BRITISH STANDARD 5837 TREE SURVEYS ARBORICULTURAL IMPLICATION STUDIES TPO/PLANNIG ADVICE/ PROJECT MANAGEMENT
TREE INVENTORIES AND RISK ASSESSMENTS WOODLAND MANAGEMENT PLANS TREE PLANTING SCHEMES TPO RE-SURVEY






ARBORICULTURAL METHOD STATEMENT

PROPOSED DEVELOPMENT

AT

THE WILLOWS PRIMARY SCHOOL
WYTHENSHAW

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1.0 Discussion

1.1 The majority of the root system, of a tree, is in the surface 600mm of the soil, extending radially for distances frequently in excess of the trees height. Beyond the main structural roots (close to the base of the trunk), the root system rapidly sub-divides into smaller diameter roots: off this main system, a mass of fine roots develops.

1.2 The shape of the main structural roots develops in response to the need for the tree to have physical stability. Beyond these major roots, root growth and development is influenced by the availability of water and nutrients. Unless conditions are uniform around the tree, which would be unusual, the extent of the root system will be very irregular and difficult to predict. It will not generally show the symmetry seen in the branch system.

1.3 The parts of the root system, which are active in water and nutrient uptake, are very fine, typically less than 0.5mm diameter. They are short lived, developing in response to the needs of the tree, with the majority dying each winter. It is *essential* that conditions in the soil remain conducive to the healthy growth of these fine roots so that the water and nutrients necessary for healthy tree growth can be absorbed.

1.4 All parts of the root system, but especially the fine roots, are vulnerable to damage. Once they are damaged, water and nutrient uptake will be restricted until new roots have regenerated. Vigorous young trees will be capable of rapid regeneration but over mature trees will respond slowly, *if at all*.

1.5 In order to live and grow, roots need oxygen from the soil. Respiration by the roots and other soil organisms depletes this oxygen and increases carbon dioxide levels in the soil; a correct balance of these gases is normally maintained by diffusion between the soil and the atmosphere. Anything, which disturbs this balance, will affect the condition of the root system.

1.6 The factors that most commonly affect this diffusion adversely, and therefore damage roots, are the following: -

a) Compaction of the ground, which reduces the space between soil particles. This is particularly important on clay soils. A single passage by heavy equipment on clay soils or storage of heavy materials can cause significant damage.
b) Changing soil levels, even for a few weeks.
c) Covering the root area with impervious surfaces.
d) A rise in the level of the water table. Roots can tolerate submersion for short periods. But a permanent rise will deplete the soil of oxygen.

1.7 Serious damage is often caused during preliminary site works by stripping the topsoil. For this reason, such works should be avoided until protective fencing has been erected.

1.8 Excavations in the rooting area can severe roots. As the majority of roots are in the surface 600mm, even shallow excavations can cause damage.

1.9 Excavations for foundations, landscaping or service trenches are usually sufficiently deep to severe most of the roots, and it should therefore be assumed that all parts of the root system beyond the excavation would no longer serve the tree.

1.10 Excavation or soil stripping which severe or damage the roots may impair the stability of the tree and make it dangerous.

2.0 Method Statement

Before any form of development commences on the site the following works should be undertaken: -

2.1 Tree Works

Tree No.	Proposed Works
T1	No works required
T2	Crown lift to 3m
T3	Crown lift to 3m
T4	Fell
T5	Crown lift to 3m on school side
G1	Crown lift to 3m
G2	Remove stems/branches impacting fence and crown lift to 3m.
G3	Fell
G4	Crown lift to 3m
G5	Fell
G6	Crown lift to 3m on school side

2.2 Protective Fencing

2.2.1 It is not considered necessary for the fencing adjacent to the resurfacing work to be constructed to the default specification set out in BS 5837:2012 (Trees in Relation to Construction – Recommendations). It is considered that temporary fencing such as Heras type fencing may be used to prevent vehicular access to the grassed root protection areas of T1 and T2.

2.2.2 Tree protection fencing will not be required to protect root protection areas for the fencing work. Adequate protection will be provided if this method statement is complied with.

2.3 Additional Precautions Outside Fences Areas

2.3.1 Oil, bitumen, cement or other material likely to cause damage to the tree will not be stacked or discharged within 10m of the trees stem or

within the protective area. Also materials in general will not be stacked or discharged within the exclusion zone.

2.3.2 Concrete mixing and washing will not be carried out within 10m of any retained trees.

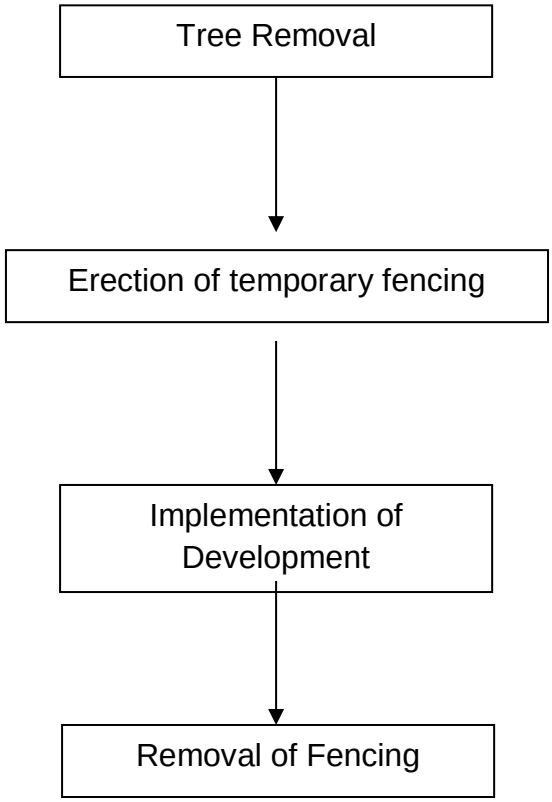
2.3.3 Fires will not be lit beneath the foliage or in a position where the flames could extend to within 5m of the foliage, branches or trunk. If the fire is large then this may necessitate a distance of at least 20m.

2.3.4 Trees that are to be retained will not be used as anchorage for equipment.

2.3.5 Notice boards, telephone cables, or other services will not be attached to any part of the retained tree.

2.3.6 Care should be taken when using cranes or other equipment near the canopy of the retained trees. Also any trees to be felled in proximity to the retained trees should be done so with particular care.

2.4 Summary of Methodology for the Protection of the Trees



2.5 Fencing Works

2.5.1 Any excavations must be carried out by hand digging. No machinery must be used as they can cause compaction to soft surfaces.

2.5.2 Holes must be located to avoid any structural tree roots- the direction of the buttress roots at the base of the trees will indicate the direction of such roots. In addition: in carefully hand digging the holes any roots larger than 25mm can be located without causing any damage. The hole can then be relocated appropriately.

2.5.3 Post holes must be lined with an impermeable material such as heavy-duty polythene bags to prevent chemical damage to tree roots.

2.5.4 Concrete mixing and washing must not be carried out within 10 metres of any retained trees.

2.6 Resurfacing Works

2.6.1 The removal of hard surfaces such as tarmac or concrete within the root protection area of retained trees must be carried out by hand or by machine following the below methodology.

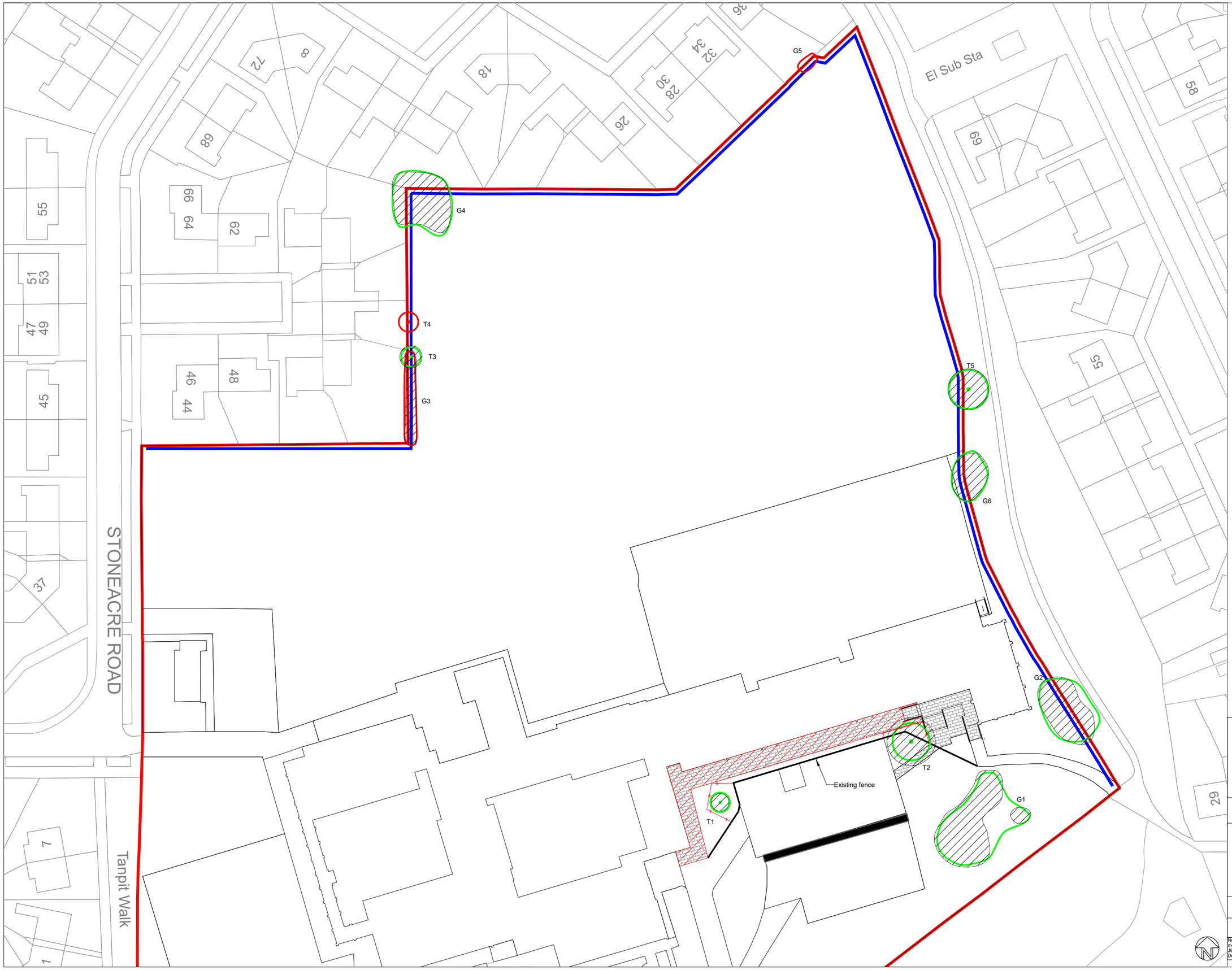
2.6.2 If an excavator is to be used to remove the existing surface, the machine must at all times remain on the existing hard standing.

2.6.3 The bucket of the machine must not extend any deeper into the surface than the depth of the hard surface being removed.

2.6.4 The existing sub-base should be retained to avoid damage to the roots of T2.

Appendix One

Tree Plan



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Client:
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Site Address:
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Wythenshaw

Drawing Title:		Drawing No:
Tree Protection Plan		17-011(3)
Date:	Scale:	Drawn by:
29/05/17	1:500@A2	JWB

Note: Dimensions are not to be scaled from this drawing. All written measurements are to be checked on site by the contractor. Copyright JB Consulting. Note: All rights described in Chapter IV of the Copyright Design & Patents Act 1988 have generally been asserted.