OBJECTIVE
TREE CONSULTANCY

TREE SURVEY REPORT

Site Address: Falmouth Cemetery, Pennance Road, Falmouth, Cornwall

Client: Falmouth Town Council

Ref: FTCCem.12.21

Dated: 15th December 2021

Prepared by:

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TREE SURVEY REPORT

Site Name: Falmouth Cemetery (Old)

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APPENDICES

1.0 Client Instructions

1.1 The Client referred to in this report is “Falmouth Town Council” who are the owners / managers of the survey area. The Survey area has been identified within this report as “Falmouth Cemetery (Old)”. The Client is seeking the following:

- To carry out a ground level, visual inspection of the tree within the survey area (defined within the inspection report)
- To prepare an inspection report with recommendations / specifications for any tree safety or tree management works, further assessment and reinspection periods
- Undertake a tree risk assessment using Quantified Tree Risk Assessment for significant tree defects which pose a hazard to the public highway, third-party land and users of the site.

1.2 This report has been prepared in accordance with the Clients instructions by:-

Oliver Bennett Dip Arb (RFS) M Arbor A
Arboricultural Consultant
Objective tree Consultancy

2.0 Tree Risk Assessment

2.1 Quantified Tree Risk Assessment

2.1.1 I can confirm that I have carried out a tree risk assessment (where necessary), to inform the categorisation of any tree works. The Quantified Tree Risk Assessment (QTRA) methodology has been applied to trees on the site.

2.1.2 I became a licensed user of the QTRA system in June 2007 and an Advanced User in March 2017. I have applied it to this site to assess the tree risk in a systematic way. For further information on the QTRA system and its limitations please visit the website at www.qtra.co.uk.

2.1.3 Further information on QTRA and tree risk issues may be found within Appendix 2 within this report.

2.1.4 Further information on the target value assessment is provided in Section 2.3 below.

2.2 Agreed Tree Risk Thresholds

2.2.1 In the case of the sites assessed for Falmouth Town Council, discussion was held between Oliver Bennett, Arboricultural Consultant and Simon Penna, Facilities Manager, Falmouth Town Council. Following this discussion, it was agreed by an email exchange with Simon Penna on the 20th December 2018, that a provisional risk threshold of a probability of 1:50,000 would be applied to the tree risk assessment process to inform work prioritisation. Within the specified site, any tree attributes / defects creating a hazard with a greater risk of harm than 1:50,000 (1:50k), will be categorised in the schedules as 'Safety Works'.

2.2.2 In terms of the risk from trees to people, it is accepted by the Health and Safety Executive and the wider community that these risks are low. By accepting a risk threshold of 1:50,000 this provides a risk threshold which is conservative and falls some way below the unacceptable risk threshold of 1:10,000. This also enables a degree of caution to be applied to the risk assessment process, given that site occupancy rates are not always known.

2.2.3 QTRA will establish a risk of harm outcome for the tree defect being considered based on normal site conditions as opposed to exceptional conditions e.g. storm events above the average wind speeds.

2.3 QTRA Target Value Assessment & Site Evaluation

2.3.1 The target areas:

- Property
- Highway - vehicular (named / defined routes)
- Highway – pedestrian (Named / defined routes)
- Pathways (internal to cemetery)

2.3.2 Property is considered against the estimated repair or replacement costs for property damage which may result from tree failure (in full or part) based on the impact

potential and mode of failure. Predetermined monetary ranges are set out within QTRA.

2.3.3 The public highway identified as Swanpool Road is a 30mph speed limit and is partially lit. No traffic count data is available for this section of the highway network. A comparable route which feeds onto this road has manual count data available from the Department for Transport which I have used to inform the QTRA Target Range. Link below:

https://roadtraffic.dft.gov.uk/manualcountpoints/803190

2.3.4 Pennance Road is a public highway within a 30mph speed limit. The highway is lit and contains a single footway on the boundary with the cemetery. No traffic count data is available for this highway section. Estimated usage

2.3.5 Madeira Walk is a short section of dead-end vehicular road which is not shown as public highway on the Cornwall Council Interactive Map. Target values are estimated and based both on my casual observations during the tree survey process and my knowledge of the local area.

2.3.6 Madeira Walk is also a designated public footpath. Target values are estimated and based both on my casual observations during the tree survey process and my knowledge of the local area. The footway is loosely defined but unlit.

2.3.7 Paths internal to the cemetery are defined but unlit and in places uneven. More obvious and higher usage routes were observed during the tree survey process with estimated usage rates which is reflected in the target allocation. Lower usage paths have been assessed with a target value that reflects estimated use.

2.4 QTRA Target Ranges

2.4.1 The target areas and QTRA target ranges are set out within Table 1 below:

Table 1. QTRA target evaluation / consideration

Target Type / Description	**Weather Affected Y/N**	**QTRA Target Range Considered**
Property	N	2 £200 000 – >£20 000
Property	N	3 £20 000 – >£2 000
Property	N	4 £2 000 – >£200
Highway (Swanpool Road)	N	2 4 700 – 480 @ 50kph (32mph)

Highway (Pennance Road	N	3 470 – 48 @ 50kph (32mph)
Highway (pedestrians – Madeira Walk)	Y	2 Pedestrians 72/hour – 8/hour
Internal Paths	Y	2 Pedestrians 72/hour – 8/hour
Internal Paths	Y	3 Pedestrians 7/hour – 2/hour

2.5 Should information or data become available which requires an updated risk assessment, this should be undertaken with the risk of harm probabilities / exposure reviewed against any recommendations, control measures and work priority categories specified within this report.

3.0 Tree Work Priority Categories (Cat)

3.1 Safety Work (Red):

3.1.1 This work falls within the zones of risk tolerance which is not acceptable to the client in terms of health and safety exposure levels. In this case any tree risk which has a QTRA risk of harm outcome of greater than (>) 1:50,000.

Work Priority Categories (Cat)	Cat (as set out in schedule)	Colour Code
Safety Work	RED (no number)	
Management i) statutory nuisance	i	
Management ii) risk reduction benefits	ii	
Management iii) nuisance – damage occurring within 3 years	iii	
Management iv) beneficial site management	iv	
Management – long term site management	v	
Advisory Works		

3.2 Management Work (Amber)

3.2.1 Management works may include tree work operations that are good practice, sensible, proportionate and will help to minimise the risk from trees in a general sense. This is common sense work which will deliver benefits to the tree population, the overall site or neighbouring properties.

3.2.2 Proactive management can help to maintain a healthy, viable tree population and reduce any potential risk of harm from trees to their surroundings.

3.2.3 Works within category i) are specified to address issues of “statutory nuisance” e.g. obstruction to the highway, damage occurring to third-party property.

3.2.4 Works within category ii) will deliver risk reduction from tree related hazards at a reasonable cost and seek to minimise ongoing exposure to the risk to people and property. Risk may also include biosecurity threats / issues which present a risk to the tree resource.

3.2.5 Works within category iii) identify potential “statutory nuisance” issues developing within three years of the survey (e.g. damage to third-party property), damage to the client’s property (same time period) or common law issues such as overhanging branches above third-party property.

3.2.6 Works within category iv) are beneficial to the site overall, including appearance, pro-active management delivering other benefits. This category may also include the operation of a property e.g. access for vehicles on private / internal roads.

3.2.7 Works within Category v) include long term site management aims or objectives. These will normally result from discussions with the client prior to the survey.

3.3 Management & Advisory works (Green)

3.3.1 These are works to be considered if budget constraints are not a significant factor. This may include long term management options to be considered by the client and can assist with decision making both now and in the future.

3.3.2 Tree planting will be included in the Amber or Green Category where it is deemed necessary to mitigate the loss of trees or as a proactive enhancement of the tree stock.

3.4 Timing of tree works

3.4.1 Section 6 of this report provides recommendations for the timespans for implementing any tree works.

3.4.2 The tree owner is the duty holder with regards to health and safety and the responsibility to manage any foreseeable risks associated with trees identified in this report. Objective Tree Consultancy is not responsible for work programming or contractor engagement / commissioning works.

4.0 Site Reports

The site report contains:

4.1 Executive Summary

- A summary of the safety and management works is provided to assist with work programming.

- Should the survey area have a planning constraint designation e.g. Tree Preservation Order, trees specified for works that require planning consent will be itemised.

4.2 Site Survey

- The site survey is reproduced as a data sheet with the data gathered during the survey set out in a concise manner. The terms of reference can be found in Appendix 4.

- Where surveyor access or assessment has been restricted due to the site constraints, this will be set out within section 4.2 of the report.

4.3 Photos

- Photos will be provided where they are meaningful and clearly show the tree attributes or defects identified within the Site Survey (4.2)

Site Plan

- A pdf copy has been provided as a separate document for reproduction (at the stated paper size) in colour.

Technical Terms

Within the report there are words which are by their nature and origin, technical. A glossary of technical terms can be provided to assist the reader or found on my website by clicking on the following link:

http://objectivetreeconsultancy.co.uk/information-resource

I can explain anything if the report is unclear. My aim is to ensure that you have a clear idea what I am saying and why I am saying it.

4.1 *Executive Summary*

Safety Works: 1000, 1001, 1019, G21

Works Required – Management:

i) No works required in this category
ii) 1005, 1007, 1010, 1011, 1017, 1018, 1023, 1025, 1026, 1031, 1035, 1036, 1038, 1039, 1040, 1042, 1043, 1045, 1046, G2, G12, G16, G19, G20, G21, G23, G24, G25, G26, G27, G28
iii) 10120, 1021, G3, G4
iv) 1003, 1004, 1008, 1009, 1012, 1013, 1015, 1022, 1024, 1032, 1041, 1048,, G1, G5, G8, G13, G14, G17, G18
v) No works required in this category

4.2 Site Survey

Site Name: Old Cemetery (Falmouth Town Council)	**Date of Inspection: 18th, 19th & 22nd November 2021**
Inspector: Oliver Bennett, Arboricultural Consultant	**Weather: Dry, light winds, sunny - overcast**

4.2.1 Individual Trees

Tree / Tag No	Species	Age	Size	Condition	QTRA Fields (Target, Size, PoF)	QTRA Outcome	Works Specification	Cat
1000	Beech (Fagus sylvatica)	E/M	L	• Fungal Fruit Bodies – Roots: Meripilus gigantea, SE side, 1m from stem base. See Fig 1. • Exudate: suspected Honey Fungus, bark death and lesions E & S side from gl to 1.4m gl+. See Fig 2. • Crown exhibits even bud distribution.	3/1/3 2/prop/3	40K root failure onto highway 30K tree failure onto third party property to E	• Remove	
1001	Horse Chestnut (Aesculus hippocastanum)	M	L	• Exudate: suspected Honey Fungus. • Stem: dead. Dead bark with white mycelium around entire stem circumference – see Fig 3. Stem disorder: Bleeding Canker of Horse Chestnut.	3/prop/3 2/3/3	30K branch / stem failure onto parked cars branch / stem failure onto highway	• Remove.	

1002	Scots Pine (Pinus sylvestris)	M	L	• Central stem splitting longitudinally at junction 10m gl+. See Fig 4.	4/3/2	500K stem failure onto path	• No works required	
1003	Small Leaf Lime (Tilia cordata)	E/M	L	• Basal epicormics. • Leaning tree orientation: SE. • Previously topped 8m gl+.			• Remove epicormics.	iv
1004	Scots Pine (Pinus sylvestris)	E/M	M	• Dead secondary stem on W side failed and propped on E side of crown at 8m gl+. See Fig 5.	4/prop/3	300K stem failure onto gravestone	• Remove large diameter deadwood.	iv
1005	Prunus Kanzan	M	M	• Stem: Ivy restricted inspection. • Stem disorder: Bacterial Canker Cherry. • Branches: large cankers visible on multiple branches. • Major deadwood >25mm: small volumes through crown. • Crown dieback in upper, N side.	4/4/2	<1M deadwood failing onto path	• Sever ivy. • Remove large diameter deadwood.	ii
1006	Holm Oak (Quercus ilex)	E/M	L	• Stem: Ivy restricted inspection. • Open cavity: 1.5m gl+, SE side. 400mm probe depth at 45° angle. T/D 65cm. No hollowing sounds. • Crown showing normal foliage density for the species.			• No works required	

1007	Holm Oak (Quercus ilex)	M	L	• Previously topped: 4-5m. 14.2m in height. • Stem: secondary stem failure at 2.3m gl+ on NE side. See Fig 7.	4/prop/3	300K stem failure onto bench and gravestones	• Re-pollard to 300mm above existing pollard heads.	ii
					4/3/3	<1M stem failure onto path		
1008	Scots Pine (Pinus sylvestris)	Y	M	• Stem: Ivy restricted inspection.			• Sever Ivy.	iv
1009	Common Ash (Fraxinus excelsior)	Y	M	• Crown: ADB symptoms - dead epicormics and tip dieback. • Winter 2022	3/4/2	500K deadwood failing onto highway	• Monitor for ADB symptoms summer 2022. • Remove with progressive decline	iv
1010	Monterey Pine (Pinus radiata)	M	L	• Roots: unidentified fungal fruiting body, W side by recess in stem base. White spore print and surface. Yellow-brown to buff internal. Possibly in leaf litter. See Fig 8. • Stem: Ivy restricted inspection. • Crown: crown showing normal foliage density for the species. • Major deadwood >25mm: small volumes through crown.			• Sever Ivy. • Monitor for fungal fruiting bodies as part of routine site maintenance.	ii
1011	Monterey Pine (Pinus radiata)	M	L	• Stem: Ivy restricted inspection. • Crown: crown showing normal foliage density for the species.			• Sever Ivy.	ii

				• Major deadwood >25mm: small volumes through crown.				
1012	Holm Oak (Quercus ilex)	Y	M	• Stem: central stem split longitudinally from 2.5m to 1m gl+. • Broken hanging branches: 3m gl+, E side, failed stem propped in centre of crown. 4m E side, hung up.	4/prop/3	300K stem failure onto gravestone	• Coppice.	iv
1013	Blue Atlas Cedar	Y	M	• Stem: Ivy restricted inspection.			• Sever Ivy	iv
1014	Scots Pine (Pinus sylvestris)	M	M	• Stem: Ivy. • Crown: small / sparse foliage; crown retrenching see Fig 10. • Major deadwood >25mm: large volumes through crown.	3/4/3	<1M deadwood failure onto path	• No works required	
1015	Holm Oak (Quercus ilex)	M	L	• Dead bark - orientation and dimensions: S stem, 2.2-3.5m gl+, NW facing. • Stem: stem failure, W side, 4m gl+ at union.	4/prop/3	300K stem failure onto gravestone	• Reduce failed stem by 2m as per photo Fig 11.	iv
1016	Beech (Fagus sylvatica)	M	L	• Open cavity: S stem, 6.5-7.5m associated with old tear wound. Unknown extent of decay. Wound wood formation. • Stem failed at union 9.5m NW side.	4/prop/4	<1M stem failure onto gravestone	• No works required	

				• Branch stubs. Tear wounds associated with branch failure at junction SW side 7mgl+ approx				
1017	Scots Pine (Pinus sylvestris)	S/M	M	• Broken hanging branches: 6-10m gl+, N side. 150mm diameter approx.	3/5/3	500K branches failing onto path	• Remove broken branches.	ii
1018	Common Ash (Fraxinus excelsior)	Y	M	• Crown: ADB symptoms - dead epicormics and tip dieback.	3/4/2	500K deadwood failure onto path	• Remove	ii
1019	Holm Oak (Quercus ilex)	M	L	• Open cavity: NW side, gl to 2m gl+ associated with old tear wound. Fungal fruiting body internal within cavity. Linked to opening 1.3-1.7m on SE side of stem. Fungal fruiting body evident. E side, gl to 1m gl+, 350mm wide, unknown extent of decay. • Basal and lower stem: NE side, 1m gl+, open crack at stem union – see Fig 12. 400mm probe depth, no resistance. Vertical crack on S stem from 1.5 to 2.2m gl+, N side. • Previously topped: 5-6m gl+. • Stem: multiple historic stem failure wounds. Recent failure 6-8m gl+ SW side.	3/prop/3	30K stem failure onto gravestones	• Pollard to 5-6m gl+ 300mm above previous pollard points.	

1020	Holm Oak (Quercus ilex)	Y	M	• Roots damaging structures.			• Remove. • Treat stumps - approved chemical treatment.	iii
1021	Holm Oak (Quercus ilex)	Y	M	• Roots damaging gravestone.			• Remove ivy. • Treat stumps - approved chemical treatment	iii
1022	Holly (Ilex aquifolium)	M	M	• Exudate: suspected Honey Fungus. • Stem: Dead; Ivy.	4/prop/3	300K Dead stem failing onto gravestones	• Crown reduce to 5m and retain for deadwood habitat.	iv
1023	Common Ash (Fraxinus excelsior)	Y	M	• Crown: ADB Health Class 1 dead epicormics.			• Monitor for ADB symptoms summer 2022.	ii
1024	Paulownia tomentosa	Y	M	• Stem failure 1-1.5m gl+.			• Coppice.	iv
1025	Common Ash (Fraxinus excelsior)	S/M	L	• Crown: ADB Health Class 1 dead epicormics			• Monitor for ADB symptoms summer 2022.	ii
1026	Common Ash (Fraxinus excelsior)	S/M	L	• Crown: ADB Health Class 1 dead epicormics			• Monitor for ADB symptoms summer 2022.	ii
1027	Sycamore (Acer pseudoplatanus)	S/M	L	• Open cavity: N side, gl to 300mm gl+. 200mm wide tapering with height. T/D 520mm, probe depth 200mm. Decay extended under NW buttress. See Fig 13.	4/Prop/4	<1M Stem failure into cemetery	• No works required	

				• Crown: good level of companion shelter.				
1028	Holm Oak (Quercus ilex)	S/M	M	• Stem: tight fork / forks, Ivy. Stem failure at union with longitudinal split at 4m gl+, central stem, W side. • Branches: limited range of movement in crown. Lower branches will prop further downward movement.	3/3/3	500K branch failure onto path	• No works required	
1029	Monterey Pine (Pinus radiata)	M	L	• Stem: tight fork / forks. • Broken hanging branches: 11m gl+, S side. 150mm diameter est. • Branches: recent large diameter branch failure on E side, cause unknown. • Major deadwood >25mm: large volumes through crown. •	3/4/2	500K deadwood failure onto path	• No works required	
1030	Monterey Pine (Pinus radiata)	M	L	• Branches: branch stubs, tight forks, crossing / rubbing branches. • Crown: crown showing normal foliage density for the species. • Major deadwood >25mm: large volumes through crown.	3/4/2	500K deadwood failure onto path and bench	• No works required	

1031	Common Ash (Fraxinus excelsior)	Y	M	• Crown: ADB Health Class 1 dead epicormics. Minor deadwood.			• Monitor for ADB symptoms summer 2022	ii
1032	Monterey Pine (Pinus radiata)	M	L	• Roots: stored green waste. • Crown showing normal foliage density for the species. • Major deadwood >25mm: small volumes through crown.			• Prevent further deposits of green waste in this area	iv
1033	Monterey Pine (Pinus radiata)	E/M	L	• Major deadwood >25mm: small volumes through crown. • Limited vantage points for visual assessment.			• No works required	
1034	Holm Oak (Quercus ilex)	M	L	• Stem: tight fork / forks. • Limited vantage points for visual assessment. • Previously topped 7.5m approx. • Crown showing normal foliage density for the species.			• No works required	
1035	Common Ash (Fraxinus excelsior)	S/M	M	• Unknown ownership.			• Monitor for ADB symptoms summer 2022.	ii
1036	Monterey Pine (Pinus radiata)	M	L	• Stem: large diameter stem tear wound 9.2m gl+ SW side. Approx 1m height x 500mm width. Decay visible, unknown extent. See Fig 15.			• Aerial inspection: to determine extent of decay visibly and with basic inspection using metal probe.	ii
1037	Monterey Pine (Pinus radiata)	M	L	• Stem: Ivy restricted inspection; tear wounds.			• No woks required	

				• Dead bark: SSE 13m possible impact damage.				
1038	Common Ash (Fraxinus excelsior)	E/M	L	• Stem: Ivy restricted inspection. SW stem, 1.7-2.3m gl+ tear wound. • Crown: reduced vitality based on bud distribution. • Major deadwood >25mm: small volumes through crown.	2/4/3	500K deadwood failing onto path	• Monitor for ADB symptoms summer 2022.	ii
1039	Common Ash (Fraxinus excelsior)	S/M	L	• Stem: Ivy restricted inspection.			• Sever ivy. • Monitor for ADB symptoms summer 2022.	ii
1040	Common Ash (Fraxinus excelsior)	S/M	L	• Open cavity: central stem removed 1m gl+. 400mm probe depth vertically. • Crown: ADB Health Class 1 dead epicormics.			• Monitor for ADB symptoms summer 2022.	ii
1041	Sycamore (Acer pseudoplatanus)	S/M	L	• Stem: Ivy. • Open cavity: S side 0.6m gl+ between W & E stems in union. E stem topped 4m gl+ and extensive decay extending upwards in entire stem. W stem - cavity to 1.7m gl+ on tensile side, wound wood development.	4/Prop/4	300K stem failure onto gravestone	• Sever Ivy. • Crown reduce W stem to 6m gl+.	iv
1042	Sycamore (Acer pseudoplatanus)	S/M	L	• Stem: Ivy. • Dead bark: E side, 200mm to 1.4m gl+ below stem union. SE			• Sever Ivy.	ii

				side 200mm gl+ to 2.1m. W side 1m gl+ below stem union.			• Monitor progression of stem lesions as part of formal inspection.	
1043	Blue Atlas Cedar	Y	M	• Stem: tight fork / forks. • Crown: foliage discolouration and dieback, W to E side, 7-9m gl+ - suspected Blight of cedar (Siroccocus thujae). See Fig 17.			• Monitor crown vitality summer 2022.	ii
1044	English Oak (Quercus robur)	M	L	• Stem: Ivy restricted inspection; occluding wounds. • Branches: branch stubs; crossing / rubbing branches. • Crown: minor deadwood <25mm; crown exhibits even bud distribution. • Major deadwood >25mm: small volumes through crown. • Unable to view stem base on N side due to drop onto highway.			• Sever Ivy.	iv
1045	Small Leaf Lime (Tilia cordata)	M	L	• Stem: S side, 1.6 to 1.8m gl+. 2 lesions, 20mm & 100mm length. • Stem disorder: suspected Phytophthora.			• Monitor crown vitality summer 2022. • Undertake Phytophthora bark sampling April 2022 – send to Forest Research	ii
1046	Corsican Pine Pinus nigra	M	L	• Fungal Fruit Bodies – Basal: Phaeolus schweinitzii. See Fig 18. • Basal and lower stem: Fungal fruiting body E side 400mm gl+, S side 100mm gl+.	2/2/4	100K stem failure onto Madeira Walk and cemetery	• Undertake detailed investigation using micro-drill to determine extent of basal stem decay	ii

					3/Prop/4	300K stem failure		
1047	Lawsons Cypress (Chamaecyparis lawsoniana)	S/M	M	• Stem: tight fork / forks.			• No works required	
1048	Beech (Fagus sylvatica)	E/M	L	• Branches: In contact with gravestone and likely to obstruct path in summer (foliage weight).			• Prune to clear structure by 2m. • Crown lift above ground level to 2.5m above path.	iv

4.2.2 Groups

Tree / Tag No	Species	Age	Size	Condition	QTRA Fields (Target, Size, PoF)	QTRA Outcome	Works Specification	Cat
G1	Yew (Taxus bacatta)	Y	M	• Stem: Ivy.			• Sever Ivy.	iv
G2	Monterey Pine, Scots Pine	M	L	• Roots damaging hard surfaces. • Stem: occluding wounds; tight fork / forks. • Deadwood on stem - large diameter: Monterey Pine. • Branch stubs; crossing / rubbing branches. • Crown: minor deadwood <25mm. • Major deadwood >25mm: large volumes through crown.	2/4/3	500K deadwood failing onto highway	• No works required	
G3	Holm Oak, Ash	Y	M				• Monitor for ADB symptoms summer 2022.	ii

				• Branches: In contact with chimney stack. See Fig 6.			• Prune to clear structure by 2m.	iii
G4	Grey Willow (Salix cinerea)	Y	M	• Likely to damage gravestones.			• Remove. • Treat stumps - approved chemical treatment.	iii
G5	Douglas Fir (Pseudotsuga menziesii	Y	M	• Roots damaging hard surfaces. • Stem: tight fork / forks. • Branches: crossing / rubbing branches; branch stubs. • Broken hanging branches: 2nd tree from E side. 4-6m N side, 80mm diameter, propped, shortened. 10m gl+, N side, 30mm diameter, attached. • Crown: minor deadwood <25mm; yellowing needles. Central tree, N side. See Fig 9.	3/4/3	<1M branch failure onto path	• Monitor crown vitality and any progression in discolouration	iv
G6	Scots Pine, Holm Oak, Lime	M	L	• Stem: occluding wounds. • Previously topped: Holm Oak and lime 6-8m gl+. • Branch stubs; tight forks; crossing / rubbing branches. • Crown: minor deadwood <25mm. • Major deadwood >25mm: small volumes through crown.			• No works required	
G7	Monterey Pine (Pinus radiata)	E/M	L	• Roots damaging hard surfaces. • Stem: tight fork / forks. • Crossing / rubbing branches. Resin runs on N tree, W	3/4/2	500K	• No works required	

				secondary stem, 2-3.5m gl+. Propped. E side. Resin runs below branch unions, 2.1m E side. • Crown: minor deadwood <25mm. • Major deadwood >25mm: large volumes through crown.		deadwood failure onto path		
G8	Sycamore, ash	Y	M	• Stem: Squirrel damage.			• Monitor for ADB symptoms summer 2022. • Coppice.	iv
G9	Monterey Pine (Pinus radiata)	M	L	• Roots damaging hard surfaces. • Stem: Ivy restricted inspection; climbing plants; tight fork / forks. • Deadwood on stem - large diameter: all trees. • Branches: branch stubs; crossing / rubbing branches. • Major deadwood >25mm: large volumes through crown.	3/4/2	500K deadwood failure onto path	• No works required	
G10	Sycamore (Acer pseudoplatanus)	Y	M	• Stem: squirrel damage.			• No works required	
G11	Monterey Pine (Pinus radiata)	M	L	• Roots damaging hard surfaces. • Stem: Ivy restricted inspection; tight fork / forks. • Crossing / rubbing branches; branch stubs. • Major deadwood >25mm: large volumes through crown.	3/4/2	500K deadwood failure onto path	• No works required	

G12	Sycamore, Ash, Elm	Y	M	3.0 Stem: Ivy restricted inspection; squirrel damage; dead elm stem.			• Monitor for ADB symptoms summer 2022. • Monitor for Elm Disease in summer annually.	ii
G13	Sycamore (Acer pseudoplatanus)	Y	M	• Stem and branches: squirrel damage.	3/4/2	500K branches failing onto path	• Coppice.	iv
G14	Sycamore, Ash, Elm	S/M	M	• Exposed surface roots. • Basal epicormics. • Stem: tight fork / forks; Ivy restricted inspection; Ivy. • Branches: squirrel damage; branch stubs. • Broken hanging branches: 6-8m in trees above embankment. • Major deadwood >25mm: small volumes through crown.			• Monitor for Elm Disease in summer annually.	iv
G15	Monterey Pine (Pinus radiata)	M	L	• Unable to clearly view root-plates due to density of vegetation and leaf litter. • Leaning tree: growth bias, suppressed by adjacent trees. Orientation: South tree - W. • Broken hanging branches: 7m gl+, w side of central tree, propped. • Major deadwood >25mm: large volumes through crown.	3/4/2	500K deadwood failure onto path	• No works required	

G16	Holm Oak (Quercus ilex)	Y	M	• Roots damaging structures. N tree has evidence of recent displaced stone face of wall. Not visibly unstable. • Stem: tight fork / forks.	4/Prop/4	<1M Whole tree failure onto gravestones	• Continue to monitor root system of N tree for signs of instability – works to be undertaken by grounds staff	ii
G17	Sycamore, Holm Oak, Sessile Oak, Hawthorn, Holly	Y	M	• Stem: tight fork / forks; Ivy restricted inspection; Ivy. • Branches: branch stubs; poorly pruned.			• Sever Ivy.	iv
G18	Sycamore, Elm, Oak	Y	M	• Stem: Ivy restricted inspection. • Unknown ownership.			• Sever ivy. • Monitor for Elm Disease in summer annually.	iv
G19	Common Ash (Fraxinus excelsior)	M	L	• Open cavity: S tree. 400mm gl+ to 1.6m gl+, E side. 400mm wide. Tear wound. Crack in base of stem, S side gl to 200mm gl+. • Crown: reduced vitality based on bud distribution.	3/4/2 4/Prop/4	500K Deadwood failing onto path. <1M stem failure onto adjacent pine	• Monitor for ADB symptoms summer 2022. • Remove with progressive decline	ii
G20	Sycamore (Acer pseudoplatanus)	Y	M	• Stem: Ivy restricted inspection.			• Sever Ivy.	ii
G21	Elm, Sycamore	Y	M	• Stem: dead elm stem; Ivy restricted inspection.	2/4/2	50K dead elm failure onto highway	• Fell all dead Elm • Sever Ivy - sycamore.	 ii

G22	Cornish Elm (Ulmus carpinifolia 'Cornubiensis')	Y	M				• Monitor for Elm Disease in summer annually.	ii
G23	Sycamore (Acer pseudoplatanus)	S/M	M	• Stem: Ivy restricted inspection • Unable to view or access trees due to terrain and density of vegetation.			• Sever Ivy.	ii
G24	Macrocarpa, Sycamore	M	L	• Stem: Ivy restricted inspection; tight fork / forks. • Branches: tight forks; crossing / rubbing branches; branch stubs. • Broken hanging branches: SE to NE side, 12-15m gl+. 100mm diameter.			• Sever Ivy. • Remove broken branches.	ii
G25	Macrocarpa, Monterey Pine	E/M	L	• Stem: Ivy restricted inspection; tight fork / forks. Large diameter 500mm est stem failed at 2m gl+ on S tree. • Broken hanging branches: 6-12m gl+ W & E sides. Up to 150mm diameter est. • Foliar disorder: Coryneum Canker.	3/3/3	500K branch failure onto path	• Remove broken branches	ii
G26	Lime, Beech, False Acacia	M	L	• Stem disorder: suspected Phytophthora. • Branches: branch stubs; poorly pruned; tight forks. • Crown: minor deadwood <25mm.			• Monitor crown vitality of lime summer 2022, with visual checks for progression of stem lesions on stems and in branch forks.	ii

G27	Sycamore, Lime, Pine, Elm	E/M	L	• Basal epicormics. • Stem: Ivy restricted inspection. • Broken hanging branches: 4-5.5m gl+, E side, 80mm diameter est.	2/4/3	500K branch failure onto highway	• Sever Ivy. • Remove epicormics. • Monitor for Elm Disease in summer annually.	ii
G28	Sycamore, False Acacia, Elm	S/M	M	• Stem: Ivy restricted inspection. • Branches: squirrel damage; branch stubs; poorly pruned. • Crown: minor deadwood <25mm. • Major deadwood >25mm: Small volumes through crown.			• Sever Ivy.	ii

Site notes / Limitations

- The prefix ‘gl+’ refers to a height above ground level.
- No soil or tissue samples were taken at the time of inspection.
- Tree heights have been measured with a laser rangefinder.
- Tree positions have been plotted using a Trimble Juno T41 data collection device – accuracy within 2 – 4m
- A monocular (x25) was used to aid above ground visual assessment
- Estimated or approximate dimensions are identified with the prefix ‘Est’ or ‘Approx’.
- Aluminium numerical tree tags have been fitted at 1.4 – 1.6m above ground level to individual trees where required
- The survey area was viewed only from the Clients property and publicly accessible vantage points
- Persistent fungi will be noted where visible, seasonal fungi identified where possible.

4.3 Photos

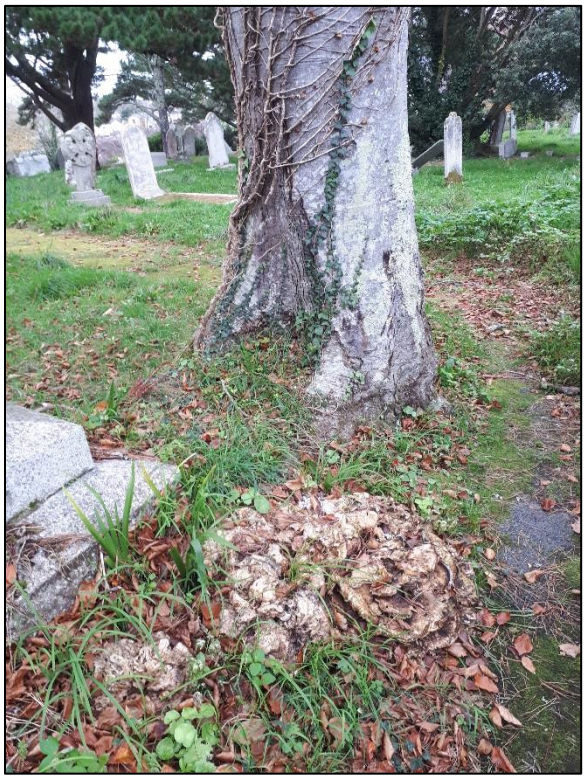


Fig 1. Tree 1000 Meripilus giganteus

Fig 2. Tree 100 bark bleeding

Fig 3. Tree 1001 stem bark death

Fig 4. Tree 1002 stem splitting

Fig 5. Tree 1004 dead stem

Fig 6. G3 proximity to structure

Fig 7. Tree 1007 failed pollard head

Fi8 8 Tree 1010 unidentified fungi

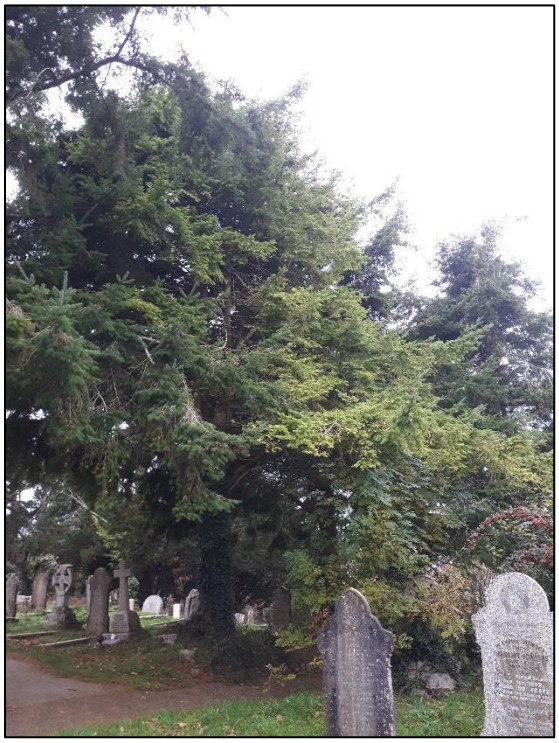


Fig 9. G5 canopy yellowing

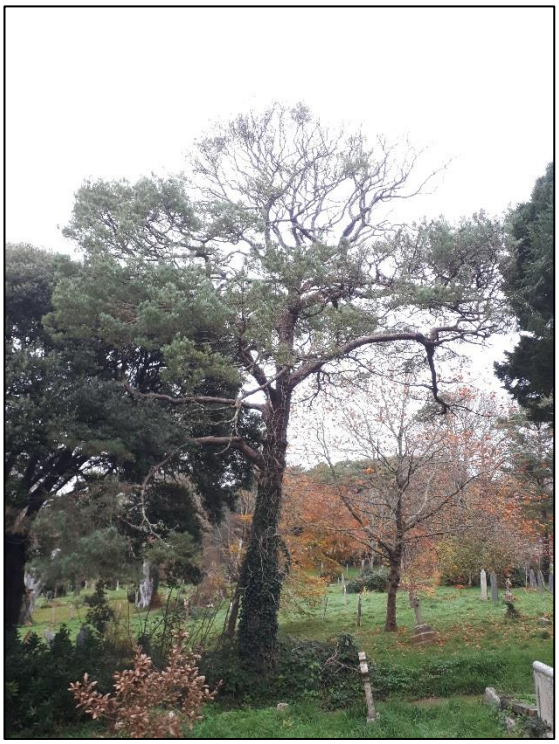


Fig 10. Tree 1014 declining Scots Pine

Fig 11. Tree 1015 crown reduction (red)

Fig 12. Tree 1019 stem failure

Fig 13. Tree 1027 basal cavity

Fig 14. G16 soil disturbance at stem base

Fig 15. Tree 1036 stem cavity

Fig 16. G25 Coryneum Canker dieback

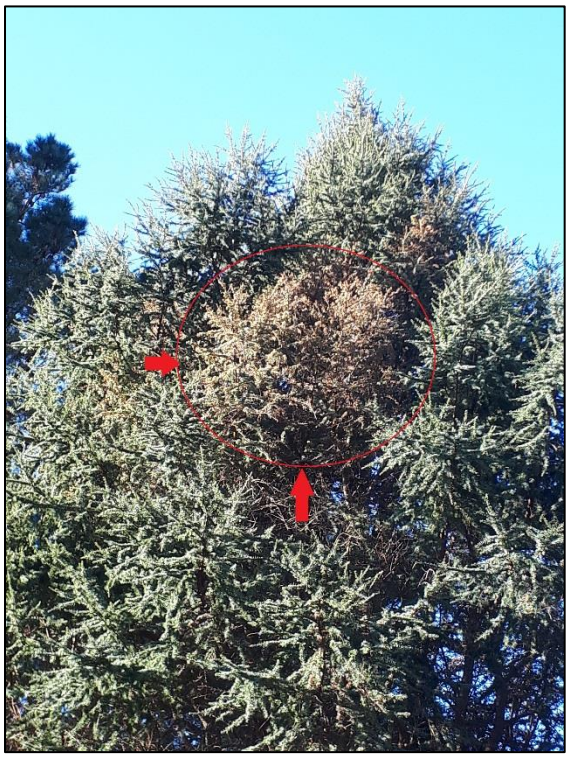


Fig 17. Tree 1043 Siroccocus on Cedar

Fig 18. Tree 1046 Phaeolus schweinitzii

5.0 Additional Information

5.1 Giant Polypore (Meripilus giganteus) – Tree 1000

5.1.1 There are a number of unknown factors with the presence of this root decay organism. Put quite simply, as an industry we don't know enough about this fungus. It's behavior and relationship with other fungi and trees is being studied to determine whether it is a primary cause of root decay or a secondary decay fungi opportunistically following behind another parasitic fungi or pathogenic organism. But, Meripilus is associated with or is a contributing factor / causal agent in root failure in Beech.

5.1.2 Meripilus is known to decay woody roots, initially decaying the underside of the root but being largely confined to the roots / buttresses and not the stem base. The mode of decay is a white rot or in the early stages a soft rot which can result in brittle fracture of degraded roots.

5.1.3 I have experienced whole tree failure where Meripilus has been present. To ensure that tree risk is considered proportionately, it is necessary to understand the target areas and risk exposure from whole tree failure. In this case, Tree 1000 is within a theoretical strike range of multiple targets and removal has been recommended based on the risk assessment outcomes.

5.2 Phytophthora plurivora

5.2.1 This pathogen is a fungus like organism, and is widely distributed across Lime (Tilia sp) in Falmouth and other towns in Cornwall. Based on my work with Forest Research, we have identified this pathogen on multiple trees within sites owned and managed by Falmouth Town Council. Cornwall has a climate which is highly suited to Phytophthora which proliferates in mild, damp, humid conditions.

5.2.2 Tree 1045 has a single stem lesion which I identified in the tree survey process. I will take a further bark sample in April 2022 for laboratory testing by Forest Research. Further monitoring of the tree will be required, in combination with checks of adjacent lime which are also susceptible to infection.

5.2.3 This native pathogen is a significant cause for concern. In my experience, where a host tree has been infected it has died. I have not observed any infected lime trees tolerating or recovering from an infection by Phytophthora plurivora. Once established on a site, further infections are probable.

5.2.4 Biosecurity practice on site will help with minimising transfer via woodchip, tools and equipment to otherwise unaffected areas should works be undertaken to any infected host tree.

5.3 Brown Rot – Tree 1046

5.3.1 Brown rot is caused by fungus preferentially degrading the cellulose within the woody tissues, leaving behind the lignin. Cellulose provides elasticity and flexibility within the wood, whilst the lignin is more akin to the building blocks and is regarded as being more rigid. Browns rots can lead to brittle fracture as the wood becomes

stiffer, but is described as being “infrequently associated with the failure of colonised stems and roots” (Humphries & Wright 2021).

5.3.2 Tree 1046 has two persistent fungal fruiting bodies at the stem base which I have identified as Phaeolus schweinitzii. Sounding with a nylon hammer does not work on this tree species due to the thickness of the bark.

5.3.3 Prior to the preparation of this report, Falmouth Town Council has instructed a third-party arboricultural consultant (A.M.Lane) to undertake a detailed investigation of the decay using a micro-drill (Resi PD) to gain further information on the condition of the tree to assist with decision making.

5.4 Root expansion – damage to hard surfaces & structures

5.4.1 Tree roots are damaging hard surfaces across the survey area. Roots increase in diameter as they age and respond to loadings. Where tree roots are present under hard surfaces or structures in a suitable substrate material, damage can occur.

5.4.2 Tree roots are known to create significant point loadings on surfaces which do not have a tensile surface (which can absorb the deformation). The soils / substrate under the paths are consolidated or compacted and are not able to absorb any deformation caused by root expansion. This is extensively described in detail in Chapter 11 of ‘Tree roots in the built environment’ (Roberts, Jackson & Smith 2006).

5.4.3 Damage to graves was noted across the site, with headstones and gravestones being displaced as tree roots grow. Where tree removal would be beneficial and can alleviate these issues, works have been specified within this report. If a management decision is made to tolerate these issues, the client is at liberty to ignore any works specified.

5.4.4 Tree 1020 is a young Holm Oak which is damaging a wall and more extensive damage to this retaining structure is reasonably foreseeable. Tree removal at this stage will be cost effective and remove the need for any future repair to the damaged structure.

5.5 Tree ownership

5.5.1 Trees 1035 – 1042, G18 & G19 are growing from an embankment which retains the highway (Madeira Walk). The ownership responsibilities for trees in this area are unclear and should be clarified with Cornwall Council who are the highway authority.

5.5.2 In my experience as a local authority Tree Officer with Cornwall Council providing highways advice, we routinely understood that embankments which retain the highway are typically part of the highway and maintained as such.

5.5.3 The dilapidated post and wire fence has been in situ for a long time and has not be maintained. This may not delineate the highway boundary and is likely to have been a barrier to prevent falls from height from the embankment into the cemetery.

5.5.4 Trees within the embankment will require ongoing resourcing as identified within the tree survey report.

6.0 Recommendations

6.1 Tree Work – Categories and Time Frames for Delivery

6.1.1 Safety works identified by separate email (unacceptable risk of significant and imminent harm) must be addressed immediately unless control measures can be deployed to reduce the exposure of the hazard to people / property to a level of acceptable or tolerable risk.

6.1.2 Safety works should be prioritised above all other works where identified within the Sections 4.1 - 4.3 of this report. Safety works should be completed within 2 months (8 weeks) of the date of this report. Where other control measures are put in place to manage the exposure of the hazard to people / property this should be recorded by the client and time scales for tree works revised accordingly.

6.1.3 Management works to manage risk (category ii) should be addressed within the stated time period set out in the tree survey, within 1 year of the date of this report or the next inspection cycle (whichever is the soonest.

6.1.4 Management works (category iii) should be addressed within 3 years to avoid damage to property or statutory nuisance issues.

6.1.5 Management works (category iv) should be addressed subject to the client having resources available and their understanding of the management priorities within the survey area.

6.1.6 Season specific tree monitoring works e.g. crown vitality, should be undertaken during the summer months June – August. A photographic record assists with any comparison analysis of leaf colour and canopy density. Ideally, any photos should be taken from near or the same position.

6.1.7 All tree works must follow good arboricultural practice having regard to BS3998:2010 Tree Work – Recommendations and the principles set out within this document.

6.2 Seasonal Tree Work Operations & Protected Species

6.2.1 Pruning operations are host tree specific and works must be planned, taking into account natural processes and tree specific phenology as appropriate. Season specific tree work will be specified against numbered trees within Section 4.2 & 4.3 of this report where required and should inform ongoing work programming.

6.2.2 All tree works must be carried out in accordance with good arboricultural practice and follow the principles of BS3998:2010 ‘Tree Work – Recommendations’.

6.2.3 Care must be taken during any works to trees, to avoid damage or disturbance to birds during the nesting season. In Cornwall the bird nesting season is typically from March and may extend to September, with many species producing second to third broods in appropriate habitat. Under the terms of the Wildlife and Countryside Act 1981 (As Amended in 1986 and 1991) Part 1 (1), it is an offence intentionally to take, damage or destroy any wild birds or its nest while being built or in use, or to take or destroy its eggs or chicks. A pre-commencement site assessment to check for the

presence of nesting birds or protected species should be undertaken within 48 hours of works commencing.

6.3 Tree Work Contractors

6.3.1 The project will require the use of competent arboriculturists due to the complexity / proximity of the site features. Arboricultural Association Approved Contractors and additional advice on choosing your arborist are provided in the links below:

https://www.trees.org.uk/ARB-Approved-Contractor-Directory

https://www.trees.org.uk/Help-Advice/Public/Choose-your-Tree-Surgeon

7.0 Conclusions

7.1 Falmouth cemetery contains many mature trees in a variable condition. The trees contribute significantly to the character of the setting and to the wider area. Overall, the tree population is performing as I would expect given the species diversity and age range identified in the survey process.

7.2 As expected, some of the maturing and mature trees are in a poor condition or are compromised by fungi. Works are required to address safety issues and to deliver risk reduction benefits.

7.3 There are likely to be further ongoing issues with branch loss from the conifers species throughout the survey area, especially during periods of high winds when branches are subject to higher wind loadings. Loss of deadwood from the Monterey Pine has also been considered. The tree risk assessment has considered the risk exposure and weather factors to the targets and works have been specified where required.

7.4 A number of fungal pathogens are present on trees within the survey area and further monitoring of tree health and condition will be required to ensure any deterioration in tree condition or biosecurity risks are identified and control measures put in place.

7.5 Basic works to control ivy have been recommended to trees across the site. This should be undertaken as part of routine site management operations to ensure trees do not become impacted by this evergreen plant. Control of ivy ensures the benefits it provides are maintained for wildlife.

7.6 The detailed decay investigation to tree 1046 will be undertaken and reported on outside of this report.

Report Ends

Appendix 1

Report Limitations

- *The content, conclusions and recommendations in this report are valid for a period of one year from the date of survey. Trees are both living organisms and dynamic structures subject to change; the validity period may be reduced should changes in condition occur to the subject(s) of the report or surrounding area e.g. fire, flood, chemical spill, mechanical damage etc.*

- *All recommendations are given in the context of the site's current usage and condition; any change in use or activity therein would dictate a re-inspection and updated assessment and may invalidate this report. Should the client knowingly withhold information which is essential to the tree survey process or has a material bearing on the outcomes of any recommendations therein, then this may affect the validity of the report.*

- *This report is prepared and is valid for the purposes of assessing trees within a normal range of site exposure conditions, which will vary according to the physical location of the site. Extreme or exceptional weather events cannot be quantified or used to inform decision making, and Objective Tree Consultancy cannot be held liable for extreme weather events or actions resulting from them.*

- *Access to third party land was not agreed prior to the undertaking of this survey. This has prevented a full ground level visual assessment of trees as stated within Section 4.2 of this report.*

- *Assumed values and estimated dimensions have been provided to the best of the surveyors' abilities.*

- *This report remains the intellectual property of Objective Tree Consultancy unless otherwise stated. It is supplied solely for the use of the Client unless otherwise stated.*

Appendix 2

Tree Risk Assessment – Guidance Note

The Quantified Tree Risk Assessment (QTRA) methodology has been applied to selected trees on the site, as stated within the report. Where QTRA cannot be applied due to unknown factors e.g. occupancy rates, target value etc, it will not be applied. Any management outcomes will then be based on the Inspectors recommendations, which should be pragmatic, reasonable and based on common sense tree risk / tree management.

Oliver Bennett, Arboricultural Consultant, Objective Tree Consultancy, became a licensed user of the QTRA system in June 2007 and an Advanced User in March 2017.

Quantified Tree Risk Assessment

For further information on the QTRA system and its limitations please visit the website at www.qtra.co.uk

The QTRA system enables tree failure risk to be assessed in a consistent and structured way. The QTRA system provides an outcome and calculates the probability for the risk of harm from tree failure. QTRA relies on the input of a pre- determined range of values from the tree assessor.

This carried out in three key stages and includes:

1. to consider land use (people and property) in terms of vulnerability to an impact and the likelihood of occupation (target value)

2. to consider the consequences of an impact taking into account the size of the tree or part thereof failing

3. to estimate the probability that the tree or branch will fail onto the land use in question

Once the values are entered into the QTRA calculator, a risk of harm outcome (for the tree hazard being assessed) is calculated as a risk probability for the coming year. This risk probability will place the risk of harm within the broadly acceptable, tolerable (and sub-categories) or unacceptable risk ranges. The risk of harm probability can be compared against advisory levels of risk acceptability (Health and safety Executive).

Within QTRA, probability is expressed as a fraction i.e. 1/1 (high degree of certainty of an event occurring), 1/100 - there is a one in one hundred likelihood of an event occurring (lower risk than 1/1) – 1/1,000,000 (low likelihood of an event).

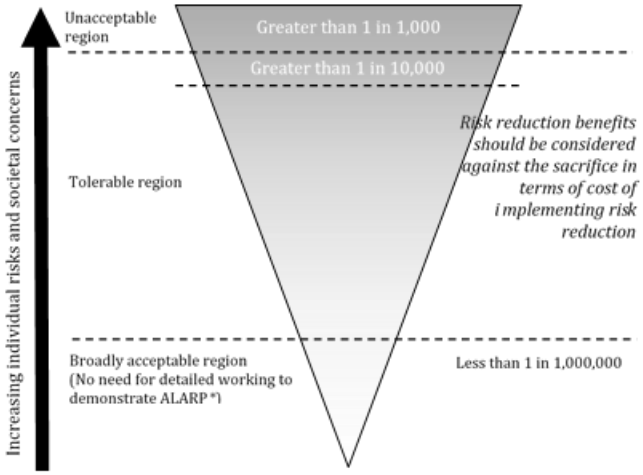
In simple terms QTRA (based upon guidance from the Health and Safety Executive) suggests that:

- *where the risk of significant harm is greater than 1/10,000 (in all but exceptional circumstances) measures should be taken to reduce the risk*
- *where the risk of significant harm is between 1/10,000 and 1/1,000,000 measures to reduce the risk should be considered, and the benefits of risk control balanced against the costs. A level of risk within this range may be tolerated by tree owners/managers if the costs (the financial, environmental and visual costs) of reducing the risk further are grossly disproportionate to the benefit of risk reduction*

- *expending significant resources (money or loss of tree value) to reduce a risk from a tree that is already as low as 1/10,000 will seldom be appropriate. The main exceptions being related to dead and degrading trees or branches when the risk is expected to increase as the value of the tree decreases*

The figure below diagrammatically represents the boundaries and ranges discussed above.

Adapted Tolerability of Risk Framework (extract from QTRA practice note)



***** *ALARP – as low as reasonably practicable*

Management decisions can be informed by understanding the risks, considering the risk against the benefits that the tree / trees provide and the costs of risk reduction (both financial and the impacts to the tree/trees).

Stakeholders, tree owners and duty holders may stipulate their own levels of risk tolerance, but should always be mindful of any duties, obligations or legal responsibilities they are required to fulfil, and standing advice from regulatory bodies on risk management. In the unfortunate event of a tree failure incident, they will be required to demonstrate that they have acted reasonably and proportionately, thus placing them in a defendable position in the event of a claim.

For further guidance on the risk management process you may wish to read the following documents:

Health & Safety Executive - 'Reducing Risks, Protecting People'

Health & Safety Executive - SIM 01/2007/05 'Management of the risk from falling trees or branches'

National Tree Safety Group - 'Common sense risk management of trees'

Further advice is available from the following organisations:

Arboricultural Association – www.trees.org.uk
Forestry Commission – www.forestry.gov.uk

Appendix 3

Pest & Disease Issues – Current Threats and Implications

Ash Dieback

Ash Dieback (Hymenoschyphus fraxineus) is an established and progressing fungal disorder affecting large areas of the UK and is present across Cornwall. This fungal disease can result in tree death, but some options for disease management may be viable in some situations. Trees may be immune or tolerant of this disorder and pre-emptive felling is generally discouraged. Healthy immune trees may provide genetic material to help with future restocking with this species.

Trees affected by Ash Dieback may be prone to secondary pathogens e.g. Honey Fungus, which can result in decay of the root system and lower stem of trees, making them prone to complete failure.

Current industry good practice is not to advocate sanitation felling, but management of trees on the basis of risk.

Further advice on Ash Dieback symptoms can be found at the following websites:

https://www.forestresearch.gov.uk/tools-and-resources/pest-and-disease-resources/ash-dieback-hymenoscyphus-fraxineus/

https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/tree-pests-and-diseases/key-tree-pests-and-diseases/ash-dieback/

Young trees may exhibit symptoms which can be easily identified, including bark lesions and foliage death.

In more established or mature trees, the symptoms are less obvious but may include:

- *Wilting foliage (summer months)*
- *Diamond shaped lesions (stem and branch wood connection point)*
- *Notably thinning canopy density*
- *Sporadic and patchy dieback through the crown*
- *Progressive dieback with epicormic growth reaction*
- *Basal lesions and stem girdling*
- *Premature defoliation in autumn*

Monitoring the health and vitality of infected ash trees should be undertaken in a structured and consistent manner. The Ash Dieback Toolkit is valuable information resource for tree and woodland owners, and sets out a health class system for evaluating the stage of decline in infected trees. Link below:

https://treecouncil.org.uk/wp-content/uploads/2019/11/Tree-Council-Ash-Dieback-Toolkit-2.0.pdf

If you are in any doubt about the condition of Ash trees on the property you should seek professional advice and follow any recommended course of action.

Elm Disease (Ophiostoma novo-ulmi))

Elm Disease (also referred to as Dutch Elm Disease) is an established fungal disorder (vascular wilt) in the UK which kills the above ground parts of susceptible Elm species upon infection. Once the host tree reaches a suitable size to host the insect vector (bark beetle – Scolytus scolytus / Scolytus multistriatus), it transmits the fungal spores into the vascular system of the host trees in the process of boring out breeding galleries under the bark.

Typically, branches are initially defoliated following infection at the source of beetle entry to the vascular system. The whole tree may flush with leaves in the spring only to become progressively defoliated, eventually dying. If infected late in the growing season) it may fail to flush into leaf in the spring and will be obviously dead during the summer months. The infection may also spread via root grafts, and in hedgerow tree groups this may be another route of infection transference.

This type of disorder is cyclical but may not be an annual occurrence. The cycle of infection depends on the beetle population in combination with the location / connectivity of the susceptible host species to sources of infection. Isolated trees may attain more significant size and some species may be tolerant (but not immune) to infection. Examples of mature Davey's Elm are obvious in areas of Cornwall with their distinctive form and upswept branch tips.

If you are in any doubt about the condition of Elm trees on the property you should seek professional advice and follow any recommended course of action.

Coryneum Canker (Seiridium cardinale)

This is a fungal disorder which can infect and kill the bark or branches resulting in foliage death on a range of coniferous species. Severe damage can take many years to progress following initial symptoms developing, with areas of affected foliage dying throughout the crown of the host tree. Most commonly seen affecting Monterey Cypress in Cornwall it colonises a range of Cypress trees. There is no effective treatment once infected and trees may decline over many years, depending on the age and vigour of the host. Once the infection spreads to the stem or below the live crown the tree is likely to die (once the stem is girdled).

Phytophthora – various

A native Phytophthora (P.plurivora) has been identified and recorded affecting and killing a range of Lime (Tilia) species within Cornwall. Although not a notifiable disease, it has been recorded as being aggressive on its host range, resulting in bark death, girdling of stem and branch-wood, and tree death in almost all cases. Affected trees show symptoms of bark bleeding at infection sites, which may result in blackened external areas with an exudate at or near the centre of each affected area. Exposing the underlying tissues will not reveal any fungal mycelium as would be encountered with Honey Fungus. The affected and dead tissues may extend for a significant distance from the outward signs of infection.

Phytophthora ramorum remains a notifiable quarantine pest, and infected material should not be removed from site where it is present. This continues to affect a range of species including Beech and Evergreen (Holm) Oak.

https://www.forestresearch.gov.uk/tools-and-resources/fthr/pest-and-disease-resources/ramorum-disease-phytophthora-ramorum/

Phytophthora lateralis is present within the UK and is found infecting primarily Lawsons Cypress (Chamaecyparis lawsoniana). Within the wider environment this is not a notifiable disease. Within the plant trade this is a notifiable quarantine organism.

https://www.forestresearch.gov.uk/tools-and-resources/fthr/pest-and-disease-resources/phytophthora-lateralis/

All arisings from Phytophthora infected trees should be disposed of by burning on site. Woodchip from infected material should not be added to existing woodchip stores for re-application. Unless a controlled temperature is maintained within a composting process within strict parameters the heat generated within the composting process does not kill Phytophthora.

Honey Fungus

This fungal disorder is well documented within the UK and Armillaria mellea is a native fungus. On weakened, damaged or stressed trees, this fungus can be parasitic. It is known to affect a wide range of host species. Typically colonising the roots and lower stem of its host, Honey Fungus is considered to be weakly parasitic in most cases taking advantage of unfavourable conditions which may weaken a host tree. Once established, it can result in root decay, reduced vigour and tree death. Other symptoms attributed to Honey Fungus are bark and stem bleeding – particularly on Turkey Oak and Sycamore.

Where tree roots are colonised by this fungus they will develop a white rot and may be prone to ductile failure. Crown symptoms may be present in stressed trees with the crown appearing sparse or dying back in the summer months.

Cultural means of control through the application of a deep wood-chip mulch (100mm) may encourage other fungi to compete for a food resource and displace the Honey Fungus. For high value trees, fungal treatments can be used to help displace and manage Honey Fungus within the soil environment.

Appendix 4

Terms of Reference

Key to Tree Survey Schedule (Abbreviations)

Size

Size Class	
Small (up to 5m)	*S*
Medium (5 – 15m)	*M*
Large (15 – 25m)	*L*
Very large (25m>	*VL*

Age

Age Class	
Newly Planted *(within 5 years of planting)*	*NP*
Young *(first third of life expectancy)*	*Y*
Semi-mature *(second third of life expectancy)*	*SM*
Mature *(within final third of life useful life-expectancy but retaining crown vigour and vitality)*	*M*
Over-mature *(symptoms of declining vigour and impaired condition)*	*OM*
Veteran *(containing features of biodiversity interest related to age)*	*V*

Abbreviations

ADB – Ash Dieback

gl – ground level

gl+ - above ground level

Compass Points

N (North)	*S (South)*
NNE (north-north-east)	*SSW (South-south-west)*
NE (North-east)	*SW (South-west)*
ENE (East-north-east)	*WSW (West-south-west)*
E (East)	*W (West)*
ESE (East-south-east)	*WNW (West-north-west)*
SE (South-east)	*NW (North-west)*
SSE South-south-east	*NNW*

Tree Attributes

Bats – Potential Roost Features (Bat PRF) – features which may provide potential roosting features for bats (transient or in regular use). All species of bats are protected in law.

Major deadwood – may be specified by diameter depending on the species / wood properties or be deadwood with a diameter in excess of 25mm (where not specified).

Ivy – an evergreen plant which can provide many wildlife habitat benefits but may create unseasonal crown weight in trees during the winter months. This can affect trees, in particular smaller hedgerow trees, once established. Tree inspections (visual) can be impeded by this plant, and where an inspection cannot be carried out for this reason, severance will be recommended.

Cemetery
Mortuary
SWANPOOL HILL
PENNANCE ROAD
Posts
Lodge
Chapel
Cemetery
MEIRA WALK
SWANPOOL ROAD
The Pines
LB
Robin
G1
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
G12
G13
G14
G15
G16
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Groups
Remove

Falmouth Cemetery (Old)
Tree Survey Plan 2021

SCALE : 1 : 1000 @ A3
DATE : 15/12/2021
MAP FILENAME : FTC Cem 21
N

OBJECTIVE TREE CONSULTANCY