



Arboricultural Survey to BS5837:2012

Chris Briar

**172 The Dale,
Widley,
Waterlooville,
Hampshire,
P07 5JE**

08 November 2022

Jim Green MArborA

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If this report has been released electronically the appendices referred to herein can be found in the annexed zip folder/s as .pdf files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans are annexed separately as A0, A1, A2 or A3 as appropriate.

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1. Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 11th October 2022 from Mick Morris to attend 172 The Dale, Widley, Waterlooville, Hampshire, PO7 5JE; grid reference, SU678070 (site) to undertake an arboricultural survey a to BS5837:2012 guidance to assess trees, hedges and major shrub groups growing on and within influencing distance of the site and to produce a Schedule of trees, Tree Constraints Plan, Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan.

I am Jim Green, an arboricultural consultant at Arbtech Consulting Ltd. I undertook the tree survey on 8th November 2022 and subsequently have produced this summary of my findings.

I have over thirty years of industry experience, hold the LANTRA Professional Tree Inspection certificate and am a Professional Member of the Arboricultural Association.

The advice below and appended is underwritten by our Professional Indemnity insurance for the business practice of Arboricultural Consultancy in the sum of one million Pounds Sterling in each and every claim.

Table 1: Documents referred to.

Document	Reference No.
Survey base drawing	OS Tile: 172 The Dale
LPA pre-app comments	N/A
British Standard 5837:2012	"BS5837"
Tree Survey Schedule	Arbtech TS 01
Tree Constraints Plan	Arbtech TCP 01

2. Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Jim Green on 8th November 2022.

During the survey I categorised the trees using "Table 1 – Cascade chart for tree quality assessment" of the BS5837:2012 (see Appendix 1).

A total of 9 (nine) individual trees, 3 (three) groups of trees and 3 (three) hedges were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 2).

Multiple other small trees and shrubs occupy the site, none of which meet the minimum diameter requirements to be considered for this survey.

Table 2: Documents upon which this tree survey has been based.

Document	Originator	Reference Number	Title
OS Tile	Ordnance Survey	-	172 The Dale

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and advanced decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser, and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Legal Status: No statutory protection check has been performed. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without. This is principally because a detailed planning consent overrides any TPO protection. Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.

* For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule (Appendix 1), Tree Survey Report and Tree Constraints Plan.

Site description

The site sits within a residential setting in Widley, to the south of Waterloo, and is accessed from the southwest via a private track at the junction of The Thicket and The Dale.

The track runs roughly northwards at a decline of approximately 1:10 to the bottom of the driveway to 172 The Dale, and further to a small block of garages.

The site rises from southwest to northeast at an approximate incline of 1:8 to the existing house, where the ground levels out. The front garden is laid to lawn with trees and shrubs around the periphery and, further to discussion with Mr Morris, the extent of this survey was limited to the front, or west of the existing house – also including the access track to the driveway.



Figure 1: OS Map (Bing Maps)



Figure 2: Aerial Image of site with approximate blue line denoting area surveyed (Google Earth)

Proposed scheme

The proposal is to construct a new detached three-bed dwelling to the west of the plot.



Figure 3: Proposed scheme, drawing number 172 TD 20

It is likely that arboricultural impacts can be addressed with arboricultural methodology or minor amendments to the proposal.

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3. BS5837:2012 Scope

This standard recognises that there can be problems for development close to existing trees which are to be retained, and of planting trees close to existing structures. This standard sets out to assist those concerned with trees, in relation to construction, to form balanced judgements. It does not set out to put arguments for or against development, or for the removal or retention of trees. Where development, including demolition, is to occur, the standard provides guidance on how to decide which trees are appropriate for retention, on the means of protecting these trees during development, including demolition and construction work, and on the means of incorporating trees into the developed landscape.

4. Methodology

The methodology used to assess the trees was the British Standard 5837:2012 'Trees in Relation to Construction' tree survey method. The aim of the survey is to establish which trees are moderate and good quality; suitable for retention and justifying protection. And which trees are low or poor quality; either undesirable or unsuitable to retain and protect.

The tree survey includes all trees included in the land survey red line boundary plan, as well as any that may have been missed, and it should categorize trees or groups of trees, including woodlands for their quality and value within the existing context, in a transparent, understandable, and systematic way. Where the arboriculturist has deemed it appropriate, the trees have been tagged with small metal or plastic tags, placed as high as is convenient on the stem of each tree.

Whilst master plan proposals for the development of the site might be available, the trees have been surveyed without taking these into consideration. All detailed design work on site layout should take into consideration the results of the tree survey (and the TCP).

Trees forming groups and areas of woodland (including orchards, wood pasture and historic parkland) are identified and considered as groups where the arboriculturist has determined that this is appropriate, particularly where they contain a variety of species and age classes that could aid long-term management. It is often expedient to assess the quality and value of such groups of trees as a whole, rather than as individuals. However, an assessment of individuals within any group has been undertaken if they are open-grown or if there is a need to differentiate between them.

The quality and value of each tree or group of trees has been recorded by allocating it to one of the four categories: **A**, **B**, **C**, or **U** (highest to lowest quality respectively). The categories are differentiated on the tree survey plan by colour, or by suffixing the category adjacent to the tree identification number on the TCP.

The survey schedule lists all the trees or groups of trees. The following information is also provided:

- a) reference number (to be recorded on the tree survey plan);
- b) species (common or scientific names);
- c) height in meters (m);
- d) stem diameter in millimetres (mm) at 1.5m above adjacent ground level or immediately above the root flare for multi-stemmed trees;
- e) branch spread in meters taken at the four cardinal compass points;
- f) height of crown clearance above adjacent ground level in meters (m);
- g) age class (newly planted, young, semi-mature, early mature, mature, over mature);
- h) physiological condition (e.g. good, fair, poor, decline and dead);
- i) structural condition (e.g. good, fair, poor or not visible);
- j) comment about the tree, its location and preliminary management recommendations, including further investigation of suspected defects that require more detailed assessment and potential for wildlife habitat;
- k) The retention category referring to the quality and useful contribution in years; **U** = <10yrs; **A** = >40yrs; **B** = >20yrs; **C** = >10yrs. The retention subcategory referring to the type of amenity; 1 = Arboricultural; 2 = Landscape; 3 = Cultural including conservation (see Appendix 1 Cascade chart for tree quality assessment).

5. Definitions

Arboriculturist

An arboriculturist (or arboricultural consultant) is a person who has, through relevant education, training, and experience, gained recognized qualifications and expertise in the field of trees in relation to construction.

Tree Survey

A tree survey should be undertaken by an arboriculturist and should record information about the trees on a site independently of and prior to any specific design for development. As a subsequent task, and with reference to a design or potential design, the results of the survey should be included in the preparation of a tree constraints plan, which should be used to assist with site layout design.

Tree Constraints Plan

A TCP is plan, typically delivered as an AutoCAD drawing (.DWG file format), prepared by an arboriculturist for the purposes of layout design showing the root protection area and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.

Root Protection Area

An RPA is a layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m².

Construction Exclusion Zone (also termed Tree Protection Zone)

A construction exclusion or tree protection zone is an area based on the RPA (in m²), identified by an arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.

Arboricultural Impact Assessment (AIA)

This is a study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

Tree Protection Plan (TPP)

A TPP is plan, typically delivered as an AutoCAD drawing (.DWG file format), prepared by an arboriculturist showing the finalized layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement, which can be shown graphically.

Arboricultural Method Statement (AMS)

This is a methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree. The AMS is likely to include details of an on-site tree protection monitoring regime.

6. Recommendations

With the benefit of making an assessment of your planning proposals, I make the following recommendation to ensure that there are no irrevocable issues to the proposed retained trees and so that no conditions relating to arboriculture are attached to any planning consent secured; obtain an arboricultural report to include:

- a) An arboricultural impact assessment (AIA).
- b) An arboricultural method statement (AMS).
- c) A tree protection plan drawing (TPP).

7. Limitations

Trees were inspected from using visual observation from ground level only. Trees were not climbed or inspected below ground level. Inaccessible trees will have best estimates made about the location, physical dimensions, and characteristics. Trees have been grouped where BS5837 guides us that it is expedient to do so. Trees have been excluded from the survey if they are found by us to be sufficiently far away from the proposed developable area or if they are outside of the red line boundary plan showing the expectations of our client for the extent of the survey. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without. This is principally because a detailed planning consent overrides any TPO protection. Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.

8. Appendices

The following documents were released to the Client as appendices to this report:

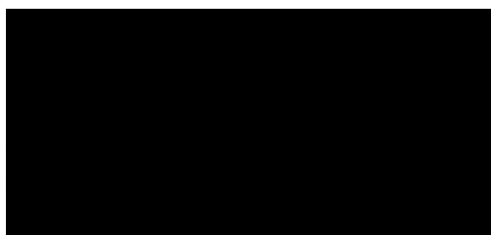
- Survey Schedule (.PDF)
- Tree Constraints Plan drawing (.DWG & .PDF)

If you require clarification of information contained herein, please do not hesitate to contact us via 01244 661170.

Yours Sincerely,



Jim Green MArborA
Arboricultural Consultant



Appendix 1: Table 1 Cascade chart for tree quality assessment

BS5837:2012 Trees in relation to design, demolition and construction – Recommendations
 Cascade chart for tree quality assessment

Table 1**Category and definition****Criteria (including subcategories when appropriate)**

Trees unsuitable for retention (see Note)

Category U

Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

- Trees that have 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.
- Trees infected with pathogens of significance to the 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 might be desirable to preserve; see 4.5.7.

Identification on plan

Dark red

1 Mainly arboricultural qualities**Trees to be considered for retention****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 dominate and/or principal trees within an avenue).

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 remedial defects, including unsympathetic management and storm damage), such that they are unlikely to be suitable for retention of beyond 40 years; or trees lacking the special quality necessary to merit the category 'A' designation.

Category C

Trees of low quality with an estimated remaining expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

2 Mainly landscape qualities

Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features.

3 Mainly cultural values, including conservation

Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).

Light green

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.

Mid blue

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 value.

Trees with no material conservation or other cultural value.

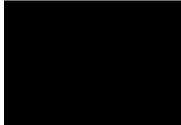
Grey

Species	Hght (m)	No	Ø (mm)	Spread (m)	Clear (m)	Age	A (m ²) R (m)	Frns Condition	Structural Condition	Survey Comment	ERC
H2 A Hedge <i>See comments for details</i>	2	1	20	N E S W	1 1 1 1	0 0 0 0	SM A: 0.2 R: 0.25	Good	C: Good S: Good B: Good	Linear boundary hedge of predominantly privet. Dimensions recorded for typical member of hedge.	C.1 10+ yrs
H3 A Hedge <i>See comments for details</i>	2	1	30	N E S W	1 1 1 1	0 0 0 0	SM A: 0.4 R: 0.35	Good	C: Good S: Good B: Good	Linear boundary hedge. Species include privet and laurel. Dimensions recorded for typical member of hedge.	C.1.2 10+ yrs
T1 Common Oak <i>Quercus robur</i>	14	1	750	N E S W	4 4 9 9	3 4 6 5	SM A: 254.5 R: 9	Good	C: Good S: Good B: Good	Stem and crown bias to west.	A.1.2 40+ yrs
T2 Common Ash <i>Fraxinus excelsior</i>	13	1	450	N E S W	6 5 4 6	6 4 6 4	SM A: 91.6 R: 5.39	Good	C: Good S: Good B: Good	Boundary tree. Bifurcation at 6m into codominant stems. Wide, tensile union.	B.1.2 20+ yrs
T3 Myrobalan Plum <i>Prunus cerasifera</i>	9	4	451 (Eq)	N E S W	5 5 5 3	2 2 3 3	SM A: 92 R: 5.41	Fair	C: Fair S: Poor B: Fair	Adjacent tarmac drive. Multi-stemmed from base. Lesions to stems and limbs with amber-coloured, jelly-like exudate indicative of bacterial canker. Up to four primary stems and limbs removed to base, poor occlusion.	U <10 yrs
T4 Common Laburnum <i>Laburnum anagyroides</i>	6	1	180	N E S W	3 1 0 1	3 3 6 2	SM A: 14.7 R: 2.16	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level Appears to have failed at rootplate and resettled, leaning into adjacent tree. Fungal Fruiting Bodies (FFB'S) of Auricularia auricula-judae to stems. Crown sparse. Recommend: Fell to ground level.	U <10 yrs
Age Classifications: N Newly planted Y Young SM Semi-mature OM Over Mature										Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contribution	08 November 2022

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m ²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)						
T5 Common Oak <i>Quercus robur</i>	15	1	150	N	4	2	SM A: 10.2 R: 1.8	Good	C: Good S: Good B: Good	No significant features.	C.1.2 10+ yrs
T6 Common Ash <i>Fraxinus excelsior</i>	13	1	350	N	2	7	SM A: 55.4 R: 4.19	Good	C: Fair S: Fair B: Good	Boundary tree. Crown sparse, part-recovered lesions to limbs mid crown, minor lateral dieback.	C.1.2 10+ yrs
T7 English Elm <i>Ulmus procera</i>	9	1	150	N	3	2	SM A: 10.2 R: 1.8	Dedine	C: Poor S: Poor B: Fair	Fell :: Fell to ground level. Either dead or in terminal decline. Fell tree to ground level.	U Estimated Measurements
T8 Sycamore <i>Acer pseudoplatanus</i>	7	4	415 (Eq)	N	2	2	SM A: 77.9 R: 4.97	Good	C: Good S: Fair B: Good	Growing immediately adjacent rear of garage. Repeatedly topped at 4m, multiple epicormic regeneration up to 30mm diameter and 3m long. Installation of Ecoplugs encircles base.	U <10 yrs
T9 Cedar of Lebanon <i>Cedrus libani</i>	14	1	570	N	6	6	SM A: 147 R: 6.84	Good	C: Good S: Good B: Good	Sunken ground area to base to east, with vestiges of concrete to eastern periphery. Pronounced buttress roots to north and south with surface roots visible. Recently crown lifted to current dimensions leaving flush-cut wounds up to 100mm diameter, poor occlusion. Large primary limb at 4m to east has corrected phototropically to form secondary crown.	B.1.2 20+ yrs
Age Classifications: N Newly planted EM Early Mature Y Young M Mature SM Semi-mature OM Over Mature											
				Condition:		C Crown S Stem B Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contribution		

Appendix 3: Tree Constraints Plan

9. Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
Arbtech TSR 01	Jim Green		Arboricultural Consultant	01	08/11/22

Limitations

Arbtech Consulting Ltd has prepared this report for the sole use of the above-named Client/Agent in accordance with our terms of business, under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Ltd. The assessments made assume that the sites and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from third parties has not been independently verified by Arbtech Consulting Ltd.

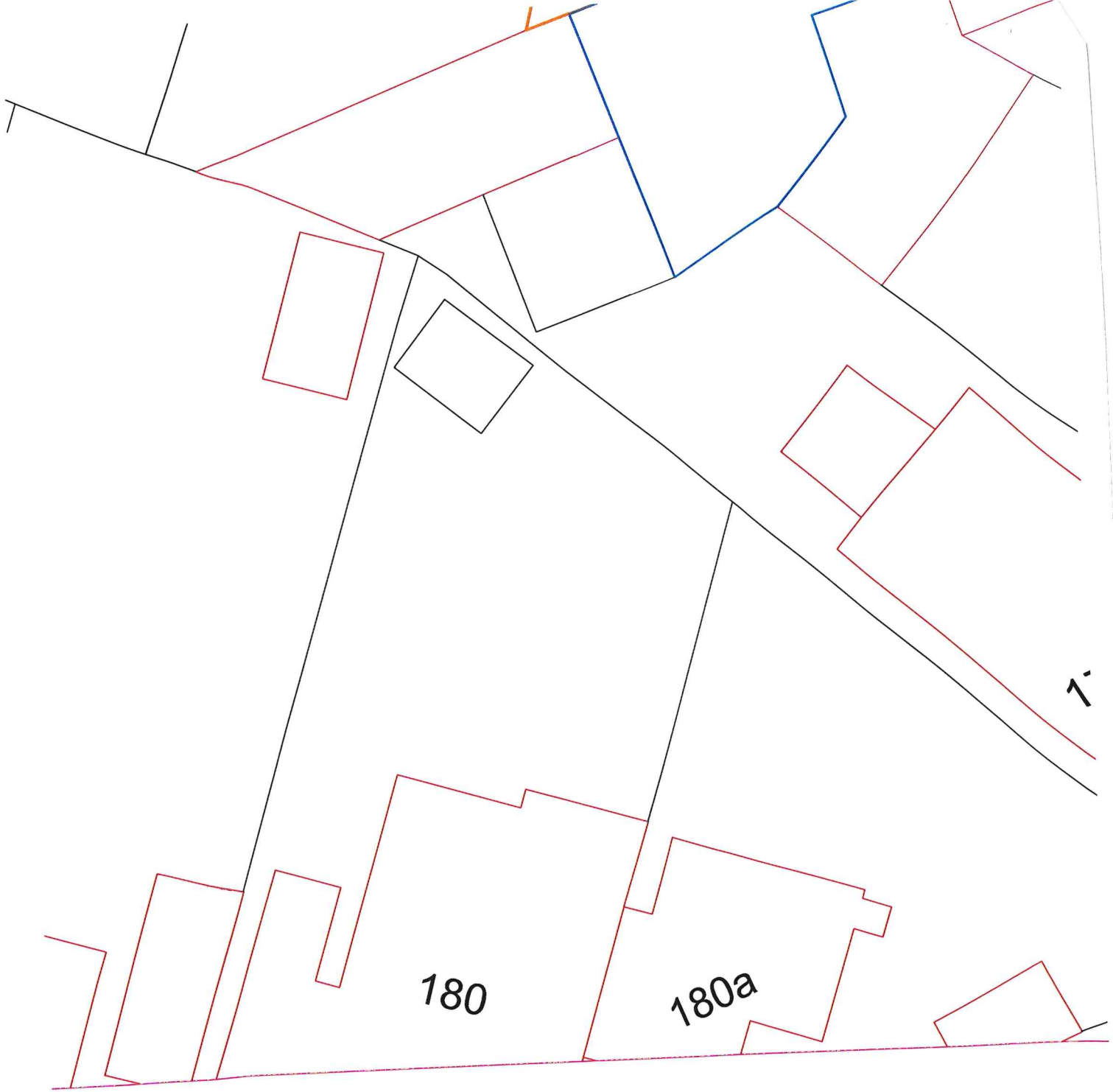
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Appendix 1

Accident Data



Appendix 2

Proposed Ste Plan



Validated Data

Crash Reference: 2019440433141

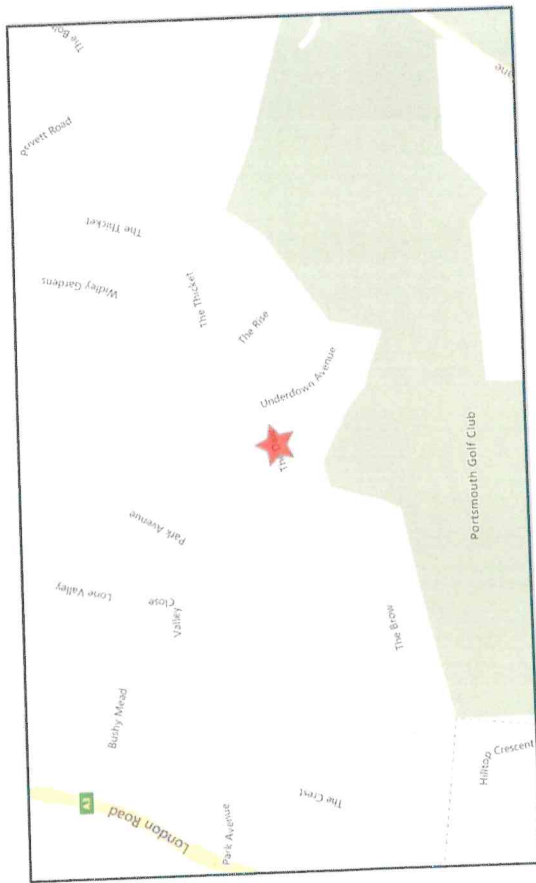
Monday, December 02, 2019 Time of Crash: 12:47:00 PM

Crash Date:

Number of Casualties: 1
Number of Vehicles: 1
OS Grid Reference: 467597 106868

Road Number: U0

Highest Injury Severity: Slight
Highway Authority: Hampshire
Local Authority: Havant Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: Not at or within 20 metres of junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Not Applicable





Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Van or goods vehicle 3.5 tonnes mgw and under	9	Male	56 - 65	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Journey as part of work	None	None

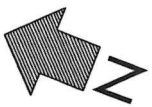
Validated Data

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	36 - 45	In carriageway, not crossing	Walking along in carriageway - facing traffic

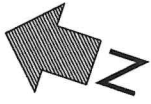
Appendix 3

Access and Visibility

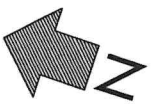


Appendix 4

Swept Path Tracking



INGRESS-02



INGRESS-01

