Mr Ben Gundry
46 Laines Farm Cottages
Newbury Lane
Cuckfield
RH17 5AA

22/02/2019

Dear Mr Gundry,

Please find outlined below the results from the ground VTA (Visual Tree Assessment) for the Giant Sequoia / Redwood adjacent to your property, and its potential relationship with any further building or landscape development at your property.

Tree Report: VTA Survey Implemented: 06/02/2019 Doc Ref: 06/02/2019

T1: Giant Sequoia (*Sequoiadendron giganteum*) running parallel to the left hand boundary of the side and rear garden area of the property, approx. 80-90ft high, approx. 2 - 3m diameter, multi - stem specimen. Situated in the adjacent church / graveyard grounds.

Ref. Appendix A: Photo 1 View of Giant Sequoia from the corner of 46 Laines Farm Cottages.

Observations:
Mature Redwood approx. 80ft high, 2 - 3m diameter at the buttresses, at two points of measurement (stem side parallel to the track - East to West, that runs between the cottage and the graveyard; and side measurements of the tree lower basal area - North to South).
The buttresses are strongly splayed and the North to South diameter of the main stem is approx. 1m longer than the East to West buttress development which is approx. 2m in diameter. The North to South buttress development also comprises two distinct sections in the stem / buttress development. The 3m approx. diameter is divided into a 2m section and a 1m section.

Ref. Appendix A: Photo 2 View of Giant Sequoia buttresses - North to South aspect.

The tree has a 16.5m approx. canopy width (North to South), and is multi - stemmed higher in the canopy, due to either the crown being reduced in height or crown leader stem breakage. The main stem at mid - canopy is approx. 1 - 1.5m diameter.

The two main lower branches, that are situated on the south side / track side of the tree measure approx. 0.75m - 1m in diameter and there is significant dead wood and Ivy in the tree.

Ref. Appendix A: Photo 3, Photo 4, Photo 5 View of the two lower larger branches.

The characteristics of the tree are within usual Giant Sequoia parameters. This tree is also the main architectural landscape tree in this area and is situated on a higher part of a gentle topographic gradient in relation to the tree, lane / track and properties.

The adjacent vehicle access track is a lot lower than the level of the graveyard and could be regarded as a slightly sunken lane to some degree. The property garden is approximately the same level as the vehicle track. There is a drop in height of approx. 30.5cm (1ft) from the base of the church property hedgerow boundary to the edge / level of the vehicle access track.

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Ref. Appendix A: Photo 6 a/ b/ View of the lane, hedge boundary and 30.5 cm approx. drop in the ground level to the track and the level and gradient of the property garden .

The tree foliage partially overhangs the graveyard boundary hedgerow which is approx. 1m width and the main stem buttress base edge is situated approx. 4m from the inside line of the hedge.

Ref. Appendix A: Photo 7 East to West view of the lane, hedge boundary and partially overhanging foliage.

Key Structural Considerations in Relation to Your Property

Ref: BS 5837 Trees in Relation to Design, Demolition and Construction Recommendations

- Anchor root distribution.
- Root Protection Area (RPA) - feeder root distribution.
- Canopy drip line.
- Canopy light access.
- Canopy growth.
- Future condition and management of the tree in relation to its environment and related infrastructure.

Anchor root distribution

- The tree is well established specimen and is at full maturity with strongly developed buttresses and main stem. The size of which indicate that the tree was a lot taller in height prior to the crown reduction or leader stem breakage occurrence.

  The usual average height for a Giant Sequoia in the UK is 140ft - 150ft tall (42m - 46m). They are also known as trees that are wind firm and were some of the main UK trees that survived the 1986 / 1987 storms.
  It is therefore likely that this tree has been crown reduced due to its relationship with adjacent properties; although this would need to be confirmed via a climbing survey and or church records.

  The highly developed buttresses and undulating ground around the base of the tree indicate strong anchor root development in relation to a much larger / taller tree. There is no obvious VTA evidence on the edge of the boundary hedge / 30cm (1ft) approx. drop, of anchor roots having been present and cut back. This suggests the anchor routes are largely contained within the church grounds.

Root Protection Area (RPA)

- The RPA of a tree is a planning descriptive term referring to the estimation of the circumference of the finer feeder roots of a tree. An optimum estimation of the area required for these roots in relation to the size of the tree. These roots primarily exist in the top 30cm (1ft) of soil and the RPA estimation is usually capped at an area with a radius of 15m.

  Given the 30.5cm (1ft) approx. drop in soil level at the edge of the track on the boundary of church grounds, it is unlikely for there to be any feeder roots in the zone of the vehicle track which is approx. 4m wide and has a range of utilities beneath it that are periodically accessed / dug up by contractors. The track is also compacted mixed materials and this kind of non - porous soil structure does not support feeder root development.

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Canopy Drip Line

- The canopy drip line is encompassed within estimations for the RPA. In this instance the Giant Sequoia foliage slightly overhangs the hedge boundary and vehicle access track. However given the bank and raised topographic landscape structure in which the tree resides, the main canopy drip line is within church grounds and its related RPA.

Canopy Light Access and Canopy Growth

- The canopy and foliage development of the tree is in response to its current and historic light availability. This light availability and the trees growth is also in relation to the current and historic infrastructure of its surroundings. The adjacent property is lower in height and is not blocking any light to the tree. The tree is already a mature tree and the main areas of potential dynamic growth are at the higher canopy zone as this is where it has lost its mature structure.

Future condition and management of the tree in relation to its environment and related infrastructure

- The tree is a mature specimen that is in need of some maintenance tree surgery to preserve it for as long as possible. The part of the tree that will need more active management and monitoring is in the higher crown area. However the two larger lower branches arising from the lower mid zone of the main stem will require botanical works at some point to ensure structural integrity. These botanical tree surgery works will ensure that such an important tree is well maintained in accordance with botanical arboricultural standards and landscape designations. This will also ensure that the structural integrity of the tree is expertly maintained and that any further growth in the tree does not affect the light of adjacent properties.

To Conclude

- The Giant Sequoia is a mature specimen tree of landscape importance. It is an established specimen that has developed in relation to its surroundings and infrastructures.

  The adjacent property is at a lower level than the main rooting systems and light requirements of the tree. Any further building development at this property will need to be in consideration of the Giant Sequoia, however it is very unlikely that any building development if carried out in accordance with BS 5837 could have a detrimental biological impact or influence upon this tree or its architectural landscape value.

Many thanks

Sam Jarrah-Moon
Arboricultural and Ecology

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References

Dr Alex Shigo, A New Tree Biology 1991.

The Body Language of Trees, A Handbook of Failure Analysis, Prof. Claus Mattheck & Helge Breloer 1997

Town and Country Planning Act 2012 and sequential reviews

BS 5837 Trees in Relation to Design, Demolition and Construction Recommendations 2012

BS 3998 Tree Surgery Recommendations 2010

Additional Information

All tree works and tree surveys are carried out by qualified persons in accordance with BS 3998 Tree Surgery Recommendations 2010 and BS 5837 Trees in Relation to Design, Demolition and Construction Recommendations 2012.
The Health & Safety Act 1994 and Puwer & Loler Regulations 'PUWER 1998: Provision and Use of Work Equipment Regulations 1998'.

Sam Jarrah-Moon Arboriculture and Ecology work in accordance with 'The Wildlife and Countryside Act 1981' in relation to protected species and habitats; and other UK and European/International designations for landscape and wildlife.

In addition, the 'Equality Act 2010', and equality and diversity ethics are part of our overall codes of practice and working culture.

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Appendix A

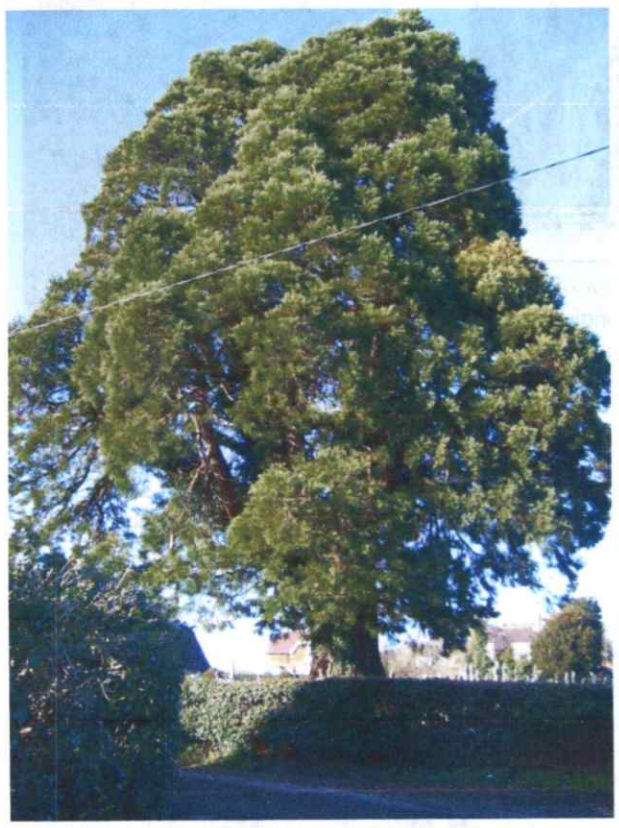

Photo 1 View of Giant Sequoia from the east corner of 46 Laines Farm Cottages showing reduced height

Photo 2 View of Giant Sequoia buttresses - North to South aspect. 2m approx. diameter and 1m approx. diameter sections
Also showing the raised height of the land and the anchor root mound / undulating ground

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Photo 3 West view of two lower branches covered in Ivy

Photo 4 South view of two lower branches originating from the main stem

Photo 5 East view of the two lower branches originating from the main stem

Photo 6 a/ East to West view of the lane, hedge boundary and 30.5 cm approx. drop in the ground level to the track

Photo 6 b/ West to East view of the lane, hedge boundary, drop in the ground level to the track and the level and gradient of the property garden

Photo 7 East to West view of the lane, 1m wide approx. hedge boundary and partially overhanging foliage