

Castle Garth Cawood

Tree Assessment Survey Report

March 2018

Prepared by	Jo Ryan BSc (Hons) FArborA Lyndum, Church Hill Stillingfleet York YO19 6SA T/F: 01904 720126 jo@jo-ryan.com
Prepared for	Cawood Parish Council



1 Scope of Report

Instruction

A walk-over tree assessment survey was commissioned by Cawood Parish Council. I was asked to provide an arboricultural report on the general condition of trees on Castle Garth and to recommend any works necessary. The report is only concerned with trees within Castle Garth boundaries.

Collection of Data

A site visit was undertaken by a Jo Ryan on 13 March 2018. All observations were carried out from ground level using the Visual Tree Assessment (VTA) method¹. Stem diameters were measured with a tape and all other dimensions were estimated.

Statement

Trees are living organisms whose health and condition can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. The health, condition and safety of trees should be checked on a basis commensurate with the level of risk.

This report remains valid for one year from the date of inspection, March 2018.

Site

Castle Garth site is located at the centre of Cawood village and is owned by Cawood Parish Council. There is unlimited public access to Castle Garth; there are footpaths through the area as well as some benches and information boards. The land borders residential properties to the east and west and there is a school along the southern boundary. The Castle Gatehouse and garden is adjacent to the northern boundary.

The site is a Scheduled Ancient Monument and Site of Importance for Nature Conservation. There is a pond surrounded by trees in the middle of the site as well as water bodies and wet areas with vegetation along the southern and eastern boundaries. The footprints of two wartime Nissen huts are still visible as their perimeters are marked with self-seeded trees. The tree group is adjacent to the gardens of Castle Gatehouse, which has a line of mature sycamore trees overhanging Castle Garth.

¹ Mattheck, C and Breloer, H (1994) *The Body Language of Trees. Research for Amenity Trees No.4* Department of the Environment

2 Discussion

Pruning Works

Work to a small number of trees is recommended. This includes crown lifting and reducing end loading on branches over footpaths. Most pruning work recommends that branches are shortened by cutting back to a suitable side branch rather than removing branches completely back to the main stem. Work in the Tree Schedule to be 'considered' is suggested for operations that may be undertaken as part of longer term management of the trees and includes work to large coppice stems showing weak junctions which are likely to become increasingly unstable as the stems increase in height and weight loading. For this reason, re-coppicing has been suggested for willows around the pond in Area 1 and sycamore trees on the north-western boundary in Area 5. While re-coppicing would remove the risk of failure of stems which are weakly attached, it would also result in a temporary loss of amenity until the cut stumps re-grow. For this reason, phased re-coppicing of areas over 3-5 years is proposed, to gradually create a diverse structure without wholesale loss of amenity. This management approach may be particularly beneficial on the north-western boundary, by allowing regenerated ash and holly to develop and introducing more structure to the copse edge.

Dead Wood

Some trees have dead or decaying branches or stems. Dead wood greater than 25mm diameter has the potential to cause damage if it falls and dead wood greater than 50mm diameter should be considered for removal over areas that are regularly used (high target areas). However, the risk of injury or damage becomes much reduced where dead wood overhangs lower target areas. In these locations no work is recommended. Dying and dead wood habitats are important from a conservation viewpoint and should be maintained wherever possible, i.e. where the risk of injury or damage is acceptably low. Where branches or trees cannot be retained it may be possible to leave the wood in large pieces on the ground, away from footpaths.

Vegetation Around Trees

Some tree stems within falling distance of footpaths and property are partly obscured by ivy and basal vegetation. Where possible the base and other exposed parts of such trees were checked. However, ivy and basal shoots can hide structural problems and external signs of disease or decay at the time of inspection. To provide better visual inspection of trees in future, I recommend that where practicable, basal vegetation is cut back prior to the next survey.

Trees within Cawood Gatehouse Garden

Work to trees within the Gatehouse garden (Area 6) is recommended but should first be discussed with the property owner.

3 Other Considerations

Survey periods

Trees are dynamic, living organisms and no tree can be guaranteed to be safe. As long as we retain trees, we cannot achieve zero risk. While it is important for owners and managers of trees to have them regularly inspected and to act on recommendations, there should be a reasonable and balanced approach to tree risk management where tree risk is considered alongside the benefits that trees provide.

Frequency of survey should be commensurate with frequency of site use. Unless stated otherwise in the Tree Schedule, I recommend that trees within failing distance of footpaths or built structures are surveyed every few years (2-3) to assess their mechanical integrity. Following strong winds or adverse weather conditions, all trees should also be checked with a basic walk-over survey (either by a person with a good working knowledge of the trees or an arboriculturist) and arboricultural advice sought where there are any concerns or problems.

Implementation of works

I advise that all works are carried to BS 3998 *Tree Work - Recommendations* (2010).

Birds and bats

It is the responsibility of the tree owner and tree contractor carrying out the work to ensure that no wild birds or bats and their roosts will be affected by any works. The Wildlife and Countryside Act 1981 as amended, the Countryside and Rights of Way Act 2000 and the Conservation (Natural Habitats) Regulations 1994 protect all wild birds, their nests (whether in use or being built) and eggs and other wild animals including bats and their roosts. Further information can be obtained from Natural England ²

Trees subject to statutory controls

For trees protected by a tree preservation order or located in a conservation area it will be necessary to consult the local planning authority before any tree works other than certain exemptions can be carried out. The proposed works may also require consultation with other organizations that have an interest in the management of Castle Garth.

² www.gov.uk/government/organisations/natural-england

Figure 1

Map showing the tree areas surveyed (not to scale)



Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
Area 1 Pond Area	Willow (EM) Scots pine (EM) Birch (Y-SM) Hawthorn Elder	<p>Willow: 6 trees on eastern side of pond: T1 to north to T6 to south. Stem dia. 350-650mm. Vitality: good. Structure: moderate. Most stems are multiple coppice stems with included bark and adaptive growth at stem junctions. Ivy on lower stems. Dead wood to 50mm dia. over footpath. T5: Water-filled cavity at 1m. T6 furthest to south: Co-dominant stems split at junction. Stem to south leans over footpath. Small diameter branches over footpath reduced in past.</p>	<p>Willow: Reduce lateral branches over bench and footpath to within falling distance of grass area. (next 12 months) T1 – Lowest 2 branches to NW (branch ends 25-75mm dia.) over bench – shorten by approx. 3m. T2 and T3 - Lateral branches (200-300mm dia.) over footpath - shorten by approx. 5m. T4-T6 – shorten 6 branches (150-250mm dia.) over footpath. All willows - Re-coppice stems (i.e. cut at 0.5-1m above ground level) in two phases over 3-5 years: Phase 1: Coppice T4, T5 & T6 (next 1-2 years) Phase 2: Coppice T1, T2 & T3 (3-5 years after Phase 1)</p>

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
------	---	----------	---

Area 1 Cont.		<p>Scots pine: Stem dia. 350-500mm. Ht 8-12m. Vitality: moderate-good. Structure: moderate-poor. Clockwise around pond from willow group: First group of 5 trees suppressed by central tree which branches at 4m. Dead wood to 50mm dia. Lost leading branches – contorted crowns. 4m high tree with contorted crown - strip (100mm wide x 2m long) of dead bark and basal wood decay. Kink in stem on west. T5 – Areas of canker/sunken bark 0.5-1m on stem. T5 - 2 lateral branches to east and SE over grass. Branch to east split 1.5m from stem. Some trees ivy-covered. Trees west of pond steps: Wounds on lower stems. Stems lean to pond. Dead wood to 50mm dia. over footpath/grass area. First tree adjacent to steps on west leans north to pond. Dead wood and decay on stem to 2m. Exposed decay has strong callus around edges.</p>	<p>Scots pine : All: Sever ivy. Decayed pine adjacent to pond steps: check tree structure in 12 months.</p>
------------------------	--	---	--

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
Area 1 Cont.		<p>Second tree west of pond steps has no leader but developed 3 branches at 5m – 2 of which have been cut in past. Third branch to SW has a pruning wound at base on NW.</p> <p>Fourth tree west of pond steps on SW of pond: split branch (100mm dia.) hanging in crown over bank.</p> <p>Silver birch on west of pond Height 6m. Stem dia.: 160mm. Vitality: good. Structure: good</p>	<p>Second tree west of pond steps: Branch to SW - reduce length by 1-1.5m pruning to a suitable side branch. (next 1-2 years)</p>

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
------	---	----------	---

Area 2 Carr/ scrub eastern boundary	Willow (Y-SM) Hawthorn (SM-M) Holly Elder Birch (M) Sycamore (SM)	<p>Vitality: good-moderate. Structure: moderate</p> <p>Good habitat/conservation potential inside the area - number of stems snapped out/collapsed and lot of dead and decaying wood. Ivy on many stems.</p> <p>Hawthorn trees on eastern boundary, growing 4-6m from ditch/watercourse, lean east.</p> <p>Western edge of copse: Natural regeneration of willow gradually extending copse westwards. Some larger stems lean strongly over footpath.</p> <p>Birch and sycamore along boundary line NE of copse. Sycamore: snapped out branch 50mm dia. over adjacent garden (low risk).</p>	<p>Leave internal area as habitat/conservation area.</p> <p>Eastern edge of copse: If required, cut back stems leaning strongly to east but low risk - within failing distance of open area to east.</p> <p>Western edge of copse: Consider coppicing stems leaning strongly over path to maintain scrub within wet area and not allow it to extend further west (every 3-5 years).</p>
--	---	---	---

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
Area 3	Lime (M) (Small-leaved?)	Ht 21m, Stem dia. 970mm. Vitality: good. Structure: moderate Ivy on lower stem. Bark inclusions at stem junction at 3-4m. Lower branches lopped in past. Dieback and epicormic growth around at wounds. Low lateral branch to NW - nearly horizontal for 6m before sweeping upwards and has adaptive growth at base. Many lateral branches have developed upright branches along their length.	Branch to NW: Reduce end loading on branch (reduce approx. 6 x 100mm dia. and 2 x 50mm dia. branches). Prune branches back to side branch over grass area.
Area 4 Southern boundary	Hawthorn (EM-M) Elder (EM)	Ht. 3-6m Vitality: moderate. Structure: moderate-good Multiple stems, many ivy-covered and being weighed down/collapsed by ivy growth. Shrubs alongside footpath recently cut back.	Sever ivy. Keep branches pruned back from footpath. Consider coppicing (cutting at approx. 300mm above ground level) stems leaning strongest or collapsed due to ivy weight.

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
------	---	----------	---

Area 5 Copse NW Garth	Birch (SM-EM) Alder (EM) Hawthorn (M) Ash (Y-SM) Sorbus (SM) Malus Willow (SM-M) Sycamore (EM)	Ht. 10-15m. Stem dia. 200-750mm. Vitality: good. Structure: moderate-poor Apple: Tight crowns and rootstock basal shoots. Willow: Ht. 20m. Multiple stems from 0-1m above ground. Ivy around base of stems. Some trees show exudations at stem junctions indicating area of included bark or wood separation. Much dead wood on ground and some in crowns. End loading on lowest branch to west/ditch. Ash: Naturally regenerated through sycamores. Shrub layer: Some holly and laurel in shrub layer.	All: Sever ivy. Crown lift to 3m over footpath while branches small diameter. (approx. 10 x 25-100mm dia. branches) Willow: Lowest branch to west/ditch – consider pruning to reduce end loading – either shorten branch or remove completely. Coppice stems likely to fail as they increase in size and loading. Consider re-coppicing tree 8m from NW fence (stem dia. 750-800mm). Check structure of willow trees again in 1-2 years. Shrub layer: Remove cherry laurel to encourage (or plant) more holly into shrub layer.
--	---	--	--

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
Area 5 Cont.	Holly (SM) Cherry Laurel (SM)	<p>Sycamore: Ht.10-15m. Around perimeter base of former Nissen huts. All ivy-covered and mutually suppressed. Some trees multiple stems – old coppice stems.</p> <p>Sycamore (Tag 463) mid-way along southern boundary of Nissen hut perimeter. Multiple stems with included bark at junctions, all ivy-covered, lean over footpath.</p> <p>Line of sycamores 11m from NW boundary/residential gardens. Random trees recently been felled (stumps to 1m above ground) in this line may lead to failure of adjacent trees.</p> <p>3 sycamore trees in NW corner, approx. 4m to property boundaries - 2 trees recently had ivy removed and lower branches towards properties have been removed.</p>	<p>Sycamore: Nissen hut perimeter – Coppice group on SE corner - crown lift over footpath. Tag 463– Sever ivy. Consider removing lowest large lateral branch over grass area to SW.</p> <p>Line of 10 trees 11m from NW boundary/residential gardens - Consider phased coppice of line to reduce risk of failure and to restructure tree boundary and encourage regenerated ash to develop. Start by coppicing 5 trees on south-western end and coppice remaining 5 trees 3-5 years later. As part of works, also consider re-coppicing adjacent line behind, which has already been partly coppiced. Alternatively, remove ivy around base of trees to allow tree structures to be examined in 12 months.</p>

Appendix A Tree Schedule

SITE:	CASTLE GARTH, CAWOOD	SURVEYOR:	JO RYAN
CLIENT:	CAWOOD PARISH COUNCIL	ASSESSMENT DATE:	13 MARCH 2018
BRIEF:	WALK-OVER TREE SURVEY	JOB REFERENCE:	CAWOOD GARTH/0318

AREA	SPECIES MIX AGE CLASS: MATURE M EARLY MATURE EM SEMI MATURE SM YOUNG Y	COMMENTS	MANAGEMENT RECOMMENDATIONS (WORK PRIORITY)
Area 6 Castle Gatehouse Garden	Sycamore (M) Lombardy poplar (M)	All: Trees in the Gatehouse garden overhang Castle Garth footpath. End loading of lowest lateral branches. Lombardy poplar: At northern end of garden trees shows advanced stem decay.	All: Reduce lowest longest branches over footpath to side branches over grass area. Remove dead branches over footpath >50mm dia. (next 1-2 years) Lombardy poplar: Recommend tree is examined in more detail. Note: Ownership of Gatehouse garden not known. Liaise with land owner regarding tree condition and any proposed works.

Appendix B

Glossary of Terms

Adaptive growth. New wood produced in response to damage or loads and compensates higher strain in marginal fibres.

Basic Tree Assessment Survey

The surveyor locates and identifies the trees to be assessed and carries out a ground-level visual tree assessment. The intention will not be the inspection of each tree in detail but to take a general view of each tree or tree group and look for signs of substantial defects or debility that might present a significant risk of harm to identified 'Targets'.

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

Bacterial canker. A bark-killing bacterial disease which can be disfiguring and sometimes fatal.

Break-out cavity. A void/wound caused by the snapping or failure of a branch

Circling root. The growth of roots that is not radial away from the stem and curves to encircle the stem.

Condition. An indication of the physiological vigour 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

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

Crown density. An assessment of tree condition based on the amount of light passing through the crown

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

Dead wood. Branch or stem wood bearing no live tissues. Retention of dead wood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of dead

wood is generally recommended only where it represents an unacceptable level of hazard

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

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

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

Included bark (ingrown bark). Bark of adjacent parts of a tree (usually forks, acutely joined branches or co-dominant stems) which is in face-to-face contact; i.e. without a woody connection. Such a structure lacks inherent strength but is in many instances strongly reinforced by a surrounding 'shell' of wood.

Minor dead wood. Dead wood 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

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

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

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

Appendix B

Glossary of Terms

Removal of major dead wood. The removal of, dead, dying and diseased branch wood above a specified size

Retrenchment pruning. A phased form of crown reduction, which is intended to emulate the natural process whereby the crown of a declining tree retains its overall biomechanical integrity by becoming small. The pruning should be implemented by shortening heavy, long or weakened branches throughout the crown, while retaining as much leaf area as possible and encouraging the development of secondary branches.

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

Root zone. Area of soils containing absorptive roots of the tree/s described

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

Stem/s. The main supporting structure/s, from ground level up to the first major division into branches. A stem can divide into two or more substantial elements that might be described as co-dominant stems

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

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

Understorey. A layer of vegetation beneath the main canopy of woodland or forest or plants forming this

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

Vitality. Ability of a tree to sustain its life processes.

Appendix C

Tree Species

Alder (<i>Alnus</i> spp.)
Apple (<i>Malus domestica</i>)
Ash (<i>Fraxinus excelsior</i>)
Beech, Common (<i>Fagus sylvatica</i>)
Beech, Copper (<i>Fagus sylvatica</i> 'Purpurea')
Birch, Silver (<i>Betula pendula</i>)
Blackthorn (<i>Prunus spinosa</i>)
Cherry (<i>Prunus</i> spp.)
Cherry laurel (<i>Prunus laurocerasus</i>)
Cypress (<i>Cupressus</i> spp.)
Sawara Cypress (<i>Chamaecyparis pisifera</i>)
Elder (<i>Sambucus nigra</i>)
Elm, Wych (<i>Ulmus glabra</i>)
Hawthorn (<i>Crateagus monogyna</i>)
Hazel (<i>Corylus avellana</i>)
Hemlock (<i>Tsuga</i> spp.)
Holly, Common (<i>Ilex aquifolium</i>)
Holly, Highclere (<i>Ilex x altaclarensis</i>)
Horse chestnut (<i>Aesculus hippocastanum</i>)
Laburnum (<i>Laburnum</i> spp.)
Larch (<i>Larix decidua</i>)
Lime, Common (<i>Tilia x europaea</i>)
Lime, Small-leaved (<i>Tilia cordata</i>)
Maple, Norway (<i>Acer platanoides</i>)
Oak, Common (<i>Quercus robur</i>)
Oak, Holm (<i>Quercus ilex</i>)
Pine, Scots (<i>Pinus sylvestris</i>)
Plum (<i>Prunus domestica</i>)
Plum, Myrobalan (<i>Prunus cerasifera</i> 'Nigra')
Poplar, Lombardy (<i>Populus nigra</i> 'Italica')
Rowan (<i>Sorbus aucuparia</i>)
Rowan species (<i>Sorbus</i> spp.)
Spruce, Norway (<i>Picea abies</i>)
Sweet chestnut (<i>Castanea sativa</i>)
Sycamore (<i>Acer pseudoplatanus</i>)
Thorn species (<i>Crataegus</i> spp.)
Thorn, Common Hawthorn (<i>Crataegus monogyna</i>)
Walnut, Common (<i>Juglans regia</i>)
Whitebeam (<i>Sorbus aria</i>)
Whitebeam, Swedish (<i>Sorbus intermedia</i>)
Willow species (<i>Salix</i> spp.)
Willow white (<i>Salix alba</i>)
Yew (<i>Taxus baccata</i>)