



Sylvanarb
Arboricultural Consultants

139 Bush Road, Cuxton, Rochester, Kent. ME2 1EZ.

☎ 01634 724023 ☐ 07816 400991

✉ info@sylvanarb.co.uk

🌐 sylvanarb.co.uk

Arboricultural Report

Tree Condition Assessment for Mortgage Purposes

Site

**46 Timberbank
Vigo
Kent
DA13 0SE**

Client

Ms M Giles

Prepared by
Curtis Barkel

RCArborA, DipArb (RFS), F.Arbor.A

Ref: SA/04/27-07

Date: 01 August 2020



Arboricultural Consultant: Curtis Barkel - RCArborA, DipArb(RFS), FArborA
Fellow and Registered Consultant of the Arboricultural Association

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Contents

Page	Section	
3	1.0	Introduction
4	2.0	Scope of Report
5	3.0	Site Details
	4.0	Soil Type
6	5.0	Observations
8	6.0	Considerations
10	7.0	Conclusion
11	8.0	Recommendations
Appendix A		Tree Survey Data
Appendix B		Tree Location Plan

Site	46 Timberbank, Vigo, Kent. DA13 0SE.
Inspection Date	23 July 2020
Report Date	01 August 2020
Inspected by	Curtis Barkel

Terms of Reference

To carry out a visual inspection of trees located within the front and rear gardens of the property. The inspection is to provide a preliminary condition assessment of the subject trees, commenting on the risk of vegetation related building damage and advising on any required remedial works or ongoing maintenance requirements.

1.0 Instructions

- 1.1 Sylvanarb has received instructions from Ms M Giles, the potential purchaser of 46 Timberbank, to carry out an inspection of trees to the front and rear of the house.
- 1.2 Ms Giles explained that a pre-purchase mortgage valuation report had recommended that an arboricultural assessment of trees on the property be carried out.
- 1.3 An extract of the surveyors report was provided by the client in e-mail format in which the surveyor recommends that an arboricultural assessment be carried out to provide tree management recommendations.
- 1.4 The extract also states that there is current damage to the house that has been confirmed to be 'non-subsidence related'. Damage to the garage was also noted but no comment on the expected cause of this was provided.
- 1.5 This assessment has been undertaken on the understanding that the damage to the house is not vegetation related and on the assumption that the damage to the garage is not vegetation related.
- 1.6 The assessment considers any health and safety concerns with the subject trees, as well as providing management recommendations, if required, to address any potential for vegetation related building damage.
- 1.7 My position as an arboriculturist enables me to provide specific detail on tree health, condition and management. However, I can only comment on structural engineering matters from a non-professional viewpoint, as such issues are beyond my field of expertise. Should further detailed information be required on building condition, a structural engineers report may be required.

2.0 Scope of Report

- 2.1 The mortgage provider did not define a distance from the buildings for trees to be included in the assessment. As such, the maximum recorded distance for causing damage to a building for each species surveyed has been used to determine which trees are included in this assessment (Kew Root Survey research carried out by Cutler & Richardson in 1981 and later re-enforced by Mercer, Reeves and O'Callaghan in 2011).
- 2.2 A preliminary visual assessment of the subject trees was carried out noting external faults and features. The assessment was carried out from ground level only.
- 2.3 This preliminary assessment did not include a detailed examination of root systems or the use of internal decay detection equipment.
- 2.4 The assessment is to consider and advise on:
- Structural condition
 - Physiological condition
 - Pests and diseases
 - Priority safety work requirements
 - Risk of damage to buildings on the property
- 2.5 No site specific background information on the underlying geology or type/depth of foundations has been provided. As such, the assessment of the likelihood of subsidence/heave damage occurring is a preliminary assessment based purely on arboricultural factors such as: species, condition, age of tree, proximity to building; and a non-arboricultural assumption of building condition and underlying geology.
- 2.6 No soil samples were taken for analysis, comments made on the likelihood of future vegetation related subsidence/heave damage have been based on the generic geological data for the location provided by the British Geological Survey.
- 2.7 An assessment of the risk of vegetation related building damage is provided, this being based on the assumption that no current or past vegetation related damage has occurred.
- 2.8 A tree with internal structural faults will often display associated external evidence of such faults, these would be noted in a visual tree inspection. However such signs are not always apparent at all times of the year. The following findings and recommendations have been drawn from the evidence present on the day of inspection.
- 2.9 This report remains valid for twelve months from the date of report or until extreme weather conditions affect the locality, whichever is sooner. A tree owner is advised to have all trees in their ownership regularly inspected, trees are to be re-inspected after strong winds.

3.0 Site Details

- 3.1 A semi-detached dwelling, understood to have been built in the 1960's.
- 3.2 The house and gardens are minimally maintained.
- 3.3 No details of building foundations have been provided.
- 3.4 Both the front and rear gardens having been fairly densely planted, mainly with coniferous trees.
- 3.5 The front garden is relatively small and includes a driveway serving the property. The rear garden is rectangular and fairly long extending back to Harvel Road.
- 3.6 A Gravesham BC Tree Preservation Order (TPO) tree work approval notice was provided by the client, this is dated 24 February 2020 and confirms that the trees on the site are subject of the Gravesham BC Tree Preservation Order Ref: no.1 of 1953. This is assumed to be a 'Woodland' TPO providing protection for all trees that are present on the property.

4.0 Soil Type

- 4.1 No soil samples were collected for analysis, as such an assumption of soil type is made based on the British Geological Survey data for the locality; this describes the underlying geology as Lewes Nodular Chalk Formation, with superficial deposits of Clay-with-Flints.
- 4.2 The depth of the clay deposits is unknown and therefore, for the purposes of this report, it has been assumed that the building foundations are into clay, as opposed to the underlying chalk.
- 4.3 The presence of clay presents an increased risk of vegetation related subsidence damage; however this is dependent on a number of factors such as: foundation type; plasticity of the clay; tree species; and distance from property.
- 4.4 Without further detailed site investigations being carried out the assessment of risk to the property has been based on the current relationship between existing trees and the building condition.

5.0 Observations

5.1 *Group G1 - Mixed Conifers*

- 5.1.1 A group of mixed conifers located in the rear garden of the property.
- 5.1.2 The trees are located from between approximately 2m and 7.5m from the house and three members of the group are within 2m of the garage.
- 5.1.3 The group members range from young to semi-mature and are up to approximately 17m tall.
- 5.1.4 The trees have the potential to significantly increase in size and outgrow the location, coming to dominate the garden and neighbouring properties.
- 5.1.5 Three of the group members are dead; one is very young; and another is suppressed. The dominant/largest trees in the group are five Norway Spruce and one Douglas Fir.
- 5.1.6 Other than one young Leyland Cypress, all of the group members are considered to be low water demanding species. Leyland Cypress are considered to be high water demanding species.
- 5.1.7 All of these trees are assumed to be younger than the house and garage.

5.2 *Tree T1 - Poplar*

- 5.2.1 A semi-mature tree located in the rear garden, approximately 11m from the rear of the house and around 14m tall.
- 5.2.2 A high water demanding species that presents a potential risk of causing subsidence related damage to adjacent buildings as the tree develops through to maturity.
- 5.2.3 Has the potential to significantly increase in size and outgrow the location, eventually coming to dominate this and neighbouring properties.
- 5.2.4 The main stem bifurcates at 3m, this presents an increased risk of failure as the tree increases in height and mass.
- 5.2.5 The tree appears to be in good physiological health, with no evidence of pest, disease or reduced vitality.
- 5.2.6 This tree is assumed to be younger than the house and garage.

5.3 **Group G2 - Mixed Conifers**

- 5.3.1 A group of mixed conifers located in the front garden of the property.
- 5.3.2 The trees are located from between approximately 1.4m and 2.2m from the front of the house.
- 5.3.3 Two of the group members are young; one semi-mature; and the other has reached early maturity. The largest tree is approximately 16m tall, all have the potential to continue to significantly increase in size and outgrow the location.
- 5.3.4 All of the group members are considered to be low water demanding species.
- 5.3.5 All of these trees are assumed to be younger than the house and garage.

5.4 **Tree T2 - Thuja**

- 5.4.1 A semi-mature tree located close to the front boundary, approximately 8.5m from the front of the house and around 16m tall.
- 5.4.2 A low to moderate water demanding species with the potential to increase in size, however with periodic management carried out the tree will not necessarily come to dominate the setting.
- 5.4.3 The tree is comprised of twin-stems, with three low limbs developing from below 3m.
- 5.4.4 The tree appears to be in good physiological health, with no evidence of pest, disease or reduced vitality.
- 5.4.5 This tree is assumed to be younger than the house and garage.

5.5 **Tree T3 - Spruce**

- 5.5.1 A semi-mature tree with 'blue' foliage, probably *Picea pungens*, approximately 8m from the front of the house.
- 5.5.2 Another low water demanding tree with the potential to significantly increase in size.
- 5.5.3 The tree is not of particularly good form due to the canopy structure having been suppressed by the more dominant tree T2, as well as top growth being suppressed by an off-site Ash tree.
- 5.5.4 The roots of this tree have lifted the adjacent driveway slabs causing a potential trip hazard. The driveway is old and of a poor standard, as such repairs are overdue, it is likely that this tree will however continue to disrupt the surface of any future driveway.
- 5.5.5 This tree is assumed to be younger than the house and garage.

5.6 Additional Trees

- 5.6.1 There are six additional large semi-mature conifers in the rear section of the rear garden, the closest of these to the house is a Douglas Fir at 14m from the rear wall of the house.
- 5.6.2 The other trees are a mixture of Norway Spruce and Larch, all of which are low water demanding species.
- 5.6.3 There is an understorey of young cypress trees towards the rear of the garden, these have the potential to increase in size and are recognised as High water demanding species.

6.0 Considerations

- 6.1 Trees may present a risk of two types of damage:

Direct Damage

- Where complete or partial failure of any part of the tree may result in damage or injury.
- Where the annual growth of any part of the tree may result in contact damage with a structure.

Indirect Damage

- Where damage to a structure occurs as a result of the action of changes in soil moisture content resulting from the uptake of water by tree roots beneath foundation level.

6.2 Risk of Indirect Damage

- 6.2.1 Three key factors have a bearing on whether vegetation related indirect damage will occur:
 - 1. Moderate to High plasticity soil - the higher the plasticity the greater the risk;
 - 2. Trees within influencing distance - the higher the water demand and proximity the greater the risk;
 - 3. Insufficient foundation depth - the shallower the foundation the greater the risk.
- 6.2.3 The property is located on a chalk based geology, with an unknown depth of clay cap. The chalk is a stable medium and if the foundations of the house are into the chalk no risk of vegetation related subsidence would be presented.
- 6.2.4 However, if the foundations are into the clay cap, the risk of vegetation related subsidence is increased, this increases more with the water demand of the species of tree and the proximity of the tree to the building.
- 6.2.4 As the depth of foundation and soil type at foundation level is unknown I will assume that the foundations are bedded into a moderate to highly shrinkable clay.
- 6.2.5 Other than one young Leyland Cypress in G1 and the Thuja T2, all subject tree are identified as Low water demanding species.

- 6.2.6 The surveyor has confirmed that there is no subsidence related damage to the house. As such, there has been no damage resulting from the subject trees developing through the rapid growth stage of semi-maturity, at distances from the house of less than 2m.
- 6.2.7 Considering the number of trees present (17 trees within 11m of the house), the size of the trees and the stage of growth they are at, the risk of vegetation related subsidence damage to the property is considered to currently be low, however this risk is likely to increase to moderate as the subject trees continue to develop through to maturity.
- 6.2.8 The proximity of G1 to the house is impractical in terms of the impact of the trees on living conditions, due to light loss, falling cones and needles etc. In addition, the group prevents the construction of a patio and the reasonable use of the garden space to the immediate rear of the house. It is recommended that these trees be removed to improve the garden setting and living conditions; whilst their removal will also address any potential future risk of subsidence damage. There is not considered to be a heave risk associated with the removal of these trees.
- 6.2.9 T1 presents the greatest potential of causing vegetation related building damage, the tree is also not of particularly good form and is likely to present health and safety concerns as it increases in size. It is recommended that this tree be removed to address future safety concerns and the potential risk of subsidence damage. There is not considered to be a heave risk associated with the removal of this tree.
- 6.2.10 As for G1, the group G2 is too close to the house in terms of living conditions, light loss, falling cones and needles etc. It is recommended that these trees be removed to improve living conditions, whilst also addressing any potential future risk of subsidence damage. There is not considered to be a heave risk associated with the removal of these trees.
- 6.2.11 Tree T2 forms a reasonable feature within the front garden and with some pruning work could be retained. With the recommended removal of the other subject trees carried out, the retention of this one tree is not considered to present a significant risk to the structure of the house.
- 6.2.12 Tree T3, is of poor form being suppressed by the adjacent T2. Furthermore the tree is currently damaging the driveway surface and is likely to continue damaging any new driveway surface. As such, it is recommended that this tree be removed. There is not considered to be a heave risk associated with the removal of these trees.
- 6.2.13 With the majority of the subject trees being removed, the retention of T2 and the trees in the rear section of the rear garden is considered to be acceptable. However, should damage to the building be identified at any time, soil analysis; crack or level monitoring; and foundations details will be required in order to fully assess the cause of damage.

6.3 ***Risk of Direct Damage***

- 6.3.1 The subject trees are not currently causing direct damage to the buildings on the property.
- 6.3.2 However members of the group G2 and tree T3 are causing disruption to the driveway surfacing.
- 6.3.3 This presents a trip hazard for both occupants and visitors to the property, as such the risk is to be managed by repairing the lifted driveway. This may be achieved by carrying out root pruning to allow the adjacent trees to be retained, however, it is likely that these trees will continue to cause direct damage to any future driveway surfacing.
- 6.3.4 As such, it has been recommended that these trees be removed to remove the risk of future driveway damage.

7.0 **Conclusion**

- 7.1 The assumed risk of indirect vegetation related building damage (subsidence/heave) is considered to currently be low. This is an assumption based on there being a high number of trees located adjacent to the dwelling with no record of damage having occurred as these trees developed through a vigorous period of growth.
- 7.2 However, the 17 trees within 11m of the house do have the potential to significantly increase in size, and as they develop through to full maturity the risk of potential subsidence damage is likely to increase. This is not however for certain as the building foundation may be built off the underlying chalk geology, in which case there would be no risk of future indirect damage. The only way to be certain of this risk would be to have soil and foundation investigations carried out.
- 7.3 Regardless of the potential subsidence risk presented by the subject trees, all but one of these trees have been recommended for removal in order to improve living conditions for occupants of the property. The trees already dominate the setting, with their potential to increase in size presenting a likelihood of an ever increasing negative impact on living conditions.
- 7.4 As such the recommendation to remove 16 of the 17 surveyed trees will improve living conditions for occupants and neighbours, as well as addressing any potential subsidence risk.
- 7.5 One subject tree (T2) may be retained, if required, as a feature tree within the front garden setting. Considering the number of trees identified for removal, the potential risk for this one tree to cause subsidence damage is considered to be low. However, the periodic inspection of the building is recommended (ideally at each mortgage renewal), to monitor for the development of any building damage.

8.0 Recommendations

8.1 Tree Works

The following works are recommended in the interests of good management, so as to improve the living conditions for occupants of the property and to act as proactive measures to address any future potential for vegetation related damage to the property.

Table 1: Recommended Management Works

Tree No.	Species	Recommended Works
G1	Mixed Conifers (11 x trees)	Fell and grind stumps.
T1	Poplar	Fell and grind stump.
G2	Mixed Conifers (4 x trees)	Fell and grind stumps.
T3	Spruce	Fell and grind stump.

8.2 General Recommendations

- 8.2.1 A tree owner has a legal duty of care to the visitors to their property and to their neighbours, this duty requires that their trees are regularly inspected and recommended management carried out. 'Regularly' is not defined in law, however an advised inspection frequency has been provided for each tree based on the condition of the individual and the potential target.
- 8.2.2 Prior to any tree works being carried out enquiries are to be made to the LPA to clarify whether permission is required or notification necessary. To carry out unauthorised work to a protected tree carries heavy penalties.
- 8.2.3 It should be noted that the client has a Gravesham BC approval for 'the removal of 16 trees, 2 fallen trees and 1 tree stump', dated 24 February 2020. This approval is valid for a period of two years and appears to cover all the trees detailed at Table 1 above.
- 8.2.4 All tree work is to be carried out by a competent arborist in accordance with the British Standard for tree work BS3998:2010 'Recommendations for Tree Work' unless otherwise specifically prescribed herein to address health and safety issues.

8.2.5 Trees may provide host sites for legally protected wildlife such as birds and bats. It is essential that prior to works being carried out the tree work contractor is instructed to assess each tree for the presence of protected species such as bat roosts and birds nests. It is an offence to disturb or destroy such sites. Advice on bats can be obtained from the Bat Conservation Trust (tel:0845 1300 2280), advice on nesting birds can be obtained from Natural England (tel:0845 600 3078).

All advice given in this report is based on the information available on the day of inspection. Should additional information not available or apparent on the day of inspection come to light, the right is reserved to modify the conclusions found within this report. This report is valid for 12 months notwithstanding change of site conditions, extremes of weather or other such overriding environmental changes.



28 July 2020

Signed:

Date:

Appendix A

Tree Survey Data

Gravesham Borough Council

Survey Key

Tree No.	Tree Number - cross-referenced with tree numbers shown on Site Plans.		
Age Class	Young	Staked or recently established tree at the fast growing early stage of establishment.	
	Semi mature	An established tree at a stage of rapid growth with increasing future growth potential	
	Mature	A tree that is at a stage of constant growth nearing/at ultimate canopy size.	
	Veteran	A mature tree, often of great ecological or heritage importance, that has reached a stage of natural decline.	
	Over-mature	A tree in an advanced state of decline, moribund with minimal live growth.	
Hgt (m)	Height range estimated in metres. 0-5m; 5-10m; 10-15m; 15-20m; 20-25m; 25-30m		
Recommended Mgt	Management recommendations to bring the trees to an acceptable and safe standard in the current site context.		
Work Priority	U	Urgent	Works required immediately to make tree safe.
	H	High	Works required within 90 days.
	M	Medium	Works to be carried out within 12 months.
	L	Low	Suggested good arboricultural management, which may be carried out as and when the budget allows.
Inspection Frequency	1	Every year	High risk tree considering size/condition/location/use of target area.
	2	Every 2 years	Moderate risk tree considering size/condition/location/ use of target area.
	3	Every 3 years	Low risk tree considering size/condition/location of tree/ use of target area.

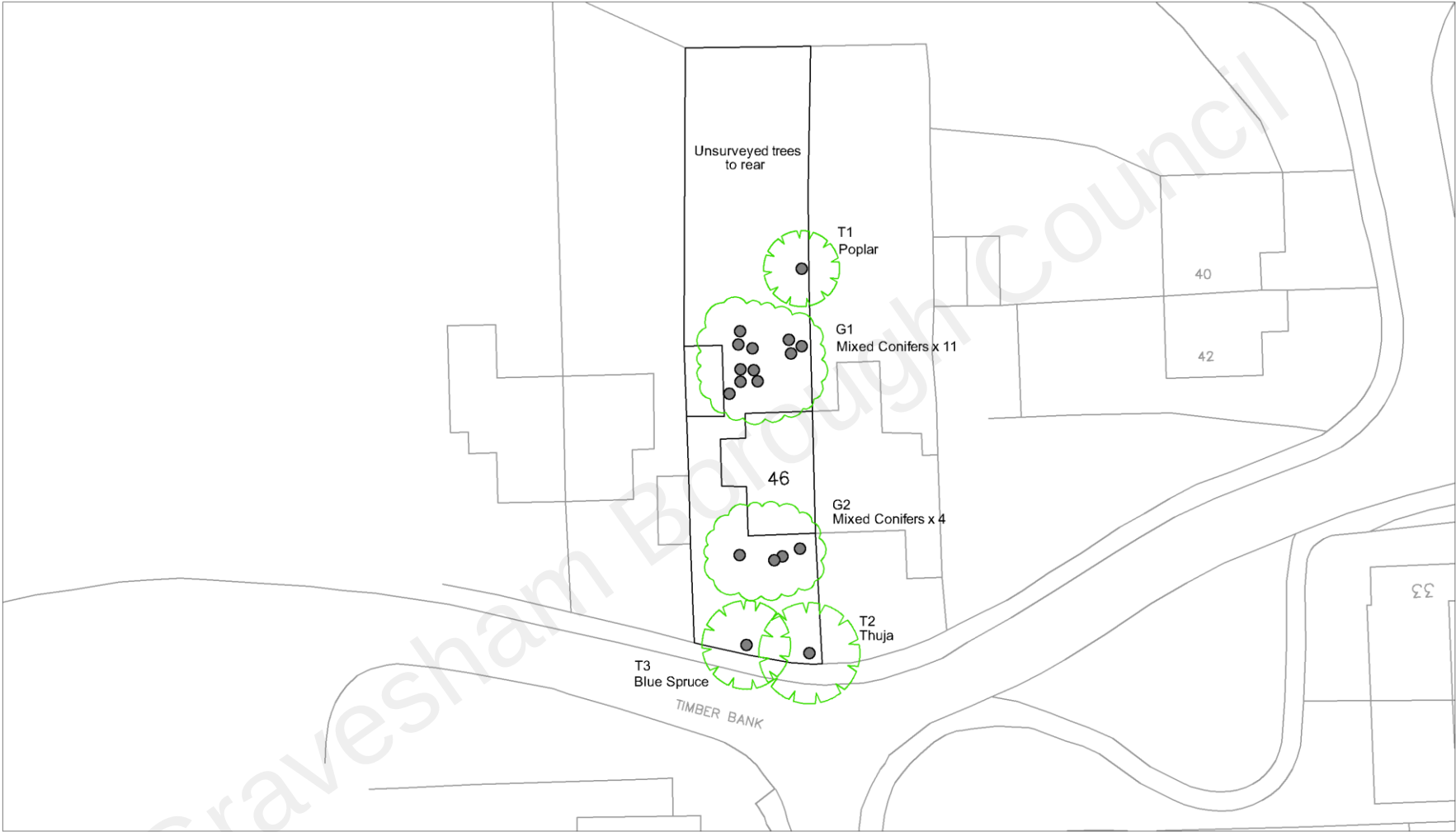
Tree Survey Data

TREE NO	SPECIES	HEIGHT (m)	STEM DIA. (mm)	SPREAD (n,e,s,w)	AGE CLASS	NOTES / CONDITION	RECOMMENDED MGT.	WORK PRIORITY	INSPECTION FREQUENCY (if retained)
G1	Mixed Conifers x 11	17	100 to 520	4	Y/SM	- Including 3 x dead trees; 1 x young Leyland Cypress; 1 x suppressed Scots Pine; 5 x Norway Spruce; 1 x Douglas Fir. - Younger than house. - Dominating garden setting with potential to significantly increase in size. - All low water demand, other than the Leyland Cypress.	- Fell and grind stumps. TPO approval granted 24 February 2020	L	2
T1	Poplar	14	360	3	SM	- Bifurcated at 3m. - Potential to significantly increase in size and outgrow location. - High water demand.	- Fell and grind stump. TPO approval granted 24 February 2020	M	2
G2	Mixed Conifers x 4	16	120 to 540	5	Y/M	- 1 x mature Larch; 1 x semi-mature Larch; 1 x young/suppressed Douglas Fir (lifting driveway); 1 x young/suppressed Pine. - Younger than house. - Dominating garden setting with potential to significantly increase in size. - All low water demand.	- Fell and grind stumps. TPO approval granted 24 February 2020	L	2
T2	Thuja	17	570 to 460	4	SM	- Twin stem. - Low-moderate water demand. - Younger than house. - Potential to increase in size.	- May be considered for retention. TPO approval granted 24 February 2020	-	2
T3	Blue Spruce	11	380	3.5	SM	- Top growth suppressed by off-site Ash tree. - Side growth suppressed by T2. - Suppression resulting in poor form. - Lifting driveway surface.	- Fell and grind stump. TPO approval granted 24 February 2020	L	2

Appendix B

Tree Location Plan

Tree Location Plan
46 Timberbank, Vigo, Kent. DA13 0SE.



 139 Bush Road Cuxton Rochester Kent ME2 1EZ Tel: 01634 724023 E-mail: info@sylvanarb.co.uk Web: www.sylvanarb.co.uk	TREE LOCATION PLAN	Site Address: 46 Timberbank Vigo Kent DA13 0SE Client: Ms M Giles	By: C. Barkel Date: 28 July 2020 Ref: TB/TLP/27-07-01 Scale: 1:400@A4	
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