elliottconsultancyltd.
arboricultural consultants



Location:
North Road,
West Boldon

Report Type:
Arboricultural Impact Assessment

Ref:
ARB/CP/1993

Date:
August 2019

Wrens Nest, Underhill, Glaisdale, North Yorkshire, YO21 2PF
Tel – 01947 897001 Email: enquiries@elliottconsultancy.com
www.elliottconsultancy.com

Company Registration No: 5515572 VAT No: 889226571

Contents

1 Introduction

2 Site Details

3 Constraints and Retention Considerations

4 Arboricultural Impact Assessment

Appendices

1 Retentions and Removals Plan

2 Arboricultural Glossary

1 Introduction

1.1 A pre-development survey of trees at the West Boldon School site was undertaken in September 2017 by E3 Ecology and a pre-development report and tree constraints plan was produced. Following this initial assessment of site and tree data this Arboricultural Impact Assessment has been prepared to further inform the planning process. This report has been undertaken by Charles Prowse of Elliott Consultancy Ltd.

1.2 Scope of the report:

- This report uses data and Tree Constraints Plans, previously produced by E3 Ecology to provide arboricultural information and advice in relation to a proposed re-development of the site. It does not reassess the condition, retention values, or information previously supplied, but concentrates solely on the potential impacts of the proposals on the present tree stock.
- Matters pertinent to tree retention and protection are briefly discussed within Section 3. Following receipt of detailed engineering drawings providing service runs and ground level alterations all measures relating to tree removal, tree retention and protection should be finalised within an Arboricultural Method Statement.
- Section 4 evaluates the proposals in context to the existing trees, with potential issues discussed and remedial options offered.

1.3 This report should be read in conjunction with the original tree survey report produced by E3 Ecology (5303 West Boldon School TCA R01) and the Arboricultural Impact Plan (Appendix 1).

2 Site Location

2.1 The area originally surveyed by E3 Ecology and the extent covered within this report is the site of an old school that has been cleared of buildings located to the west of North Road and north of Don Gardens in West Boldon. Figure 1 shows the extent of the site. Please refer to E3 Ecology Report (5303 West Boldon School TCA R01) for site description.

Figure 1: Site detailed within report



Map data ©Google Imagery

3 Constraints and Retention Considerations

3.1 Any tree retained within the design will require protection in accordance with *BS 5837 'Trees in relation to design, demolition and construction'* 2012 regardless of its initial retention category. This protection will usually require trees enclosed by a barrier in areas equal to the Root Protection Areas (As detailed within Appendix 2); this should be undertaken prior to any work beginning, including demolition and site preparation works. The specification for the fencing and for any other protection measures required must be provided within the **Arboricultural Method Statement** and approved by the Local Planning Authority.

3.2 Root protection areas should be considered sacrosanct from any disturbance throughout the entire development process - with no ground disturbance, material storage, or physical encroachment allowed. Where possible trees should be protected with continuous barriers protecting trees as groups rather than individual specimens – this is of particular merit around the periphery of the site to protect boundary trees on and off-site.

3.3 Areas that have been identified for post-development tree planting should also be protected to ensure that the soil does not become compacted or contaminated.

3.4 No new utility runs must be located within any of the retained trees root protection areas. Any works to existing utilities will be undertaken with regard for the retained tree cover and will be in accordance with NJUG (National Joint Utility Groups) guidelines.

4 Arboricultural Impact Assessment

4.1 This section concentrates on the proposed development and how it relates to the current tree population within the site. Any conflict issues between the proposed layout and existing trees are discussed and remedial options, where possible, suggested.

4.2 It is proposed that a housing development with supporting infrastructure will be constructed within the site, as displayed in figures 2 and 3, and in greater detail within the Arboricultural Impact Plan (Appendix 1).



Figure 2: Proposed Layout - Northern Area



Figure 3: Proposed Layout - Southern Area

4.3 **Conflict 1: Loss of trees due to the proposed layout**.

As shown within Figures 2, 3 and Appendix 1 the construction of the proposed layout will necessitate the removal of nineteen trees.

Mitigation / Countermeasure: Of the required removals, 11 were classified by E3 as Category B trees and 7 as Category C. In addition we would recommend the removal of Tree 27, which is Category U.

4.4 **Conflict 2: Pruning trees to create clearance to structures.**

A number of tree overhanging the site from the south will require pruning operations in order to clear the adjacent proposed dwelling.

Mitigation / Countermeasure: The canopies of Trees 34-37 will need to be pruned back to the boundary in order to accommodate the dwelling. Wherever possible the pruning operations would be undertaken in accordance with BS 3998:2010 Tree work. Recommendations.

4.5 **Conflict 3: Construction within root protection areas.**

Proposed structures and altering of ground levels could affect the root protection areas of trees located within Don Gardens to the south of the site.

Mitigation / Countermeasure: The degree of impact from the required works will vary but some loss of root tissue is possible for Trees 34-37 to create the foundations of the proposed dwelling. The likely root spread for these trees is not known given how close they are to the stone wall and whether that could have precluded growth in a northerly direction. The trees were recorded by E3 Ecology as having been somewhat poorly pruned to accommodate the overhead utility lines.

4.6 **Potential Conflict 4: Location of utilities runs with Root Protection Areas.**

Damage can be caused to root tissue during the installation of utilities runs.

Mitigation / Countermeasure: New utility runs must not be located within any of the retained trees root protection areas. Any works to existing utilities will be undertaken with regard for the retained tree cover and will be in accordance with NJUG (National Joint Utility Groups) guidelines. Details of intended service runs should be made available once the technical information has been drafted in order to complete the Arboricultural Method Statement.

4.7 **Potential Conflict 5: Damage to trees within site during demolition and construction.**

Trees may be damaged due to a variety of reasons during a demolition and development process.

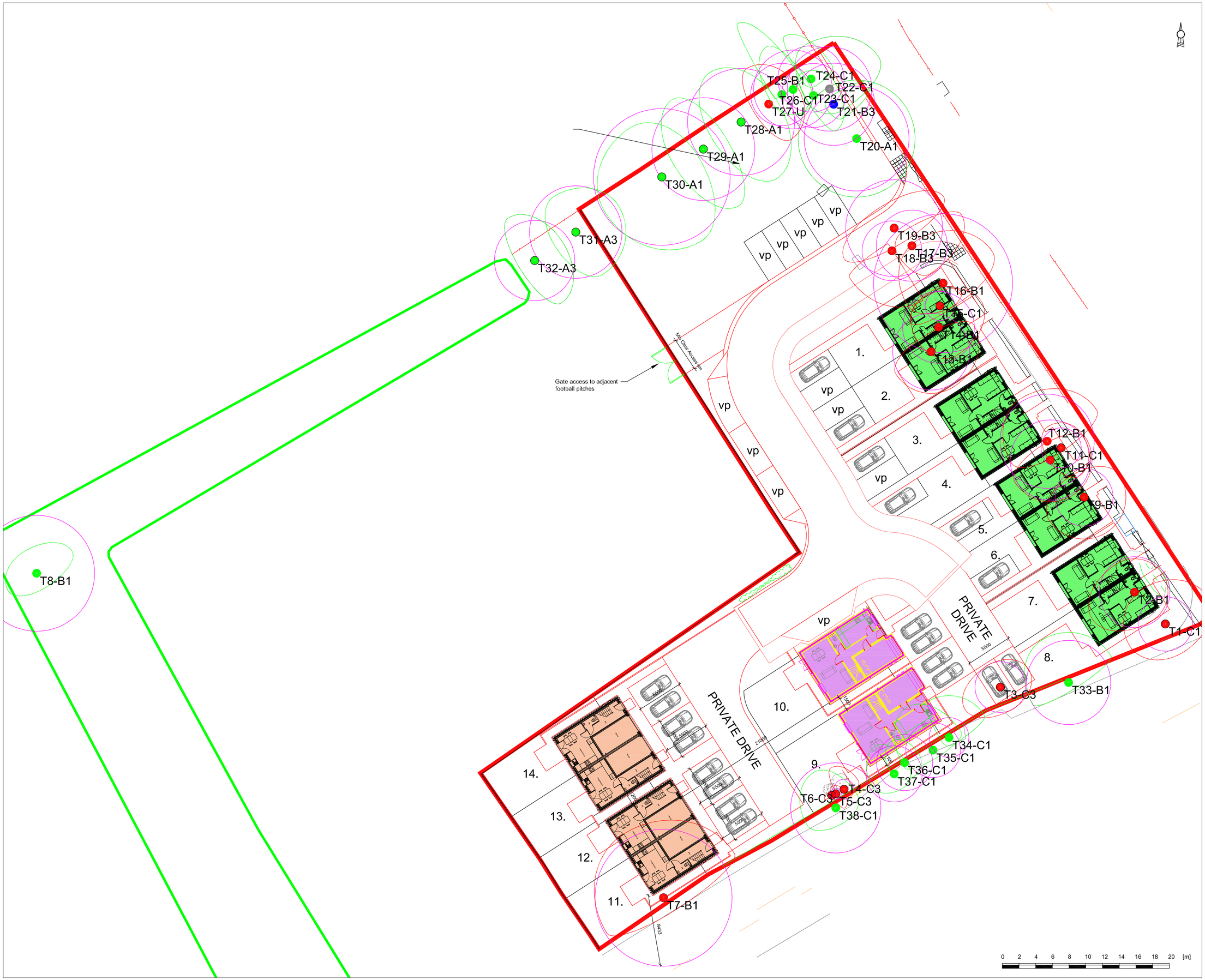
Mitigation / Countermeasure: A physical demarcation will be created between the retained trees and demolition/development areas to ensure that the trees and the medium within which they are rooting are protected from damage. The actual method of creating the demarcation might vary, where appropriate, but will typically be a physical barrier. The barrier, along with any additional tree protection requirements should be specified within an Arboricultural Method Statement prior to **any** site works commencing.

4.8 **Potential Conflict 6: Damage to structures from trees.**

Trees are capable causing damage to structures either directly, such as physical contact damage or indirectly given the right conditions, such as subsidence.

Mitigation / Countermeasure: Chapter 4.2 ‘Building near Trees’ of the NHBC

Standards should be consulted by those responsible regarding building foundation depths required according to the species of adjacent trees, and for suitable species to be planted given their intended positions to new and existing structures.



elliottconsultancyltd.
arboricultural consultants

Wrens Nest, Underhill, Glaisdale
North Yorkshire YO21 2PF
01947 897001
enquiries@elliottconsultancy.com

Tree to be Removed

Tree Position Showing Crown Extents and BS5837 Category A

Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance (merged where over-lapping)

Group of Trees

1/G1/H1 Tree/Group/Hedgerow Number

A1/B1/ C1/U BS5837 Retention Category

APPENDIX 1

Drawing Title:	Retention & Removal Plan
Project:	North Road, West Boldon
Drawing Number:	ARB/CP/1993/RRP
Date:	August 2019
Scale:	1:200 @ A1

Appendix 2 Arboricultural Glossary

Abiotic Factors – Nonliving factors of the environment, including temperature & wind.

Age-class – A general classification of the tree into either - young, semi-mature, early-mature, mature, over-mature, or senescent.

Amenity Value – A general classification based on the trees contribution to local amenity. Factors such as location and visibility from public spaces, size, maturity and species are taken into account.

Apical Bud/Shoot – The apical bud, also known as the leading shoot, is responsible for shoot extension and is dominant.

Apical Dominance – A singular, leading shoot remains dominant.

Biotic factors - Living factors. For example, animals and pathogens.

Bottle Butt – Term used to describe shape of stem base, usually associated with an internal defect – refer to 'Reaction Wood' below.

Branch union/junction - The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.

Cambium - A lateral meristem (see below) in vascular plants located just beneath the bark responsible for secondary growth, e.g. production of annual growth rings.

Canker – A clearly defined area of dead and sunken or malformed bark, caused by bacteria or fungi. Can have a bearing on structural integrity of infected limb(s) depending on size and location.

Chlorosis/Chlorotic – Abnormal yellow or yellow-green coloration of usually green leaves. Essentially a reduction of chlorophyll levels often as a result disease or nutrient deficiency.

Co-dominant stems - A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.

Coppice - The method of managing trees by cutting the stems at between 1.0 inch and 1.0 foot from the ground level on a regular cycle, the cut stumps of the trees or shrubs are allowed to re-grow many new stems.

Crown spread - Gives distances between extreme limits of the crown and the stem, usually along the four compass points. Helps to show crown symmetry.

Crown Reduction – The removal of branch ends to reduce the extreme limits of a trees branch spread and height.

Crown Thin – The removal of selected branches within the crown to thin the internal branch structure.

D.B.H. - 'Diameter at Breast Height', an industry standard to gauge tree stem size and development. Within arboriculture, breast height is taken to be 1.5m above ground level.

Dieback - The reduction in crown vigour and extension growth progressing to death of distal parts; often associated with decline.

Epicormic/adventitious growth - New growth from dormant buds that can often form tenuous attachments. Although some species readily form such shoots, it can be an indication of stress.

Hanger – Term used to describe a branch that has become detached and is being supported by other branches. Can be a hazard to persons and property below.

Hazard Beam – After the loss of a distal part, a limb concentrates growth upwards creating adverse end weights that can render the limb susceptible to failure.

Hyphae – Fine branching tubes that make up the body (or mycelium) of a multi-cellular fungus.

Included bark – Growth characteristic usually caused when two or more stems/branches growing in close proximity 'fuse' together entrapping the bark from when the parts were separate in the middle, creating a potential structural weakness. Some trees are able to strengthen such 'weakened' unions with adaptive growth.

Meristem - The undifferentiated plant tissue from which new cells are formed, such as that at the tip of a stem or root.

Meristematic Disorder – A growth disorder caused by a disruption of the meristem (see above) from any of a number of biotic factors (see above). Manifests as growths such as 'Witches Brooms' & 'Galls'.

Mycelium – Mass of hyphae that constitutes the vegetative part of a fungus.

Necrosis/Necrotic – Death of tissues usually characterised by a blackening in colour.

Occlusion/Occluded – Normally used to describe the overgrowth of a wound. Also, immoveable foreign objects in contact with a tree part can become encased or 'occluded' by the tree as it grows incrementally.

Pathogen - An agent that causes disease, especially a living micro-organism such as a bacterium or fungus.

Pollard – The removal and subsequent regular re-removal of the crown of a tree above animal browsing height. Can be an effective method of controlling the size of trees in urban areas. This is ideally begun in the trees early stages and maintained throughout its life.

PSULE – Potential Safe Useful Life Expectancy. A general classification as to the trees life expectancy.

Reaction wood - Essentially additional wood laid down by the tree to compensate for structural defects such as a cavities.

Ring barking/Girdling – the removal of bark around the entire circumference of a stem or branch, causing the death of all distal parts.

Rhizomorphs – Dense bundles of mycelium, blackened by melanin for protection, that aid in the spread of the fungus.

Root Protection Area – An area, usually represented as a circle, around each tree which should remain free from disturbance during a development in order to protect the roots of a tree.

Saprophyte – An organism which exists on dead plant material.

Scaffold branches - The main structural branches within the crown.

Veteran tree – Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Vigour - A general classification, as to the present and future potential growth and development of a tree. A comment regarding the health status of the tree specific to its species.