PROJECT: 2700 ELLISON STREET, GLOSSOP

REPORT: 502 ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT

PREPARED BY TPM LANDSCAPE LTD

FOR

Goyt Construction

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1.0 INTRODUCTION, BACKGROUND & PURPOSE

Written instructions were received from Goyt Construction for TPM Landscape to produce an Arboricultural Method Statement relating to the proposed development at Ellison Street, Glossop

In February 2017, Georgina Tearne a qualified arboriculturalist carried out an objective tree survey at the site using the guidance and recommendations set out in BS5837 (2012) Trees in relation to design, demolition and construction.

Prior to the Arboricultural Impact Assessment being carried out a scheme had been developed by PWL Architecture. The purpose of this report is therefore to carry out an Arboricultural Impact Assessment between the existing and proposed scenarios and the relationship and impacts to the trees on site and bordering the site. The arboricultural Method Statement provides an indication of what protection measures should be implemented as part of the development of the site, to ensure the physical protection of the retained trees.

There are 16 trees or hedges on site: 6 are B grade, 9 are C grade and one is U grade. There is also a mixed group of trees (grade C) located off site; their location next to the site boundary also requires them to be taken into consideration.

For more details of the existing trees, refer to:

2700 501 Tree Survey Report

2700 101 Tree Survey Drawing

2700 102 Tree Retention, Protection and Removal

2.0 OBJECTIVES

Our clients objective is to build a residential housing development of 22 units in the derelict piece of land off Ellison Street in Glossop.

Our objectives are as follows:

1. Identify what arboricultural features exist presently within and adjacent to the site and to record and categorise them in line with BS5837:2012;

2. Identify what trees will need to be removed directly as a result of the proposed development of the site;

3. Identify any indirect impacts from the proposed development on trees proposed for retention;

4. Provide an indication of what protection measures should be implemented as part of the development of the site to ensure that the physical protection of the retained trees (both below and above ground);

5. Provide recommendations for mitigation in terms of new planting or enhancement for either landscape or ecological reasons.

3.0 STATUTORY PROTECTION

There are no Tree Preservation Orders (TPO) that affect any trees on site, as confirmed by accessing High Peak Borough Council's interactive map.

British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations provides current guidance on the relationship between trees and design, demolition and the construction processes. Its sets out the principles to ensure a sustainable relationship between trees and structures is established.

4.0 STATUTORY PROTECTION

A digital copy of a 2D topographical survey for the site was provided by the client prior to the site visit and assessment. Any features of arboricultural or landscape interest that have been excluded from the topo survey (for example trees off site) and have been added manually.

The survey of the trees within and adjacent to the site was undertaken by a qualified and competent arboriculturalist in accordance with BS5837:2012 in February 2017. The trees were numbered sequentially; however they were not tagged. The trees were categorised in line with the BS standard.

Where relevant and where the mass of shrubs and hedges justified the details were recorded and added to the tree survey plan and tables.

Root protection areas for the trees surveyed have been calculated in accordance with the formulas in section 4.6 of the standard. The tree data tables also contain key abbreviations.

5.0 ARBORICULTURAL IMPACT ASSESSMENT

The following works are indicated on TPM Landscape drawing no. 2700-102

Trees Requiring Removal due to Poor Health or Low Amenity Value.

T3 should be considered for removal due to presence of ustulina fungus at the base and therefore it's potential to fail.

Boundary Screening:

Trees located along northern and eastern boundaries of the site make a positive contribution to screening to adjacent existing properties.

Future Nuisance from trees:

Fallen leaves and other debris may collect in parking area on eastern boundary. This may need to be taken into account by management company.

Proposed Areas of Hard Standing:

The following table lists areas across the proposed development where proposed hard standing (for new driveways, roads, parking, footpaths, buildings) encroaches within the Root Protection Area of retained trees.

Area of Overlap	Potential Methodology to Limit Impact on Trees
T1, T10-T17 Access road and parking areas	A proportion of the RPA of the trees fall within proposed hard landscaping. However the roots are unlikely to have extended into the full RPA shown as they may have been blocked by the existing buildings and hard standing on site. Investigation is required to determine the actual extent of the roots. T10-17 are located on a steep embankment so roots are likely to have spread laterally (north/south) rather than down into the site under buildings. If the roots do extend into areas which are proposed hard landscaping, any light excavation should be done carefully using hand tools or light machinery so as not to damage the roots. Geotextiles and porous surfaces to be used in the construction of new hard surfacing. If the investigation reveals that there are no roots in the existing hard landscape areas, the tree protection fences can be moved back to the edge of existing hard standing to allow the construction of the of the works.

Some trees are considered for removal due to their location within proposed hard standing (parking bays, roads, footways, buildings) to allow for the proposed layout. The following table lists such instances.

Trees to be Removed	Reason for Removal
Trees - T3	Tree is a U grade and is in poor health. Is also proposed for removal due to poor health and to facilitate development

Proposed pruning works to trees

It it thought that no tree pruning work will have to take place to the remaining trees on site.

Proposed New Fences Within Root Protection Area

The following table lists areas across the proposed development where proposed new fences are within Root Protection Area.

Trees to be fenced	Potential Methodology to Limit Impact on Trees
All trees and groups	Care should be taken during construction of new fence boundary and if excavation is required it should be undertaken carefully using hand held tools and by compressed air soil displacement. To avoid damage to trees' roots existing ground level should be retained within root protection area

Proposed Drainage and Services:

At the planning application stage of the project details of proposed below ground services (gas, electric, surface water etc.) are generally not known.

Working Space During the Construction Phase:

The site is of an adequate size that the construction phase works can easily be accommodated throughout the construction phase with little potential impact on the retained trees. It is however fundamental that construction exclusion zones are created around the retained trees to limit any potential negative impacts on the trees. Temporary roads, site storage and staff parking should be located outside of the RPA (within existing non compacted areas) and should only be implemented after the tree protection fencing has been erected.

A Tree Retention, Protection and Removals Plan has been prepared to identify a construction exclusion zone, drawing no. 2700-102

Requirements for an Arboricultural Method Statement:

Drawing no. 2700-102 represents a plan based Tree Protection, Removal and Retention and should be referred to during the construction phase for the purposes of controlling activity around the trees to be retained. Further text narrative is provided in Section 6 - Arboricultural Method Statement.

Tree Works: Pruning etc.

Prior to occupation of the new development all trees on site should have remedial pruning to remove deadwood and identify where further tree works may be required (subject to gaining the LPA comments). Some of the trees may need pruning/crown reducing to facilitate the development. Tree works to be supervised by qualified arboriculturist.

Hedgerows:

H9 is a Privet hedgerow and will fall within the back gardens of the proposed properties. Before occupation of the properties, the hedgerow should be trimmed to create a neat hedgerow.

Planning for New Landscaping:

Care should be taken in the design of new landscapes to prevent physical damage to retained trees during the planting process, and to ensure that vegetation are designed to survive and thrive rather than competing for resources. Similarly new trees and shrubs should not be planted where they will cause damage to structures, either directly or indirectly in the future.

Summary of Impacts

The development as proposed will directly require the removal of one existing tree and some specific mitigation measures to protect other trees.

The proposals for the development include the planting of a significant number of new trees to create a more diverse landscape structure. Proposed vegetation will be a mixture of native, as well as ornamental trees, shrubs and hedges.

Tree No / Group requiring removal
Trees - T3

3.0 ARBORICULTURAL METHOD STATEMENT

This method statement has been produced from current guidelines BS 5837:2012 Trees in relation to Design, Demolition and Construction - Recommendations. If in doubt on any issues relating to the retention and protection of the existing trees on site please contact TPM Landscape (project arboriculturalist) on 0161 235 0600 or the Tree Officer at High Peak Borough Council.

The appointed contractor should consider and follow these recommendations whilst working on the project. The appointed contractor must consult the project arboriculturalist who will oversee any critical operations close to the existing trees and make checks to ensure that the tree protection fence and working methods as described below are adhered to.

Tree Works

All tree works should be carried out by a qualified arboriculturalist prior to any construction works starting on site. Only carry out trees works which are shown on the planning approved drawing, any further works that need to be carried out require written approval from the local authority and should be advised by the project arboriculturalist.

Areas of scrub, bracken and bramble should be strimmed to 0.1m in Sept-October and the arisings removed to discourage hedgehogs and amphibians from settling in this area prior to heavy machinery entering the site and the full clearance works begin.

Tree works should be carried out outside of the bird nesting season (typically March-August) unless the trees and scrub has been surveyed by a qualified ecologist to look for active bird nests. If identified the area should be left undisturbed and fenced off (in line with ecologists recommendations) until the chicks have fledged.

Fence Installation

This method statement has been produced from current guidelines BS 5837:2012 Trees in relation to Design, Demolition and Construction - Recommendations. All trees as shown to be retained on drawing 2700 102 should be protected by a tree protection fence before any materials or machinery are brought onto the site, and before any demolition, development or stripping of topsoil commences. Please refer to drawing 2700 102 for locations of the Tree Protection Fences and Figures 1 + 2 for the specification. All-weather notices should be attached to the barrier with words such as: ''TREE PROTECTION AREA KEEP OUT'', please refer to Figure 4, for an example of signage. The protected area should be regarded as sacrosanct, and, once installed barriers (unless identified on the drawing) should not be removed or altered without prior approval by the project arboriculturalist and/or High Peak Borough Council.

Fires on sites should be avoided if possible where there are existing trees. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be taken into account when determining its location, and it should be attended at all times until safe enough to leave.

Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its Root Protection Area.

Root Investigations

Roots are unlikely to have extended to their full potential where existing buildings and hard standing fall within their RPA. Investigation is required to determine the actual extent of the roots. If the roots do extend into areas which are proposed hard landscaping, follow recommendations below. If the investigation reveals that there are no roots in the existing hard landscape areas, the tree protection fences can be moved back to the edge of existing hard standing.

Excavations within Root Protection Area (RPA)

Where excavations works for foundations fall on the edge of the RPA then these should be carried out by a competent contractor with an understanding of trees. Any excavations close to trees should be carried out from within the main body of the site working in (and away) from the tree. Machinery should not encroach into the RPA and land protected by the fencing.

For any trees which require excavations within the RPA then water the tree a few days before works are carried out, making sure the ground is moist within the drip line of the tree (only required during the growing season).

Excavations can be carried out with a mechanical digger however these must be supervised by a grounds man to signal if tree roots >40mm are exposed. If roots are identified on site which encroach into the area to be excavated then these must be cut. Ensure cuts are done with hand tools that will make clean, quick cuts (i.e. chain saw or axe), at no points should roots be ripped or dragged out by a mechanical digger. Make sure cut roots are covered with loose soil or woodchips as soon as possible, DO NOT LEAVE CUT ROOTS EXPOSED. If roots are going to be exposed for more than an hour cover with a damp cloth. Water the tree again thoroughly when job is done (only required during the growing season).

Site Works - Pre Construction Of Development

Temporary roads, site storage and staff parking should be located outside of the RPA (within existing non compacted areas) and should only be implemented after the tree protection fencing has been erected.

Site Works - Post Construction

Tree protection fencing should only be pushed back or removed to allow for the installation of hard/ soft surfacing within the RPA once all major construction works have finished and heavy machinery has been removed off site. Refer to drawing 2700 102 for permanent and temporary fencing locations.

Areas of proposed surfacing over the RPA should be carried out to a 'No Dig' construction method in line with detailed construction details from an engineer. For indicative 'NO DIG' construction detail refer to Figure 5: Detail 1 and 2. Geotextiles and porous surfaces to be used. Surfacing should be constructed over existing levels to avoid excavations within the main body of the RPA.

Ground Protection

All ground protection methods must be capable of supporting construction traffic entering or using the site without causing ground compaction. There are two different ground protection measures that may be required depending on the site constraints and requirements.

Construction Traffic:

It may be necessary to provide ground protection measures to facilitate construction traffic movement (exceeding 2t gross weight) and access to the proposed development. If this is the case, a proprietary system or pre-cast reinforced concrete slab to engineers specification will need to be designed to accommodate the likely loading.

Light Machinery/ Site Operatives:

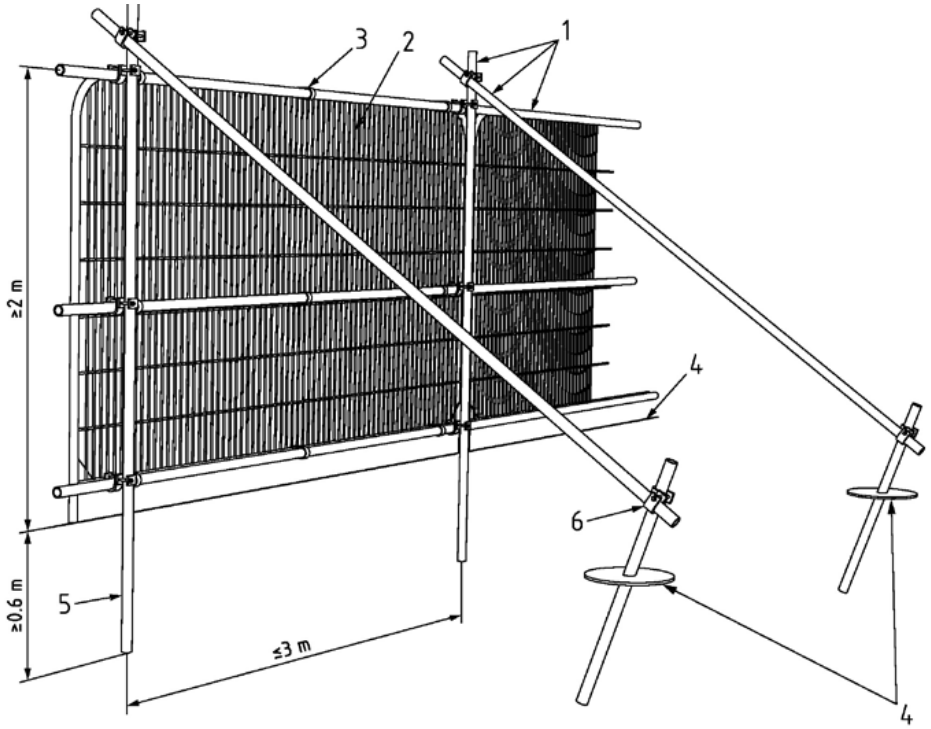
The most common method of ground protection is the use of a compressible layer as illustrated in Figure 4 on the following page. This method will support pedestrian-operated machinery up to a gross weight of 2t. It consists of a base geo-textile membrane, a base ground guard layer, approximately 150mm depth of woodchip and a surface ground guard track way.

If the construction works can be carried out by site operatives without the use of machinery, a single thickness scaffold board, either suspended to a scaffold frame or on top of a compression resistant layer and geo-textile membrane may be used.

Other Notes

In addition to the protection fence the site operatives should have regard for the trees and make allowance for:

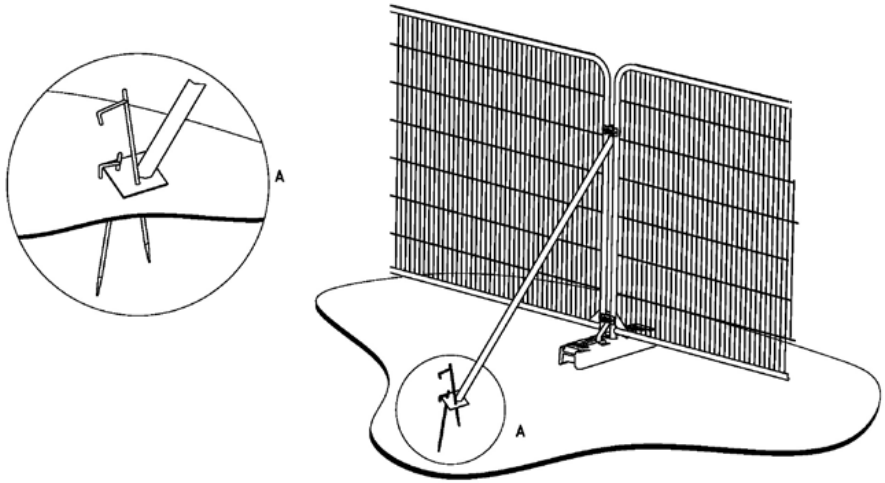
- All forms of access to the site
- Position of site compound
- Size of vehicles entering the site and any impacts to branches that overhang these routes
- Proposed parking for site personnel
- Phasing of works
- Space required to undertake the works
- Management of waste products within the site
- Any special construction techniques e.g. porous paving
- Time of year for any tree works (e.g. bird nesting season)
- Protection of soil structure within proposed planting beds
- Planting operations within the root protection area of retained trees
- Systems of arboricultural site monitoring / scheduled site visits
- Any special construction techniques e.g. porous paving
- Time of year for any tree works (e.g. bird nesting season)
- Protection of soil structure within proposed planting beds
- Planting operations within the root protection area of retained trees
- Systems of arboricultural site monitoring / scheduled site visits



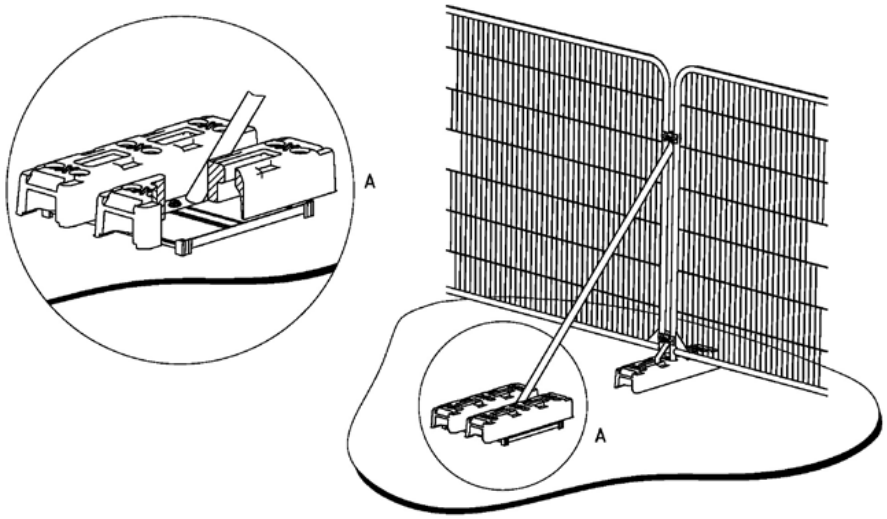
Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Figure 1 - Default specification for protective barrier



a) Stabilizer strut with base plate secured with ground pins



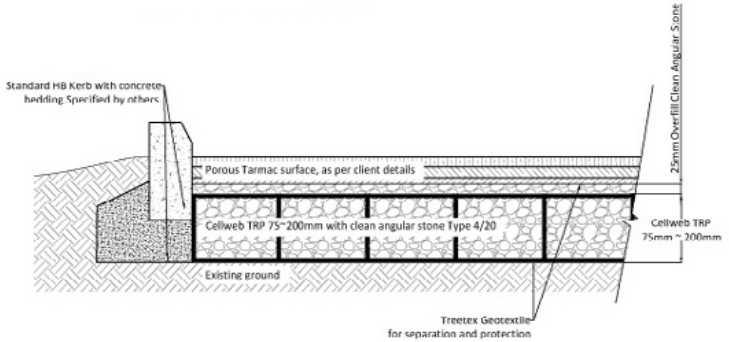
b) Stabilizer strut mounted on block tray

Figure 2 - Examples of above-ground stabilizing systems

Figure 3 - Example signage

Figure 4 - Example of ground guards

Detail 1 - Concrete kerb edging



Note: Subbase could be required depending on the existing ground CBR % and the type of traffic on the surface.

Detail 2 - Timber edging

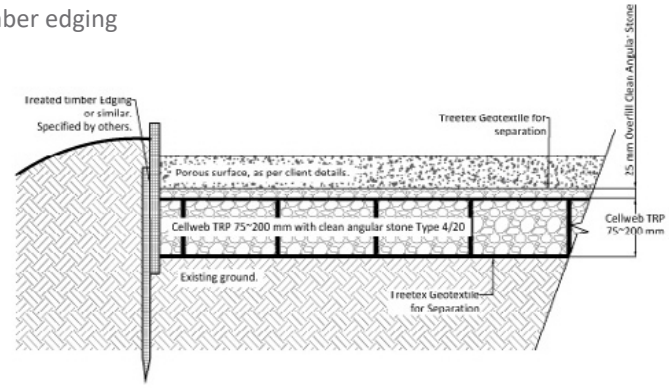


Figure 5 - No-Dig Construction Details over RP

NOTE: No-dig construction details as detailed by Geosynthetics

APPENDIX

TPM Drawings:

2700 - 101 Tree Survey

2700 - 501 Tree Survey Report

2700 - 201 Tree Retention, Protection and Removals