

Tree Condition Assessment

7 Derwen Court
Sontley Road
Erddig
Wrexham

Ref:

TCA/DCE/07/22

Date:

14th July 2022

Commissioned by:

Dr V. Madhavan

Prepared by

S. Shields

Tree Condition, Risk & Impact Assessment

7 Derwen Court

Erddig

Wrexham

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Instruction

- 1.1 Shields Arboricultural Consultancy received instructions from Dr V. Madhavan to undertake a detailed assessment of two trees at 7 Derwen Court. The purpose of the survey was to establish the condition of the trees, assess the level of risk it may pose to property and persons and to make recommendations for work where required.

Introduction

- 2.1 It is recommended that all tree owners should have their trees inspected for safety purposes on a periodic basis. The frequency of these inspections will depend on the location of the tree in relation to roads, footpaths and buildings or structures. This is confirmed by HSE guidance relating to managing the risk of falling trees which states that *'there is the duty to do all that is reasonably practicable to ensure that people are not exposed to risk to their health and safety. Doing all that is reasonably practicable does **not** mean that all trees have to be individually examined on a regular basis. A decision has to be taken on what is reasonable in the circumstances and this will include consideration of the risks to which people may be exposed.'*

Scope and Limitations of the Survey

- 3.1 The survey was undertaken on 11th June 2022 by Stephen Shields, principal consultant with Shields Arboricultural Consultancy.
- 3.2 The survey was carried out from the ground in accordance with the principals of tree inspection and assessment described in Lonsdale 1999 and using Visual Tree Assessment (VTA) techniques as described in Mattheck & Breloer 1994. This term describes an approach to tree surveying using visual observation which allows the surveyor to evaluate the stability and structural condition of a tree. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to, for example, a weakness in its structure, or as a result of external stress factors e.g. drought.
- 3.3 A risk assessment was undertaken in accordance with Quantified Tree Risk Assessment (QTRA) methodology (See appendices for details).

Methodology

- 3.4 The tree was inspected from the ground level using field glasses and basic equipment such as a soft faced hammer and steel probe. Where required an IML Resi F400 micro drill was used to examine the internal quality of the wood. The inspection followed a set procedure; firstly, the site conditions are assessed to establish if any environmental factors are present that could affect the stability of the trees. This includes an evaluation of the soil conditions to establish if there are any aspects that could inhibit root growth, such as water logging or shallow soils. The exposure and elevation of the site are considered along with any changes to the tree's environment that could affect the tree. Next the root plate and area around the tree are visually inspected for signs of instability or decay, followed by a visual examination of the trunk and

branch structure to identify structural defects or decay. Finally the vitality of the tree is assessed and any significant pest and diseases identified. Where defects or health issues were identified these are noted in the report and any required remedial measures recommended. Where no comment is made it can be assumed that no defects were identified.

- 3.5 The findings of the survey are limited to the date of inspection. The seasonal nature of fungal and decay organisms and other symptoms of stress such as late or early leaf emergence or fall means that indicators of disease and decay may not have been present on the date of inspection.
- 3.6 The risk assessment evaluates the risk of failure in all weather conditions up to and including Beaufort Scale Gale Force 8. All trees are at risk of failure through exceptional weather conditions.

Statutory Controls & Obligations

- 4.1 Forestry Act; the felling of trees is controlled under Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.
- 4.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence to (subject to any exemptions for which provision may be made by the order) undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.
- 4.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site Description

- 5.1 7 Derwen Court is a detached two-story property set in its own private garden located in a residential cul de sac. The area is characterised by similar properties which were part of a large residential development of land at the Erddig Estate. The house is approximately 45 years old.
- 5.2 Both trees are located close to the south boundary of the property, which backs on to neighbouring gardens. T1 is to the west corner of the garden and T2 to the east. They are large, mature specimens that would pre-date the house and form part of the original landscape planting associated with previous land use.
- 5.3 The site is level with the dwelling situated to the north of the plot and its garden laid out to the south. It is at an elevation of approximately 85m

above sea level and is generally sheltered. Soils appeared to be free draining and no areas of water logging were identified.

- 5.4 Target zones have been assessed for the tree and take account of uses of land surrounding the tree and evaluate the risk that a failure of the tree will result in damage and the significance of this damage.

Impacts to Residential Amenity & Reasonable Enjoyment of the Property

- 6.1 The juxtaposition between trees and buildings can have a significant effect on the use and enjoyment of a property and the constraints imposed by trees should inform site layout and design to ensure a harmonious relationship between retained trees and adjacent land use. Particularly with residential properties, incoming occupiers will want trees to be in harmony with their surroundings without casting excessive shade or otherwise unreasonably interfering with their prospects of reasonably enjoying their property leading inevitably to requests for consents to fell.

Advice given in BS 5837 notes:

“A realistic assessment of the probable impact of any proposed development on the trees and vice versa should take into account the characteristics and condition of the trees, with due allowance for space for their future growth and maintenance requirements.”

and advises that the following factors are given consideration:

Shading

Privacy and Screening

Direct Damage

Future Pressure for Removal

Seasonal Nuisance

Shading & Obstruction of Daylight

- 6.2 Guidance provided in the British Standard BS 5837: 2012, advises that shading of buildings can be a problem and site should be designed to take account of existing trees, their ultimate size and density of the foliage and that garden areas should be designed to meet the normal requirement for direct sunlight for at least part of the day. Building Research Establishment guide to good practice (BR209) Site Layout Planning for Daylight and Sunlight advises that, in order to appear reasonably sunlit a dwelling should have at least one main window wall that faces within 90° of due south and that on this wall, all points on a line 2m above ground level are within 4m of a point which receives at least a quarter of the annual probable sunlight hours. The guide also advises that for gardens to appear adequately sunlit, at least half the area should receive no less than 2 hrs sunlight on 21st March.
- 6.3 To assess the extent to which the trees interfere with sunlight to the 7 Derwen Court and its garden, an assessment was undertaken using the Arborshadow software. The extent of shading has been calculated

for 21st March (equinox) and 21st June (sun at highest point in northern hemisphere) and tree shadows plotted on to the site layout plan to show shading for every two hours between 10:00 & 18:00. The shadow plans are attached to this report at appendix B and include an area analysis for the garden, indicating the extent and time of shading of this area. As can be seen, the trees cast shade over a considerable portion of the garden for the majority of the day, falling well short of the BRE requirements and casting deep shade well into the evening during the summer months. This not only restricts the use of the area for recreation but also limits cultivation of the flower beds and lawn. The shade also affects the main living room windows and patio doors, shading these from noon onwards.

- 6.4 Daylight is also restricted owing the height and proximity of the trees' canopies to the windows of the house and this factor has a significant impact on interior light levels and solar gain. Horse Chestnut trees, by their nature have large dense canopies and come into leaf early in the year, further exacerbating shading issues.

Seasonal Nuisance

- 6.5 Horse Chestnut trees have large leaves and fruits and the amount of seasonal deposition of these is considerable. Given the size and spread of the trees, this deposition affects the not just 7 Derwen Court, but a number of surrounding properties also and the extent of maintenance require to maintain these properties to prevent excessive accumulation of these deposits could be considered somewhat onerous.

Physical and Visual Impact

- 6.6 Both trees are large specimens, commonly found in parkland settings, and dominate the small domestic gardens which are adjacent. This can lead to concerns about the risk of tree and branch failure and a feeling the trees are overbearing, particularly as they are close to a number of dwellings. Concerns about branch failure have increased as it can now be seen the trees are reducing in vitality and are impacted by leaf miner, along with the signs of bleeding canker and internal decay. These can have significant psychological impacts on the occupiers of the adjacent dwellings and affect how they use and enjoy their properties.

Tree Assessment Findings, Conclusions and Recommendations

- 7.1 Full details of the tree inspections and work recommendations are provided in the Arboricultural Inspection Record at appendix A and are summarised below.

Summary of Tree Work

All works are to be undertaken in accordance with BS 3998: 2010 'Tree Work – Recommendations'.

Tree Tag#	Operation	Priority
T1	Remove and replace the tree. Reason: To reduce the risk of branch failure into the adjacent gardens and structures resulting from a general reduction in vitality and cessation/reduction of secondary incremental wood growth on the upper side of secondary branches and evidence of decay in primary and secondary branches. Impact of the tree on the reasonable enjoyment of the property. The tree is to the south of the house and garden and of a size and spread that it would cast considerable shade over the garden area and also obstruct sunlight and daylight to the main living rooms of the house. Additionally, the tree impacts on a neighbouring property to the south. The crown spreads across a large percentage of the garden and the tree dominates the property, exacerbated by the fact that the tree is elevated above the house. Removing the tree before it is absolutely necessary in the interests of safety would ensure that the successional planting of the mature legacy trees on the wider estate was undertaken as a phased approach that would increase age diversity.	High
T2	Remove and replace the tree. Reason: Impact of the tree on the reasonable enjoyment of the property. The tree is to the south of the house and garden and of a size and spread that it would cast considerable shade over the garden area and also obstruct sunlight and daylight to the main living rooms of the house. Additionally, the tree impacts on a neighbouring property to the south. The crown spreads across a large percentage of the garden and the tree dominates the property, exacerbated by the fact that the tree is elevated above the house. Removing the tree before it is absolutely necessary in the interests of safety would ensure that the successional planting of the mature legacy trees on the wider estate was undertaken as a phased approach that would increase age diversity. To reduce the risk of branch failure into the adjacent gardens and structures resulting from a general reduction in vitality and cessation/reduction of secondary incremental wood growth on the upper side of secondary branches.	High

- 7.2 Both trees have been regularly inspected for the past 10 years by Shields Arboricultural Consultancy and it has been noted that there has been a steady reduction in vitality and a decline in condition. Following the latest inspection, it is now considered that there is an elevated risk of failure associated with the trees and they are now entering a cycle of declining condition that is irreversible.
- 7.3 It is recognised that the trees are prominent specimens and clearly have a public amenity value and contribute to character of the area, however, they have significant impacts on the residential amenity and reasonable enjoyment of the adjacent properties, in particular 7 Derwen Court. On balance, given the increased risk of failure, the requirement for remedial work which would significantly impact the appearance and health of the trees if they were retained and the relatively short safe life expectancy in this location, with the need for frequent inspection and intervention, it is considered that the impacts of the trees on private residential amenity now significantly outweigh the public amenity that they provide and it is concluded that the trees should be removed and replaced.

S.J.A. Shields

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P. Dip. Arb. (RFS), MSc. Arb. & Urban For. (UCLan)

M.Arbor.A, MICFor.

Chartered Forester

14th July 2022

Record of Arboricultural Inspection

Location: 7 Derwen Court, Erddig

Site Type: Residential

Zone: Red

Exposure: Sheltered

Soils: Cultivated Brown Earth

QTRA Target Score: 1

Date 11th June 2022

Inspector: S. Shields

Weather: Clear, calm.

Notes:

Tree #	Species	Size Class*	Age Class*	Structural Condition	Health & Vitality	Previous Inspection Notes	Notes	QTRA Score*
T1	<i>Aesculus hippocastanum</i> (Horse Chestnut)	L	M	G	F	Target Zone: T1 is situated close to south boundary of the garden area and is within falling distance of two residential dwellings. The target zone is assessed as high value target zone for total failure and moderate value for branch failure. Environment: No recent changes to the tree's environment were noted. General Description: T1 is a large, mature specimen. Past works undertaken to T1 have included the pruning of branches from the stem. Tree is host to leaf miner insect pest and there is some indication of minor die-back in the tips of the upper crown.	Target Zone: No changes to target zone. Environment: No recent changes to the tree's environment were noted. General Description: There is now a notable change in the overall condition of the tree. There is evidence of dieback and reduced foliage density in the upper crown, considered to be a result of the Horse Chestnut Leaf miner impacting on the tree's energy reserves exacerbated by the stress of bleeding canker. Structural Condition: <i>Root System</i> No significant changes noted.	10k (Mod - High)

					Structural Condition: <i>Root System</i> No indication of any significant decay or structural faults were identified during the examination of the root plate and stem base. There was no indication of instability and no impediments to rooting were identified. Historically there has been some disturbance within the root zone associated with the construction of the property, its garage and garden landscape features. It is also considered that the soil level around the tree has been raised, presumably during the construction of the dwelling. <i>Root Buttress</i> No evidence of decay or cavities. <i>Main Stem & Scaffold Limbs</i> Strip wound on south side of tree, possibly from past lightning strike. Pruning wounds on the scaffold limbs indicated that branches have previously been removed. Old pruning wounds can sometimes become courts for infection by wood decay organisms, which in turn can degrade wood in the stem of the tree. However the tree is	<i>Root Buttress</i> No significant changes. <i>Main Stem & Scaffold Limbs</i> Bleeding canker is beginning to spread with new areas of exudation noted on the main stem. Callus growth around old pruning wounds and areas of missing bark is beginning to slow. <i>Crown Structure</i> Some limbs are now becoming over-extended, particularly on the northern side of the crown. There is reasonable indication that secondary thickening has slowed or stopped on the upper side of some of the branches. Significant exudation from old pruning wound on a major scaffold limb on south side of crown over adjacent garden (photo1) with evidence of branch subsidence, indicative of significant decay in structural wood. Die-back in upper crown progressing. <i>Foliage</i> Reduced foliage density in upper crown. Health & Vitality: Tree is showing a more pronounced	
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					responding to this and there is no evidence that its structural integrity is in any way compromised. The strip wound on the tree extends down the main scaffold limb on the south side of the crown. There is reasonable callous growth around the wound and, where wood is exposed, this appears not to have deteriorated. There is evidence of bleeding canker on the stem. This occurs as a result of bacteria infecting the outer layers of the tree. There is also some evidence of loose and damaged bark plates. This does not appear to have arisen from excessive flexing of the tree and may be the result of squirrel damage. <i>Crown Structure</i> T1 has a reasonably well balanced and symmetrical crown. A number of past pruning wounds were identified and there is evidence of some cavities associated with these. The extent of the cavities is not considered significant and there is no indication that the structural integrity of the tree has been degraded, however it would be prudent to undertake a climbing inspection at the time of tree surgery works to other trees in the	reduction in vitality from previous inspections. Other Considerations: The tree's owners have expressed concern as to the impact of the tree on the reasonable enjoyment of the property. This, in the main related to the impact of shading and dominance. The tree is to the south of the house and garden and of a size and spread that it would cast considerable shade over the garden area and also obstruct sunlight and daylight to the main living rooms of the house. Additionally, the tree impacts on a neighbouring property to the south. The crown spreads across a significant portion of the garden and its physical presence exacerbated by its elevated position. Recommendations: Given the potential for structural failure of primary and secondary branches resulting from internal decay and reduced vitality, it is recommended that either a significant crown reduction, 20% - 30%, is undertaken or that the tree is removed and replaced. There is a potential for a canopy reduction to further impact the tree's vitality. Removing the tree before it is absolutely necessary	
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					garden. This inspection should be undertaken by the climber for the purpose of establishing the extent of the cavities identified. The results of the inspection should be reported to Shields Arboricultural Consultancy. <i>Foliage</i> Very minor reduction in canopy density (5%) and very minor die-back. Leaf damage caused by actions of the Horse Chestnut leaf miner insect. Health & Vitality: The tree appears to be in reasonable health and condition, however bleeding canker and leaf miner are both significant. The extent of the bleeding canker has increased since the last inspection, but not considerably so. It is still reasonable to consider that the tree is containing the canker infection and showing some resistance to the leaf miner. However, bleeding canker is a serious disease and will be putting a considerable strain on the tree. The tree appears to be in reasonable health and condition, although there is a slight reduction in vitality evidenced by the changes in canopy density and die-back,	in the interests of safety would ensure that the successional planting of the mature legacy trees on the wider estate was undertaken as a phased approach that would increase age diversity. NB. It is understood that both trees are protected by Tree Preservation Orders and Wrexham County Borough Council must give formal consent for the proposed work.	
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					and the presence of leaf miner and bleeding canker is significant. At this time the tree still appears to be containing the spread of the bleeding canker. Recommendations: The tree's owners are concerned with the possibility of failure of the tree or its branches. Although there is already some indication of decline and, taking account of the age species and condition of the tree, it is expected that this decline in health will continue and worsen over time, there is no evidence to suggest that T1 is at an increased risk of failure at this point in time. It is recognised that the bleeding canker infection can develop to a point where it causes the death of the tree and that this can be exacerbated by the effect of the leaf miner, effectively de-foliating the tree and reducing its ability to produce the energy vital for defending against the action of the canker. However, the disease is in its early stages and the tree is resisting its spread and may continue to do so for a number of years. In light of this prognosis it		
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					may be considered prudent to periodically monitor the tree There are a number of steps that could be taken to improve the conditions for the tree and thus its ability to resist the spread of the disease. The simplest approach, causing the least disturbance would be to treat the tree with a dose of potassium phosphonate fertilizer, sold as "<i>Uncle Tom's Plant Tonic</i>". This should be applied using a soil drench method over the root zone of the tree. In practice this would mean making up quantities of the fertilizer in a watering can as per manufactures instructions and applying at a rate of approximately 1 litre per 10m² to the ground around the tree out to and just beyond the canopy spread. This product is highly effective in stimulating the immune system within the tree. An additional benefit can be gained by adding sugar to the mix at a rate of 10g per litre. The application should be made in early spring, around the time of bud break on the tree. Other treatments could include reducing the soil level around the trunk, back to the original levels using an airspade and mulching		
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						the root area of the tree with organic mulch. However, these methods would require significant changes to the garden and would probably not be acceptable. T1 should be periodically monitored to assess the progress of the bleeding canker and its ability to resist this pathogen. NB. Both trees are protected by Tree Preservation Orders and Wrexham County Borough Council must give formal consent for the proposed work.		
T2	<i>Aesculus hippocastanum</i> (Horse Chestnut)	L	M	G	F	Target Zone: T2 is situated close to south boundary of the garden area and is within falling distance of two residential dwellings. The target zone is assessed as high value target zone for total failure and medium value for branch failure. Environment: No recent changes to the tree's environment were noted. There is evidence that soil levels have been raised around the base of the tree in the past.	Target Zone: No changes to target zone. Environment: No recent changes to the tree's environment were noted. General Description: Some reduction in vitality since previous inspection. Tree is host to leaf miner insect pest and is infected with bleeding canker. There is a large area of dead bark on the base of the stem. Tree is beginning to decline.	40k (Low / Mod)

					General Description: T2 is a large, mature specimen situated in the modest rear garden of the property. It is to the east of T1. Tree is host to leaf miner insect pest and is infected with bleeding canker. There is a large area of dead bark on the base of the stem. Tree is beginning to decline. Structural Condition: <i>Root System</i> No indication of any significant decay or structural faults were identified during the examination of the root plate and stem base. There was no indication of instability and no impediments to rooting were identified. Historically there has been some disturbance within the root zone associated with the construction of the property, its garage and garden landscape features. <i>Root Buttress</i> Area of dead bark and cambium around 25% - 30% of the west side of the stem base. Probably caused by Phytophthora sp. or Honey fungus. No underlying decay in stem wood. <i>Main Stem</i>	Structural Condition: <i>Root System</i> No significant changes noted, however the impact of the raised soil levels may be increasing. <i>Root Buttress</i> Area of dead bark and cambium appears to be increasing. No significant underlying decay in stem wood. <i>Main Stem & Scaffold Limbs</i> Strips of bleeding canker on the main stem continues to progress. <i>Crown Structure</i> No significant changes. <i>Foliage</i> No leaf present at the time of the inspection, however bud density appears to be reduced and below average. Health & Vitality: The reduction in vitality of the tree is progressing and may now be impacting the tree's ability to respond the external environmental stress. Other Considerations: The tree's owners have expressed concern as to the impact of the tree on the reasonable enjoyment	
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					Strip wound on North side of tree, possibly from past lightning strike. Branch re-growth on the main stem indicated that branches have previously been removed; however there is no indication of any significant decay associated with this. <i>Crown Structure</i> A reasonably balanced and symmetrical crown with no indication of any significant structural defects. <i>Foliage</i> Very reduction in canopy density (15%) and minor die-back. Undersized foliage, yellowing of foliage and leaf damage caused by actions of the Horse Chestnut leaf miner insect. Health & Vitality: The rate of reduction in vitality of the tree is progressing and although shoot extension and wound wood growth is still average for age and species, there is a general diminution in the overall condition of the tree and the actions of the bleeding canker and base canker is increasing.	of the property. This, in the main related to the impact of shading and dominance. The tree is to the south of the house and garden and of a size and spread that it would cast considerable shade over the garden area and also obstruct sunlight and daylight to the main living rooms of the house. Additionally, the tree impacts on a neighbouring property to the south. The crown spreads across a large percentage of the garden and the tree dominates the property, exacerbated by the fact that the tree is elevated above the house. Recommendations: With consideration to the impact of the tree on the reasonable enjoyment of the property and the lack of acceptable tree surgery options in ameliorating this impact it is recommended that the tree be removed and replaced. Removing the tree before it is absolutely necessary in the interests of safety would ensure that the successional planting of the mature legacy trees on the wider estate was undertaken as a phased approach that would increase age diversity. NB. It is understood that both trees are protected by Tree	
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					Recommendations: The tree's owners are concerned with the possibility of failure of the tree or its branches. Although there is already some indication of decline and, taking account of the age species and condition of the tree, it is expected that this decline in health will continue and worsen over time, there is no evidence to suggest that T2 is at an increased risk of failure at this point in time. It is recognised that the bleeding canker infection can develop to a point where it causes the death of the tree and that this can be exacerbated by the effect of the leaf miner, effectively de-foliating the tree and reducing its ability to produce energy vital for defending against the action of the canker. However, the disease is in its early stages and the tree is resisting its spread and may continue to do so for a number of years. In light of this prognosis it may be considered prudent to periodically monitor the tree. The treatments recommended for T1 are equally relevant to T2. Concern has been expressed about the level of shade that T2 is	Preservation Orders and Wrexham County Borough Council must give formal consent for the proposed work.	
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						casting over the garden area of the property and also the level encroachment over an adjacent property. This can be reduced by a lateral crown reduction of between 2.5 – 3.5 metres on the south side and by between 1.0 – 1.5 metres on the north side of the tree. The crown of this tree has been reduced in the past and this reduction should be to existing pruning points, where available or otherwise to suitable pruning points. The natural shape and balance of the tree should be maintained. NB. Both trees are protected by Tree Preservation Orders and Wrexham County Borough Council must give formal consent for the proposed work.		
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Photo 1



KEY

Size Class Stem

- S Less than 5m height and / or 150mm trunk diameter
- M 5m– 15m height and /or 150mm – 500mm trunk diameter
- L 16m – 25m height and / or 501mm -1000mm trunk diameter
- VL Over 26m height and or over 1001mm trunk diameter

Age Class:

- NP - New Planting less than 5 yrs
- Y - Young Trees less than 1/3 life expectancy
- EM - Early Mature 1/3 – 2/3 life expectancy
- M - Mature over 2/3 life expectancy
- OM - Late Mature exceeds normal life expectancy for species
- VET - Veteran Tree has characteristics of veteran tree, see Read (2000)

Health & Vitality:

- Good - No significant health problems
- Fair - Some health problems that will reduce vitality
- Poor - Significant health problems that are affecting the tree's ability to survive
- Dead - Dead

Structural Conditions:

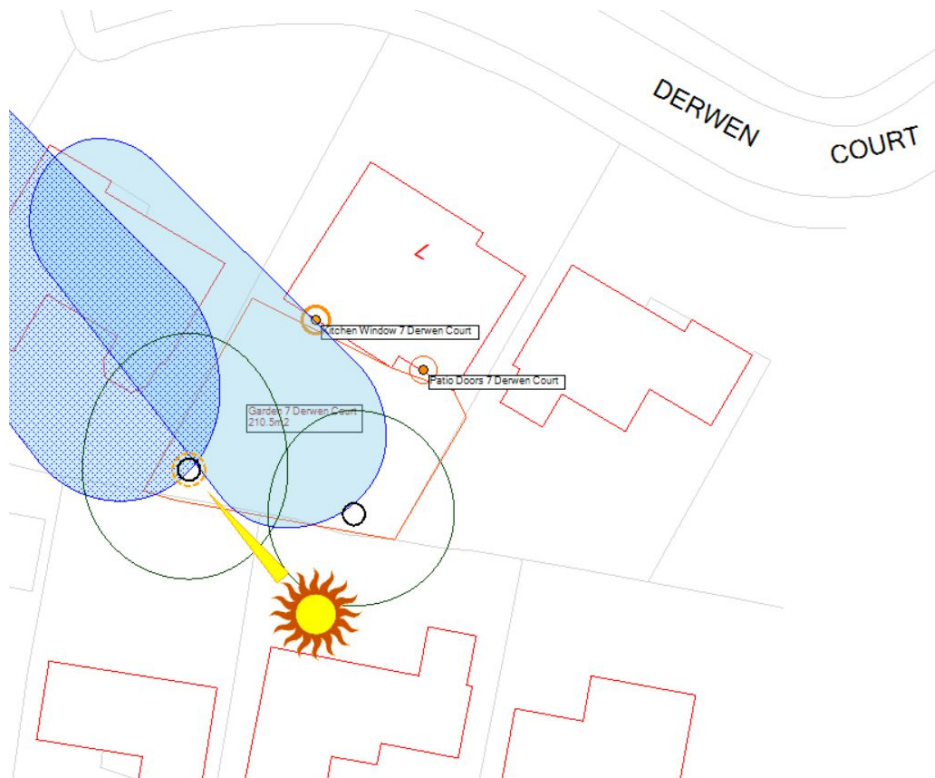
- Good - No significant faults
- Fair - Some faults that can be rectified through surgery or are not significant at this time
- Poor - Major faults that cannot be rectified through surgery

Hazard Rating:

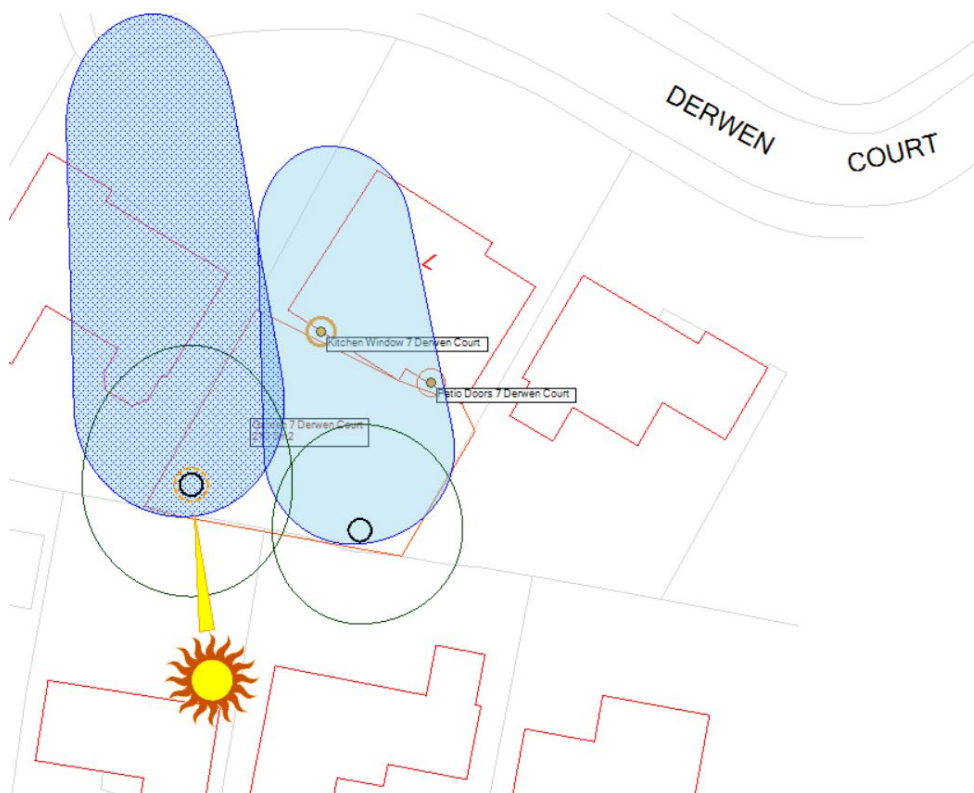
- Green - Very Low
- Yellow - Low
- Amber - Moderate
- Red – High

Numeric rating refers to QTRA score e.g. 40k = 1: 40000 probability of failure.

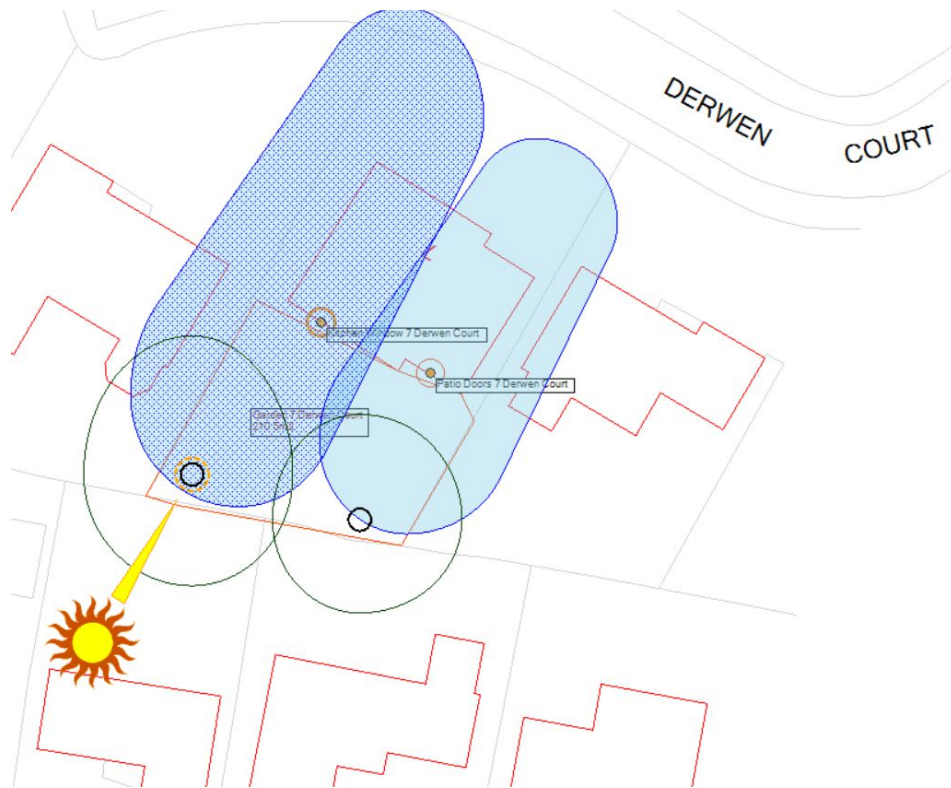
Tree Shading Plans 7 Derwen Court



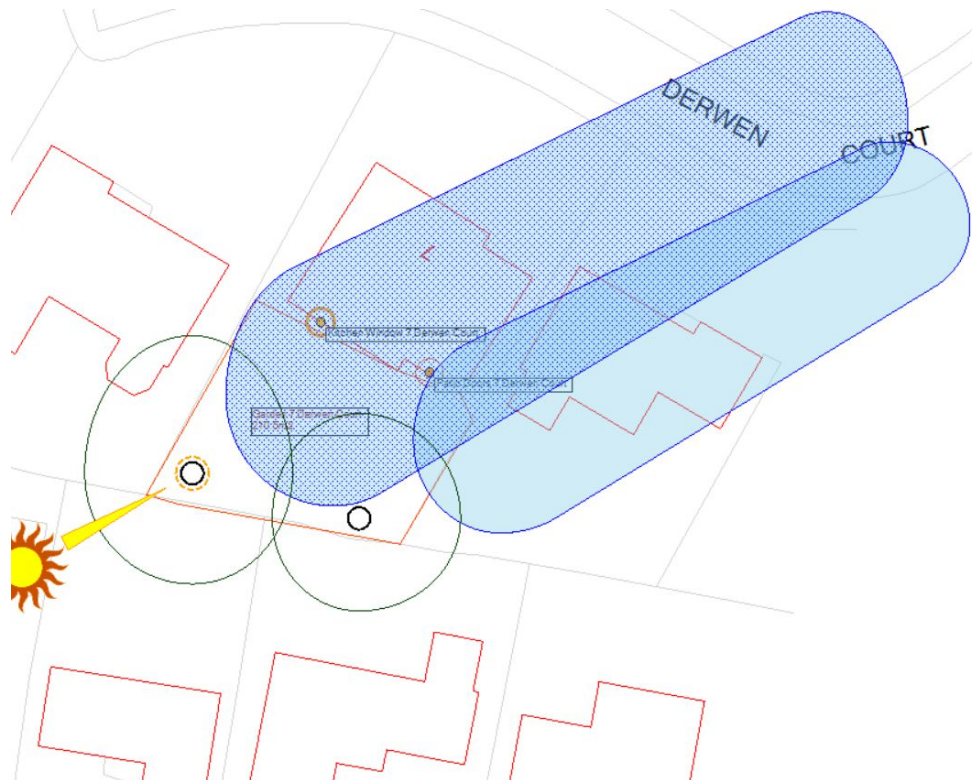
Tree Shadows 10am March 21st



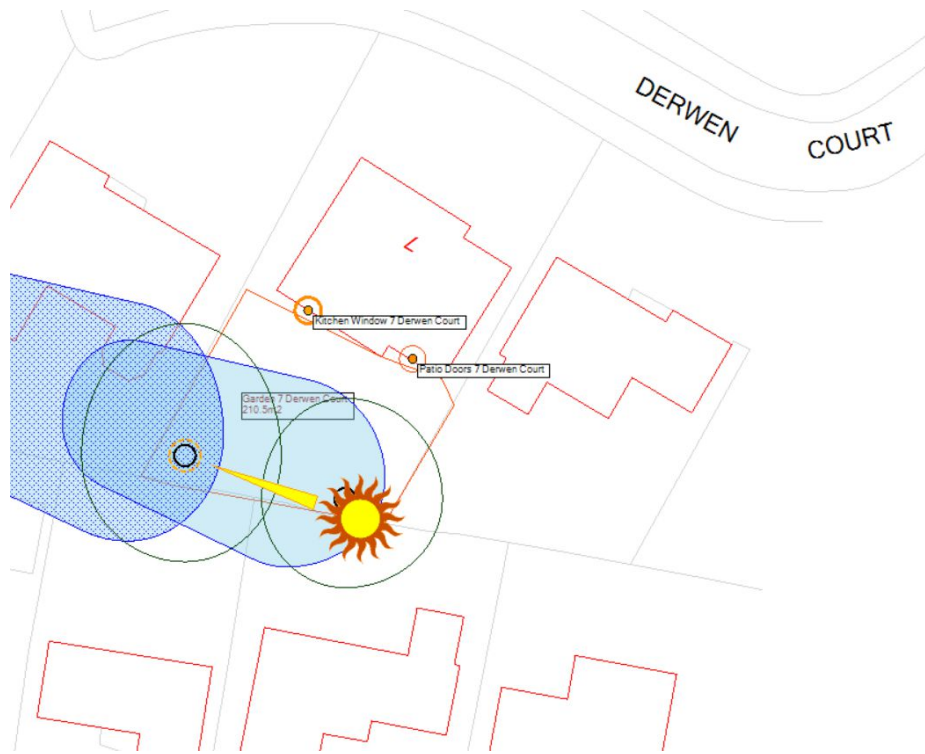
Tree Shadows 12pm March 21st



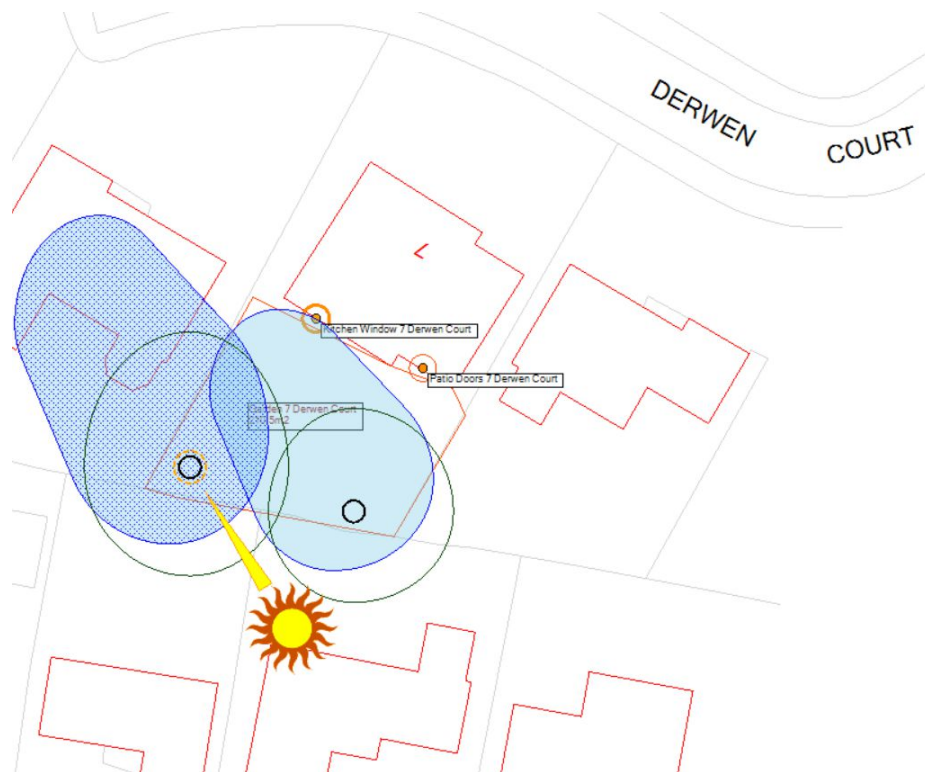
Tree Shadows 2pm – March 21st



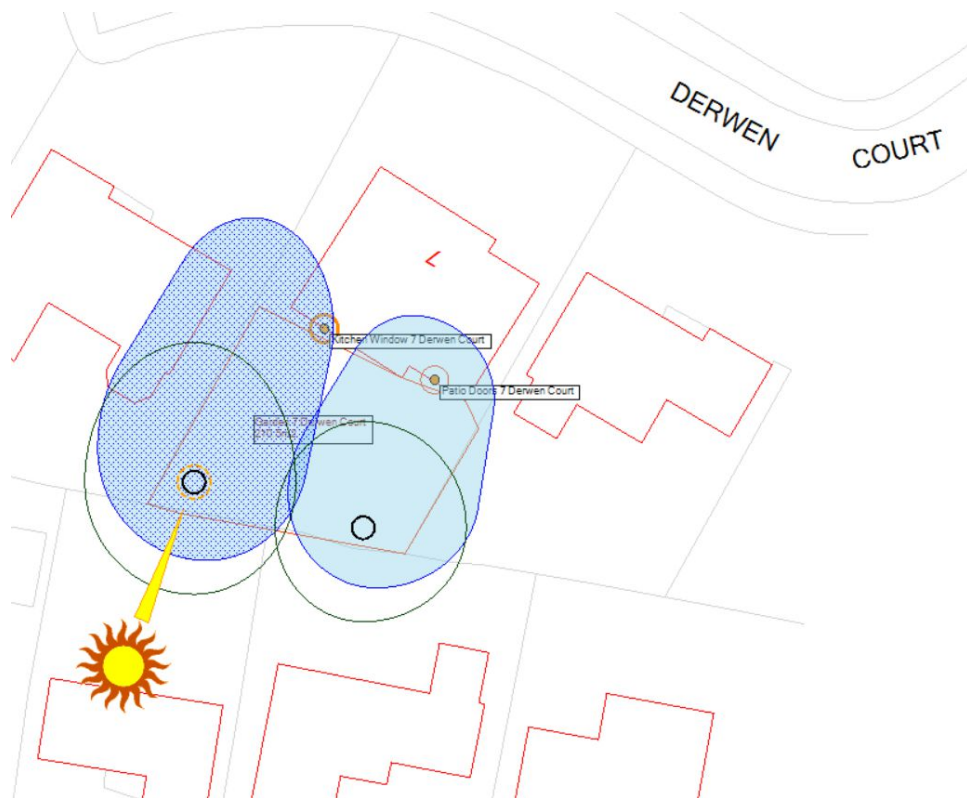
Tree Shadows 4pm 21st March



Tree Shadows 10am 21st June



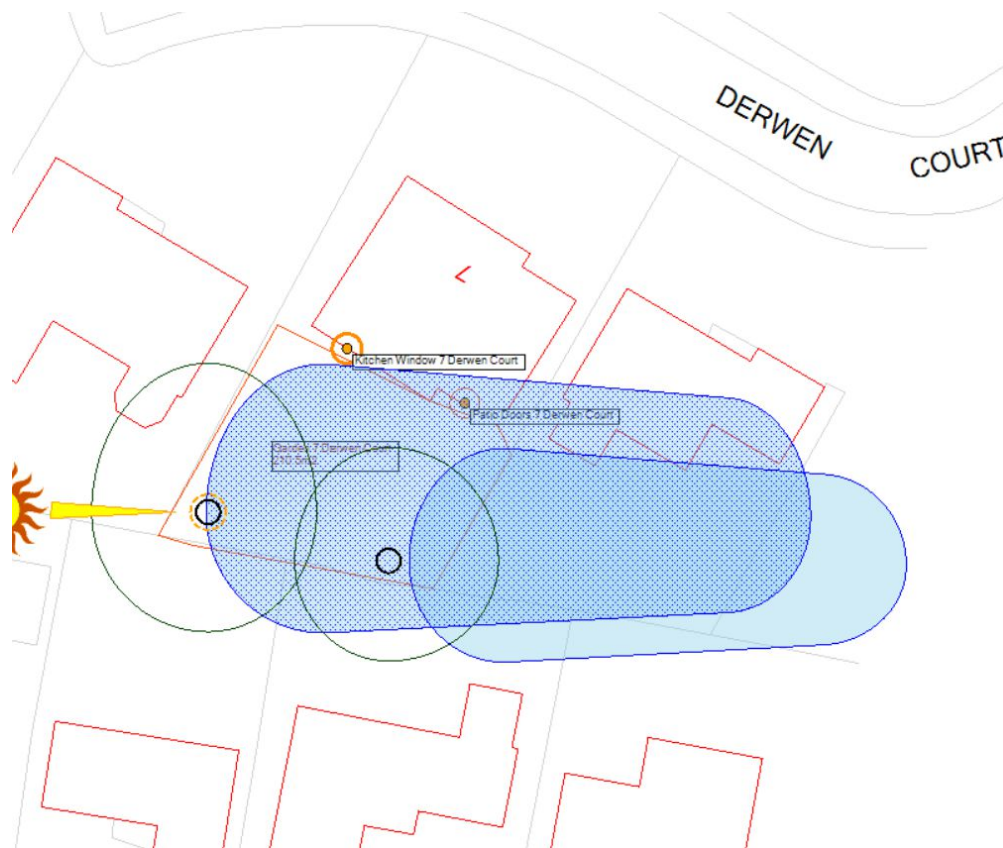
Tree Shadows 12pm 21st June



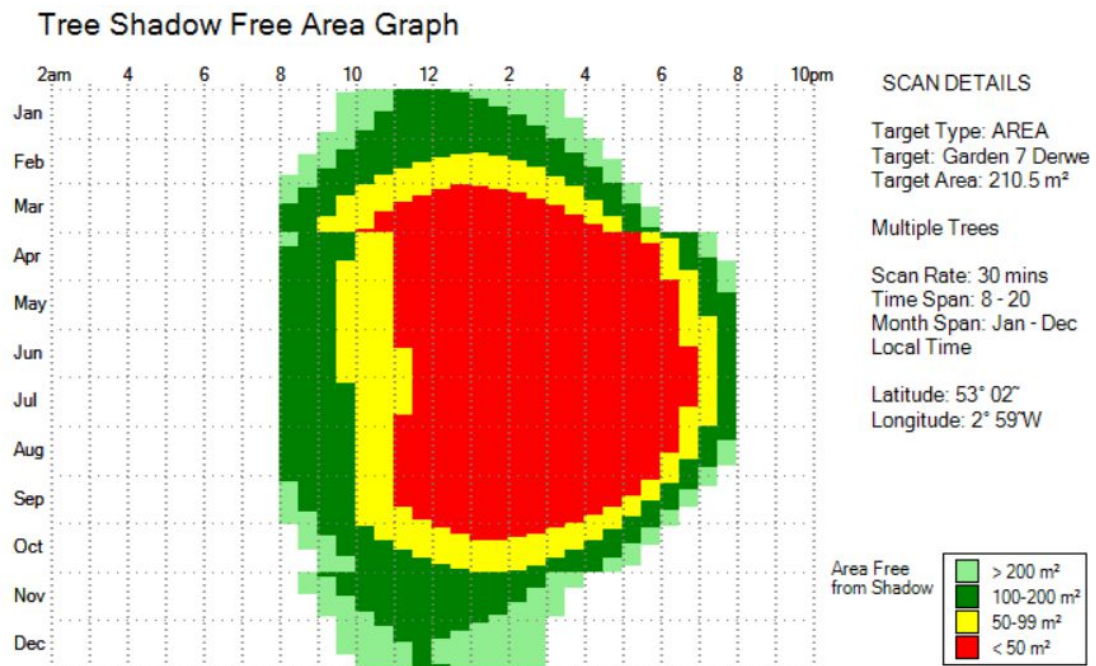
Tree Shadows 2pm 21st June



Tree Shadows 4pm 21st June



Tree Shadows 6pm 21st June



Area Analysis Garden