21A Knowlsley Road, Blackburn

ARBORICULTURAL IMPACT ASSESSMENT

Rob Longley
Tree Consultancy

63 Mizzy Road
Cronkeyshaw
Rochdale
Lancashire
OL12 6HL
Tel 07971145529

Email: longleyclan@btinternet.com

14th October 2022

1.0 INTRODUCTION

1.1 This document has been prepared by Rob Longley Tree Consultancy on behalf of the client. It provides an Arboricultural Impact Assessment (AIA) in regards to the proposed construction at 21A Knowlsley Road.

1.2 This document has been collated to include the protection plan, tree constraints plan, tree condition plan and the tree survey undertaken within the last two weeks. The initial tree survey, this document and drawings conform to guidelines contained within British Standard 5837:2012 Trees in relation to design, demolition and construction– Recommendations.

1.3 For the purposes of preparing this document the following material was referenced:

- Existing and proposed plans and layouts

1.4 a visit to site was also necessary

2.0 ARBORICULTURAL IMPACT ASSESSMENT

2.1 The overall impact of the proposed development on trees is considered.

2.2 This Impact assessment considers the consequences on existing trees situated within and proposed development site, both in terms of quantifying tree loss and the potential impacts of those trees for retention. In addition the relationship between trees being retained and the development layout are considered in regards to issues such as potential space/room for retained trees to develop, light loss, and shading of residential properties.

2.3 Loss of Trees

2.4 The development proposals will require the loss of the following trees:

Tree Reference	Species	Retention Category	Notes

No Losses required

3.0 Tree Pruning Required

3.1 The recommended pruning comprises of the following:

Tree Reference	Species	Retention Category	Notes
H1	Lonicera/ dogwood/ holly/ lilac	**U**	Thin 25% to enable works space for construction
T8	Cherry	**C3**	Reduce from from property 2m clear

4.0 Special working methodologies required

4.1 The recommended special working methodologies required comprises of the following:

Tree Reference	Species	Retention Category	Notes
T6	Sycamore	U	Remove concrete within root protection area.(shown in yellow 3.6m from tree)

5.0 Shade and growth constraints from existing trees

5.1 There are a number of trees on the raised planter adjacent to site with the potential to affect available light levels, however the use indicates that artificial light maybe required if the walls are to be solid construction. Pruning to trees in close proximity or potentially causing shading to dwellings has been covered in point 3.0. pruning maybe required to reduce from the structure over time as with all other close growing trees. Many of these trees are raised and will only require minor work from time to time.

6.0 Impacts on off-site trees

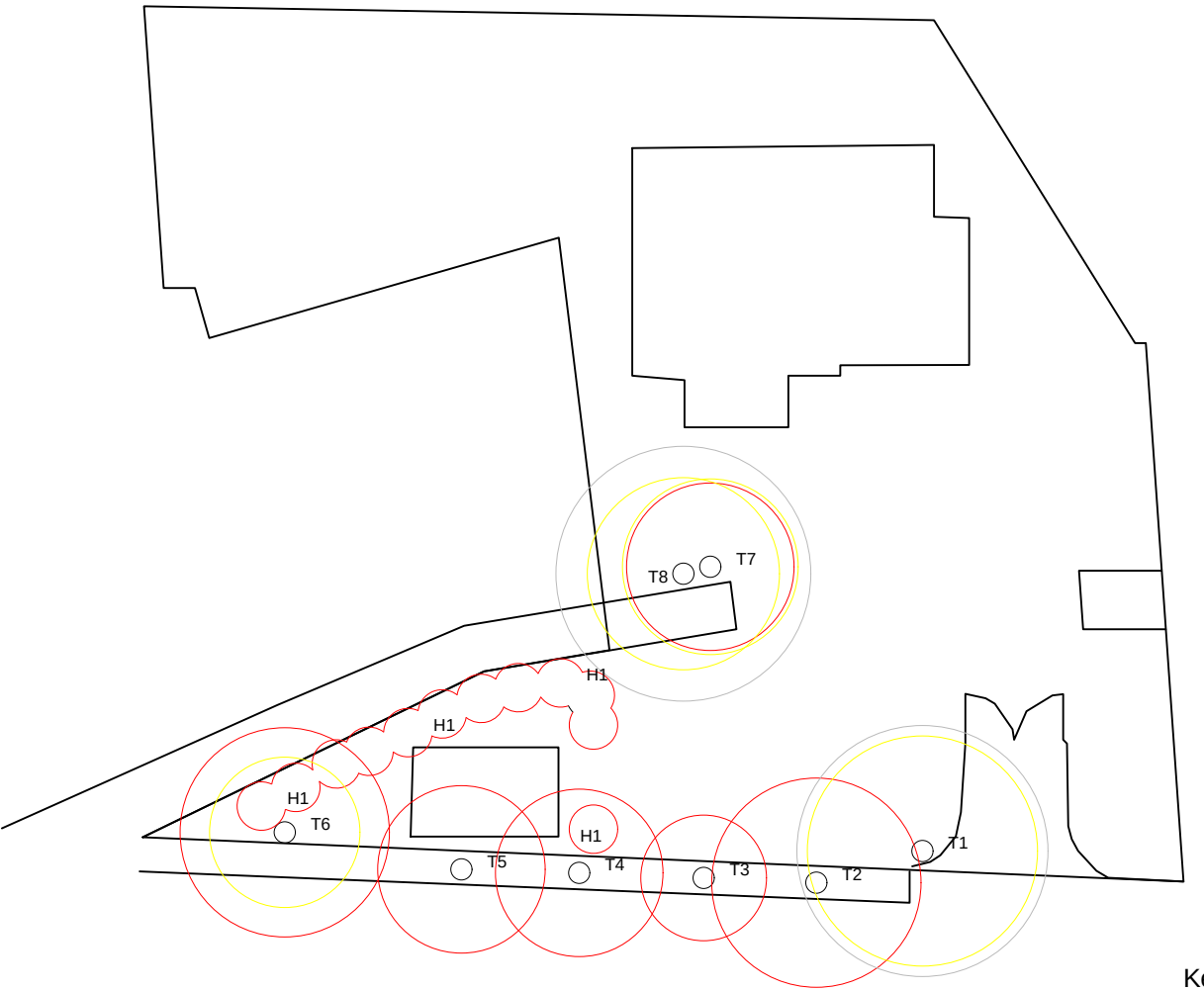
6.1 No trees within neighbouring properties will be affected by the proposed development.

7.0 Conclusion

7.1 The proposals should have no direct impact on trees that are to remain. The existing hardstanding should be reduced to ensure that it does not encroach on the root protection zone of T6. T6 will need to be monitored to see if there are signs of decline due to the damage at the base. this type of damage can last for years or degrade faster depending if there is fungus and the mode of decay. As there is no way to identify this at this stage, if there are signs showing in late summer-autumn, then identification will be possible. It is the opinion of the author that there is little loss of strength due to potential damage at the base. it would also appear from sounding that the damage is limited locally and not affecting stability at this time.
Extra information has been added in the appendix to help with decisions and working around the trees to maintain them safely.

APPENDIX A – Tree Survey for 21A Knowlsley Road, Blackburn

Tree Group Hedge	Age Class Common Name *Botanical Name*	Height (m)	Trunk Dia. (mm) @ 1.5m	Trunk dia. @ Base (mm)	Canopy Spread (m) N W E S	Crown Height (m)	Physiological Condition Structural Condition Offset RPA	Life Expectancy	Retention Category	Root Protection Area (m)	Root Protection Radius (m)	Comments and Reccomendations
T1	**elm** *Ulmus procera*	8	460		6 1 6 6		Good Good 1.1	10+	**C3**	5.5	5.5	Tree in good condition adjacent to boundary wall
T2	**Sycamore** *Acer Pseudoplatanus*	12	380 380		5 5 5 5		Good Fair	10+	**U**	n/a		Tree within wall planter. A raised level 1m above the garden level. Roots should not penetrate to the depth to reach the garden. Damage to wall. Monitor
T3	**Sycamore** *Acer Pseydoplatanus*	7	260		3 3 3 3		Good Fair	10+	**U**	n/a		Tree within wall planter. Monitor for future damage to boundary wall
T4	**Elm** *Ulmus Procera*	7	300		4 4 4 4		Good Fair	10+	**U**	N/a		Tree within wall planter. Regrowth from old felled stump.
T5	*Sycamore* *Acer Pseudoplatanus*	8	300		4 4 4 4		Good Good	10+	**U**	N/a		Tree within wall planter.monitor for future damage to boundary wall
T6	*Sycamore* *Acer Pseudoplatanus*	10	480		5 5 5 5		Fair Fair 0.7	10	**U**	40.7	3.6	Damage to bass at 0.5m. possible decay organism, however none seen. Included forks at 0/5 and 7m
T7	*Cherry* *Prunus Kanzan*	6	Multi 240 240 240		3 3 3 3		Fair Fair 0.8	10	**U**	54.3	4.2	Canker and decay on main stems. Stil 2/3 sound wood. Maintain size of tree and reduce endweight periodically to alleviate stress
T8	*Cherry* *Prunus Kanzan*	7	240 280 200 200		4 1 6 4		Good Good 0.8	10+	**C3**	67.9	4.6	Close proximity to roof. Reduce back to give 2m clear distance
H1	**Various shrubs/** *ornamentals*	2=4	200		1 1 1 1		fair fair	10	**U**			Reduce and thin as necessary. Shrubs form good screening for the proposed development



Tree constraints Plan

Key

yellow – root protection zone
Red - tree canopy class ‘u’ trees
Grey -class ‘c’ trees

APPENDIX B – SECTION OF BS 5837 (2012) RECOMMENDATION FOR EXCAVATING WITH HAND TOOLS WITHIN RPA

7.2 Avoiding physical damage to the roots during demolition or construction

7.2.1 To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.
NOTE Due to the demands that manual excavation places on a development project, and limitations arising from health and safety considerations, it is not realistic to plan for excavation using hand-held tools where there is a need for trench shoring or grading the sides of the excavation to a stable angle of repose.

7.2.2 Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.

7.2.3 Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.

7.2.4 Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree.

APPENDIX C – PRODUCT EXAMPLE FOR CELLULAR CONFINEMENT SYSTEM. CHOSEN PRODUCT MUST BE TO ENGINEERS SPECIFICATIONS.

CellWeb TRP (Installation Checklist)

Installation of the CellWeb™ Cellular Confinement System within the Root Protection Area of Trees

The following installation checklist can be used on projects where CellWeb™ is being installed as a permanent hard surface, a sub-base, or as temporary root protection during construction works.

The installation procedure can be utilised by the Local Authority (LA) tree officer to ensure that CellWeb™, that is being used for tree root protection, will be effectively installed. Alternatively, it may be more appropriate to request that the installation is certified by arboricultural consultants who are experienced in the installation of CellWeb™ and who can offer installation certification as part of a package endorsed by Geosynthetics.

The completion of the CellWeb™ installation in accordance with this procedure will enable planning conditions to be successfully signed off on completion of the project.

Stage 1 Initial site meeting to assess tree protection requirements in line with the Arboricultural Method Statement (AMS) produced by the developer's arboricultural consultant.

- Check the ground conditions, including the presence of compaction or made ground.

  Is any remedial work required, such as the removal of old hard surfaces and rubble or soil decompaction?

- Compare the existing ground levels with the new levels proposed in the development.

  Do the new levels allow for the depth of hard surfaces installed with a CellWeb™ foundation without excavation?

  Will excavation be required to achieve the proposed levels or to enable site drainage or integration with other water management solutions?

- Assess the suitability of tree protection proposals, including the fencing and ground protection that will be used throughout the demolition and construction phases of development.

  Can CellWeb™ be used as ground protection throughout the development period and also form the foundation for final hard surfaces?

  Is a temporary CellWeb™ installation needed to enable site access for construction traffic over an area designated as requiring tree root protection?

- Consider how utility service installations can be integrated with the installation of CellWeb™.

  Can services be installed before the CellWeb™ is laid, or is it possible to use directional drilling later on in the development?

- Consider how other water management solutions for the site can be integrated with CellWeb™, including porous hard surfaces, drainage and underground storage.

  Has a combined and integrated water management plan been designed that considers retained trees?

  Do the water management solutions for the site consider the water requirements of retained trees?

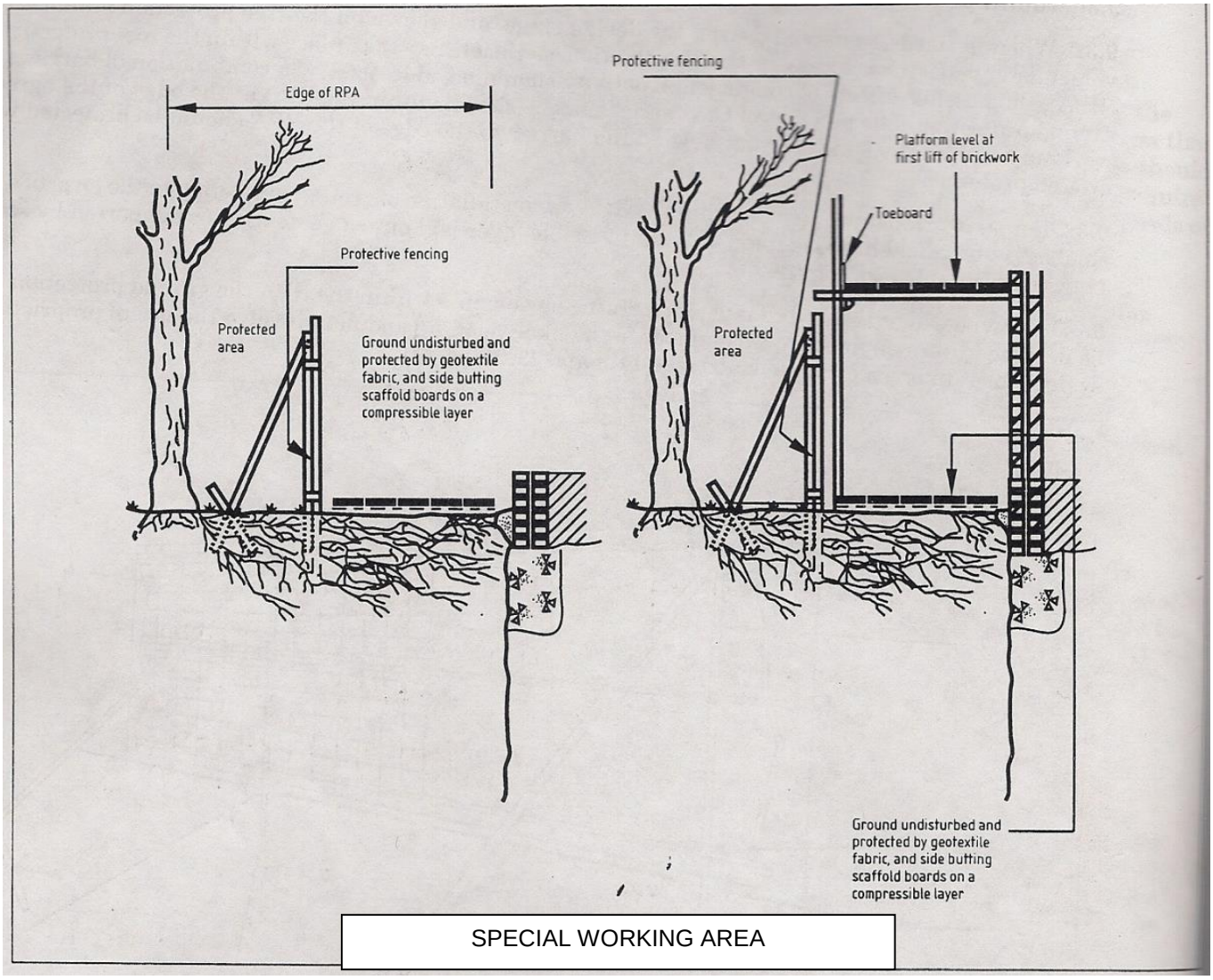
  Do the storage solutions allow for the slow release of water into areas of the site accessible by tree roots, while also dealing with potential soil pollutants from surface water run-off?

- How are the developers going to ensure that the CellWeb™ is specified and installed effectively?

Geosynthetics
Fleming Road
Harrowbrook Industrial Estate
Hinckley, Leicstershire
LE10 3DU

T: 01455 617 139
F: 01455 617 140
E: sales@geosyn.co.uk

APPENDIX D – SPECIAL WORKING AREA



SPECIAL WORKING AREA

The special working area is within the Root Protection Area of the tree – it provides room for scaffolding and access for pedestrians only. The tree protection plan shows the position that the special working area is to be used.

ROAD CONSTRUCTION – 'NO DIG' METHOD

This allows for removal of turf only so avoiding any root damage via excavation. A purpose-made three-dimensional plastic cellular system is placed over the existing ground surface - this should increase load capacity by up to 50% allowing a shallower overall construction depth. Installation is summarised as follows (this should not be taken as definitive and will require the input of engineers at the design stage):

(i) Removal of turf only, provided no surface roots are present. This should only be carried out under supervision by the arboricultural consultant.

(ii) If judged acceptable by the consultant it may on occasions be acceptable to remove a few more centimetres of top soil - however this must not be done without the arboricultural consultant present.

(iii) This exposed surface must not be accessed by machinery.

(iv) Placement of a Geotextile separation fabric (Fibretex F4M recommended).

(v) Placement of cellular 3 dimensional grid, temporarily pinned into place. The building agent should familiarise himself with the system and choose the appropriate cell depth. However if the surface has to be able to withstand lorries, the maximum 200mm cell depth should be used, and for footpaths the minimum cell depth may be appropriate.

(vi) Filling of grid with angular roadstone, 40/20mm and clean with no fines (to retain air permeability). To be done working from one end with subsequent dumper movement over the freshly laid stone. (vii) Air and water-permeable top surface (gravel, open-jointed paviours, permeable bonded resin, permeable grade tarmac etc). For the last 2, proper information on the product permeability should be established. Depending on type, a separation fabric and/or layer of fine stone or coarse grit may be required, however this should remain a permeable no-fines grade and not hoggin for example.

(viii) As this results in a raised surface, containment of the edges is likely to be required. This should be done using treated wooden boards held in place by wooden pegs or metal pins. Kerbing or haunching should not be used as this would excavate into the root area.

(ix) It is essential that no service trenches or other excavations take place within this footprint.

The cellular system should be installed first before any site machinery or materials come onto this area of the site as the area must not be tracked over prior to installation.

References:
Suppliers of three-dimensional grid for no-dig construction method:
CellWeb, Geosynthetics Ltd. Tel: 01455 617139 sales@geosyn.co.uk www.geosyn.co.uk
Erocell by Terram Ltd. Tel: 01495 757 722 info@terram.co.uk www.terram.com