Recommendations

The arboricultural data sheets (see Appendix B) show management recommendations for those trees which at the time of the survey were identified as requiring management intervention.

As part of a duty of care, it is the property owner's responsibility to ensure the health and safety of all trees within the boundary. As such, monitoring should be an ongoing process with periodical inspections by a qualified arborist.

4.4 Protection for retained trees

Trees that are to be retained will require protective measures during the development, which typically involves temporary fencing around the RPA which is securely anchored to the ground. Where this is not possible or practicable, ground protection can be utilised which is specific to the vehicle weight.

No material storage is permitted within the RPA of retained trees unless confirmed to be acceptable by the consulting arboriculturalist. The exact details and location of protective measures should be included within an Arboricultural Method Statement (AMS) if deemed necessary by the planning authority.

Positioning of any site compound including office, facilities, toilets and storage of materials should be carefully considered and, where possible, be located away from trees and their associated RPAs.

Appendix A: Key & British Standard BS5837:2012 Survey Table

A1. Survey Key

Column Heading	Description
ID	Each surveyed element has been given a unique reference number as shown on the survey drawings. Each number is prefixed with a letter to represent the element type. (T) Tree, (G) Group, (H) Hedge, (W) Woodland.
Age Class	The tree is described as Young, Semi Mature, Early Mature, Mature, Over Mature, Veteran or Dead.
Species	The English common name has been used. In some instances the botanical name is also given in <i>italics</i> .
Height (m)	An indication of the tree's height measured in metres.
Stem Diameter (mm)	The diameter of the tree stem when measured at 1.5 metres from ground level.
Branch Spread (m) N E S W	The distance the live crown extends in each fo the four cardinal directions.
First Main Branch Height (m) / Direction	Height given in meters that the first significant branch extends from the stem and the direction of which it points towards.
Canopy Height (m)	Height given in metres of the lowest part of the canopy.
Vitality	<p>A quick reference guide to the trees overall health and condition. Given as Good, Fair, Poor or Dead</p> <p>Good – a tree with little or no obvious physiological defects; leaf density and colour are typical for the species, bud, flower and fruit production are good and there are no signs of dieback at any point throughout the crown.</p> <p>Fair – a tree with moderate physiological defects may have some or all of the following factors; leaf density is less than typical for the species, leaf cover is chlorotic, bud, flower or fruit production are deficient, there are signs of minor dieback within the crown, there is a moderate degree of deadwood within the crown.</p> <p>Poor – a tree with major or multiple physiological defects; evidence of extensive crown thinning, bud, flower or fruit production is poor or missing, there are signs of advanced dieback throughout the crown, there is extensive or major deadwood throughout the crown.</p> <p>Dead – a tree that has died due to either old age, drought, disease, pest infestation, physical damage to the main stem or rooting system, or a combination of these factors.</p>
General Observations	Narrative comment on the general condition including significant defects and overall appearance.
Preliminary Management Recommendations	Any works recommended in order to minimise risk, improve form or maintain a high value.
Estimated Remaining Contribution	An estimation of how long the feature will contribute to its surroundings in the current landscape context. Recorded in bands of either 10< years, 10> years, 20> years and 40> years.
Category Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C). These letters are suffixed with a number which gives an indication of how the tree sits within the landscape. More information on these values is given in the cascade chart in A2.
Root Protection Area Radius (m)	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability.

A2. BS5837 : 2012 Cascade Chart

Trees to be considered for retention	(1) Mainly arboricultural qualities	(2) Mainly landscape qualities	(3) Mainly cultural values, including conservation.	Identification on plan
<p>Category A</p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	<p>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)</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	<p>Light Green</p>
<p>Category B</p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	<p>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</p>	<p>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</p>	<p>Trees with material conservation or other cultural value</p>	<p>Mid Blue</p>
<p>Category C</p> <p>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</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p>	<p>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</p>	<p>Trees with no material conservation or other cultural value</p>	<p>Grey</p>
<p>Trees unsuitable for retention</p>				
<p>Category U</p> <p>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.</p>	<ul style="list-style-type: none"> • 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. • Tree infected with pathogens of significant to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p>NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.</p>			<p>Red</p>

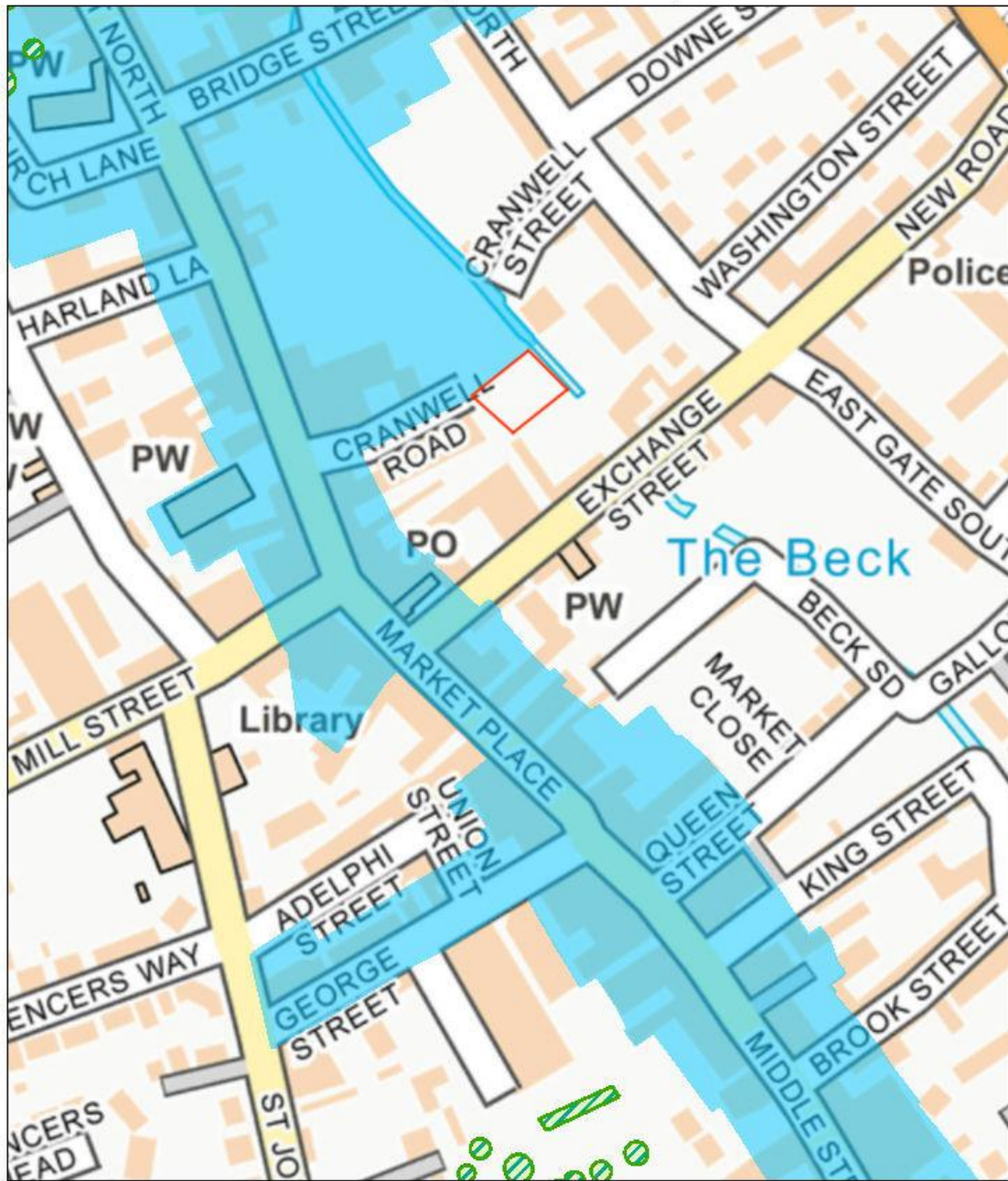
Appendix B: Arboricultural Survey Data

ID	Age Class	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m) N E S W	First Main Branch Height (m) / Direction	Canopy Height (m)	Vitality	General Observations	Preliminary Management Recommendations	Estimated Remaining Contribution	Category Grading	Root Protection Area Radius (m)
T373	Early Mature	Sycamore	15	390	6, 3, 0.5, 4.5	3.5 W	2	Good	Located next to the boundary wall (300mm). Stem clad in Ivy. Asymmetrical canopy. Tree stem would likely impact the wall within the next 10 years (assuming 2.75cm increase in circumference per year). Value of retention is questionable given the direct impact with the wall.	None	10>	C2	4.5
T374	Semi Mature	Sycamore	15	290	3, 2.5, 1, 2.5	2.5 W	2	Fair	Historically suppressed by neighbouring Ash tree. Ivy clad stem. Generally poor form but not considered dangerous.	Remove Ivy	10>	C2	3.5
T375	Semi Mature	Ash	15	240, 260	8, 1.5, 2, 6	3 W	2	Poor	Ivy clad stems with Ash dieback and low vigour. Very short term life expectancy.	Fell	10<	U	3.5
G376	Semi Mature	Sycamore	15	260, 170	2.5, 1, 1, 4	5 W	2	Fair	Two stems in close proximity, possibly a shared root plate. Stems are clad in Ivy and have a minor lean west.	Remove Ivy	10>	C2	3
G377	Semi Mature	Sycamore	15	230, 100	2.5, 5, 1, 1	N/A	2	Fair	Two stems from ground level, possibly shared root-plate. Smaller stem is heavily suppressed and bends out over the water course. Main stem is tall and upright with minimal lateral branching. Both stems are located on top of the retaining wall which is likely to become more problematic with age.	None	10>	C2	3
T378	Semi Mature	Sycamore	15	190, 130	6, 6, 1, 0	6 N	2	Fair	Tree is heavily suppressed and leans out over the watercourse. Stem is located on top of the retaining wall and clad in Ivy. Twin stems appear to be fused at the base, strength of this union is questionable. Location is likely to become problematic with age.	Remove Ivy	10>	C2	2.5




ID	Age Class	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m) N E S W	First Main Branch Height (m) / Direction	Canopy Height (m)	Vitality	General Observations	Preliminary Management Recommendations	Estimated Remaining Contribution	Category Grading	Root Protection Area Radius (m)
T379	Mature	Sycamore	15	390, 400, 270, 320, 360, 130, 130, 310	3.5, 5, 6, 6	5 S	2	Good	Significant tree within the row with multiple large stems. Unions appear adequate from what can be observed however Ivy prevents a full inspection.	Remove Ivy	20>	B2	8.5
T380	Semi Mature	Sycamore	10	240	1.5, 3, 2.5, 1.5	N/A	1.5	Fair	Tree located on top of the retaining wall. Stem is relatively straight with minimal lateral branching. Location is likely to become problematic with age.	None	10>	C2	3
T381	Semi Mature	Ash	13	200, 140, 140, 150	2, 2.5, 1, 5.5	5 W	2.5	Poor	Multiple large pruning wounds where stems have been removed. Decay cavity at the base. Canopy in significant decline with Ash dieback.	Fell	10<	U	3
T382	Mature	Sycamore	15	480	2, 4, 3.5, 5.5	9 W	4	Good	Ivy recently severed. Tall upright stem in good condition. Surface roots extend down to the retaining wall.	None	20>	B2	6
G383	Semi Mature	Ash	12	290, 280, 160	0.5, 5, 7, 6	2 S (stem)	3	Poor	3 stems two of which are part of one tree with decay cavities at the base from large limb removals. Third stem leans out at 45 degrees to the south. Canopies displaying low vigour and dieback due to Ash dieback.	Fell	10<	U	3.5
T384	Early Mature	Cherry	8.5	300	2, 5, 4.5, 2	4 S	2	Fair	Stem leans to the south east with a historic wound at 1m. Secondary hardening at the wound is failing leading to cavitation. Potential failure site in later life. Witch's broom development in the suppressed crown.	None	10>	C2	3.5
T385	Early Mature	Sycamore	13	350	2, 3, 6.5, 4.5	2 S	2	Good	Historically suppressed by overhead Ash has lead to the development of a leaning stem with an asymmetrical canopy. Stem clad in Ivy and pressed against the boundary fencing.	None	10>	C2	4

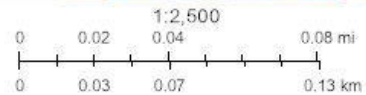
Appendix C: Statutory Protection

Planning Interactive Map



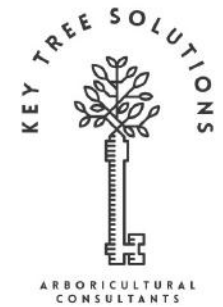
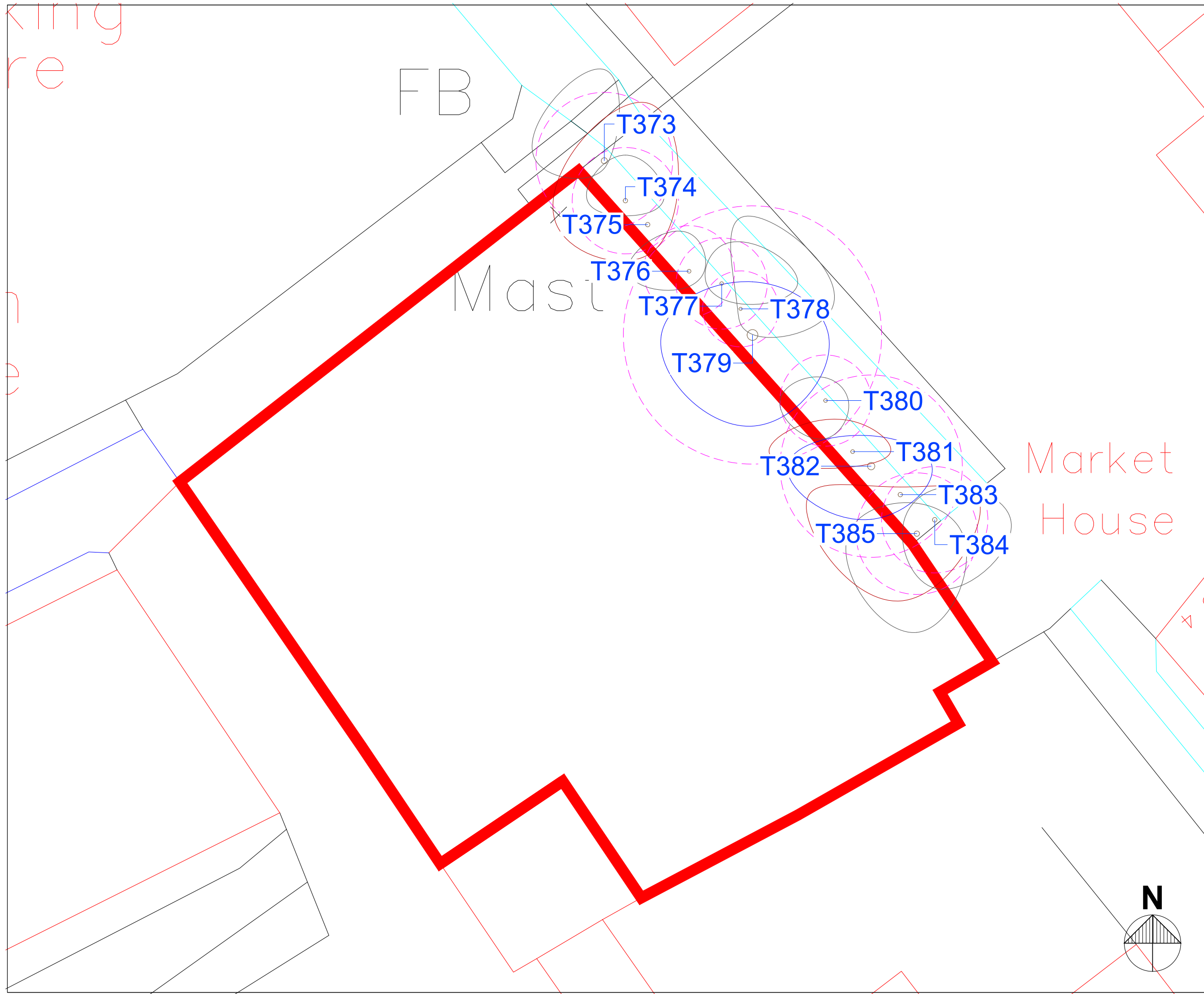
17/08/2022, 14:26:49

-  Conservation Areas
-  Tree Preservation Order
-  Approximate Site Location



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KEY - Arboricultural Survey and Constraints Plan
(to be read in conjunction with report ref. CWRD01-22)

- Tree surveyed by Key Tree Solutions - tree location approximated by surveyor
- Tree categories (BS 5837:2012) shape indicates canopy spread
- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees
- Root Protection Area (RPA) of category A, B and C trees

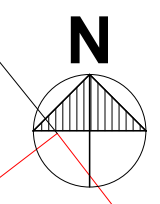
Rev	Date	Initials	Revision notes
A	16/08/22	LS	PRELIMINARY

Site Address Cranwell Road Driffield Road YO25 6UH	Key Tree Solutions Rolys Cottage, YO61 2QY Tel. 07716 638 613 www.KeyTreeSolutions.co.uk
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Job
BS5837: 2012 Arboricultural Report

Title
**Appendix D:
 Constraints Plan**

Drawn by L Smith	Date Aug 2022	Scale @ A3 1:250	Drg. no. 1/1
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Appendix E: Images



Figure 1. Row of trees when viewed from inside the site.



Figure 2. T373 located close to the boundary wall.



Figure 3. T375 located centrally on the bank.



Figure 4. G377 (left) and T378 (right) both located onto of the brick retaining wall.



Figure 5. T379 with multiple stems.



Figure 6. T380 located close to the retaining brick wall.



Figure 7. The base of T381 with younger stems growing from a single root-plate.



Figure 8. The base of T382 with surface roots extending down to the brick retaining wall.



Figure 9. One of the stems of G383 with a significant lean.



Figure 10. T384 displaying a suppressed canopy.



Figure 11. T385 located against the boundary fencing.