KEY TREE SOLUTIONS

ARBORICULTURAL CONSULTANTS

Arboricultural Hazard Assessment

5 High Street, Scalby

Site Address:	5 High St Scalby, Scarborough, YO13 0PT	Client:	Mr & Mrs Dennis
Report Ref:	HSSS01-22	Report Date:	1st August 2022
Author:	Laurence Smith BSc (Hons) Arb, M Arbor A	Signed:	

1. Introduction

1.1 About the Author

This tree survey and report was carried out by Laurence Smith, an Arboricultural Consultant. Laurence has a degree in Arboriculture, along with a BTEC National Diploma in Forestry and Arboriculture. He is a professional member of the Arboricultural Association with over a decade of experience within the arboricultural industry, initially as an arborist and for the last 7 years as a consultant.

1.1 Intention of the Report

Mr & Mrs Dennis requested that Key Tree Solutions conduct an independent arboricultural survey of three trees located within their property as marked in Appendix D.

This report will make recommendations for tree works, where appropriate, to manage risk to an acceptable level, with the view of maintaining a high quality of tree cover.

Narrative comments and recommendations are given in Sections 5 and 6 and where applicable, referenced with a suitable image.

1.2 Scope of the Report

This report has been compiled in line with the primary recommendations given in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS 5837:2012), in order to provide an impartial assessment of the tree currently present on site. This excludes information relevant for site development such as tree root protection areas.

The arboricultural survey this report is based upon was conducted using Visual Tree Assessment (VTA) methodology, as devised by Mattheck (1991). VTA is a ground-level visual assessment of a tree, carried out to identify obvious mechanical defects, signs of ill health, potential mechanical failure and the suitability of a tree to a site. The priority for any recommended works considers the size of the part, potential for failure, and the area's occupancy.

1.3 Survey Details

The arboricultural survey (Appendix B) was undertaken on the 28th August 2022, which collected information on the trees.

The survey took place during the summer season, when the trees were in leaf. Weather conditions on the day were overcast with mild wind.

The author visually inspected the tree from ground level. In some instances, further investigations such as a climbing inspection or decay detection tools may be necessary to provide additional information. If appropriate, these are recommended within the arboricultural survey.

Tree data was collected using an electronic distometer and specialist measuring tape in all reasonable situations. In certain circumstances, such as where there was a lack of access, measurements have been estimated and indicated with an asterisk (*).

2. Site Description

2.1 Land Use

The site is a private residence located along Scalby High Street. To the rear of the property is a T-shaped garden which is heavily planted and well maintained. The vehicular access is via Scalby Road where a steep drive leads to a garage and open parking.

2.2 Topography

The region in which the trees are located has a steep rise in height from east to west.

2.3 Local Tree Cover

Tree cover within the village is relatively high, with a number of individual and tree groups in both public and private areas. Although the region surrounding the village is more arable in nature, a number of both large and small woodlands are still present.

2.4 Age Class and Diversity

The trees on site are predominantly mature specimens focused around native species, including Beech, Sycamore and Elm.

3. Tree Status

Information obtained from the Scarborough Borough Council maps visited on the 1st August 2022 shows that there are no TPO designations on site, however the site is covered by the Scalby Conservation Area and as such, the trees are afforded a level of protection from pruning and removal without first gaining written permission from the local authority.

A copy of the planning map is given under Appendix E: Statutory Protection, which shows the extents of the Conservation Area.

4. Tree Descriptions and Recommendations

Where appropriate, trees have been described and allocated an ID alongside comments and relevant recommendations within the arboricultural survey found in Appendix B. This can be cross-referenced with any images (Appendix C) where applicable, and the site plan found in Appendix D.

An explanation for the arboricultural survey, including any shorthand or acronyms, can be found in Appendix A.

5. Conclusions

The Sycamore (T1) is the original main focus of the report due to its size, location and a number of other tree failures in the surrounding area in recent years. The survey, however, found that the tree is generally in good condition.

T2 which has also been included due to its similar location and proximity to the highway, shows little in terms of defects and is developing in a manner typical of the species. Despite this, Dutch Elm Disease is highly widespread and has resulted in the death of almost every Elm tree in the UK. As such, it is likely that this tree will have a limited lifespan.

The mature Beech tree, T3, is overhanging the garage, car parking and neighbouring garden. This tree has 3 significant defects. A failure at any one of these points could result in significant damages.

6. Discussion

The mature Sycamore is in excellent health for a tree of its age and displays good vigour and for the most part, well formed unions. Previous pruning wounds have been well occluded and the tree plays a significant role in the village amenity. As with any tree of this age, minor defects can be observed which include; deadwood over the driveway / highway cavitation from old wounds and rubbing branches. In most of these cases, these can easily be remedied by crown cleaning.

The most significant finding was at the union between the two adjoining stems. This union appears to be partially bark included, which can form a weaker union due to the lack of connective tissue. However, Sycamore trees are (anecdotally) typically more resistant to this type of failure. In addition, no swelling was observed around the base of this union which would suggest the tree has not had justification for spending resources to add strength to this region.

Despite the lack of evidence to suggest that the tree is at risk of failing at this point, if a failure should occur, it is likely the impact would be significant given the high frequency of road users. Furthermore, changes in climate has lead to the increase in frequency of storms and high wind events which can cause failures in healthy trees. Given these factors, it would be advisable to install a soft tree brace which triangulates between the three stems.

T3 also has three bark included unions, however unlike T1, these inclusions are considerably larger and all three have large swellings with expansion cracking below the unions. This development of growth is in reaction to significant strain at the union as the tree attempts to add strength to the region. These growths are sometimes termed as 'Elephant ears' and considered strong visual warnings of a potential failure point. In addition, Beech is possibly one of the trees most likely to suffer failures of this type.

In this instance, bracing is not considered reasonable due to the significance and volume of defects.

7. Recommendations

T1 should be crown cleaned, removing deadwood, minor rubbing branches and poorly attached limbs. While carrying out these works, a visual inspection of the tree should be undertaken by the contractor with any significant findings reported back to Key Tree Solutions. A soft cable brace (Cobra Brace) should be installed to triangulate between the three upright stems. This

should be installed at approximately 2/3 the height of the tree and with enough slack to still allow for natural movement between the three stems. Although not significant, consideration should also be given to removing or severing the Ivy to allow for better ongoing monitoring of the stems.

Given the defects and high targets associated with the large Beech (T3), it is recommended that this tree is removed to prevent failure.

---

8. Caveats and Limitations

- All trees have been inspected from ground level using non-invasive techniques unless otherwise stated. In some instances, the surveyor may have used aerial photography to capture images from the site or observe overall canopy health. However, this does not constitute as an aerial inspection.

- Climate conditions including storm, drought and temperature-related factors can cause damage and failure in apparently healthy trees. The client should consider that all trees potentially pose a hazard with the justification for action based on the risk level and target's value. While every effort has been made to detect any significant defects in inspected trees, it is impossible to guarantee a tree's safety.

- Comments on tree conditions and their associated risk relate to the date and time the survey was undertaken. Tree health and structure are subject to development due to the tree's biological nature or other mechanical or physical changes nearby. As such, trees should be inspected at intervals relative to identified site risks and following relevant HSE and Central Government guidance, typically between 1 and 3 years.

- No reports regarding underground utilities or past construction works have been made available to the author. The client should note that such documentation may affect the recommendations of this report.

- As an arboricultural report, the author is not qualified to comment on damage to buildings or underground utilities that may or may not have been caused by roots. Any observations made regarding the condition of such structures are from a lay person's view.

- In instances where trees have been protected by Tree Preservation Orders (TPOs) or other protective acts such as conservation areas, the client should not undertake any tree works without first obtaining permission from the relevant organisation.

- All works should be undertaken following the appropriate Duty of Care and carried out to the standards set out in the British standards document *BS 3998:2010 Tree work - recommendations*. For example, a contractor should include site-specific risk assessments and due diligence inspections for the presence of protected species, including all nesting birds and bats.

Signed:

[redacted]

Laurence Smith BSc (Hons) Arboriculture, M Arbor A

9. References

British standards document BS 5837:2012 *'Trees in relation to design, demolition and construction – Recommendations'*

British standards document BS 3998:2010 *'Tree work - recommendations'*

Scarborough Borough Council (Online) https://www.scarborough.gov.uk

Management of the risk from falling trees or branches - Health & Safety Executive (HSC) Document

Appendix A: Survey Reference Information & BS5837:2012 Survey Table

A1. Survey Key

Column Heading	Description
ID	Each tree/group has been given a unique number prefixed with a letter to represent the element type. (T) Tree, (G) Group, (H) Hedge, (W) Woodland. The bracketed number indicates the assumed reference number from the previous plan.
Age Class	The tree is described as Young, Semi-Mature, Early-Mature, Mature, Over-Mature, Veteran or Dead.
Species	The English common name has been used.
Height (m)	An indication of the tree's height measured in metres.
Diameter (mm)	The diameter of the trees stem when measured at 1.5 metres from ground level.
Vitality	A quick reference guide to the trees overall health and condition. Given as Good, Fair or Poor.
General Observations	Narrative comment on the general condition including significant defects and overall appearance.
Management Recommendations	Any works recommended in order to minimise risk, improve form or maintain a high value.
Priority	Any recommendations made have been given a priority rating stated as Low, Medium or High. . Low priority - No timescale and is predominantly for remedial pruning works to improve form or defects. . Medium priority - Should be acted upon within 12 months and is considered to pose a modest risk. . High priority - Should be acted upon immediately and poses a significant risk due to failure potential or a defect located over a high traffic area. . Ongoing - Work which should be conducted on an annual basis.
Estimated Remaining contribution	An estimation of how long the feature will contribute to its surroundings. This is recorded in bands of either <10 years, 10> years, 20> years and 40> years.
Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C). The cascade chart for tree quality assessment can be viewed within Appendix A2.

A2. BS5837: 2012 Cascade Chart

Trees to be considered for retention	**(1) Mainly arboricultural qualities**	**(2) Mainly landscape qualities**	**(3) Mainly cultural values, including conservation.**	**Identification on plan**
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	**Light Green**
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	**Blue**
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/ transient landscape benefits	Trees with no material conservation or other cultural value	**Black**
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the contact of the current land use for longer than 10 years.	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. • Tree infected with pathogens of significant to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality **NOTE**: Category U trees can have existing or potential conservation value which it might be desirable to preserve.			**Red**

Appendix B: Arboricultural Schedule of Works

ID	Age Class	Species	Height (m)	Stem Diameter (mm)	Vitality	General Observations	Management Recommendations	Priority	Estimated Remaining Contribution	Category Grading	Figure ref.
T1	Mature	Sycamore	19	840, 750, 620	Good	Triple stem from ground level growing on a steep bank. Two of the three stems lean towards the road before becoming more upright. Southerly stem which leans towards the road has developed supportive column growth to the rear. Union between this stem and the stem directly to the rear appears partially bark included. No observed fruiting bodies around the stem or root plate. Two stems have a minor Ivy coverage. A number of occluded pruning wounds are visible in the lower canopy. Multiple instances of deadwood throughout the canopy considered to be age related and not health decline. Poorly attached limb at approximately 10m east. No direct impacts observed on the underside of the canopy over the highway.	Crown clean and brace between the three limbs. Aerial inspection of the tree by contractor.	Medium	20>	B2	Fig. 1, 2 & 3
T2	Early Mature	Elm	15	420		Tree has a well developed stem with an asymmetrical canopy which overhangs the highway. No observed significant defects.	Monitor for decline due to Dutch Elm disease.	Ongoing	10>	C2	

ID	Age Class	Species	Height (m)	Stem Diameter (mm)	Vitality	General Observations	Management Recommendations	Priority	Estimated Remaining Contribution	Category Grading	Figure ref.
T3	Mature	Beech	18	930	Good	The stem is located on a raised bank to the rear of the garage and is exerting root pressure on the retaining wall and footpath. No observed fruiting bodies around the stem or root-plate. Multiple bark included unions at 2m, 4m and 7m between the main stems. Extensive expansion cracking and swelling below the unions suggesting growth in response to significant strain. All three unions are considered to be at risk of failure. Canopy extends over the garage and any failures could result in significant damages.	Fell.	High	<10	U	Fig. 4, 5, 6, 7 & 8

Appendix C: Images

Figure 1. A partially bark included union on T1.

Figure 2. A poorly attached limb on T1.

Figure 3. Prolific growth from an old pruning point on T1, possible minor decay cavity not visible from the ground.

Figure 4. Side 1 of T3's lowest bark included union.

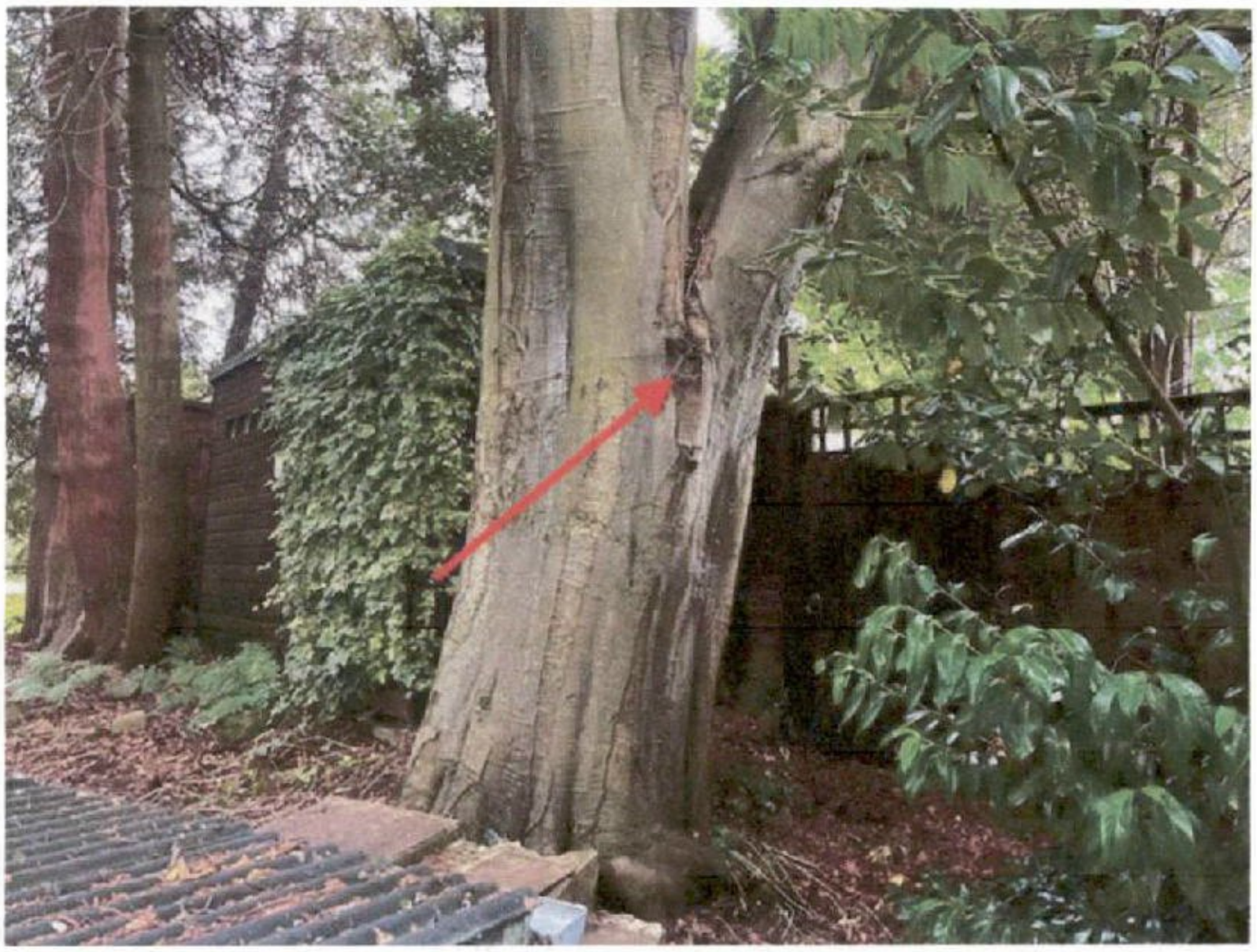


Figure 5. Side 2 of T3's lowest bark included union.

Figure 6. T3's middle bark included union.

Figure 7. Large swelling (Elephants ears) around the middle bark included union on T3.

Figure 8. Swelling below the highest bark included union on T3.

KEY- Arboricultural Hazard Assessment Report
(to be read in conjunction with report ref. HSS801-22)

Tree categories (BS 5837:2012) shape approximately indicates canopy spread

- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees
- Approximate Site Boundary

5 High St Scalby, Scarborough, YO13 0PT	Key Tree Solutions Rolys Cottage, YO61 2QY [redacted]

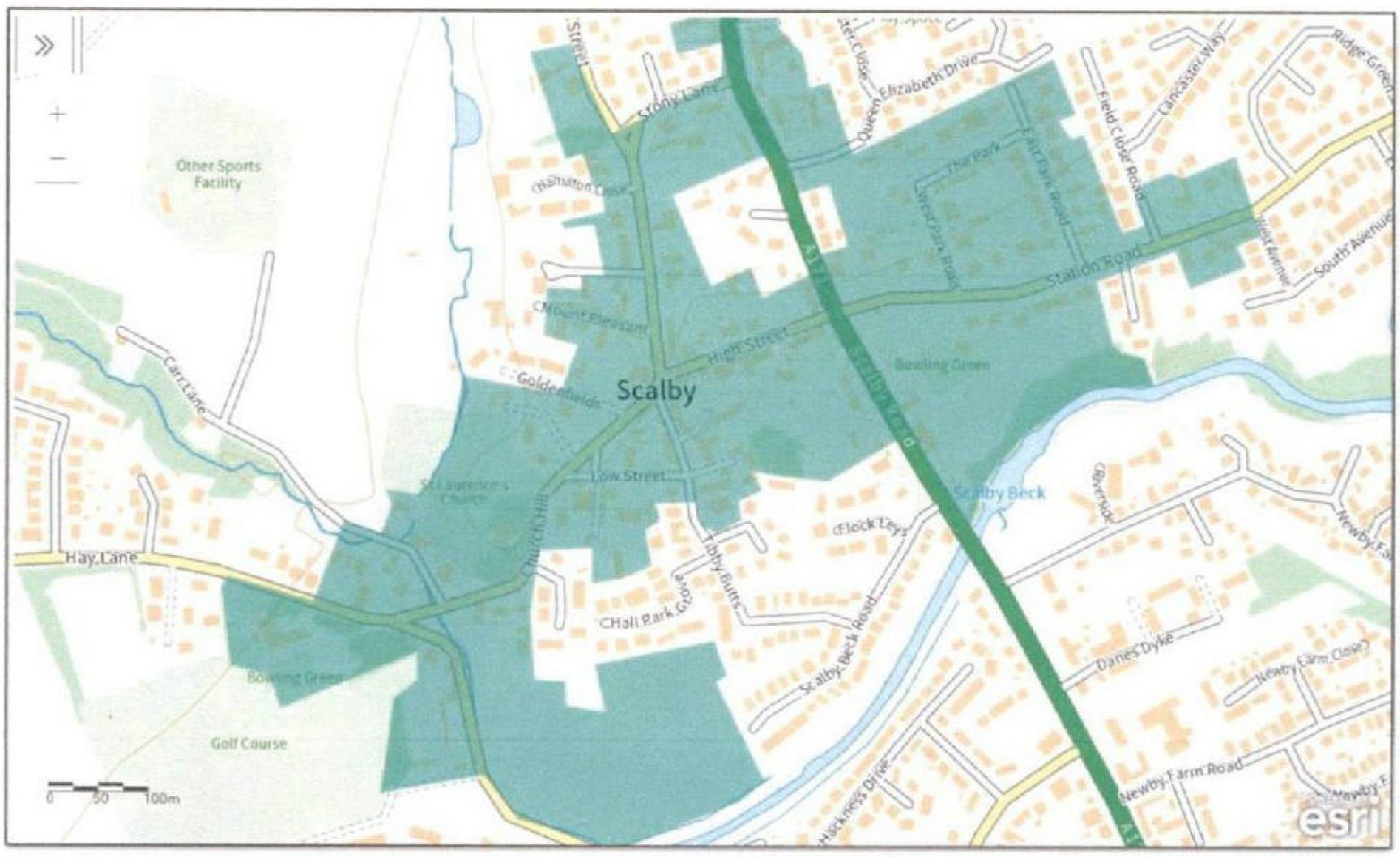
Job
Arboricultural Hazard Assessment

Title
Appendix D:
Site Plan

Drawn by	Date	Scale @ A3	Drg. no.
L Smith	Aug 2022	NTS	1/1

Appendix E: Statutory Protection

Screen Shot 1. TPO map showing the lack of designations on or around the site.



Screen Shot 2. Extent of conservation area for which the site is located within.