WATSON LINDSEY
ARBORICULTURE

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Arboricultural Liability Report

Site Address:
Midby Park & the Market Place High St
Barrow-upon-Humber
Lincolnshire

Issue Date:
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Report No:
220125

Prepared For:
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1. Introduction

1.1. Objective

1.1.1. This report is required to provide detailed, independent, arboricultural advice on the trees subject to survey in the context of safety and liability issues.

1.1.2. This report has been commissioned to assess the condition of the trees on site and the risks they pose to the property and individuals, as well as to make recommendations to mitigate risks of a significant level. Recommendations may also be made to help better define the nature of the risks posed, to prevent the development of future risks and to mitigate annoyance related issues.

1.1.3. The commissioning of this report and the undertaking of the risk related recommendations made demonstrates that the tree owner/manager has fulfilled their duty of care in regard to tree risk management.

1.2. Scope of the Report

1.2.1. The subject of the survey was all trees standing within Midby Park & the Market Place the boundaries of which are marked in red on the site plans in the appendices. A plan from a previous tree report (ref: AWA2870) was provided prior to the survey.

1.2.2. This report has been commissioned to consider safety and liability issues associated with above ground targets only. Such target includes people, property and infrastructure.

1.2.3. Our survey of the trees, the ground conditions and any relevant surrounding structures is of a preliminary nature. During this survey, all trees were inspected from ground level. Further investigation, such as climbed inspections, decay detection or soil/root analysis have not been undertaken but may be recommended where this is considered appropriate.

1.3. Survey Details

1.3.1. Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. We endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances.

1.3.2. During the survey a Trimble TDC100 has been used to capture northing and easting coordinates for each item of vegetation. As the stated accuracy of the device is 1-2 meters, tree positions should be considered indicative only. Trees that pose a direct and significant risk are located to an accuracy of 0.5m with measurements from existing site features.

2. Site Overview

2.1. **Midby Park** - The site is a relatively regularly frequented public park comprising of green spaces, a children's play aera and a number of pedestrian accessways. To our knowledge the park has two official points of public access, one from High Street and one from Franklin Way. Given the parks layout the path between these two points is the only thoroughfare. Consequently, site usage in all other areas will be greatly reduced in adverse weather conditions when tree failure is more likely. The park boarders with High Street and an agricultural premises to the west, and with residential premises on all other sides.

2.1.1. From the information passed to us and from our observations during the survey elements that could reasonably be contemplated to be at potential risk due to the trees on site include;

2.1.1.1. Persons visiting, passing through or working at the park

2.1.1.2. Users of the public highway of High Street

2.1.1.3. People and property at the neighbouring residential premises

2.1.1.4. People and property at the neighbouring agricultural premises

2.2. **The Market Place** - The site is a regularly frequented amenity space and parking area with a number of pedestrian accessways. The site sits on the junction of High Street and Green Lane, and is surrounded by residential and commercial premises on all sides.

2.2.1. From the information passed to us and from our observations during the survey elements that could reasonably be contemplated to be at potential risk due to the trees on site include;

2.2.1.1. Users of the public highways of High Street and Green Lane

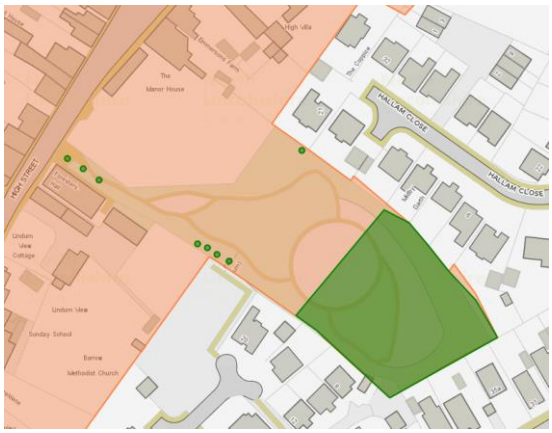
2.2.1.2. Persons using, passing through or working at the site

2.2.1.3. People and property at the neighbouring residential premises

2.2.1.4. People and property at the neighbouring commercial premises

3. Status of the Trees

3.1. A status investigation was made on 27th January 2022 with North Lincolnshire District Council via their online planning portal. We are informed that there are Tree Preservation Orders (TPOs) in force within Midby Park covering eight individual trees. There is also one group TPO covering trees at the south-eastern end of the park. The locations of these TPOs are highlighted in green on the plan below.



3.1.1. The following trees recorded during the survey are offer protection by these TPOs; T147, T149, T150, T151, T152 & T153. Prior to works being carried out on these trees, or any others subject to protection, permission must first be sought from the local authority. Conducting work without permission to a tree subject to a TPO is a criminal offence. The removal of dead branches from a living tree is permitted without prior notice or consent.

3.2. An investigation was also made into Conservation Area status. We are informed that both Midby Park and the Market Place are within a Conservation Area. Such status offers protection to all woody plants with a stem diameter of 75mm and above when measured at 1.5m above ground level (exceptions apply). This status offer protection to all tree recorded during the survey. Prior to works being carried out these trees,

the local authority must be given at least six weeks' notice to allow them to consider whether the proposed works are appropriate.

4. Survey Overview

4.1. The survey took place on the 28th January 2022. The weather was overcast and dry with light winds. During the survey the details of seven individual trees and one group of trees were recorded. The tree population has undergone historical maintenance, however a modest number of trees require work to mitigate notable risks or to better define the nature of the risks posed.

4.2. In total recommendations have been made for five individual trees and one groups of trees with two different types of recommendation specified.

4.3. Recommendations marked as 'Core Recommendations' are required either to mitigate risks of an unacceptable level, to carry out further works to help better identify the risks posed, or to rectify significant threats to the condition of trees. These recommendations carry a timescale within which the work should be completed. Those recommendations marked as 'Discretionary Recommendations' have been made either to mitigate very low risks that are already tolerable, or to carry out other non-risk related tree works. These have no work timescale and can be carried out purely at the site manager's discretion. The full details of recommendations can be found in the Survey Schedule in Appendix 1.

5. Discussion

5.1. The trees in group G1 have notable volumes of moderate sized deadwood in their crowns. This deadwood should be removed within 6 months as detailed in Appendix 1.

5.2. Tree T147 has a fruiting body of the fungus Meripilus giganteus between its buttress roots (see Appendix 5, images 1 & 2). As this fungus can be associated with structural instability the tree should be subjected to decay detection/stability analysis within the next 6 months. There are a number of options available for such analysis. Please contact me to discuss these at the soonest opportunity.

5.3. Tree T149 has a modest volume of moderate sized deadwood in its crown overhanging the path. This deadwood should be removed within 12 months as detailed in Appendix 1.

5.4. Tree T152 is heavily ivy clad which will increasingly hamper future inspections. This ivy should be removed from the lower stem, within the next 12 months, as detailed in Appendix 1.

5.5. Tree T150 has some modest structural issues that pose a low and already tolerable risk to users of an adjacent path. Should the site manager wish to further reduce this risk the tree should be pruned as detailed in Appendix 1 and Appendix 5.

5.6. Two further recommendations have been made in regard to the tree population more generally.

5.6.1. In regard to the care of tree stems and surface roots. A number of trees at the south-eastern end of the park have severe mower damage to surface roots and lower stems. Such damage frequently contributes to tree loss by allowing decay to initiate in what are key structural areas. It appears a number of trees in this area have already been lost due to this. Such damage also commonly results in elevated risks and greater management costs. The site manger should instruct grounds maintenance staff to give adequate clearance to the side of tree stems and over surface roots when mowing.

5.6.2. A number of trees surveyed have significant ground compaction within their rooting areas. Amongst others this includes T147 and the trees in group G1. Such compaction commonly results in the compromised condition and early loss of trees. The compaction has mostly been caused pedestrian traffic, but in the case of the southern-most tree in G1 by vehicles as well. There are a number of

compaction remediation and prevention options available. Please contact me to discuss these at your convenience.

5.7. In regard to reinspection intervals, for the most part the trees can be surveyed again in four years. There are however a number of trees that, due to their location and condition, require more regular attention. These trees should be surveyed in two years and includes; G1, T147, T150, T151, T152, T153, T154.

5.7.1. In the interim periods, if there is an obvious decline in the condition of any tree, whether structurally (e.g. loss of larger limbs, appearance of cracks, root movement, fungi on or adjacent to the tree), or physiologically (e.g. unusual loss of foliage or development of deadwood), the owner should consult a suitably qualified arborist.

Appendix 1: Survey Schedule

Tree ID	Common Name	Height (m)	Stem Diameter (mm)	Maturity	Physiological Condition	Structural Condition	Comment	Recommendations	Work Priority (months)	Next Survey (months)
G1	A Group			Early-mature	Fair	Fair / Good	Lime and Robinia standing in market place. Both with minor peripheral dieback and minor/medium deadwood. Lime with basal growth beginning to impeded sight lines.	**Core Recommendation:** Remove deadwood >50mm diameter from both trees. Prune lime to give clean stem to 3m, requiring cuts of approximately 40mm diameter. Survey at more regular interval	6	24
T147	Common Beech	20	1130	Mature	Good	Fair	Constricted and compacted rooting environment. Meripilus giganteus fruiting body between buttress roots to N (see Appendix 5, image 1 & 2). No notable crown symptoms. Basal soundings good. Otherwise, free from significant defects.	**Core Recommendation:** Conduct decay detection/stability analysis. Survey at more regular interval	6	24
T150	Common Ash	15.5		Semi-mature	Good	Fair	Multi stemmed from ground level with included unions. Main stem, significantly reduced, with cavity with strong wound wood at margins. One stem end weighted extending to NW towards path. QTRA T3 S2 T3 1/100000.	Survey at more regular interval **Discretionary Recommendation:** Alternatively, remove secondary limb from stem to NW (see Appendix 5, image 3) to reduce likelihood/severity of failure onto path.	Discretionary	24
T151	Common Ash	14		Semi-mature	Good	Fair	Twin stemmed with cavity in main stem. String wound wood at margins. Failure would likely result in some degree of lodging in neighbouring tree. QTRA T3 S2 T3 1/100000. Smaller stem heavily reduced.	Survey at more regular interval		24

Tree ID	Common Name	Height (m)	Stem Diameter (mm)	Maturity	Physiological Condition	Structural Condition	Comment	Recommendations	Work Priority (months)	Next Survey (months)
T152	Common Walnut	19	950	Mature	Fair	Fair	Standing 12.5m from boundary fence and 9m from path. Area of necrotic bark (1.25m H x 0.5m W) and associated decay at bade to NW. Probe driven to 200mm in bottom centre of decay area. Small fruiting body of KD adjacent to decay. Basal failure onto adjacent gardens or park path QTRA T3 S1 P4 1/400000. Stem and main unions heavily ivy clad preventing detailed inspection. Numerous snapped out branches in crown and associated cavitation in crown. Crown not directly overhanging regularly frequented areas. Stem failure most likely into seldom frequented overgrown area. QTRA for stem failure onto path P3 S2 P4 1/1000000.	**Core Recommendation:** Remove ivy from lower stem up to 2m Survey at more regular interval	12	24
T153	Common Ash	8		Mature	Dead	Fair	Large monolith with extensive Ganoderma applanatum related basal decay. Adequate residual sound wood at present.	Survey at more regular interval		24
T154	Orchard Apple	8		Mature	Fair / Good	Fair	Slight hollow soundings at base. QTRA for failure onto path T3 S2 P3 1/100000.	Survey at more regular interval		24

Appendix 2: Glossary

Access facilitation pruning. One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site

Adaptive growth. In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

Adaptive roots. The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

Adventitious shoots. Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

Anchorage. The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

Arboricultural Method Statement. Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained

Arboriculturist. Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction**Architecture.** In a tree, a term describing the pattern of branching of the
crown or root system

Axil. The place where a bud is borne between a leaf and its parent shoot

Bacteria. Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

Bark. A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

Basidiomycotina (Basidiomycetes). One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like strucres (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

Bolling. A term sometimes used to describe pollard heads

Bottle-butt. A broadening of the stem base and buttresses of a tree, in excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

Bracing. The use of rods or cables to restrain the movement between parts of a tree

Branch:
· **Primary.** A first order branch arising from a stem
· **Lateral.** A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches
· **Sub-lateral.** A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

Branch bark ridge. The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

Branch collar. A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

Brown-rot. A type of wood decay in which cellulose is degraded, while lignin is only modified

Compartmentalisation. The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region

Competent person. A person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

Compression fork. An acute angled fork that is mechanically optimised for the growth pressure that two or more adjacent stems exert on each other

Compression strength. The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

Compressive loading. Mechanical loading which exerts a positive pressure; the opposite to tensile loading

Condition. An indication of the physiological condition of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree

Construction. Site based operations with the potential to affect existing trees

Construction exclusion zone. Area based on the Root Protection Area from which access is prohibited for the duration of the project

Crown/Canopy. The main foliage bearing section of the tree

Crown lifting. The removal of limbs and small branches to a specified height above ground level

Crown thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well-balanced branch structure

Crown reduction/shaping. A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

Crown reduction/thinning. Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

Deadwood. Dead branch wood

Defect. In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

Delamination. The separation of wood layers along their length, visible as longitudinal splitting

Dieback. The death of parts of a woody plant, starting at shoot-tips or root-tips

Disease. A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

Distal. In the direction away from the main body of a tree or subject organism (cf. proximal)

Dominance. In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

Dormant bud. An axial bud which does not develop into a shoot until after the formation of two or more annual wood increments; many such buds persist through the life of a tree and develop only if stimulated to do so

Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood

Buckling. An irreversible deformation of a structure subjected to a bending load

Buttress zone. The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

Cambium. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

Canker. A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria

Canopy species. Tree species that mature to form a closed woodland canopy

Cleaning out. The removal of dead, crossing, weak, and damaged branches, where this will not damage or spoil the overall appearance of the tree

Epicormic shoot. A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

Excrescence. Any abnormal outgrowth on the surface of tree or other organism

Excurrent. In trees, a system of branching in which there is a well-defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

Fastigiate. Having upright, often clustered branches

Felling licence. In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

Field layer. Herbs, ferns, grasses and sedges

Flush-cut. A pruning cut which removes part of the branch bark ridge and or branch-collar

Girdling root. A root which circles and constricts the stem or roots possibly causing death of phloem and/or cambial tissue

Ground layer. Mosses, ivy, lichens and fungi

Guying. A form of artificial support with cables for trees with a temporarily inadequate anchorage

Habit. The overall growth characteristics, shape of the tree and branch structure

Hazard beam. An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

Heartwood/false-heartwood. The dead central wood that has become dysfunctional as part of the aging processes and being distinct from the sapwood

Heave. A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a wind-rocked root-plate

High canopy tree species. Tree species having potential to contribute to the closed canopy of a mature woodland or forest

Incipient failure. In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

Included bark (ingrown bark). Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

Increment borer. A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

DBH (Diameter at Breast Height). Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

Deadwood. Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

Engineer-designed hard surfacing. Hard surfacing constructed within the 'Root protection area' of a tree, which will be designed by a structural or geotechnical; engineer in collaboration with an arboriculturist as set out in clause 7.4 of British Standard BS5837:2012. The purpose being to minimise the effects of the construction on the health of the tree.

Occlusion. The process whereby a wound is progressively closed by the formation of new wood and bark around it

Pathogen. A micro-organism which causes disease in another organism

Photosynthesis. The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesizing carbohydrates and other biochemical products

Phytotoxic. Toxic to plants

Pollarding. The removal of the tree canopy, back to the stem or primary branches, usually to a point just outside that of the previous cutting. Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

Primary branch. A major branch, generally having a basal diameter greater than 0.25 x stem diameter

Primary root zone. The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2012) Trees in Relation to design, demolition and construction

Probability. A statistical measure of the likelihood that a particular event might occur

Proximal. In the direction towards from the main body of a tree or other living organism (cf. distal)

Pruning. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

Radial. In the plane or direction of the radius of a circular object such as a tree stem

Rams-horn. In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

Rays. Strips of radially elongated parenchyma cells within wood and bark. The functions of rays include food storage, radial translocation and contributing to the strength of wood

Reactive Growth/Reaction Wood. Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

Removal of deadwood. Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

Removal of major deadwood. The removal of, dead, dying and diseased branchwood above a specified size

Infection. The establishment of a parasitic micro-organism in the tissues of a tree or other organism

Lever arm. A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

Lignin. The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

Lions tailing. A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to endloading

Loading. A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

Longitudinal. Along the length (of a stem, root or branch)

Lopping. A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

Microdrill. An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

Minor deadwood. Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

Mulch. Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

Mycelium. The body of a fungus, consisting of branched filaments(hyphae)

Occluding tissues. A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

Selective delignification. A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose

Service. Any above- or below-ground structure or apparatus required for utility provision e.g. drainage, gas supplies, ground source heat pumps, CCTV and satellite communications

Shedding. In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

Silviculture. The practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values

Silvicultural thinning. Removal of selected trees to favour the development of retained specimens to achieve a management objective

Simultaneous white-rot. A kind of wood decay in which lignin and cellulose are degraded at about the same rate

Snag. In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

Soft-rot. A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

Spores. Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

Shrub species. Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

Sporophore. The spore bearing structure of fungi

Sprouts. Adventitious shoot growth erupting from beneath the bark

Stem/s. Principle above-ground structural component(s) of a tree that supports its branches

Respacing. Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees

Residual wall. The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

Rib. A ridge of wood that has usually developed because of locally increased mechanical loading. Often associated with internal cracking in the wood of the stem, branch or root.

Ring-barking (girdling)**.** The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage

Ripewood. The older central wood of those tree species in which sapwood gradually ages without being converted to heartwood

Root-collar. The transitional area between the stem/s and roots

Root-collar examination. Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and/or stem

Root protection area (RPA). Layout design tool indicating a national 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

Root zone. Area of soils containing absorptive roots of the tree/s described. The **Primary** root zone is that which we consider of primary importance to the physiological well-being of the tree

Sapwood. Living xylem tissues

Secondary branch. A branch, generally having a basal diameter of less than 0.25 x stem diameter

Tree Risk Assessment. An assessment and description of the risks and where appropriate the values associated with a tree or trees. The primary risk being considered is that from falling trees. Other risks, such as damage to infrastructure, interruption of service and building subsidence may also be considered
· Walkover – A general view of the tree population considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
· Drive-by - A general view of the tree population from a moving vehicle and considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
· Individual – the assessment of risks from a single tree considered in the context of the adjacent land-use to identify trees that present significantly elevated risks

Vascular wilt. A type of plant disease in which water-conducting cells become dysfunctional

Vessels. Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees

Veteran tree. Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem

Vigour. The expression of carbohydrate expenditure to growth (in trees)

Volunteer trees. Trees arising from natural colonisation rather than having been planted

White-rot. A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

Wind exposure. The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity

Stress. In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

Stress. In mechanics, the application of a force to an object

Stringy white-rot. The kind of wood decay produced by selective delignification

Storm. A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes

Structural roots. Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

Structure. Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork

Subsidence. In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

Subsidence. In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

Taper. In stems and branches, the degree of change in girth along a given length

Target canker. A kind of perennial canker, containing concentric rings of dead occluding tissues

Targets. In tree risk assessment (with slight misuse of normal meaning) persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it

Topping. In arboriculture, the removal of the crown of a tree, or of a major proportion of it

Torsional stress. Mechanical stress applied by a twisting force

Tree Protection Plan. Scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures

Wind pressure. The force exerted by a wind on a particular object

Windthrow. The blowing over of a tree at its roots

Wound dressing. A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

Woundwood. Wood with atypical anatomical features, formed in the vicinity of a wound

Appendix 3: Guidelines & Limitations

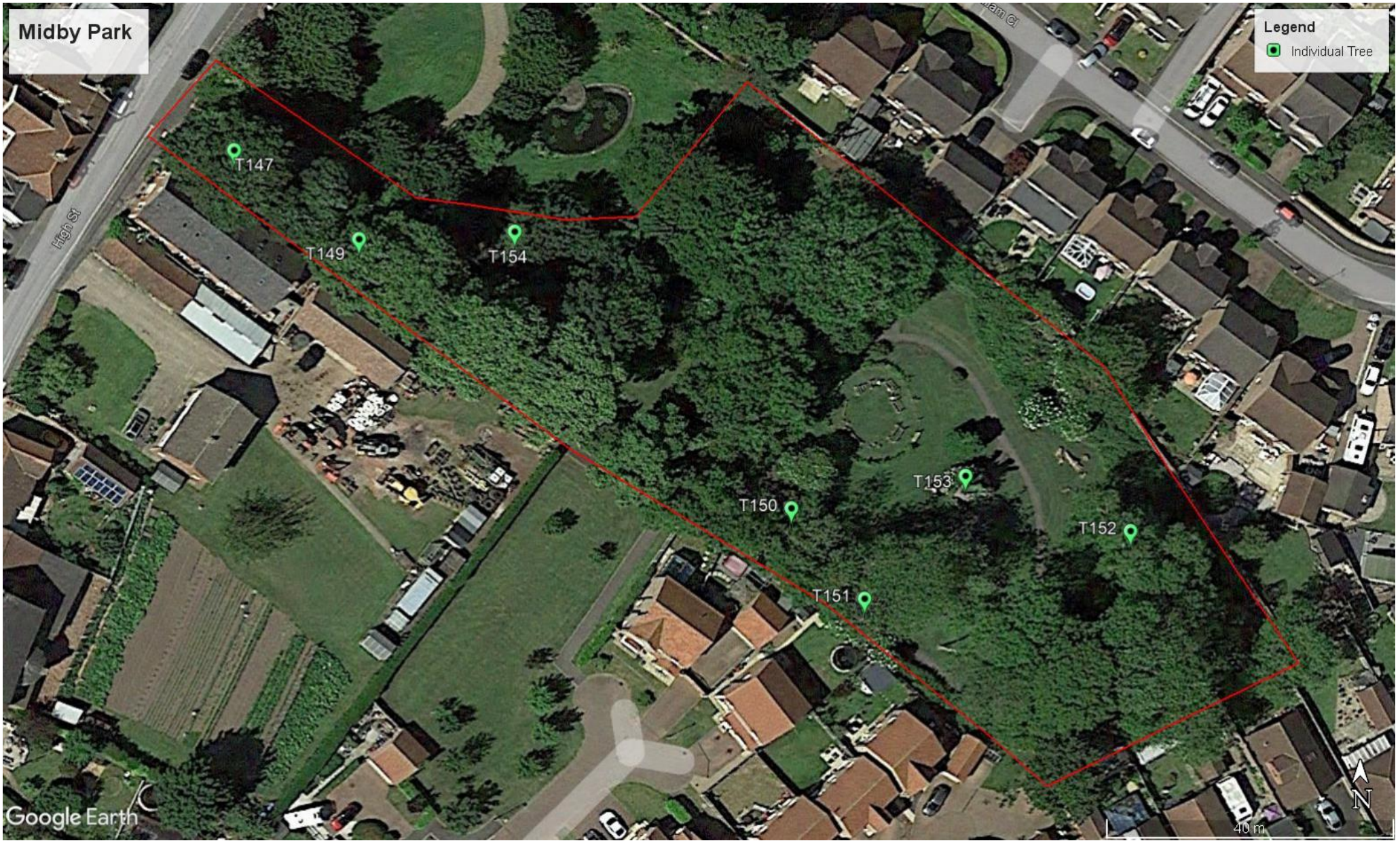
Where trees are inspected for the purposes of risk management recommendations are not intended to eliminate all risk but to mitigate obvious risks of an unacceptable level. This approach is considered reasonable and proportionate when facilitating tree owners and managers in meeting their duty of care.

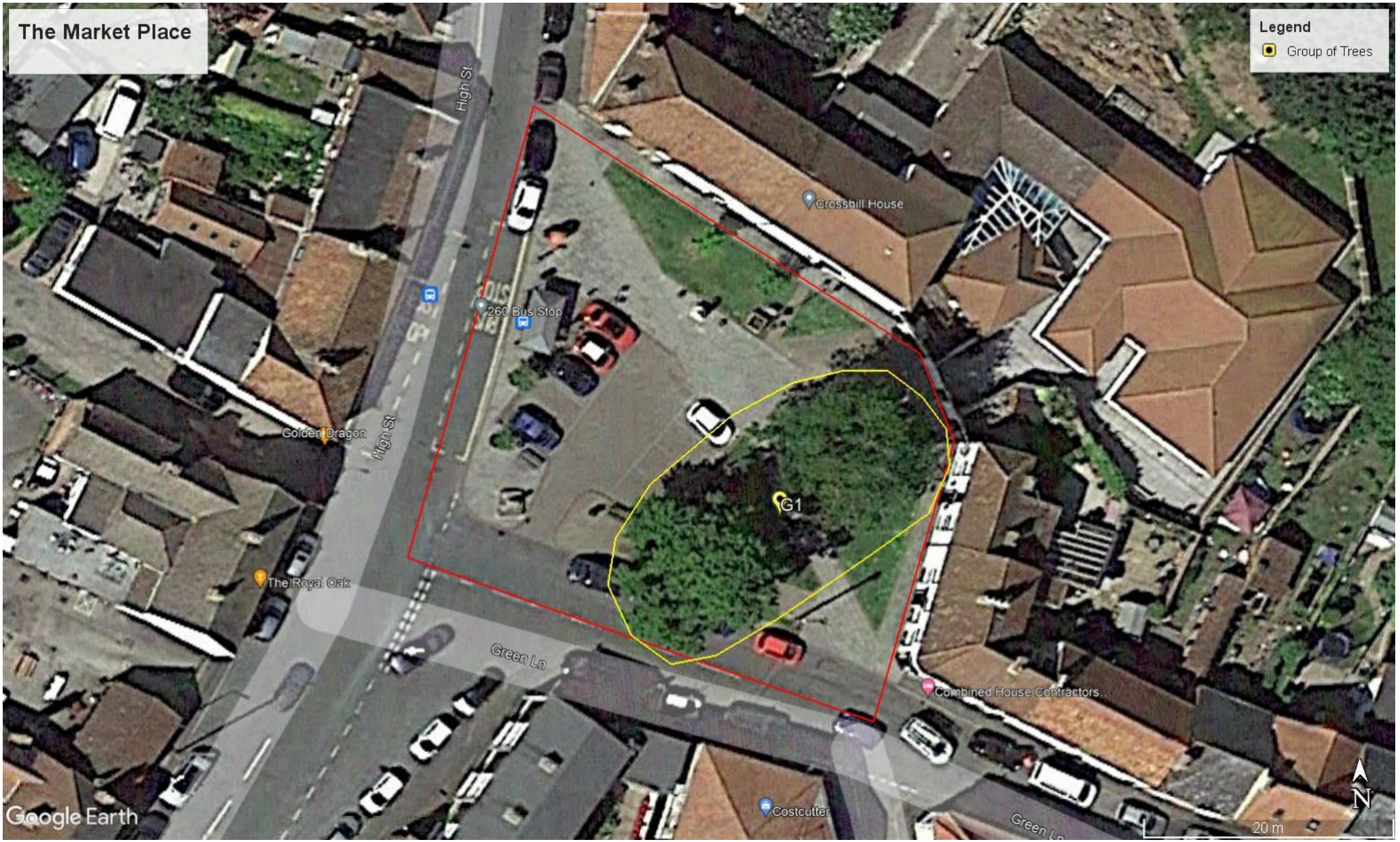
Recommendations made are based on the current site context and upon other usages brought to our attention prior to the survey. Site usage conditions taken into consideration are detailed in this report. Where these are thought to be inaccurate this must be brought to our attention at the soonest opportunity.

We advise that all trees are inspected with a regularity and level of detail appropriate to site usage. It is also recommended that trees are re-inspected following certain events. These include; severe weather events, significant changes in site usage, and changes that affect wind loading on trees (e.g. removal of neighbouring trees, erection/demolition of buildings).

Tree work recommendations must only be undertaken by suitably experienced and qualified contractors. Such service provides must hold appropriate public liability insurance and work to the British Standard BS 3998:2010 Tree work – Recommendations, or other industry best practice guidelines. During tree work operations any notable defects not identified in this report must be brought to our attention at the soonest opportunity.

Appendix 4: Site Plans




The Market Place
Legend
Group of Trees
High St
Crosshill House
260 Bus Stop
Golden Dragon
High St
G1
The Royal Oak
Green Ln
Combined House Contractors...
Costcutter
Google Earth
20 m
N

Appendix 5: Site Images

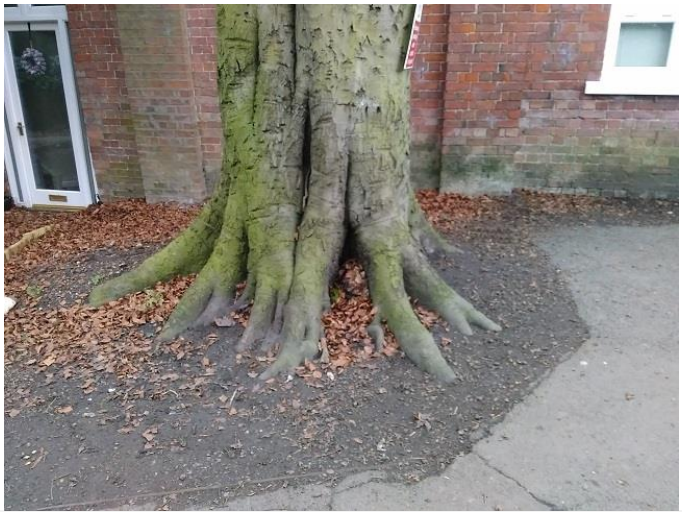


Image 1 – T147 basal area

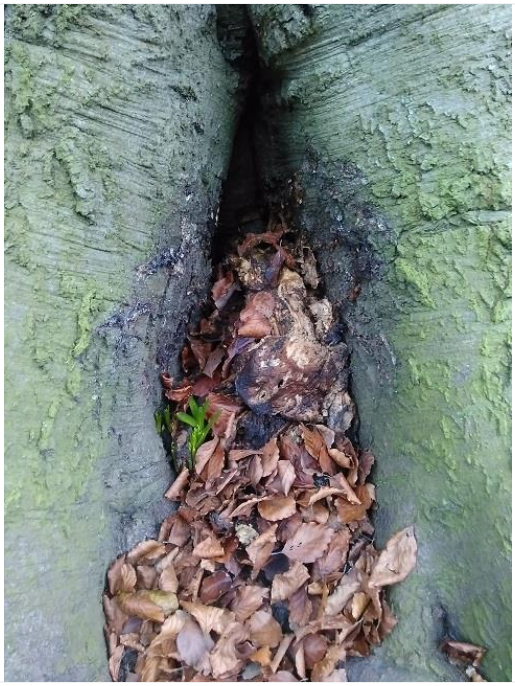


Image 2 – T147 fungal fruiting body

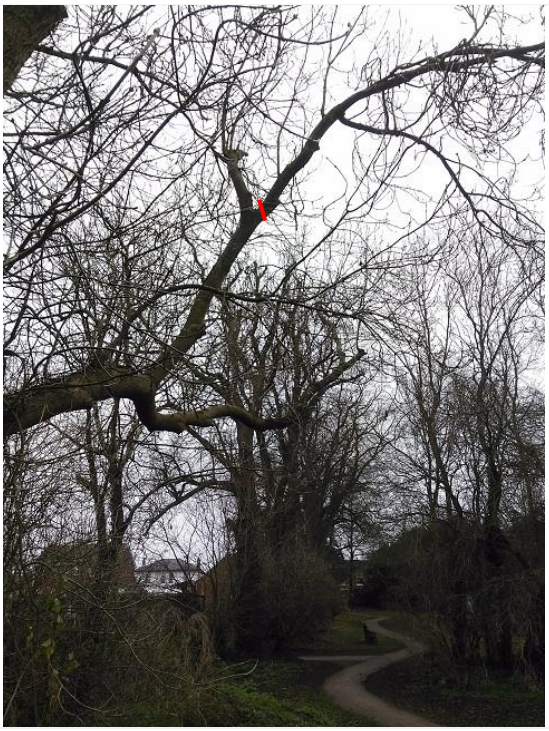


Image 3 – T150 pruning cut marked in red