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Tree Condition Assessment Prepared for

Hoyle Copse and Stoke Gabriel Orchard Stoke Gabrieal Parish Council

Prepared by A.C. Kimberlee BSc (Hons) Arboriculture, M Arbor A, PTI.

Date: 17th October 2023

Version: 1



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Client:	Mr Phil Bolt Stoke Gabriel Parish Council	Ref:	AK/561/171023		
Location:	Hoyle Copse and Stoke Gabr	iel Orchard	d		
Date of site Inspections:	12 th October 2023				
Survey Inspector(s):	Aran Kimberlee BSc (Hons)	Arboricult	ture M Arbor A, PTI.		
Report Author:	Aran Kimberlee BSc (Hons)	ture M Arbor A, PTI.			
Signature:	Moulle	Date:	17 th October 2023		

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1.0 Instruction and Purpose of Report

- 1.1 I have been verbally instructed by Mr Phil Bolt (on behalf of Stoke Gabriel Parish Council) to carry out a tree safety inspection of the significant trees growing in and on the boundaries of the following sites:
 - Hoyle Copse Stoke Gabriel
 - Stoke Gabriel Community Orchard
- 1.2 The purpose of my inspection was to assess the structural integrity of the trees onsite and the level of risk the trees might pose to persons and property and to give appropriate recommendations, if any, for management of the trees. If significant defects are observed in relation to targets then the risk of harm will be assessed using the Quantified Tree Risk Assessment (QTRA) system. The method of which is detailed below in section 4.0 of this report.
- 1.3 In addition, give appropriate recommendations, if any, for management of the trees in report format.

2.0 Report Methodology & Limitations

- 2.1 I carried out the survey on the 12th October 2023. The weather was fine and the visibility good.
- 2.2 The inspection process consisted of a general ground based visual assessment only. Any cavities or areas of decay that are accessible from ground level may have been probed with a thin metal instrument to assess the significance and extent of any decay. A nylon sounding hammer may also have been used to help detect the presence of any internal decay in the main trunk and/ or larger stems. Binoculars may have been used in order to assist inspection of the upper canopy. Where a further more detailed inspection is required this will be indicated within the recommendations.
- 2.3 The assessment consisted of an above ground inspection only and soil type has not been ascertained on site. Therefore, this report makes no reference to the possible effects of tree roots and shrinkable soils, and any possible effects on building foundations or underground services.
- 2.4 Unless otherwise specified in the recommendations, this report is valid for 12 months from the date of site inspection. The condition of trees can change due to the effects of pests and disease or following severe weather conditions or other abiotic factors. The report is valid only for typical weather conditions. Healthy trees or parts of healthy trees may fail in unusually high or unpredictable winds or violent storms and,

- as the consequences of such weather phenomena are unforeseeable, the author of this report cannot be held liable for any such failures.
- 2.5 The conclusions of this report will remain valid for 12 months from the date of the inspection, but any alteration or deletion from this report will invalidate it as a whole.
- 2.6 The trees on site have been tagged. A map showing the location of the trees has been included in appendix 2 of this report.
- 2.7 No estimated pedestrian or vehicular usage for any of the sites requiring tree inspection has been provided. This information is used to determine the appropriate target range when assessing the risk of failure of trees. Therefore, an estimated pedestrian and vehicular usage has been calculated whilst carrying out the survey. Should the client feel the site usage for pedestrians and vehicles or property values described at the detailed sites are inaccurate, then Dartforest Ltd. must be made aware of this matter as soon as possible in order for the report to be amended.

3.0 Site Details

- 3.1 The two sites inspected for Stoke Gabriel Parish Council are Hoyle Copse which is a small, wooded area and grassland parcel north of the main village and a community orchard located in the centre of Stoke Gabriel adjacent to the church and on the banks of Mill Pool and the river Dart.
- 3.2 Both sites appeared to be moderately exposed to the prevailing south westerly winds.
- 3.3 Soil type on-site has not been ascertained.
- 3.4 No checks have been carried out to ascertain any legal protection such as Tree Preservation Orders or Conservation Areas that might cover the site.

4.0 Condition of Trees and Groups of Trees on Individual Sites

4.1 Hoyle Copse – Compartment 1

4.1.1 Hoyle copse is a small copse and grassland parcel comprising of approximately 7.17 acres which is accessed via a small track and public footpath off Aish Road. There are a number of footpaths which run around the boundaries and through the woodland and historic quarry with two other footpaths leading out to Hoile Lane.

- 4.1.2 The wooded area comprises mainly of historic coppiced Hawthorn (*Crataegus monogyna*) and Ash (*Fraxinus excelsior*) with some Pedunculate Oak (*Quercus robur*) and Spindle Wood (*Euonymus europaeus*), Blackthorn (*Prunus spinosa*) and Hazel (*Corylus avellana*) understorey.
- 4.1.3 Along the track to Hoyle Copse from the road is a large multi-stemmed ash which has been historically coppiced. Coppicing is an old form of tree and hedgerow management whereby straight fast growth can be cut in a cycle to just above ground level. A stool will then develop at this cut point and become larger year upon year. If the new growth is not managed or cut in a cycle, then the new growth can develop into very large, etiolated stems. These trees are known as lapsed coppice. At the time of the inspection, I did not observe any significant risk features that leads me to believe that this tree is a moderate or high risk to persons and property.





Photographs 1 and 2: Ash coppice (left) on track leading to Hoyle Copse and Veteran ash (right) in grasslands.

4.1.4 In the unmanaged grasslands there is a fine veteran ash tree located close to an informal footpath which leads to Aish Road. The tree has been previously significantly reduced and has internal hollowing and advanced decay throughout the main trunk. This tree is highly beneficial for wildlife due to the habitat features present and the tree should be preserved and closely monitored. At present I

believe the target value is not particularly high and the tree has been reduced and therefore, has a lower risk of failure. I have not recommended any remedial works to this tree.

4.1.5 Throughout the wooded area there has been extensive felling of ash trees in last few years due to Ash Dieback Disease (ADB). There are a number of ash trees still present in the woodland with a degree of ADB but it was difficult to fully assess these trees given the time of year they have been inspected. However, it is clear that if these trees are significantly affected by the disease, then it is not advanced as most of the trees appear to have bud formation or some leaf cover. I have given a target range of 3 (See Appendix 2) for the footpaths in the woodland and considered the times when the footpaths are most busy which I have assumed would be during fine weather. I recommend all the ash trees within the woodland to be monitored for ADB during the summer months. G643 is a group of ash trees located on the southern boundary of the woodland and exhibiting signs of ADB in the crowns of the trees. This group of trees have been recommended to be monitored in the summer months.



Photographs 3 and 4: G643 (left) and T644 (right) ash trees.

4.1.6 T644 is a semi-mature ash tree with significant ADB in the crown and Ash Canker (*Pseudomonas syringae spp. savatonoi pv. fraxini*). The tree is in poor condition and

- although the tree has been calculated as being within the Broadley Acceptable risk threshold, it has been recommended for felling.
- 4.1.7 There has been a large area along the northern aspect of the woodland that has been felled due to ADB. This area will has been opened up to allow more light infiltration and will be beneficial for hazel coppices to develop and benefit wildlife.

4.2 Stoke Gabriel Community Orchard – Compartment 2

- 4.2.1 This area is located in the centre of the village adjacent to the church and leads down to the Mill Pool on the river Dart. There is a public footpath leading down to the water's edge and also leads to The Scout building, the church and a small playpark and therefore, is assumed to be busy (high occupancy) particularly during certain times of the day and during fine weather.
- 4.2.2 The community orchard has many fruiting trees and a number of planted ornamental and native trees. There are several open grown semi-mature oak trees towards the southern aspect of the site all of which appear to be in good physiological and structural condition. There is a small dying flowering cherry tree close to the entrance of the orchard which is in poor condition and should be removed and a replacement tree be planted in its place.

General Observations

- 4.3 During the survey I did not observe any significant defects with any of the trees in this area which I believe would be an Unacceptable (1/1 to 1/1000) level of risk to persons or property. There are, however, a number of ash trees within the wooded area which are therefore prone to Ash Dieback Disease. The stage of the disease has been classified using the guide produced by The Tree Council (2019) Ash Dieback Disease: A Guide for Tree Owners located in Appendix 3 of this report.
- 4.4 Ash Dieback Disease (*Hymenoscyphus fraxineus*) (ADB) is a serious fungal pathogen that attacks Ash trees and was first confirmed in Britain in 2012. The disease causes significant leaf loss, stem and branch lesions, crown dieback and is usually fatal. It is reported that older mature trees can sometimes live with the disease but often become weakened or stressed and are therefore more susceptible to secondary fungal infections from Honey Fungus. Once a tree is infected there is no cure or treatment and the crown can die very quickly, modifying the structural condition of the wood sometimes as quick as in one season. Therefore, dead standing trees in high/ moderate target areas need to be removed or reduced fairly quickly. I advise all sites and areas with Ash trees present to be continually monitored and inspected by a competent person on an annual basis, particularly during the summer months.

4.5	The risk associated with unpredictable branch loss due to factors such as summer
	branch drop cannot be quantified. Should these trees lose additional, relatively
	healthy and structurally sound branches within the period covered by this report, I
	advise that these trees would then require re-assessment as soon as possible after
	the event.

5.0 Tree Risk Assessment

- 5.1 The Quantified Tree Risk Assessment (QTRA) system applies established and accepted risk management principles to tree safety management. Firstly, the targets (persons and property) upon which trees could fail are assessed and quantified, thus enabling tree managers to determine whether or not and to what degree of rigour a survey or inspection of the trees is required. Where necessary, the tree or branch is then considered in terms of both impact potential (size) and the probability of failure. Values derived from the assessment of these three components (target, impact potential and probability of failure) are combined to calculate the probability of significant harm occurring.
- 5.2 The system moves the management of tree safety away from labelling trees as either "safe" or "unsafe", thereby requiring definitive statements of tree safety from either tree surveyors or tree managers. Instead, QTRA quantifies the risk of significant harm from tree failure in a way which enables tree managers to balance safety with tree value and operate to a predetermined limit of reasonable or acceptable risk.
- 5.3 The QTRA system also require an allocated target range; mapping of land use by road classification; estimated levels of pedestrian occupation; and estimated structure values. Whilst surveying I only saw a brief glimpse of site usage on the site and therefore, I advise that my target appraisal is considered against the knowledge of site managers or users.
- 5.4 The target ranges can vary from each site. The ones used during the risk assessment are as follows:
- Target 1: Estimated pedestrian usage 720-73 per hour; property repair or replacement cost £2 000 000 £200 000 and/or 47000 4800 vehicles per day at 30 mph.
- Target 2: Estimated pedestrian usage 72-8 per hour; property repair or replacement cost £200 000 £20000 and/or 4700 480 vehicles per day at 30 mph.
- Target 3: Estimated pedestrian usage 7-2 per hour; property repair or replacement cost £20 000 £2000 and/or 470 48 vehicles per day at 30 mph.
- Target 4: Estimated pedestrian usage 1-per hour 3 per day; property repair or replacement cost £2000 – £200 and/or 47 – 6 vehicles per day at 30 mph.
- 5.5 Should the client consider this estimate to be inaccurate they should report back to Dartforest Limited so that the risk assessment can be refined.

5.6 QTRA Advisory Thresholds

Thresholds	Description Action				
1/1 to 1/1000	Unacceptable Risks will not ordinarily be tolerated	Control the risk			
	Unacceptable (Where imposed on others) Risks will not ordinarily be tolerated	Control the riskReview the risk			
1/1000 to 1/ 10 000	Tolerable (by agreement) Risks may be tolerated if those exposed to the risk accept it, or the tree has exceptional value	 Control the risk unless there is broad stakeholder agreement to tolerate it, or the tree has exceptional value Review the risk 			
1/ 10 000 to 1 000 000	Tolerable (Where imposed on others) Risks are tolerable if as low as reasonably possible (ALARP)	 Assess costs and benefits of risk control Control the risk only where a significant benefit might be achieved at reasonable cost Review the risk 			
1/ 1 000 000 or less	Broadly Acceptable Risk is already as low as reasonably possible (ALARP)	No action currently requiredReview the risk			

Source: Quantified Tree Risk Assessment User Manual V5.1.3

5.7 The risk of harm from T643 and T644 has been calculated at 1/ 1 000 000 which is within the Broadly Acceptable threshold (Risk is already ALARP). The recommended tree works should be considered in terms of both risk management and long-term management of the tree.

6.0 Recommendations

Tree No.	Species	Observations	Recommendations	Work Priority		
643	Ash	Group of ash with significant ADB close to footpath. Monitor in summer months	Monitor summer months	Low – Works to be carried out within 12 months		
644	Ash	Ash next to footpath with canker and ADB throughout. Most likely fully dead	Reduce to standing deadwood monolith at 3-4 m use coroner cuts to mimic natural fractures	Low – Works to be carried out within 12 months		

- 6.1 In the event of any new defects, concerns or the occurrence of seasonal fungal fruiting bodies on any of the trees with high targets, Dartforest Limited should be contacted as soon as possible in order to re-assess the tree/s and update this report.
- 6.2 All tree works should be undertaken to BS3998:2010 Recommendations for Tree Works. It is strongly recommended that any tree surgery works are undertaken by highly skilled and qualified contractors.

End AK/561/171023

7.0 Bibliography

British Standards Institution (2010) <u>British Standard Recommendations for Tree</u> Work -BS 3998:2010

Fay N, Dowson D, Helliwell R (2005) <u>Tree Surveys: A guide to good practice Guidance Note No. 7 Arboricultural Association</u>

Lonsdale D. (1999) Principles of Tree Hazard Assessment and Management TSO

Matheny N. P. and Clark J. R. 1994 A photographic guide to the evaluation of hazard trees in urban areas, Second Ed. International Society of Arboriculture

Mattheck C. and Breloer H. 1994 The Body Language of Trees: A handbook for failure analysis *TSO*

Matteck C and Bethge K 1998 The Structural Optimization of Trees Springer-Verlag, Naturwissenschaften

Mitchell A (1974) Collins field GuideTrees of Britain and Northern Europe Harper Collins Publishers

QTRA Tree Safety Management (2014) Quantified <u>Tree Risk Assessment User Manual Version 5</u>

The Tree Council (2019) Ash Dieback Disease: A Guide for Tree Owners

Appendix 1: Tree Schedule Heading and Abbreviations

Tree No.	Identifying number classed as either Individual (T), Group (G), Area (C), Compartment (C) or Woodland (W)		
Species	Species common and/ or Latin		
	Υ	Young -Recently planted or established tree.	
	SM	Semi-Mature – Grown less than one third of the species life expectancy.	
Age Range	EM	Early Mature – Grown one to two thirds of the species life expectancy.	
	М	Mature – Grown over two thirds to completed life expectancy.	
	V	Veteran – A tree that shows biological, aesthetic or cultural interest due to its age, size or condition.	
Height	Giver	in meters and either estimated or measured with inclinometer	
Stem dia.	Tree stem diameter recorded in millimeters at breast height (DBH – 1.5m) from ground level.		
Vitality	General physiological condition of the tree recorded as Good (G), Moderate (M), Poor (P) or Dead (D).		
Structural cond.	Structural condition of tree identifying severity of any potential defects or features that may cause failure of parts or all the tree, given as Good (G), Moderate (M), Poor (P).		
Observations	General observations of tree(s) detailing defects, features, pathogens and potential wildlife features.		
Recommendations	General management recommendations for the tree(s) informed by the survey and risk assessment.		
Target Size	Highest value target that the most significant part likely to fail could strike. ranges 1-6. 1 = high, 6 = low value/occupancy		
Size Range	Size category of most significant part considered likely to fail. ranges 1-5. 1 = large, 5 = small		
Probability of Failure	Probability of failure within 12 months. ranges 1-5. 1 = high, 7 = low		
QTRA Risk In Index	Risk of significant harm 1,000 = risk index (e.g. risk index 20 = risk of significant harm 1 in 20,000)		

Appendix 2– QTRA Target Ranges

Target Range	Property (repair or replacement cost) Pro	Human (not in vehicles)	Vehicle Traffic (number per day)	Ranges of Value
1	£2 000 000 ->£200 000	Occupation: Pedestrians & cyclists: Constant – 2.5 hours/day 720/hour – 73/hour	26 000 – 2 700 @ 110kph (68mph) 28 000 – 2 900 @ 100kph (62mph) 31 000 – 3 200 @ 90kph (56mph) 32 000 – 3 300 @ 80kph (50mph) 36 000 – 3 700 @ 70kph (43mph) 42 000 – 4 300 @ 60kph (37mph) 47 000 – 4 800 @ 50kph (32mph)	1/1 - >1/10
2	£200 000 ->£20 000	Occupation: Pedestrians & cyclists: 2.4 hours/day – 15 min/day 72/hour – 8/hour	2 600 – 270@ 110kph (68mph) 2 800 – 290@ 100kph (62mph) 3 100 – 320@ 90kph (56mph) 3 200 – 330@ 80kph (50mph) 3 600 – 370@ 70kph (43mph) 4 200 – 430@ 60kph (37mph) 4 700 – 480@ 50kph (32mph)	1/10 - >1/100
3	£20 000 ->£2000	Occupation: Pedestrians & cyclists: 14 min/day – 2 min/day 7/hour – 2/hour	260 – 27@ 110kph (68mph) 280 – 29@ 100kph (62mph) 310 – 32@ 90kph (56mph) 320 – 33@ 80kph (50mph) 360 – 37@ 70kph (43mph) 420 – 43@ 43kph (37mph) 470 – 48@ 50kph (32mph)	1/100 - >1/1 000
4	£2 000 - >£200	Occupation: Pedestrians & cyclists: 1 min/day – 2 min/week 1/hour – 3/day	26 – 4@ 110kph (68mph) 28 – 4@ 100kph (62mph) 31 – 4@ 90kph (56mph) 32 – 4@ 80kph (50mph) 36 – 5@ 70kph (43mph) 42 – 5@ 60kph (37mph) 47 – 6@ 50kph (32mph)	1/1 000 - >1/10 000
5	£200 - >£20	Occupation: Pedestrians & cyclists: 1 min/week – 1 min/month 2/day – 2/week	3 – 1@ 110kph (68mph) 3 – 1@ 100kph (62mph) 3 – 1@ 90kph (56mph) 3 – 1@ 80kph (50mph) 4 – 1@ 70kph (43mph) 4 – 1@ 60kph (37mph) 5 – 1@ 50kph (32mph)	1/10 000 - >1/100 000
6	£20 – £2	Occupation: Pedestrians & cyclists: <1 min/month – 0.5 min/year 1/week – 6/year	None	1/100 000 – 1/1 000 000

Appendix 3: Individual Tree Risk Survey

Tree No/	Tree Species	Age Range	Height (m)	Spread (m)	Stem Dia. (mm)	Structural Condition	Vitality	Comments Management Recommendations Target Range Range	PoF	Risk Index
643	Ash	Semi- mature	15	10	470	Moderate	Poor	Group of ash with significant ADB close to footpath. Monitor in summer months • Monitor summer months 1	5	<1M
644	Ash	Semi- mature	14	6	420	Poor	Poor	Ash next to footpath with canker and ADB throughout. Most likely fully dead • Reduce to standing deadwood monolith at 3-4 m use coroner cuts to mimic natural fractures • Reduce to standing deadwood monolith at 3-4 m use coroner cuts to mimic natural	5	<1M

Appendix 4: Stages of Ash Dieback Disease taken from The Tree Council (2019) Ash Dieback Disease: A Guide for Tree Owners

Class 1 – 100% - 76% Crown present	
Class 2 – 75% - 51% Crown remains	
Class 3 – 50% - 26% Crown remains	
Class 4 – 25% - 0% Crown remains	

Appendix 5 – Statutory Obligations

Prior to any tree work being carried out it is recommended that professional advice is sought to ensure that the correct permissions are fully obtained for tree or woodland work as set out in this report. This includes, Tree Preservation Orders (TPO's), Conservation Areas, Planning Conditions, Felling Licenses or restrictions on the site such as the presence of the Sites of Special Scientific Interest (SSSI). In addition, the following restrictions should also be considered particularly where protecting European Protected Species (EPS) such as dormouse and all bat species.

All birds and their nests and eggs are protected by law under the Wildlife and Countryside Act (1981), the Countryside and Rights of Way Act (2000), The Conservation of Habitats and Species Regulations 2017 and the Habitat Regulations (2010). Many other species of animal are also protected including badgers and common and widespread amphibian species.

The following measures must be taken into account prior to works being carried out:

- Postponing or abandoning work around affected areas, i.e. undertaking works to vegetation likely to contain nesting birds outside of the bird nesting season;
- Seeking expert advice, i.e. contacting a suitably qualified bat worker where a tree is identified as being of high potential to support roosting bats;
- Modifying works to avoid affected areas, i.e. retaining trunks as standing dead wood where identified as being of habitat potential;
- Specifying works to be undertaken in such a way to reduce the impact of these works on protected species or habitats i.e. retaining ivy or dead wood wherever possible.
 - All tree works operators need to be aware of the current legislation regarding protected species and their habitats. Such as:
- Details of the Wildlife & Countryside Act 1981, CROW Act 2000 and the Habitat Regulations 2010, detailing their affect on arboriculture;
- Guidance on bats and arboriculture;
 - Details of the Forestry Commission's Decision Tree for European Protected Species



