

Arboricultural Safety Assessment

WC-323.1b

Hollybank School, Far Common Road,
Mirfield WF14 0DQ



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1. Introduction

1.1. Scope of Report

- 1.1.1. Woodsage Consulting Ltd have been instructed by Hollybank Trust to carry out an Arboricultural Safety Assessment of Hollybank School, which is located at Roe Head, Far Common Road, Mirfield WF14 0DQ.
- 1.1.2. The purpose of this report is to evaluate the structural and physiological condition of the trees at the site, in order to determine their likelihood of failure and associated risk potential.
- 1.1.3. In relation to the surrounding area, site features and usage, this report will also seek to provide informed management recommendations, with regards to the wellbeing and longevity of the trees at the site, alongside the future safety of people and/or property which may come within their vicinity.

1.2. Site Details

- 1.2.1. The site - shown in **Fig. 1.1**, below - is centred on OS Grid Reference SE 19069 21809 and is accessed east off Far Common Road.
- 1.2.2. The site covers approximately 6.7 ha, and is bound by agricultural land to the north-west and south-west, by Fall Lane to the north, by Far Common Road to the east, and by mixed-deciduous woodland to the west.



Figure 1.1: Aerial imagery showing the approximate boundaries of the Site, outlined in red (Google Earth, 2024)

1.3. Site Elevation and Topography

- 1.3.1. The site lies at an altitude ranging between 90 - 120 m above sea-level.
- 1.3.2. The general topography of the site slopes downwards from north to south.

1.4. Desk Based Study

- 1.4.1. Cranfield (2024) states that the *Soilscape 17* occurs throughout the site; these are acidic, loamy and clayey soils, which are slowly permeable and seasonally wet. No further detailed soil analysis was carried out as part of the survey.



- 1.4.2.** According to information which is available on the website of Kirklees Council (2024), there are multiple group and individual tree preservation orders (TPO Ref: 34a/97) on the site. The site is not situated within a conservation area.

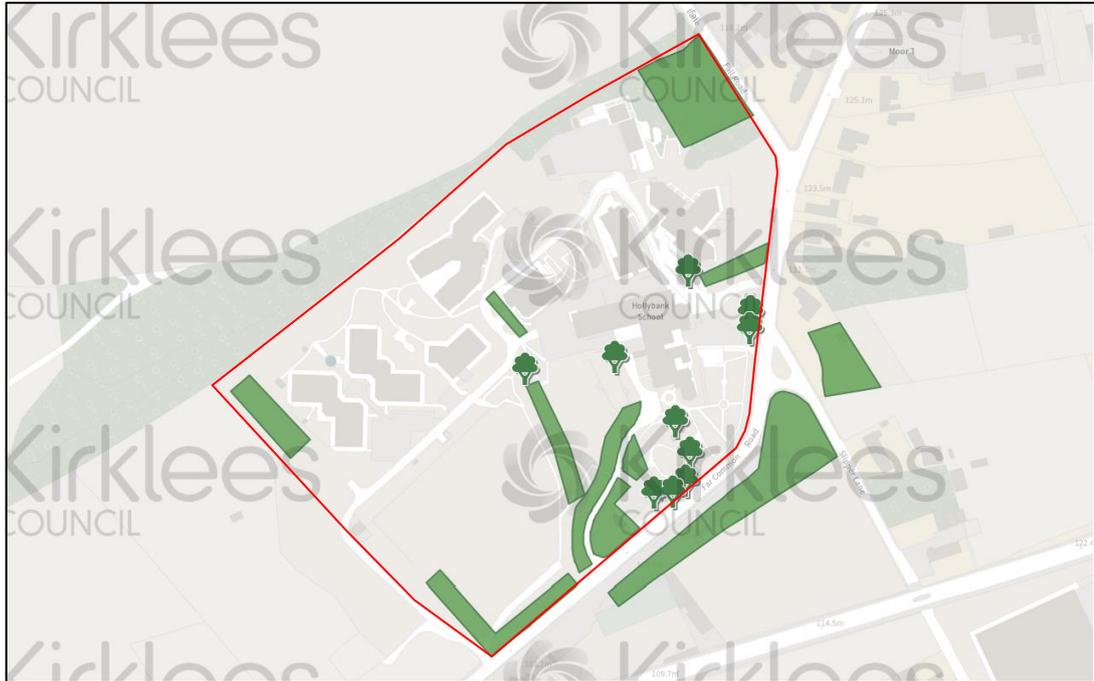


Figure 1.2: Map showing the locations of on-site group and individual TPOs (Kirklees Council, 2024)



2. Methods

2.1. Survey Details

- 2.1.1. The site survey was carried out on the 8th and 14th of October 2024.
- 2.1.2. Further testing was carried out on the 20th of December 2024, upon T006, T017, T018, and T019, using an IML F400-571 Resistograph.
- 2.1.3. The weather over the duration of the survey was fine and dry; visibility of the trees was not impeded.

2.2. Survey Personnel

- 2.2.1. The survey was carried out by Jack Delaney. Jack is a Chartered Arboriculturalist (Member of the Institute of Chartered Foresters), and has worked in the arboricultural sector for over 15 years. Jack holds an FdSc in Arboriculture with distinction, and is a Professional Member of the Arboricultural Association. Jack is also a LANTRA qualified Professional Tree Inspector, and is a trained and registered user of Quantified Tree Risk Assessment (QTRA).

2.3. Tree Inspection Methods

- 2.3.1. The trees at the site were inspected from ground level using the Visual Tree Assessment methodology (VTA – Mattheck & Breloer, 1994), and included a detailed inspection of the structural and physiological condition of each tree.
- 2.3.2. Where necessary, trees were assessed with the aid of a metal probe, for inspection of stem cavities and areas of decay, and a nylon sounding mallet, for the purpose of detecting changes in resonance in stem wood (which may indicate dysfunction, and that further investigation is required).
- 2.3.3. Tree heights were measured to the nearest metre using an electric clinometer and crown spreads were measured to the nearest metre using a laser measurer. The diameter at breast height (DBH) of trees was measured to the nearest centimetre at 1.5 m above ground level.
- 2.3.4. Where access to trees was obstructed or obscured, measurements may have instead been estimated.

2.4. Tree Risk Assessment (QTRA)

- 2.4.1. Tree hazard potential was calculated using the QTRA (2020) methodology. QTRA quantifies the risk of significant harm from tree failure in a way that enables tree owners to balance safety with tree values and operate to predetermined limits of tolerable or acceptable risk.
- 2.4.2. The QTRA method provides a framework for the assessment of the three primary components of tree-failure, those being, target, size, and probability of failure (PoF).
- 2.4.3. Ranges of value for target, size, and PoF are entered into a QTRA calculator which generates a traffic light colour-coded risk of harm (RoH), and indicates the level of remedial action required:
 - Trees with a **broadly acceptable** RoH pose a level of risk which is as low as is reasonably practicable (ALARP), and no further action is usually required.
 - Trees with a **tolerable** RoH may require further action, depending on who is at risk, and whether the RoH is ALARP.
 - Trees with an **unacceptable** RoH require the risk to be controlled, usually through remedial works to the tree.
- 2.4.4. Using these criteria, a tree survey schedule was drawn up.



3. Results and Assessment

3.1. Survey Constraints

- 3.1.1. The survey was constrained by the season in which it took place; for example, certain tree defects and pathogens - in particular the fruiting bodies of decay fungi - are only visible at specific times of year.
- 3.1.2. A topographical plan of the site was not provided for the purpose of the survey; trees have instead been plotted using a combination of land features, manual measurements, and GPS. The locations of the trees shown in the **Tree Plan** in **Appendix 4** are therefore indicative only.
- 3.1.3. There are trees at the site which are situated within dense areas of understorey vegetation, have dense adventitious growth on the main stems, and/or have epiphytic plants established upon them. Whilst such trees were surveyed insofar as was reasonably practicable, defects may be present which could not be inspected in detail.

3.2. Target Zones

- 3.2.1. In the event of failure, the trees identified at the site have potential to impact the following targets:
- Fall Lane, to the north of the site, and Far Common Road, to the east of the site, which both have an average estimated traffic flow of 4,800 – 47,000 vehicles per day, travelling at an average estimated speed of 32 mph, and have been classed as **Target Zone 1**.
 - Amenity grassland and woodland areas, garden and allotment areas, and footpaths throughout the site, which have an average estimated traffic of 2 pedestrians per week – 72 pedestrians per hour, or an average estimated occupancy of 1 minute per month – 2.4 hours per day. Depending upon usage, these have been classed as **Target Zone 2, 3, 4, or 5**.
 - Buildings and car parking areas within the site, which in the event of tree failure may sustain in the region of £20 - £200,000 and have been classed as **Target Zone 2, 3, 4, or 5**, depending upon the size and location of the trees.
 - Overhead electricity power cables, to the west of the site, which in the event of tree failure may sustain in the region of £2,000 - £20,000 and have been classed as **Target Zone 3**.
 - The main drive into the site, which has an average estimated traffic of 48 – 470 vehicles per day, travelling at an average estimated speed of less than 32 mph, and has been classed as **Target Zone 3**.
- 3.2.2. For a more detailed explanation of target zones, refer to QTRA (2020).

3.3. Tree Population Observations

- 3.3.1. A total of 21 individual trees and 22 groups of trees were identified at the site.
- 3.3.2. The tree species, subspecies, cultivars, and varieties which were surveyed include field maple *Acer campestre*, Norway maple *Acer platanoides*, sycamore *Acer pseudoplatanus*, horse chestnut *Aesculus hippocastanum*, common alder *Alnus glutinosa*, red horse chestnut *Aesculus x carnea*, silver birch *Betula pendula*, west-Himalayan birch *Betula utilis* var. *Jacquemontii*, deodar cedar *Cedrus deodara*, eastern redbud *Cercis canadensis*, common hazel *Corylus avellana*, Himalayan-tree cotoneaster *Cotoneaster frigidus*, common hawthorn *Crataegus monogyna*, Leyland cypress *Cupressus x leylandii*, European beech *Fagus sylvatica*, copper beech *Fagus sylvatica* 'Purpurea', common ash *Fraxinus excelsior*, common holly *Ilex aquifolium*, sweetgum *Liquidambar styraciflua*, cultivated apple *Malus domestica*, Corsican pine *Pinus nigra*, Scots pine *Pinus sylvestris*, Lombardy poplar *Populus nigra* 'Italica', hybrid-black poplar *Populus*



x canadensis, wild cherry *Prunus avium*, purple cherry plum *Prunus cerasifera* 'Pissardi', laurel cherry *Prunus laurocerasus*, bird cherry *Prunus padus*, Japanese-flowering cherry *Prunus serrulata*, sessile oak *Quercus petraea*, rhododendron *Rhododendron ponticum*, goat willow *Salix caprea*, whitebeam *Sorbus aria*, rowan *Sorbus aucuparia*, Swedish whitebeam *Sorbus intermedia*, English yew *Taxus baccata*, small-leaved lime *Tilia cordata*, broad-leaved lime *Tilia platyphyllos*, common lime *Tilia x europaea*, and wych elm *Ulmus glabra*.

- 3.3.3.** Although trees are present across the site, they are most densely arranged around the perimeter.
- 3.3.4.** The trees at the site are generally positioned amongst formally maintained areas of amenity grassland. To the north and west however, the surroundings are less intensely maintained and resemble woodland.
- 3.3.5.** The tree stock displays a relatively healthy age diversity, with equal proportions of semi-mature, early-mature, and mature trees. There are however relatively low numbers of young trees, and no newly-planted trees.
- 3.3.6.** Species diversity across the site is good, which suggests that the tree population would be resistant to pest and disease breakout, and to the potential impacts of climate change.
- 3.3.7.** Common ash is the prevalent tree species at the site, and a significant number of these display symptoms of Chalara ash dieback *Hymenoscyphus fraxineus*. It is possible that many of these trees will be lost over the next 10-20 years, and therefore on-site tree planting would be advisable to replace potential habitat losses to the disease.



3.4. Survey Results and Assessment

- 3.4.1.** Taking account of the target zones, size of the trees, and their probability of failure:
- 10 trees and 17 groups of trees were determined to present a broadly acceptable RoH of < 1/1,000,000
 - Nine trees and three groups of trees were determined to present a tolerable RoH of between 1/10,000 and /1,000,000
 - Two trees and two groups were determined to present an unacceptable RoH (when imposed on others) of between 1/1,000 and 1/10,000
 - None of the trees at the site were determined to present an unacceptable RoH of less than 1/1,000
- 3.4.2.** The **Tree Survey Schedule**, which can be viewed in **Appendix 2**, details the full findings of the survey. **Tab. 3.1**, below, gives a summary of the trees at the site and their associated RoH.

Table 3.1: Summary of tree RoH categories

RoH	Tree/Group Ref. Numbers	Line Totals
Broadly Acceptable	T002, T003, T004, T007, T008, T009, T012, T020, T021, T022 G001, G002, G003, G004, G005, G006, G008, G010, G012, G013, G015, G016, G017, G018, G020, G021, G022	10 Trees 17 Groups
Tolerable	T005, T010, T011, T014, T015, T016, T017, T018, T019 G009, G011, G014	9 Trees 3 Groups
Unacceptable (when imposed on others)	T006, T013 G007, G019	2 Trees 2 Groups
Totals:		21 Trees 22 Groups

- 3.4.3.** Photographs of the trees which have been recommended for further remedial works can be viewed in **Appendix 1: Images of Trees**; the locations of all of the surveyed trees can be viewed in the **Tree Plan** in **Appendix 4**.

3.5. Trees with an Unacceptable Risk of Harm (RoH)

- 3.5.1.** T006 is an early-mature European beech, which displayed *Meripilus giganteus* fructifications around the base of the main stem during a previous inspection of the tree which was carried out in 2023. *M. giganteus* fructifications were absent at the time of the current survey, though symptoms of the disease were apparent, such as thinning of foliage and deadwood around the extremities of the crown. *M. giganteus* can cause a white-rot to the principal roots of a colonised tree, though with a white-rot in the early stages of decay. Decayed wood becomes brittle and liable to fracture, and therefore careful and regular investigation is required if colonised trees are to be retained (Watson and Green, 2011). Resistance micro-drilling test results (Refer to **Appendix 3**) indicate that there are substantial areas of decay in the root collar and principal roots of T006, and the tree was therefore deemed to present a RoH of 1/400.
- 3.5.2.** T013 is a moribund sycamore which was deemed to present a RoH of 1/4,000.
- 3.5.3.** G007 is a group of semi-mature, early-mature, and mature trees. Multiple trees were identified to display deadwood in the crowns - that is greater than 100 mm in diameter - some of which is positioned above high-occupancy targets (Fall Lane). G007 was therefore deemed to present a RoH of 1/5,000.
- 3.5.4.** G019 is a group of moribund wych elm which were deemed to present a RoH of 1/10,000.
- 3.5.5.** The level of risk presented by both T006, which is less than 1/1,000, is considered unacceptable.



- 3.5.6.** The level of risk presented by both T006, T013, G007, and G019, which is between 1/1,000 and 1/10,000, is considered unacceptable in situations where the risk is imposed on others.

3.6. Trees with a Tolerable RoH

- 3.6.1.** T005 is a mature common ash which displays *Inonotus hispidus* fructifications at approximately 7 m, at the base of a primary branch extending north. *I. hispidus* is the most frequent decay fungus found on ash, and can destroy both lignin and cellulose at equal rates in a simultaneous white-rot. Since *I. hispidus* can weaken wood at an early stage of decay, its presence indicates that failure of the affected branch could be imminent (Lonsdale, 2015). T005 was therefore deemed to present a RoH of 1/100,000.
- 3.6.2.** T010 is an early-mature goat willow which displays extensive crown tip dieback, with bark necrosis on the main stem and first order branches up to 3 m. Honey fungus *Armillaria mellea* rhizomorphs were also present under swathes of necrotic bark. T010 was therefore deemed to present a RoH of 1/400,000.
- 3.6.3.** T011 is a mature hybrid-black poplar which displays multiple tear-out wounds throughout the crown from the recent failure of second order branches. The remaining tree is now anticipated to be susceptible to further branch failures, due to changes in windloading of the crown. T011 was therefore deemed to present a RoH of 1/100,000.
- 3.6.4.** T014 is an early-mature sessile oak which displays a hanging branch - which is greater than 100 mm in diameter - that is suspended in the east aspect of the crown at 16 m. T014 was therefore deemed to present a RoH of 1/500,000.
- 3.6.5.** T015 is a semi-mature common ash which displays advanced symptoms of Chalara ash dieback *Hymenoscyphus fraxineus*, with deadwood - that is greater 100 mm in diameter - throughout the crown. T015 was therefore deemed to present a RoH of 1/1,000,000.
- 3.6.6.** T016 is an early-mature common ash which displays deadwood in the crown that is greater than 100 mm in diameter. T016 was therefore deemed to present a RoH of 1/500,000.
- 3.6.7.** T017, T018, and T019 are all early-mature Lombardy poplar which display cavity openings at bases of main stems, which are anticipated to extend upwards as decay columns. Pronounced reactionary root buttressing was also apparent on T017, T018, and T019. T017 and T018 were therefore deemed to present a RoH of 1/1,000,000, and T019 was determined to present a RoH of 1/400,000.
- 3.6.8.** G009 and G014 are both linear groups of semi-mature, early-mature, and mature trees. Trees were identified in both G009 and G014 which display acute first and second order branch unions, which could potentially contain included bark. Lonsdale (2015) states that a high proportion of tree failures are associated with such unions, though other factors also need to be considered when assessing the likelihood of failure; for example, the tree species and its susceptibility to branch union failure, the orientation and exposure of the branch union to windloading, and the angle of the emanating stems. In consideration of these factors, G009 and G014 were determined to present a RoH of 1/1,000,000 and 1/400,000, respectively.
- 3.6.9.** G011 is a group containing early-mature and mature trees. Major deadwood - that is greater than 100 mm in diameter - was identified throughout the group, some of which is positioned over footpaths and the main drive. G011 was therefore deemed to present a RoH of 1/500,000.
- 3.6.10.** The level of risk presented by both T005, T010, T011, T014, T015, T016, T017, T018, T019, G009, G011, and G014 - which is between 1/1,000,000 and 1/10,000 - is deemed tolerable when imposed on others, providing that the RoH is ALARP.



3.7. Trees with a Broadly Acceptable RoH

- 3.7.1.** All of the remaining trees and groups of trees at the site were all determined to present a broadly acceptable RoH of $< 1/1,000,000$.



4. Conclusion and Recommendations

4.1. Recommendations

- 4.1.1.** The RoH posed by T015, G009, and G014 is already considered ALARP, and therefore no further works are recommended to these trees for risk mitigation.
- 4.1.2.** To remove the RoH posed by T006, T010, T011, T013, and G019, it is recommended that these trees are removed.
- 4.1.3.** To reduce the RoH posed by T005, it is recommended that a compromised branch displaying *I. hispidus* fructifications - extending north at approximately 7 m - is removed.
- 4.1.4.** To reduce the RoH posed by T014, it is recommended that a hanging branch which is suspended at 16 m in the east aspect of the crown is removed.
- 4.1.5.** To reduce the RoH posed by T016, G007, and G011, it is recommended that all deadwood – that is greater than 50 mm in diameter – is removed from the crowns of the trees.
- 4.1.6.** Unrelated to risk management and at the discretion of the landowner, it is suggested that further low-priority works specified to T003, T004, T007, T012, T015, T020, T021, G003, G004, G007, G009, G014, and G017 – which are summarised in **Tab. 4.1**, below - are undertaken in the interests of site management.

Table 4.1: Tree works schedule and priority categories

Tree/Group Ref:	Management Recommendations	Priority Category
T005	<ul style="list-style-type: none"> Remove compromised branch displaying <i>I. hispidus</i> fructifications extending north at 7 m 	High
T006	<ul style="list-style-type: none"> Remove group and plant replacement trees 	
T013	<ul style="list-style-type: none"> Remove tree (retain as 10 m standing stem for ecological value) and plant replacement trees 	
T014	<ul style="list-style-type: none"> Remove hanging branch at 16 m in east aspect of the crown 	
G019	<ul style="list-style-type: none"> Remove group and plant replacement trees 	
T006	<ul style="list-style-type: none"> Remove tree and plant replacement trees, or carry out further decay testing on structural roots 	Moderate
T010	<ul style="list-style-type: none"> Remove tree and plant replacement trees 	
T011		
T016	<ul style="list-style-type: none"> Remove deadwood < 50 mm in diameter 	
T017	<ul style="list-style-type: none"> Remove trees and plant replacement trees, or carry out further decay testing on main stems 	
T018		
T019		
G007	<ul style="list-style-type: none"> Remove deadwood < 50 mm in diameter 	
G011		
T003	<ul style="list-style-type: none"> Remove tree (retain as 7 m standing stem for ecological value) 	Low
T004		
T007	<ul style="list-style-type: none"> Remove deadwood < 50 mm in diameter 	
T012	<ul style="list-style-type: none"> Remove tree and plant replacement trees 	
T015	<ul style="list-style-type: none"> Remove tree and plant replacement trees 	Low
T020	<ul style="list-style-type: none"> Remove deadwood > 50 mm in diameter 	
T021	<ul style="list-style-type: none"> Remove deadwood > 50 mm in diameter Remove hanging branch at 5 m in south aspect of the crown 	



G003	<ul style="list-style-type: none"> • Crown lift for clearance to adjacent footpaths and buildings 	
G004	<ul style="list-style-type: none"> • Remove trees and plant replacement trees 	
G007	<ul style="list-style-type: none"> • Crown lift to 5.2 m for clearance over Fall Ln 	
G009	<ul style="list-style-type: none"> • Remove epicormic from main stems of lime to 8 m to facilitate future inspections 	
G014	<ul style="list-style-type: none"> • Crown lift to 5.2 m over Far Common Rd • Crown lift/reduce branches to clear Streetlamp 6 on Far Common Rd 	
G017	<ul style="list-style-type: none"> • Remove planting stakes and ties • Formative prune 	

4.2. Legal Constraints

4.2.1. According to information which is available on the website of Kirklees Council (2024), many of the trees listed in **Tab. 4.1** are subject to group or individual tree preservation orders (TPO Ref: 34a/97).

4.2.2. No tree removals or pruning works should therefore be carried out without prior written consent from Kirklees Council¹. Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.

4.3. Replacement Tree Planting

4.3.1. It is recommended that the removal of trees from the site is followed up with on-site replacement tree planting, at a recommended ratio of two new trees to each tree that is removed.

4.3.2. Suggested tree species which will thrive on the acidic, loamy and clayey soils which are recorded at the site include field maple *Acer campestre*, common alder *Alnus glutinosa*, thornless honey locust *Gleditsia triacanthos* f. *inermis*, sweetgum *Liquidambar styraciflua* 'Worplesdon', black poplar *Populus nigra* subsp. *Betulifolia*, bird cherry *Prunus padus*, sessile oak *Quercus petraea*, rowan *Sorbus aucuparia*, wild service tree *Sorbus torminalis*, and small leaved lime *Tilia cordata*.

4.3.3. To ensure the best possible chances of successful establishment, the proposed trees should be planted in accordance with *BS 8545: 2014 - Trees: from Nursery to Independence in the Landscape - Recommendations*, and should adhere to the following guidelines:

- The trees should be sourced from a nursery that is Plant Healthy certified and/or that can provide an adopted biosecurity policy. The trees should ideally be grown from seed within the UK, or should have been grown in the UK for at least one year after import.
- The trees selected for planting should be container grown or root-balled², and regular-standard in size.
- Tree planting pit sizes should be at least 150 mm wider, and approximately the same depth as the tree root system when fully spread. Break up pans if present, and loosen base of pit prior to planting, if required. Tree pit sizes may need to be increased if poor conditions are encountered. Backfill should replicate the existing soil profile, though topsoil depth can be increased to 200-300 mm if the existing topsoil is shallower.
- The trees should be supported with two wooden stakes, positioned at 180-degree angles to the main stem. The wooden stakes should be whole sections of pressure-treated softwood

¹ Note, however, that the removal of detached hanging branches, dead trees, and/or dead branches from living trees, does not usually require LPA consent.

² The pots of containerised trees must be proportionate to the size of the tree in accordance with table D4 of *BS 8545: 2014*, and the rootball of trees in accordance with table D5 of *BS 8545: 2014*.



timber, with a minimum diameter of 75 mm and overall length of approximately 2 m. The wooden stakes should be driven into the tree pit before the tree is positioned, to a depth of approximately one-third of the trees height, or until firmly set.

- Trees should be secured to the wooden stakes using rubber ties, which should be positioned within 50 mm of the top of the stake. The tree ties should incorporate rubber collars to ensure that the tree and stake do not come into contact.

4.3.4. Aftercare for the newly-planted trees will be required for a period of at least five-years, and should include the following:

- An organic woodchip mulch should be applied annually to a depth of 100 mm, in a 0.5 m radius around the bases of the trees, though the base of the stem shall be kept clear.
- Trees should be watered - with at least 50 litres of water per week - over the first three growing seasons (May to September, inclusive), or until the trees have successfully established. Watering may be required more frequently during extended periods of drought. If water does not drain away within ten minutes however, the trees are in danger of overwatering.
- Wooden stakes and tree ties should be inspected annually, and tree ties should be adjusted to allow for incremental increases in stem girth. Wooden stakes should be checked and shortened as required, to promote the development of adequate rooting systems and stem tapering. Tree stakes can usually be removed after approximately 3 years following planting.
- Formative pruning can be carried out annually, and any deadwood, diseased tissue, and/or crossing branches may be removed. Trees can be pruned if desired to encourage development of good shape.



4.4. Additional Information

- 4.4.1.** Trees provide valuable habitat for wild birds, bats, and various other forms of wildlife; in accordance with the Wildlife and Countryside Act 1981, the risks posed to these should be suitably assessed before any recommendations within this report are completed.
- 4.4.2.** All tree works should be carried out by a suitably qualified and fully insured arboricultural contractor who is able to comply with *BS 3998: 2010: Tree Work - Recommendations*.
- 4.4.3.** Under the Occupiers Liability Act (1957 and 1984), landowners have a duty of care to ensure reasonable steps are taken to prevent or minimise the risk of personal injury or damage to property, arising from the presence of trees on a site.
- 4.4.4.** In order to maintain a duty of care, it is essential that trees are inspected regularly, and also following any event which may have incurred sudden change, for example, a storm. Providing the recommendations within this document are completed, and update inspections are carried out within the proposed time frame, there will be very little residual risk to people and/or property of a foreseeable nature.
- 4.4.5.** All visual observations and recommendations relate to the condition of the trees and surroundings at the time of the survey. As such, any subsequent changes to landform in the proximity of the trees could invalidate the advice given.
- 4.4.6.** The results of this survey are considered valid for a period of 18 months; it is therefore recommended that an update assessment is carried out before April 2026.



References

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Appendices

Appendix 1: Images of Trees



Plate 1: T002



Plate 2: T003



Plate 3: T004



Plate 4: *Inonotus hispidus* fructifications on T005



Plate 5: T006



Plate 6: T007



Plate 7: T008



Plate 8: T009



Plate 9: T010



Plate 10: T011



Plate 11: T012



Plate 12: T013



Plate 13: Hanging branch in T014

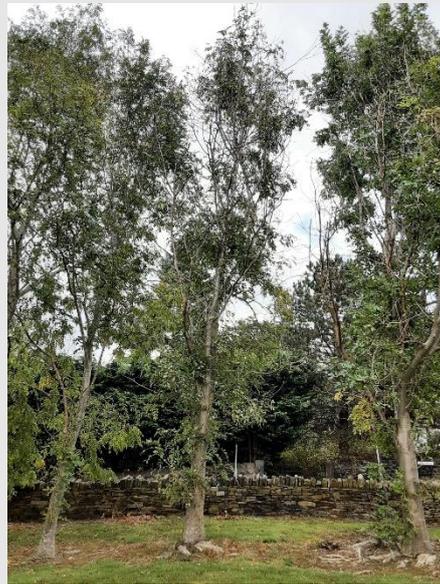


Plate 14: T015



Plate 15: T016



Plate 16: T017, T018, & T019 (centre, right to left)



Plate 17: T020 (left) & T021 (right)



Plate 18: T022



Plate 19: G001



Plate 20: G002



Plate 21: G003



Plate 22: G004



Plate 23: G005



Plate 24: G006



Plate 25: G007



Plate 26: G008



Plate 27: G009



Plate 28: G010

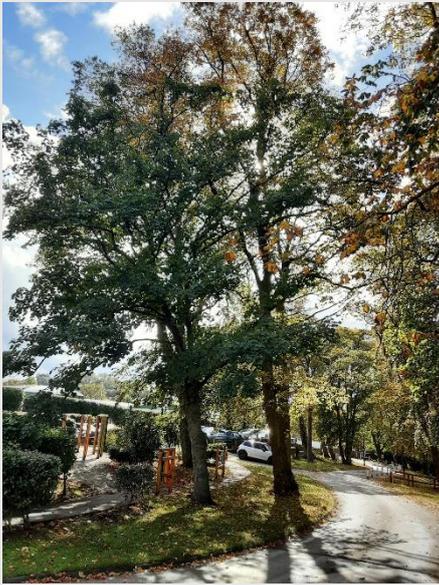


Plate 29: G011



Plate 30: G012



Plate 31: G013



Plate 32: G014



Plate 33: G015



Plate 34: G016



Plate 35: G017



Plate 36: G018



Plate 37: G019



Plate 38: G020



Plate 39: G021



Plate 40: G022



Appendix 2: Tree Survey Schedule

Table Key		
Tree/Group Ref:	Reference numbers, as shown in the <i>Tree Plan</i> in Appendix 4	Species: Common (and <i>binomial name</i>)
Height (H):	Measured to nearest metre	DBH: Diameter at breast height (1.5 m), measured to nearest centimetre
Crown Spread (CS):	Average radius of crown, measured to nearest metre	Target Type: V = Vehicle on Highway; H = Human; P = Property
Mass:	The percentage mass of a tree or branch can alter according to its physiological condition, and has been estimated accordingly	SULE: Safe useful estimated life expectancy of tree, in years
Age	Young (Y): Young sapling/newly planted tree Semi-mature (SM): Trees in within first third of SULE for species type Early-mature (EM): Trees in second third of SULE for species type Mature (M): Trees in final third of SULE for species type	Vitality (V): A measure of the physiological condition of tree. G = Good; F = Fair; P = Poor; D = Dead Over-mature (OM): Trees that have exceeded their natural life span Veteran (V): Trees of any age which display veteran characteristics Ancient (A): Trees which are remarkably old for the species type
Priority Categories		
N/A: Tree Risk of Harm (RoH) is broadly acceptable or as low as reasonably practicable (ALARP), and therefore no further works are prescribed		High: Dangerous trees that require planning and/or consultation; works to be completed within 4 weeks of inspection
Urgent: Emergency situations where there is likelihood of imminent failure; works to be completed soon as reasonably practicable		Moderate: Trees noted as hazardous; works to be completed within 20 weeks of inspection
		Low: Tree RoH is broadly acceptable or ALARP; works to be completed for long-term management purposes and at the discretion of the landowner
Quantified Tree Risk Assessment Calculations		
Target Zone	(H = Human; V = Vehicle; P = Property)	Size (DBH)
Target 1:	<ul style="list-style-type: none"> Average estimated annual traffic flow of 4,800 – 47,000 vehicles p/day 	Size 1: > 450 mm Size 2: 450-260 mm Size 3: 250-110 mm Size 4: 100-25 mm Size P: Used to calculate damage to property
Target 2:	<ul style="list-style-type: none"> Average estimated occupancy of 15 mins – 2.4 hrs p/day Average estimated traffic of 8 – 72 pedestrians p/hr Potential to cause £2,000 – £20,000 in damage to property 	
Target 3:	<ul style="list-style-type: none"> Average estimated occupancy of 2 – 14 mins p/day Average estimated traffic of 2 – 7 pedestrians p/hr Potential to cause £2,000 – £20,000 in damage to property 	
Target 4:	<ul style="list-style-type: none"> Average estimated annual traffic flow of 48 – 470 vehicles p/day Average estimated occupancy of 2 mins p/week – 1 min p/day Average estimated traffic of 3 pedestrians p/day – 1 p/hr Potential to cause £200 – £2,000 in damage to property 	
Target 5:	<ul style="list-style-type: none"> Potential to cause £20 – £200 in damage to property 	
		Probability of Failure (PoF)
		1: 1/1 - > 1/10 2: 1/10 - > 1/100 3: 1/100 - > 1/1K 4: 1/1K - > 1/10K 5: 1/10K - > 1/100K 6: 1/100K – 1/1M 7: < 1/1M
Risk of Harm (RoH):		
Expressed as a fraction, with recommended follow up action:		
<ul style="list-style-type: none"> < 1/1M Broadly Acceptable (BA): No further remedial action is required 1/10K – 1/1M Tolerable (T): Remedial action may be required, to ensure that risk is as low as reasonably practicable (ALARP) 1/1K – 1/10K Tolerable when not imposed upon others (T): Remedial may be required, to ensure that risk is ALARP <1/1K Unacceptable or 1/K - 1/10K when imposed on others (U): Urgent remedial action is usually required 		



Individual Trees

Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	PoF	RoH		
T002	Common ash (<i>Fraxinus excelsior</i>)	M	20-40	22	7	60	F	Bifurcates at ground level m into two co-dominant stems; union is very acute and appears included, with two stems occluded together to 2 m, and with some slight lateral broadening of the parent stem directly beneath the point of bifurcation.	Included branch union	Powerlines	P3	P	100 %	5	< 1/1M (BA)	No works recommended	N/A
T003	Common ash (<i>Fraxinus excelsior</i>)	M	5-10	18	6	80	P	Situated outside of site boundaries. Extensive crown tip dieback, with deadwood > 100 mm throughout the crown. Multiple branch cavities on main stem and structural branches which provide good ecological value.	Main stem/root plate failure	Powerlines	P3	P	100 %	5	< 1/1M (BA)	Remove tree (retain as 7 m standing stem)	Low
T004	Common ash (<i>Fraxinus excelsior</i>)	M	10-20	21	7	85	P	Situated outside of site boundaries. Extensive crown tip dieback, with deadwood > 100 mm throughout the crown. Multiple branch cavities on main stem and structural branches which provide good ecological value.	Main stem/root plate failure	Powerlines	P3	P	100 %	6	< 1/1M (BA)	Remove tree (retain as 7 m standing stem)	Low
T005	Common ash (<i>Fraxinus excelsior</i>)	EM	20-40	23	7	59	F	<i>Inonotus hispidus</i> fructifications at 7 m, at base of primary branch extending north. Minor deadwood < 100 mm in diameter scattered throughout the crown.	Defective primary branch	Footpath	H3	2	100 %	3	1/100 K	Remove primary branch extending north at 6 m	High



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	POF	RoH		
T006	European beech (<i>Fagus sylvatica</i>)	M	10-20	20	7	68	F	<i>Meripilus giganteus</i> fructifications identified around base of main stem during previous inspection carried out in 2023, though absent at the time of the current survey. Some thinning of the crown apparent with deadwood < 100 mm accumulating around the extremities, which may indicate physiological dysfunction. Resistograph results (see Appendix 3) indicate substantial areas of decay in the main stem and root collar.	Main stem/root plate failure	Far Common Rd.	V1	1	100 %	5	1/400	Remove tree and plant replacement trees	High
T007	Common ash (<i>Fraxinus excelsior</i>)	EM	20-40	16	5	48	F	Displays early symptoms of Chalara ash dieback <i>Hymenoscyphus fraxineus</i> , with adventitious shoots on structural branches and minor deadwood < 100 mm accumulating around the extremities of	Main stem/root plate failure	Main drive	V3	1	100 %	6	< 1/1M (BA)	Remove deadwood < 50 mm in diameter	Low
T008	Common beech (<i>Fagus sylvatica</i>)	M	40-80	26	10	89	G	Historical mechanical damage to base of main stem on south aspect, approx. 150 x 100 cm, with some visible decay to the exposed ripewood apparent, though with extensive reactionary growth forming around margins of defect.	Main stem/root plate failure	Fall Ln.	H3	1	100 %	6	< 1/1M (BA)	No works recommended	N/A
T009	Flowering cherry (<i>Prunus serrulata</i>)	SM	20-40	7	3	30	G	Some minor mechanical damage apparent to surface roots.	Main stem/root plate failure	Footpath	H2	2	100 %	7	< 1/1M (BA)	No works recommended	N/A
T010	Goat willow (<i>Salix caprea</i>)	EM	5-10	9	4	61	P	Extensive crown tip dieback, with bark necrosis on main stem and first order branches to 3 m. Honey fungus <i>Armillaria mellea</i> rhizomorphs apparent.	Main stem/root plate failure	Footpath	H3	1	100 %	4	1/400 K	Remove tree and plant replacement trees	Moderate



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	POF	RoH		
T011	Black hybrid poplar (<i>Populus x canadensis</i>)	EM	10-20	22	9	67	F	Bifurcates at ground level into two co-dominant stems, though one stem has historically been removed. Multiple second order branch tear-out wounds throughout the crown, with remaining tree now susceptible to further branch failure due to changes in windloading.	Further failure of second order branches	Main drive	H2	2	100 %	4	1/100 K	Remove tree and plant replacement trees	Moderate
T012	Wild cherry (<i>Prunus avium</i>)	SM	10-20	10	4	31	G	Bifurcates at 1.5 m into two co-dominant stems; union appears included with slight lateral broadening of parent stem directly beneath the point of bifurcation. Branches extending east encroach upon adjacent building	Included branch union	Footpath	H3	3	100 %	5	< 1/1M (BA)	Remove tree and replant replacement trees	Low
T013	Sycamore (<i>Acer pseudoplatanus</i>)	D	< 5	20	5	51	D	Moribund tree	Main stem/root plate failure	Woodland	V1	1	100 %	4	1/4K	Remove tree (retain as 10 m standing stem for ecological value) and plant replacement trees	High
T014	Sessile oak (<i>Quercus petraea</i>)	EM	40-80	19	8	62	F	Hanging branch > 100 mm in diameter suspended in east aspect of crown at 16 m.	Hanging branch	Amenity grassland	H4	3	100 %	2	1/500 K	Remove hanging branch at 16 m in east aspect of the crown	High
T015	Common ash (<i>Fraxinus excelsior</i>)	SM	5-10	11	3	27	P	Displays advanced symptoms of Chalara ash dieback <i>Hymenoscyphus fraxineus</i> , with deadwood > 100 mm in diameter throughout the crown.	Main stem/root plate failure	Fall Ln.	V1	2	100 %	6	1/1M	RoH is ALARP Remove tree and plant replacement trees	Low



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	POF	RoH		
T016	Common ash (<i>Fraxinus excelsior</i>)	M	40-80	21	10	91	F	Multiple historic pruning wounds on main stem to 7 m, some of which are developing into branch cavities, though all with extensive reactionary growth forming around the margins. Major deadwood > 100 mm in diameter scattered throughout the crown.	Deadwood	Footpaths	H3	3	100 %	3	1/500 K	Remove deadwood > 50 mm in diameter	Moderate
T017	Lombardy poplar (<i>Populus nigra</i> 'Italica')	EM	10-20	24	3	42	F	Cavity at base of main stem, approx. 10x5 cm. Resistograph results (see Appendix 3) indicate presence of decay in the main stem, though with pronounced reactionary buttress roots apparent.	Main stem/root plate failure	Amenity area	H3	2	100 %	5	< 1/1M	No works recommended	N/a
T018	Lombardy poplar (<i>Populus nigra</i> 'Italica')	EM	10-20	24	3	37	F	Cavity at base of main stem, approx. 10x5 cm. Resistograph results (see Appendix 3) indicate presence of decay in the main stem, though with pronounced reactionary buttress roots apparent.	Main stem/root plate failure	Amenity area	H3	2	100 %	5	< 1/1M	No works recommended	N/a
T019	Lombardy poplar (<i>Populus nigra</i> 'Italica')	EM	10-20	26	3	58	F	Cavity at base of main stem, approx. 20x10 cm. Resistograph results (see Appendix 3) indicate presence of decay in the main stem, though with pronounced reactionary buttress roots apparent.	Main stem/root plate failure	Amenity area	H3	1	100 %	5	< 1/1M	No works recommended	N/a



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	POF	RoH		
T020	Common ash (<i>Fraxinus excelsior</i>)	EM	20-40	18	5	65	F	Bifurcates at 0.5-1 m into three co-dominant primary stems; unions are acute and are possibly included. Displays early symptoms of Chalara ash dieback <i>Hymenoscyphus fraxineus</i> , with adventitious shoots on structural branches and minor deadwood < 100 mm accumulating around the extremities of the crown.	Deadwood	Footpath	H3	4	25%	3	< 1/1M (BA)	Remove deadwood > 50 mm in diameter	Low
T021	Common ash (<i>Fraxinus excelsior</i>)	EM	40-80	16	5	46	F	Hanging branch < 100 mm in diameter at 5 m in south aspect of crown. Minor deadwood < 100 mm in diameter scattered throughout the crown.	Hanging branch	Footpath	H3	4	25%	2	< 1/1M (BA)	<ul style="list-style-type: none"> Remove hanging branch at 5 m in south aspect of the crown Remove deadwood > 50 mm in diameter 	Low
T022	Rowan (<i>Sorbus aucuparia</i>)	Y	40-80	5	2	9	G	No obvious significant defects.	Main stem/root plate failure	Footpath	H2	4	100%	7	< 1/1M (BA)	No works recommended	N/A



Groups of Trees

Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
G001	Common ash (<i>Fraxinus excelsior</i>) Sycamore (<i>Acer pseudoplatanus</i>)	M	20-40	24	100	F	Linear group containing three ash and two sycamore. Two ash display early symptoms of chalara ash dieback <i>Hymenoscyphus fraxineus</i> , with adventitious shoots on structural branches and deadwood > 100 mm accumulating around extremities of the crowns. Several broken hanging branches within ash which are partially suspended in the crowns, though these are positioned above low-occupancy targets.	Deadwood	Amenity area	H4	3	100 %	3	< 1/1M (BA)	No works recommended	N/A
G002	Common hawthorn (<i>Crataegus monogyna</i>) Common ash (<i>Fraxinus excelsior</i>)	SM EM	40-80	22	98	F	Linear group containing approx. 12 trees, predominantly consisting of early-mature ash. All trees have been extensively pruned historically on south-east aspect for clearance to powerlines, with multiple branch cavities and adventitious epicormic shoots as a result. Minor deadwood < 100 mm in diameter throughout the group, though this is predominantly positioned above low-value targets. Multiple specimens display acute primary and secondary branch unions, and branch tear-out wounds, though none of these features result in a PoF of >1/100K.	Failure of first order branches	Powerlines	P3	P	100 %	6	< 1/1M (BA)	No works recommended	N/A



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/Zone	Size	Mass	PoF	RoH		
G003	Common alder (<i>Alnus glutinosa</i>) Cherry plum 'Pissardii' (<i>Prunus cerasifera</i> 'Pissardi') Silver birch (<i>Betula pendula</i>) Hazel (<i>Corylus avellana</i>) Eastern redbud (<i>Cercis canadensis</i>) Common ash (<i>Fraxinus excelsior</i>) Scots pine (<i>Pinus sylvestris</i>) Wild cherry (<i>Prunus avium</i>) Sessile oak (<i>Quercus petraea</i>) European beech (<i>Fagus sylvatica</i>) Corsican pine (<i>Pinus nigra subsp. laricio</i>) Bird cherry (<i>Prunus padus</i>) Rowan (<i>Sorbus aucuparia</i>)	Y SM	40-80	16	38	F	Group of densely arranged trees. Multiple specimens display acute branch unions, leaning main stems, asymmetrical forms, leaning stems, branch cavities, and branch tear-out wounds, though none of these result in a PoF of > 1/10K. Minor deadwood < 100 mm in diameter throughout the group, though this is predominantly positioned above low-value targets. Minor mechanical damage to bases of main stems and surface roots of multiple trees.	Main stem/root plate failure	Footpaths	H3	2	100 %	6	< 1/1M (BA)	Crown lift for clearance to adjacent footpaths and buildings	Low



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
	Flowering cherry (<i>Prunus serrulata</i>)															
G004	Goat willow (<i>Salix caprea</i>)	EM	5-10	9	61	F	Group containing four goat willow. All specimens display acute primary branch unions, though none of these features result in a PoF of > 1/100K. Minor deadwood < 100 mm throughout the group though predominantly positioned above low-occupancy targets.	Deadwood	Amenity grassland	H3	4	25%	3	< 1/1M (BA)	Remove trees and plant replacement trees	Low
G005	Goat willow (<i>Salix caprea</i>) Horse chestnut (<i>Aesculus hippocastanum</i>) Wild cherry (<i>Prunus avium</i>)	SM EM	40-80	21	80	F	Linear group of trees positioned on steep banking adjacent to car park. Minor deadwood < 100 mm in diameter throughout the group, though this is predominantly positioned above low-occupancy targets. Bases of trees partially obscured by understorey and access restricted by steep incline, though upper portions of crown appear of fair vitality and vigour with no indication of physiological dysfunction. Multiple trees display features that are typical of woodland specimens, including acute branch unions, leaning main stems, asymmetrical forms, branch cavities, and branch tear-out wounds,	Main stem/root plate failure	Car park	P4	P	100 %	6	< 1/1M (BA)	No works recommended	N/A



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
							though none of these features result in a PoF of > 1/100K.									
G006	Common ash (<i>Fraxinus excelsior</i>) Sycamore (<i>Acer pseudoplatanus</i>) Common hawthorn (<i>Crataegus monogyna</i>) Sessile oak (<i>Quercus petraea</i>)	Y SM EM	40-80	23	85	F	Woodland group, positioned on banking of stream, predominantly consisting of young and semi-mature self-seeded trees, though also includes several mature ash and sessile oak. Bases and lower main stems of trees are partially obscured by dense vegetation and/or ivy <i>Hedera helix</i> though upper portions of crowns appear of fair vitality and vigour with no indication of physiological dysfunction. Major deadwood > 100 mm in diameter throughout the group, though this is predominantly positioned above low-occupancy targets.	Deadwood	Woodland	H4	3	100 %	3	< 1/1M (BA)	No works recommended	N/A
G007	Sycamore (<i>Acer pseudoplatanus</i>) Sessile oak (<i>Quercus petraea</i>) European beech (<i>Fagus sylvatica</i>)	SM EM M	80+	24	89	F	Group containing approx. 17 trees. Major deadwood > 100 mm in diameter throughout the group, some of which is positioned above high-occupancy targets (Fall Ln.).	Deadwood	Fall Ln.	V1	3	100 %	3	1/5K	• Remove deadwood > 50 mm in diameter	Moderate
															• Crown lift to 5.2 m for clearance over Fall Ln	Low



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
G008	Horse chestnut (<i>Aesculus hippocastanum</i>) Common ash (<i>Fraxinus excelsior</i>) Laurel cherry (<i>Prunus laurocerasus</i>) Leyland cypress (<i>Cupressus x leylandii</i>)	SM	40-80	10	41	F	Linear group containing approx. 24 trees, bordering Far Common Rd. and Fall Ln. Ash within group display exposed surface roots and/or girdling roots. Several ash also display early symptoms of Chalara ash dieback <i>Hymenoscyphus fraxineus</i> , with minor deadwood < 100 mm in diameter accumulating around the extremities of the crowns and adventitious shoots on structural branches.	Failure of first order branches	Fall Ln.	V1	3	100 %	6	1/1M	RoH is ALARP No works recommended	N/A
G009	European beech (<i>Fagus sylvatica</i>) Sweetgum (<i>Liquidambar styraciflua</i>) Horse chestnut (<i>Aesculus hippocastanum</i>) Common lime (<i>Tilia x europaea</i>)	SM EM M	40-80	21	76	F	Group containing six early-mature and mature beech, lime, and horse chestnut, and one semi-mature sweetgum, positioned around car park. Bases and lower main stems of lime are partially obscured by epicormic, though upper portions of crowns are of fair vitality and vigour with no indication of major physiological dysfunction. Minor deadwood < 100 mm in diameter throughout the group, though this is predominantly positioned above low-occupancy targets. Several specimens display acute primary and secondary branch unions, branch cavities, and branch tear-out wounds, though none of these features result in a PoF of > 1/100K.	Acute branch unions	Far Common Rd.	V1	2	100 %	6	< 1/1M (BA)	Remove epicormic from main stems of lime to 8 m to facilitate future inspections	Low



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
G010	Sycamore (<i>Acer pseudoplatanus</i>) Common ash (<i>Fraxinus excelsior</i>) Common ash (<i>Fraxinus excelsior</i>) English yew (<i>Taxus baccata</i>) Himalayan tree-cotoneaster (<i>Cotoneaster frigidus</i>) Rhododendron (<i>Rhododendron ponticum</i>) Common holly (<i>Ilex aquifolium</i>) Wild cherry (<i>Prunus avium</i>)	SM EM M	40-80	21	91	F	Group containing approx. 25 semi-mature, early-mature, and mature trees within 'Sensory Garden' area. Multiple wild cherry, holly, and rhododendron display acute branch unions and leaning main stems, though none of these features result in a PoF of > 1/100K.	Acute branch unions	Footpaths	H2	3	100 %	6	< 1/1M (BA)	No works recommended	N/A
G011	Sycamore (<i>Acer pseudoplatanus</i>) Broad-leaved lime (<i>Tilia platyphyllos</i>) Common lime (<i>Tilia x europaea</i>)	EM M	40-80	25	70	F	Group containing four early-mature and mature trees adjacent to drive and car park. Major deadwood > 100 mm in diameter in sycamore, some of which is positioned over the main drive.	Deadwood	Main drive	V3	3	100 %	3	1/500 K	Remove deadwood > 50 mm positioned above driveway and footpaths	Moderate



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
G012	Norway maple (<i>Acer platanoides</i>) Common lime (<i>Tilia x europaea</i>) European beech (<i>Fagus sylvatica</i>) Broad-leaved lime (<i>Tilia platyphyllos</i>)	EM M	40-80	25	71	F	Group of 10 early-mature and mature trees positioned upon amenity grassland adjacent to driveway, and bordering Far Common Rd. Multiple trees display acute primary and secondary unions, leaning main stems, and branch cavities, though none of these features result in a PoF of > 1/100K. Major deadwood > 100 mm in diameter throughout the group, though this is predominantly positioned above low-occupancy targets.	Deadwood	Amenity grassland	H4	3	100 %	3	< 1/1M (BA)	No works recommended	N/A
G013	Norway maple (<i>Acer platanoides</i>) Common lime (<i>Tilia x europaea</i>) Common ash (<i>Fraxinus excelsior</i>) Sycamore (<i>Acer pseudoplatanus</i>) Whitebeam (<i>Sorbus aria</i>) Copper beech (<i>Fagus sylvatica</i> 'Purpurea') European beech (<i>Fagus sylvatica</i>)	EM M	40-80	26	61	F	Linear group containing approx. 18 early-mature and mature trees adjacent to main drive. Minor deadwood < 100 mm in diameter throughout the group, though this is predominantly positioned above low-occupancy targets. Multiple trees display acute primary and secondary branch unions, leaning main stems, and branch cavities, though none of these features result in a PoF of > 1/100K.	Acute branch unions	Main drive	V3	1	100 %	6	< 1/1M (BA)	No works recommended	N/A



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
	Silver birch (<i>Betula pendula</i>) Horse chestnut (<i>Aesculus hippocastanum</i>)															
G014	Common ash (<i>Fraxinus excelsior</i>) Common hawthorn (<i>Crataegus monogyna</i>) Small-leaved lime (<i>Tilia cordata</i>) Wych elm (<i>Ulmus glabra</i>) Horse chestnut (<i>Aesculus hippocastanum</i>) Wild cherry (<i>Prunus avium</i>) European beech (<i>Fagus sylvatica</i>) Broad-leaved lime (<i>Tilia platyphyllos</i>)	SM EM M	40-80	16	72	F	Linear group containing 14 semi-mature, early-mature, and mature trees on boundary of field and bordering Far Common Rd. Multiple trees display acute primary and secondary branch unions, leaning main stems, branch cavities, and branch tear-out wounds, though none of these features result in a PoF of > 1/100K. Minor deadwood < 100 mm throughout the group, though this is predominantly positioned above low-occupancy targets. Ash centrally within group displays early symptoms of Chalara ash dieback <i>Hymenoscyphus fraxineus</i> , with adventitious shoots on structural branches and minor deadwood < 100 mm accumulating around the extremities of the crown.	Acute branch unions	Far Common Rd.	V1	1	100 %	6	1/400 K	RoH is ALARP <ul style="list-style-type: none"> • Crown lift to 5.2 m over Far Common Rd • Crown lift/reduce branches to clear Streetlamp 6 on Far Common Rd 	Low



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
G015	Common ash (<i>Fraxinus excelsior</i>) Sycamore (<i>Acer pseudoplatanus</i>) Goat willow (<i>Salix caprea</i>) Common hawthorn (<i>Crataegus monogyna</i>)	SM EM	40-80	15	60	F	Group containing three semi-mature and early-mature sycamore, with dense hawthorn and goat willow understorey. Bases and lower main stems of trees are partially obscured by vegetation and ivy <i>Hedera helix</i> , though upper portions of crowns appear of fair vitality and vigour with no indication of physiological dysfunction.	Main stem/root plate failure	Amenity grassland	H5	1	100 %	7	< 1/1M (BA)	No works recommended	N/A
G016	Sycamore (<i>Acer pseudoplatanus</i>) Lombardy poplar (<i>Populus nigra</i> 'Italica')	EM M	20-40	27	95	F	Linear group containing one mature sycamore and approx. 22 early-mature Lombardy poplar. Several Lombardy poplar display minor cavities at the bases, though with extensive reactionary buttressing evident. Minor deadwood < 100 mm in diameter throughout the group, predominantly positioned above low-value targets.	Main stem/root plate failure	Amenity grassland	H4	1	100 %	6	< 1/1M (BA)	No works recommended	N/A
G017	West-Himalayan Birch (<i>Betula utilis</i> var. <i>Jacquemontii</i>) Field maple (<i>Acer campestre</i>) Silver birch (<i>Betula pendula</i>) European beech (<i>Fagus sylvatica</i>)	Y SM	40-80	14	24	G	Several groups of trees positioned around car park, predominantly comprised of west-Himalayan birch. Planting stakes and ties remain in place on multiple trees and are now constricting the main stems. Multiple trees display acute branch unions, leaning main stems, and branch cavities, though none of these features result in a PoF of > 1/100K.	Acute branch unions	Footpaths	H3	2	100 %	6	< 1/1M (BA)	<ul style="list-style-type: none"> Remove planting stakes and ties Formative prune 	Low



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass %	PoF	RoH		
G018	Flowering cherry (<i>Prunus serrulata</i>) West-Himalayan Birch (<i>Betula utilis</i> var. <i>Jacquemontii</i>)	SM	20-40	7	33	G	Linear group containing five flowering cherry and one west-Himalayan birch. All cherries within group have been historically topped at circa 3 m, and display acute and potentially included primary branch unions.	Acute branch unions	Footpath	H3	3	100 %	6	< 1/1M (BA)	No works recommended	N/A
G019	Wych elm (<i>Ulmus glabra</i>)	D	< 5	16	27	D	Group containing approx. 10 moribund trees.	Main stem/root plate failure	Fall Ln.	V1	2	100 %	3	1/1K	Remove group	High
G020	Wild cherry (<i>Prunus avium</i>) Deodar cedar (<i>Cedrus deodara</i>) Leyland cypress (<i>Cupressus x leylandii</i>) Cultivar apple (<i>Malus domestica</i>)	Y SM	40-80	13	49	F	Group containing 11 young and semi-mature trees within playground. Multiple pruning wounds on main stems, sustained during historic crown lifting works, some of which are developing into branch cavities.	Main stem/root plate failure	Playground	H2	2	100 %	7	< 1/1M (BA)	No works recommended	N/A
G021	Wild cherry (<i>Prunus avium</i>)	SM EM	20-40	8	51	F	Group containing two semi-mature and one early-mature tree. One tree displays leaning stem, which has likely developed due to proximity with adjacent trees. Minor deadwood < 100 mm in diameter scattered throughout the crown.	Main stem/root plate failure	Main drive	H2	2	100 %	6	< 1/1M (BA)	No works recommended	N/A



Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Type/ Zone	Size	Mass	PoF	RoH		
G022	Wild cherry (<i>Prunus avium</i>)	SM	40-80	7	15	G	Group containing three trees adjacent to allotment area. No obvious significant defects.	Main stem/root plate failure	Allotment area	H3	3	100 %	7	< 1/1M (BA)	No works recommended	N/A



Appendix 3: Resistance Micro-Drill (Resistograph) Results

Resistance micro-drill testing was carried out using an IML F400-571 Resistograph, which uses a stainless-steel drill bit that is approximately 2 mm in diameter and 380 mm long. When the drill bit is pushed into a tree the resistance is recorded by a stylus onto wax paper. The results can be used to interpret if the wood within a stem is hollow, decayed, or intact. A flat line which is low on the y-axis indicates no resistance to the drill bit and dysfunctional wood, whereas a line which is high on the y-axis indicates resistance and functional wood.

The results from T006, T0017, T018, and T019 are provided below, and should be read from right to left.

Test 1

Tree Ref: T006	Level/Aspect of Stem: 20 cm below ground level/North	Comments: Results indicate needle entering bark/wood to a depth of 3 cm; functional sapwood/ripenwood from 3-15 cm; early-stage decayed ripewood from 15-28 cm; then functional ripewood from 27-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	
Resistograph Reading		Indicative drill cross-section



Test 2

Tree Ref: T006	Level/Aspect of Stem: 20 cm below ground level/East	Comments: Results indicate needle entering bark/wood to a depth of 2 cm; then functional sapwood/ripenwood from 2-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	
Resistograph Reading		Indicative drill cross-section
		<p>38 cm Resistograph drill bit</p> <p>Main stem of T006 (68 cm diameter)</p> <p>----- Needle entering bark/wood ----- Functional wood</p>

Test 3

Tree Ref: T006	Level/Aspect of Stem: 20 cm below ground level/South	Comments: Results indicate needle entering bark/wood to a depth of 3 cm; functional sapwood/ripenwood from 3-8 cm, with a section of heavily lignified 'barrier zone' wood at 8 cm; then heavily decayed ripewood from 8-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	
Resistograph Reading		Indicative drill cross-section
		<p>38 cm Resistograph drill bit</p> <p>Main stem of T006 (68 cm diameter)</p> <p>----- Needle entering bark/wood ----- Functional wood ----- Heavily Decayed wood</p>



Test 4

Tree Ref: T006	Level/Aspect of Stem: 20 cm below ground level/West	Comments: Results indicate needle entering bark/wood to a depth of 1 cm; functional sapwood/ripenwood from 1-15 cm; then heavily decayed ripewood from 15-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	
Resistograph Reading		Indicative drill cross-section

Test 5

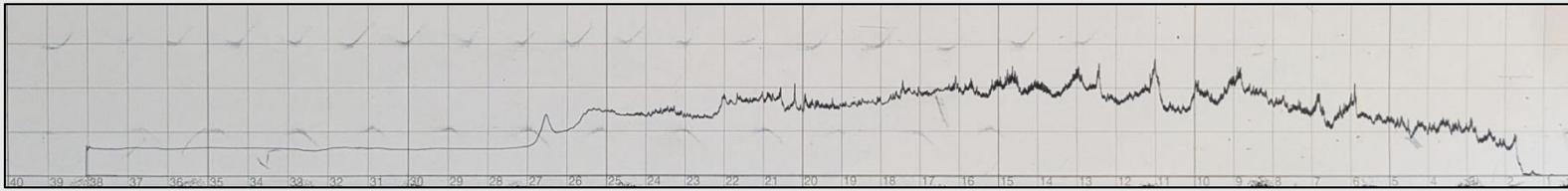
Tree Ref: T017	Level/Aspect of Stem: 30 cm above ground level/North-east	Comments: Results indicate needle entering bark/wood to a depth of 2 cm; functional sapwood/ripenwood from 2-8 cm; heavily decayed ripewood from 8-34 cm; then mostly functional ripewood from 34-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	
Resistograph Reading		Indicative drill cross-section



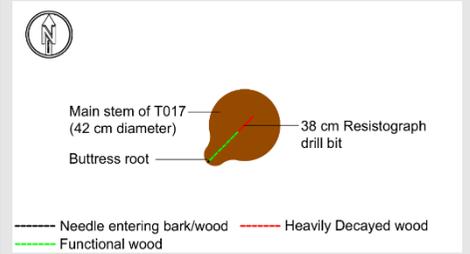
Test 6

Tree Ref: T017	Level/Aspect of Stem: 30 cm above ground level (through buttress root)/South-west	Comments: Results indicate needle entering bark/wood to a depth of 2 cm; functional sapwood/ripenwood from 2-28 cm; then heavily decayed ripewood from 28-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	

Resistograph Reading



Indicative drill cross-section



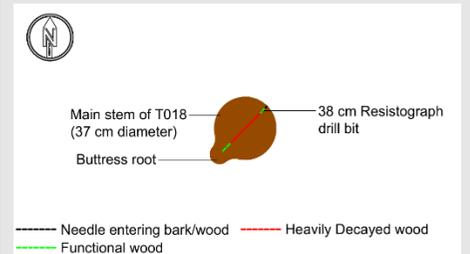
Test 7

Tree Ref: T018	Level/Aspect of Stem: 30 cm above ground level/North-east	Comments: Results indicate needle entering bark/wood to a depth of 2 cm; functional sapwood/ripenwood from 2-7 cm; heavily decayed ripewood from 7-32 cm; then functional and heavily lignified ripewood from 32-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	

Resistograph Reading



Indicative drill cross-section

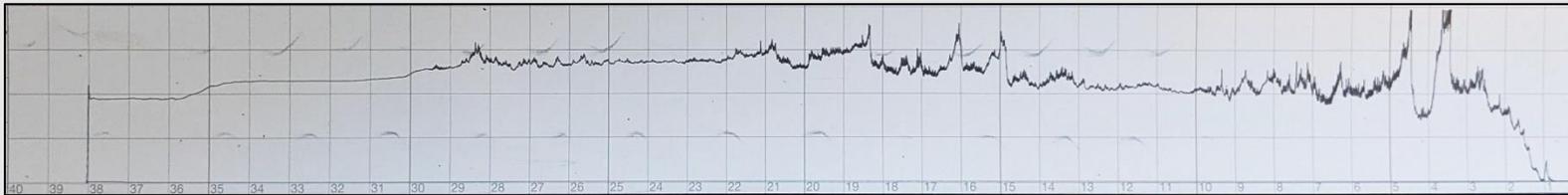




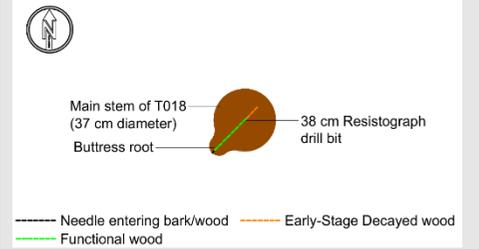
Test 8

Tree Ref: T018	Level/Aspect of Stem: 30 cm above ground level (through buttress root)/South-west	Comments: Results indicate needle entering bark/wood to a depth of 2 cm; functional and heavily lignified sapwood/ripewood from 2-29 cm; then early-stage decayed ripewood from 29-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	

Resistograph Reading



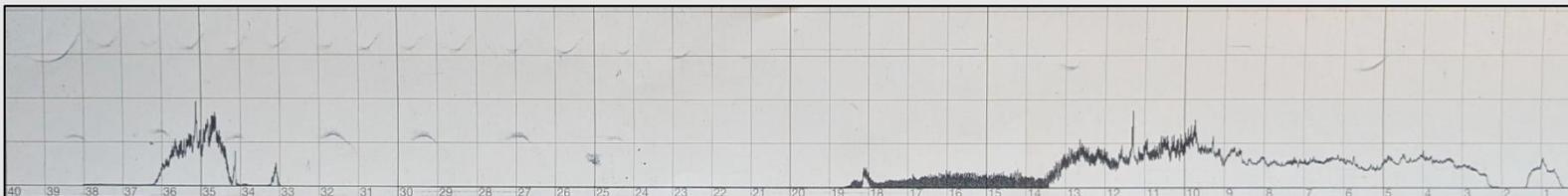
Indicative drill cross-section



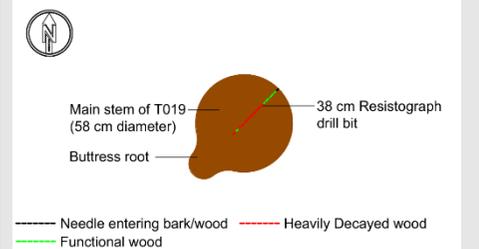
Test 9

Tree Ref: T019	Level/Aspect of Stem: 30 cm above ground level/North-east	Comments: Results indicate needle entering bark/wood to a depth of 3 cm; then functional sapwood/ripewood from 3-13 cm; heavily decayed ripewood from 13-34 cm; functional ripewood from 34-36 cm; then heavily decayed ripewood from 36-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	

Resistograph Reading



Indicative drill cross-section

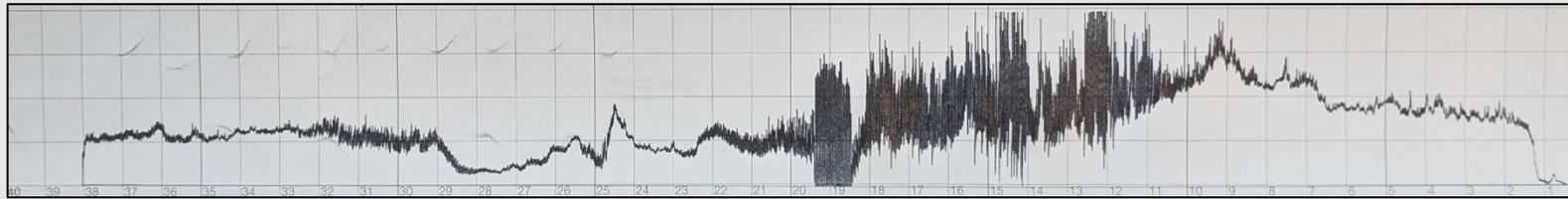




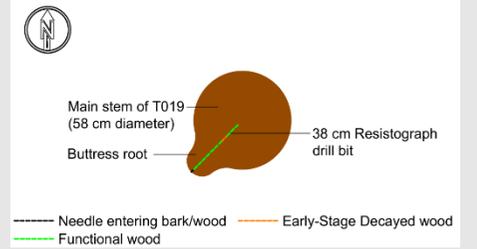
Test 10

Tree Ref: T018	Level/Aspect of Stem: 30 cm above ground level (through buttress root)/South-west	Comments: Results indicate needle entering bark/wood to a depth of 2 cm; functional and heavily lignified sapwood/ripenwood from 2-25 cm; early-stage decayed ripewood from 25-29 cm; then functional ripewood from 29-38 cm.
Date: 20.12.2024	Drill Depth: 38 cm	

Resistograph Reading



Indicative drill cross-section



Appendix 4: Tree Plan

Site name:	Hollybank School, Far Common Road, Mirfield WF14 0DQ
Drawing Number:	WC-323.1a.4
Client:	Hollybank Trust
Revision:	A
Drawn By:	Jack Delaney
Date:	27th December 2024
Scale:	1:2,000 @ A3

Map Key:

	Trees deemed to present a broadly acceptable risk of harm (RoH) or a tolerable RoH that is already as low as is reasonably practicable (ALARP), that require no further work
	Trees identified to display defects, with a tolerable or unacceptable RoH, that require further remedial work
	Trees deemed to present a broadly acceptable RoH, or a tolerable RoH that is already ALARP, recommended for low-priority remedial works in the interests of site management
	Groups of trees deemed to present a broadly acceptable RoH or a tolerable RoH that is already ALARP, that require no further work
	Groups of trees identified to display defects, with a tolerable or unacceptable RoH, that require further remedial work
	Groups of trees deemed to present a broadly acceptable RoH, or a tolerable RoH that is already ALARP, recommended for low-priority remedial works in the interests of site management
	Site boundaries



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