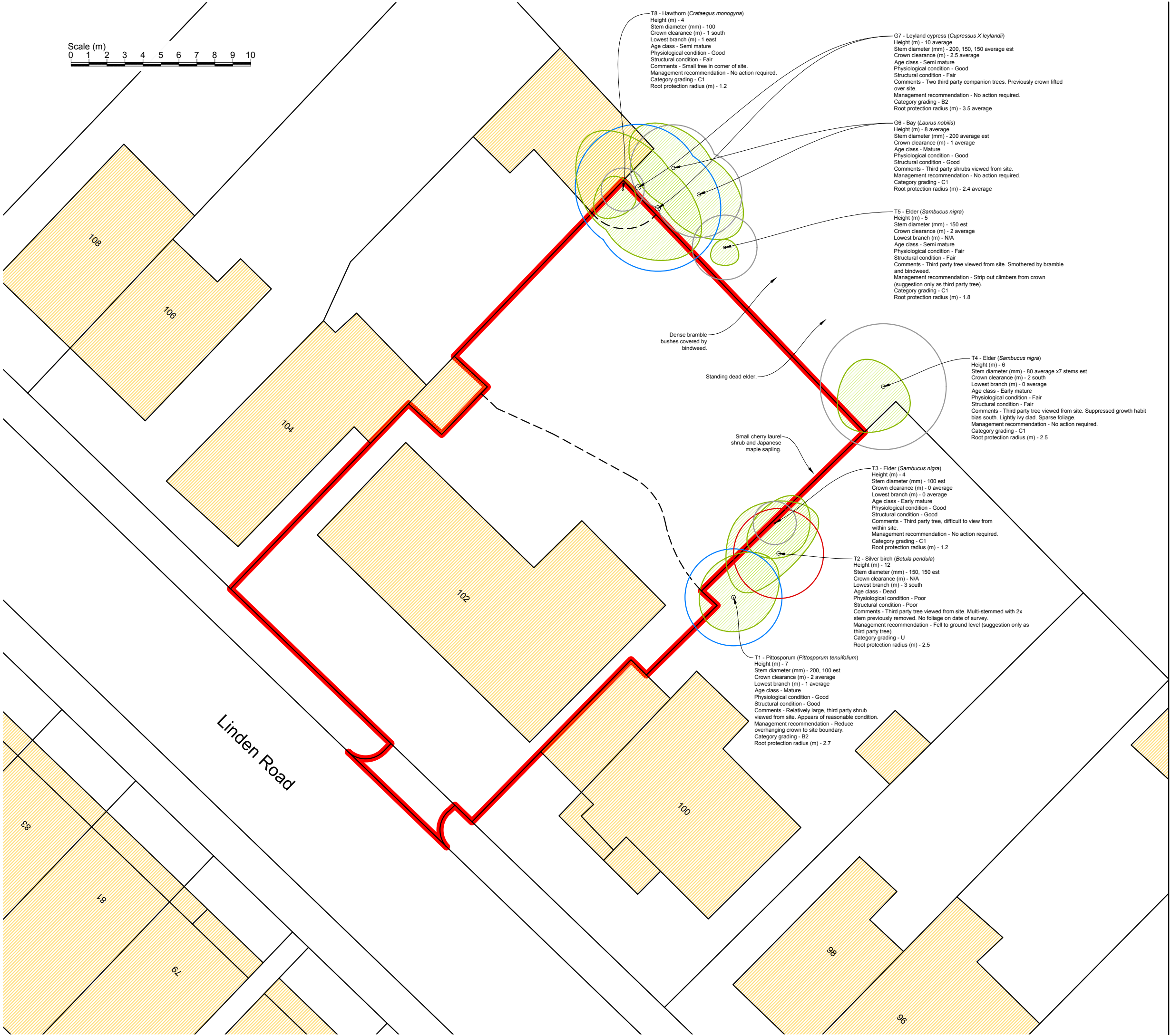




- Key:**
- Root protection area for category B* tree
 - Root protection area for category C* tree
 - Root protection area for category U* tree
 - Tree canopy

This drawing should be viewed in colour.

All dimensions and tree positions on this plan are approximate and must not be scaled from for construction purposes.

The trees were surveyed on 10th September 2020 in accordance with BS5837: 2012. The trees were all viewed from ground level within the site boundary.

Tree categorisation
The condition and value of each tree was evaluated based on the current land use. Each tree or tree group has been awarded either category A, B, C or U and a subcategory of either 1, 2 or 3 or a combination of the subcategories.

- A – Trees of good condition and high arboricultural, landscape or conservation value. Must have a potential life span in excess of forty years.
- B – Trees of moderate condition, with minor defects or sub-optimal form but are still of modest arboricultural, landscape or conservation value. Must have a potential life span in excess of twenty years.
- C – Unremarkable trees of poor condition or form with limited arboricultural, landscape or conservation value, or trees with a stem diameter under 150mm. Must have a potential life span in excess of ten years.
- U – Trees of such impaired condition that they cannot realistically be retained as living trees in the context of the current land use for more than ten years. These trees do not need to be removed if they are not dangerous and do not conflict with the proposed development, but should not be considered a constraint to development.

- 1 – Trees have mainly arboricultural value, e.g. trees of good condition, form and vitality or rare tree species.
- 2 – Trees have mainly landscape value, e.g. trees of landscape prominence, that serve to screen unsightly views or that are required for privacy. Also trees present in groups that attain higher collective rating that they would as individuals.
- 3 – Trees with mainly cultural value including conservation, e.g. commemorative trees, trees of historical significance or veteran trees.

Root protection areas
A root protection area represents a calculation of the minimum volume of rooting medium required to support a tree. It is a standardised calculation based on the stem diameter(s) measured at 1.5m and is not necessarily representative of the actual root spread or total rooting area of a tree. The formulas used to calculate root protection areas are shown below:

Table 1: Root protection area formulas

For single stemmed trees, root protection areas are calculated as follows:

$$\text{Root protection area (m}^2\text{)} = \frac{(\text{stem diameter (mm)} \times 12)^2 \times \pi}{1000}$$

For trees with two to five stems, a combined stem diameter is calculated as follows:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

For trees with more than five stems, the combined stem diameter is calculated as follows:

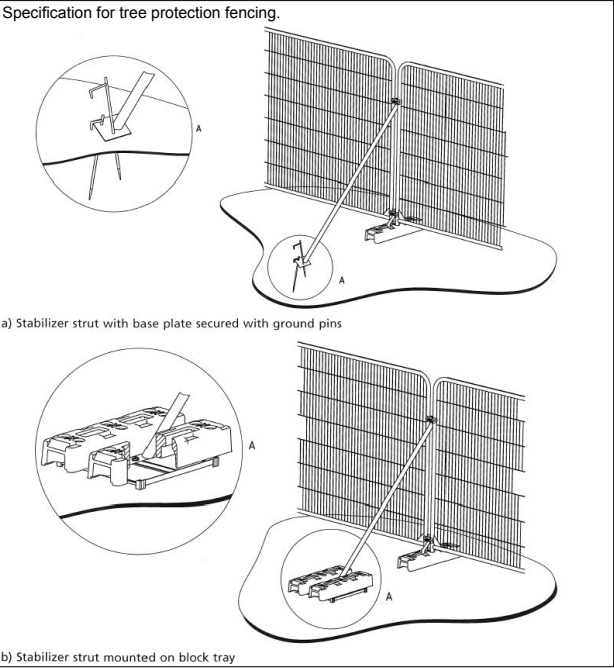
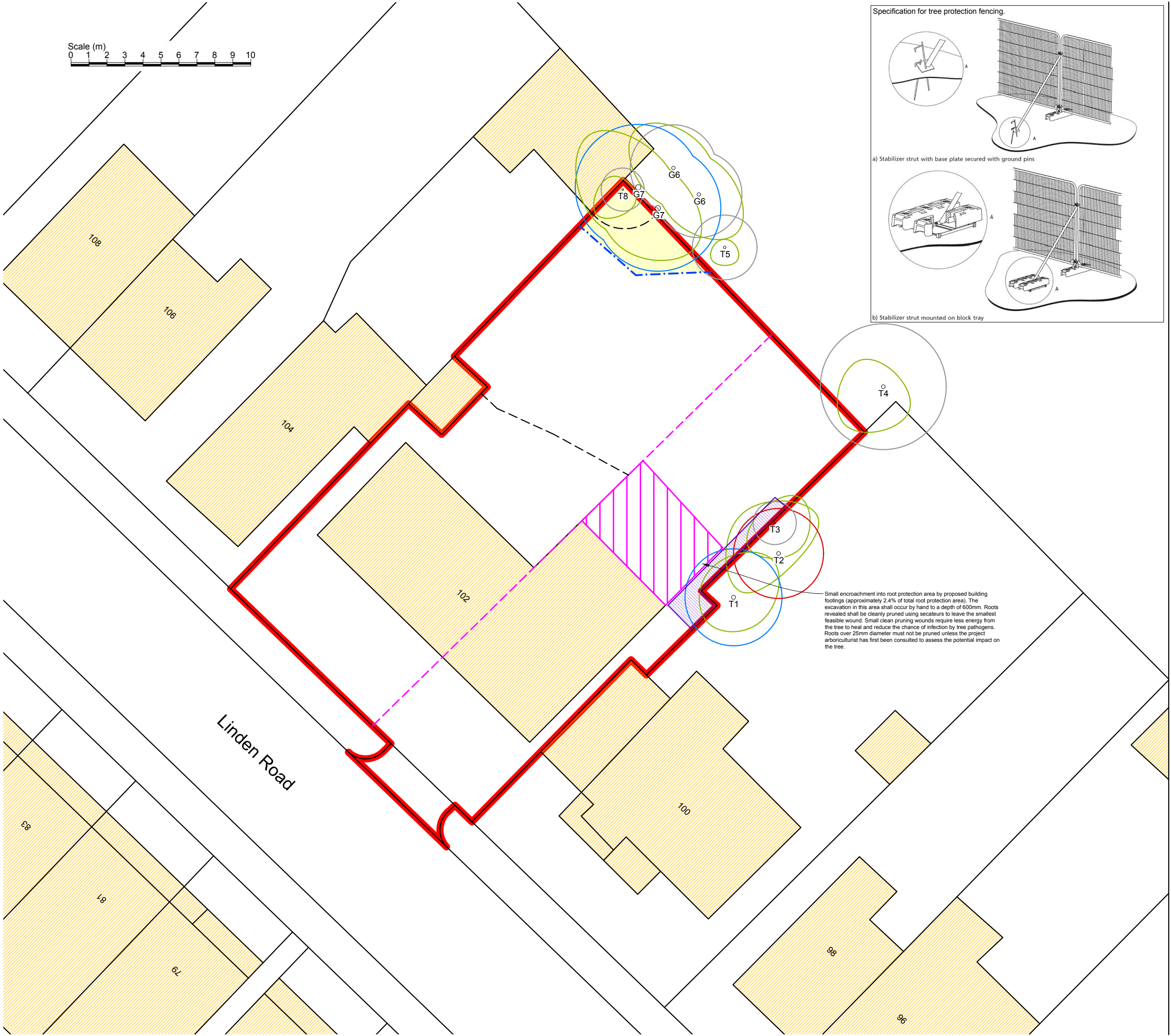
$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

The disturbance of a tree's root system can result in crown dieback and even death of the tree. Roots are used to support the tree structurally as well as the absorption of moisture and nutrients from the soil. They also act as storage and transport for water and nutrients.

2.11 Direct damage such as root severance can lead to ill health, as can compaction of the soil by construction traffic, heavy plant and storage of materials. Changing the nature of the surface above the growing medium, (i.e. from porous to non-porous), can alter the resources available to the tree, which in turn can lead to its decline.

The majority of root growth is usually found within the top 600mm of soil. As such, even a shallow disturbance within a root protection area can potentially have a significant impact on the tree.

Drawing no: PJC/5610/20/A	Rev: -	Sheet number: 1 of 1
Client and site: Magdalena Sobczyk		
102 Linden Road Bognor Regis West Sussex, PO21 2BD		
Drawing title: Tree Constraints Plan		
Date drawn: 16/09/2020		
Scale: 1:200 at A3		
Drawn by: PD	Checked by: LW	



- Key:**
- Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Root protection area for category U* tree to be retained
 - Canopy of tree to be retained
 - Tree protection fencing
 - Temporary ground protection
 - Construction exclusion zone

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Constraints Plan ref. PJC/5610/20-B contains further information for each tree.

This drawing should be viewed in colour.

All dimensions and tree positions on this drawing are approximate and must not be scaled from for construction purposes.

Tree protection barriers
The root protection areas of retained trees must be left free from disturbance, and protected from contamination or compaction during the proposed works. Protection shall comprise a combination of tree protection fencing and temporary ground protection.

Tree protection fencing shall be installed around the root protection area of group G7 as shown left. The specification for tree protection fencing shall be metal welded mesh panels (e.g. Heras panels), in concrete or rubber feet. The panels shall be supported by metal stabiliser struts mounted on either a base plate secured by ground pins, or in a block tray.

To create a usable workspace between the new extension and trees T1/T3, temporary ground protection shall be installed in the location shown left. The specification for ground protection shall be a single thickness of scaffold boards (or equivalent boards), on a compressible layer (100mm woodchip or sharp sand), spread across a geotextile membrane.

The tree protection fencing and temporary ground protection shall be installed before any construction activities commence at the site. They shall be maintained until all construction activities in the vicinity have been completed, and excess construction materials have been removed from site. Any damage that occurs to the tree protection barriers during the construction period must be rectified immediately, prior to other construction activities recommencing in the vicinity.

The areas protected by tree protection fencing or temporary ground protection shall be referred to as the construction exclusion zones. The following restrictions shall apply within the construction exclusion zones:

- 1) No vehicular access shall be permitted.
- 2) Regular pedestrian access shall be restricted unless on suitable ground protection measures.
- 3) No storage of construction materials shall occur.
- 4) No storage of building spoil or construction debris (including short-term temporary stockpiling) shall occur.
- 5) No harmful chemicals shall be stored or handled.
- 6) No fires shall be permitted.
- 7) There shall be no change in ground level unless undertaken under the supervision of the project arboriculturist.

Provision must be taken to prevent the storage and handling of harmful chemicals within the root protection areas of retained trees. Harmful chemicals include fuels, oils, bitumen, builder's sand (which has a high salt content) and cement. Provision shall also be made to prevent the storage and handling of harmful chemicals in areas proposed for further planting if the existing soil is intended to be retained. Cement mixing shall always occur outside the construction exclusion zones. If cement mixing is to occur close to the construction exclusion zones, or there is the potential for cement washings to leech into a root protection area, adequate, bunded ground protection measures must be used. This could comprise impermeable plastic sheeting under wooden boards (to prevent tears) surrounded by a raised lip.

Drawing no: PJC/5610/20/B Rev: - Sheet number: 1 of 1

Client and site:
Magdalena Sobczyk

102 Linden Road
Bognor Regis
West Sussex, PO21 2BD

Drawing title: Tree Protection Plan

Date drawn: 16/09/2020

Scale: 1:200 at A3

Drawn by: PD **Checked by:** LW



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