Land at Hayfield Road and High Hill Road
New Mills
SK22 4HW

Wainhomes NW

ARBORICULTURAL IMPACT ASSESSMENT
AND
METHOD STATEMENT

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Ref: MG/5393/AIA&AMS/MAR17

Contents

1.0 Introduction

1.1 This document has been prepared by Trevor Bridge Associates on the behalf of Wainhomes NW. It provides an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) in regards to the following proposed development.

- Construction of 97 residential units and related infrastructure .

1.2 This document follows, and should be read in conjunction with, an initial pre-development tree survey that was undertaken by TBA Ltd in March 2017 (ref: MG/5393/TSR/MAR17). Accompanying the tree survey report is a drawing; ***Tree Survey and Root Protection Plan*** (ref: 5393.01).

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

- Client Drawing: ***Hayfield Road, New Mills. Proposed Site Layout. Job No16-070. Drawing No. 0001. Date: March 2017.***

1.4 This report assesses the potential impacts to trees as a consequence of the development proposals, as well as specify the necessary methodologies required during construction to ensure that trees being retained are afforded adequate protection from harm.

1.5 Accompanying this report is the following drawing which must be read in conjunction with this report:

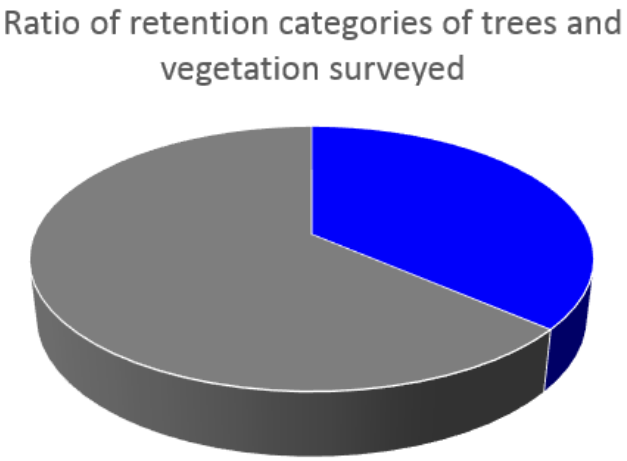
- ***TBA Drawing: Tree Protection Plan. Drawing No. 5393.02. Date: March 2017.***

2.0 Arboricultural Impact Assessment

2.1 The consequences on existing trees situated within and adjacent the proposed development site are considered.

2.2 The value of the trees and vegetation surveyed

In the initial tree survey reports a total of 11 items were surveyed within and adjacent to the development area. These items comprised 10 individual trees, and a single group. The chart and table below shows the ratio of tree retention categories on the site and number of items (be it groups or individuals etc that were surveyed).



Retention Category	No.
A (High Value)	0
B (Moderate value)	4
C (Low value)	7
U (Remove)	0

3.0 Arboricultural Impact Table - Key

3.1 The Arboricultural Impact Table (section 3.3) lists all items surveyed within the site. The tree data is taken from the initial tree survey report. The table is colour coded for ease of reference, particularly in relation to the value of trees and the potential impact that may occur to them:

Tree Values

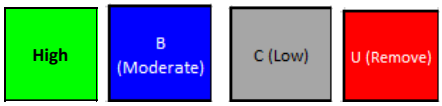
High	High value tree / group / hedge as included within the initial tree survey
B (Moderate)	Moderate value tree / group / hedge as included within the initial tree survey
C (Low)	Low value tree / group / hedge as included within the initial tree survey
U (Remove)	Tree / group / hedge in poor condition. Retention unsustainable within context of development

Impacts on Tree's / Groups

Removal	Tree / Group / Hedge will require removal in order to facilitate the development proposals
Partial Removal	Group or hedge will require partial removal to facilitate the development proposals
High	The development proposals will have a high impact the on the tree /group / hedge
Moderate	The development proposals will have a moderate impact on the tree / group /hedge
Low	The development proposals will have a low impact on the tree / group / hedge
None	The development proposals will have no impacts on the tree / group / hedge

3.2 Arboricultural Impact Table - Cascade Chart:

3.2.1 Tree **Values** are taken from BS: 5837 and comprise of the following:



3.2.2 The **Impacts** comprise of 6 elements:

3.2.3 Causes of impacts comprise of 6 factors: '***None***', '***To facilitate development'***, '***Due to poor condition'***, '***Direct disturbance to roots'***, ***'Pruning required'*** **and** '***Possible future pruning pressure due to shade and other factors***'.

3.2.4 Comments are also included providing more information where necessary.

	REMOVAL	PARTIAL REMOVAL	HIGH	MODERATE	LOW
TO FACILTATE DEVELOPMENT	Tree / group requires removal.	Partial removal of group is required. I.e., 'a section of hedge may require removal to allow a new access road'.	N/A	N/A	N/A
DUE TO POOR CONDITION	Tree or group require removal due to poor structural and / or physiological condition.	Part of group require removal due to poor structural and / or physiological condition.	N/A	N/A	N/A
DIRECT DISTURBANCE TO ROOTS	N/A	N/A	In many case this will result in the loss of tree/s - refer to '**TO FACILIATE DEVELOPMENT**'. In rare cases a Tree/s may be retained but damage will occur to the roots.	Disturbance will be caused to roots of a tree/s that are likely to result in some physiological and structural dysfunction. The extent of damage does not require trees to be felled. Remedial actions may be taken in some cases that would help mitigate against damage but site topography, tree age, condition and species condition may result in disturbance being considered **MODERATE** as opposed to **LOW.**	Activity will occur within the root protection area of trees which will have a low impact, or can be mitigated by special measures.
PRUINING REQUIRED	N/A	N/A	Pruning that may retain a tree but will have a potential impact on the tree condition and visual appearance	Pruning is required that is acceptable within recommendations within BS3008:2010, but would require a material alteration to the tree/group affected.	Pruning is required that will have little impact to the structural, physiological and visual amenity of a tree or group.
POSSIBLE FUTURE PRUNING PRESSURE DUE TO SHADE OR OTHER FACTORS	Removal of tree/s required as retention is unsustainable and/or undesirable within the context of development. i.e. fast growing tree in small garden.	Partial removal of tree/s required as retention is unsustainable and/or undesirable within the context of development. i.e. fast growing tree in small garden.	Tree/s likely to cause significant shading. i.e. small garden areas with dense mature trees to south.	Some level of shade or other inconvenience will occur. Not highly oppressive, but some residents may seek management of trees in long term.	Some level of shading / overhang will occur.

3.3 ARBORICULTURAL IMPACT TABLE - RESULTS

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
1T	Ash	C (Low)	None	**N/a**	Outside area of proposed development	N/a
2T	Ash	C (Low)	None	**N/a**	Outside area of proposed development	N/a
3T	Sycamore	C (Low)	None	**N/a**	Outside area of proposed development	Due to the tree's proximity to development tree protection fencing to be erected.
4T	Ash	C (Low)	Low	**Direct disturbance to roots**	Very minor ingress within the outer nominal root protection area of the tree.	Tree protection fencing required.
5T	Alder	C (Low)	Low	**Direct disturbance to roots**	A working area is required for the construction of Plot 60. This will result in minor ingress within the nominal root protection area of the tree.	Tree protection fencing required.
			Low	**Pruning required**	The southerly lateral spread of the canopy will require cutting back in order to facilitate clearance for construction purposes (particularly scaffolding).	N/a
			Low	**Possible future pruning pressure due to shading and/or other factors**	It is foreseeable that future growth of the tree will result in a need to undertake pruning to the southerly lateral canopy in the future.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
6G	Mixed Species Group	C (Low)	Moderate	**Pruning required**	The group will require that all overhanging branches and foliage is cut back to the boundary line to facilitate clearance for development of Plot 66.	N/a
7T	Sycamore	B (Moderate)	**High**	**Pruning required**	Tree is situated off-site thus cannot be removed without the consent of the tree owner. Heavy pruning of the southerly and westerly lateral canopy will be required in order to facilitate construction of the house at Plot 66.	N/a
			Moderate	**Direct disturbance to roots**	Ingress within a section of the root protection area for the undertaking of construction activities	N/a
			Moderate	**Possible future pruning pressure due to shading and/or other factors**	Cyclic pruning of overhanging branches will be required in order to ensure clearance to the side of the house at Plot 66.	N/a
8T	Lime	B (Moderate)	None	**N/a**	Outside area of proposed development	N/a
9T	Silver Birch	B (Moderate)	None	**N/a**	Outside area of proposed development	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
10T	Silver Birch	B (Moderate)	None	**N/a**	Outside area of proposed development	N/a
11T	Common Oak	B (Moderate)	None	**N/a**	Outside area of proposed development	N/a

4.0 General Issues

4.1 Installation of underground services

At the time of considering the layout design, no information was available relating to the proposed location of underground services. By default no services should be placed within the identified Root Protection Areas of trees being retained. While it is possible in some cases that underground services may be placed within Root Protection Areas, this is best done under arboricultural supervision (at least initially) and must follow industry best practice (see section 5.7.9). Where special installation methods are necessary (such as pipe jacking) supplementary method statements must be provided. The proposed location of underground infrastructure must be made available to the local planning authority prior to installation.

4.2 Storage of materials, contractor parking and site logistics

Logistically the site has adequate space for the placement of site huts and material storage. By default all compounds and storage areas are to be outside root protection areas.

4.3 Level changes on site

No excavation or raising of ground levels are to occur within the construction exclusion zones within the site demarked by protection barrier fencing (green coloured zones) within the Tree Protection Plan. Use of retaining structures may be required if a ground level differential is required between the developed section of the site the tree protection areas. Such retaining structures may, for example, comprise gabions, or treated wooden posts.

5.0 Arboricultural Method Statement

5.1 The Arboricultural Method Statement (AMS) specifies all measures to be undertaken to ensure the ongoing health and viability of trees to be retained within the proposed development.

5.2 This AMS is in compliance with British Standard 5837: 2012**. Accompanying this document are two plans that shows the position of protective fencing and any additional special measures that are required. These plans are referred to as the *Tree Protection Plans*.**

5.3 The AMS must be considered a 'working document'. It must be made available to the developer, site manager, and LPA. A copy of this document and the Tree Protection Plan must be kept on the development site at all times. All site operatives must be briefed on the main contents of this document.

5.4 It is the Site/Project Manager's responsibility to ensure that the detail of this AMS and the TPP and any agreed amendments are known and understood by all site personnel. A copy of this AMS and the TPP will be available for reference on site by the Project and Site Managers, and will form the basis of the management of all works relating to the trees on the site following commencement of the project. The Site Manager shall induct all personnel who could have an impact on trees on the content of this document.

5.5 Tree Works –General Issues

5.5.1 Any tree works (tree felling and pruning) are to take place prior to any site operations and immediately before the installation of protective fencing.

5.5.2 Any works to the existing trees are to be carried out by a fully qualified tree surgeon and in accordance with BS 3998 (2010) *Recommendations for Tree Work*.

5.5.3 Any necessary tree surgery works should be carried out **before** any construction work starts and immediately before erection of protective fencing. Any works will include any trees that require removal in order to facilitate construction and access. No tree works must be carried out unless permission is provided by the local planning authority. Tree works to any protected trees (trees within a Conservation Area or subject to a Tree Preservation Order) that do not require works to directly enable the development to proceed will require a notification/application to be made to the Local Planning Authority. Any tree works required in order to directly facilitate the development to proceed (such as tree felling) must not proceed unless full planning consent and written consent is given by the local planning authority.

5.5.4 Wildlife issues and timing of operations. The following must be observed:

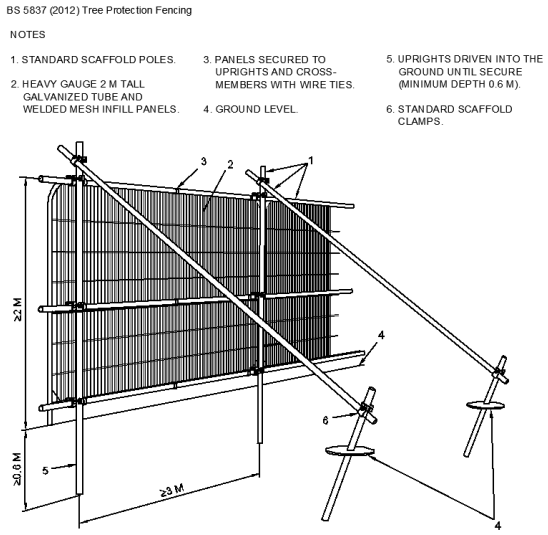
Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat'. For further details consultation must be made with the Statutory Nature Conservancy Organisation (Natural England, 0300 060 1842 www.naturalengland.org.uk). Where relevant any current ecological surveys for the site will take precedence in this matter.

5.5.5 Birds. It is an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds should be avoided from late March to August.

5.6 Protective Barrier Fencing

5.6.1 Temporary protective barriers must be erected prior to any site operations. The protective barriers are essential to prevent root severance or compaction of the soil in the Root Protection Areas, and so give the best chance of continued good health of the retained trees.

5.6.2 The protective barriers are to comprise a vertical and horizontal scaffold framework which is braced to withstand impacts, and not easily moved or relocated by site operatives (to prevent opportunistic moving of the barrier fences). The vertical tubes should be spaced at intervals of no more than 3m and driven securely into the ground. Onto this framework welded mesh panels should be securely fixed (such as Heras). The fencing is to be placed accurately as shown within the Tree Protection Plans. A scale copy of the tree protection plan shall be referenced and scale measurements taken to indicate the necessary fencing positions.



Care must be taken when locating vertical poles to avoid underground services and, in the case of bracing poles, also to avoid contact with structural roots. If the presence of underground services prevents the use of driven poles, an alternative specification should be prepared; such alternatives could include the attachment of the panels to a free standing scaffold support framework.

Where fencing is required adjacent the site boundaries it is acceptable to use Hoarding to double as protective fencing but only where the exact location of the protective fencing is adhered to (as per the Tree Protection Plan) and where it is hand installed only.

5.7 General Requirements

5.7.1 Developers must enforce the methods of protection identified within the statement. All contractors must also agree to them. Any failure to comply with them must be dealt with by the developer. Any damage that may occur to trees due to failure to observe the method statement must be reported to the Local Planning Authority and arboricultural advice must be sought.

5.7.2 No pruning, lopping, felling or severance of roots is to take place without prior consent of the local authority or unless in compliance with specifications included within the Method Statement.

5.7.3 **The ground levels within the protected areas, be they fenced or special working areas, must neither be raised nor excavated unless specifically in compliance with requirements within this method statement.**

5.7.4 No ropes, cables, services, or notice boards shall be fixed to existing trees.

5.7.5 Fires should not be permitted, or else not lit where flames could extend to within 10m of the foliage, branches or trunk of any trees (it should be noted that local environmental health authorities may have specific restrictions on fires),

5.7.6 Should temporary access within the Root Protection Area be required that is not included within the method statement, an agreement, in advance, with the consultant and the LPA must be made. The fence may need to be re-aligned and the ground surface protected. For vehicular access this protection will need to be specifically detailed and agreed.

5.7.7 Care must be taken in regards to tall or wide loads, or use of plant with booms, jibs and counterweights. Where machinery may be required to operate in the vicinity of trees a banksman must ensure that no direct physical damage is caused to trees. It must be checked that any materials or vehicles entering the site are able to do so without causing damage to adjacent trees.

5.7.8 Any material that will contaminate soil (e.g. concrete mixings, and vehicle washings) must not be discharged within 10m of any Root Protection Area. In addition it is essential that allowance be made for the slope of the ground so that damaging materials cannot run towards trees, or Root Protection Areas. If diesel and fuel containers are used or stored on site they must be kept within a plastic container bund to prevent any ground contamination and spill kits must be kept available to remediate any spillage.

5.7.9 Where trenching may be required for the placing of underground services all works must adhere to ***Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG4***). National Joint Utilities Group, 2007. This document is freely available online (www.njug,org.uk/publications/).

5.8 Arboricultural monitoring

(i) The arboricultural consultant (or local authority Tree Officer) shall be consulted whenever an unexpected issue occurs that involves any retained tree on site including access within the Protection Area.

Mike Gregory (Arboricultural Consultant) 07515827944.

(ii) No amendments shall be made to the methods detailed in this Arboricultural Method Statement without the agreement of the consultant or local planning authority Tree Officer.

(ii) If the site agent is at all unclear about exact compliance with any of the above requirements, or if requested by any other party, then a pre-start meeting shall be arranged with the architect, site agent, local authority tree officer and arboricultural consultant in attendance as necessary.

5.9 Health and Safety Issues

All operations must be carried out with full regard to Health and Safety requirements. Due to the diverse nature of recommendations included (e.g. tree surgery works, construction etc) it is necessary that supervisors of those undertaking recommended operations undertake risk assessments prior to starting the relevant works. It should be the Site Managers/developers responsibility to ensure that risk assessments are submitted prior to undertaking relevant works.

6.0 Method Statement Schedule

<table>
<tr><th>Phase</th><th>Requirements</th><th>Method</th></tr>
<tr><td>1
Prior to erection of protective fencing.</td><td>Undertake tree pruning in a controlled manner.</td><td>Refer to section 5.5 of AIA/MS report.

All tree works to be carried out to BS3998: 2010: by suitably qualified and insured professional tree surgeons. It is recommended that tree surgery contractors are Arboricultural Association Approved Contractors.

The following tree pruning must be undertaken at this Phase:

<table>
<tr><th colspan="2">Items requiring pruning:</th></tr>
<tr><td>5T</td><td>Alder. Reduce the southerly lateral canopy spread by approximately 3.0m in length.</td></tr>
<tr><td>6G</td><td>Mixed Species Group. Cut back the overhanging growth to the site boundary.</td></tr>
<tr><td>7T</td><td>Sycamore. Reduce the southerly and westerly lateral canopies back by approximately 3.5m in length.</td></tr>
</table>
</td></tr>
<tr><td>2
Prior to any construction works on site</td><td>Erection of protective fencing:

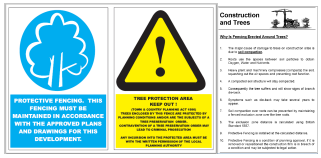
To retain throughout the duration of the development:</td><td>Protective fencing is to be erected in accordance with 5.6 of AIA/MS report.

The fencing must comply with the positions shown in the Tree Protection Plan. A scale copy of the Tree Protection Plan must be used as reference and fencing positions measured from the Plan using a scale rule.

No works, no storage of materials, no access, or any ground disturbance is to take place within the Tree Protection Barrier Fencing other than works specified within the Arboricultural Method Statement. Fenced areas are to be treated as Construction Exclusion Zones.

Warning signs to be placed on all protective fencing. For large sections of fencing the signs must be placed at 20m intervals.

Signs must be laminated and securely attached at all corners. Two signs are to be placed side by side; copies of which are attached within Appendix A.

 
</td></tr>
<tr><td>3
Start of development</td><td>Commencement of development</td><td>Protective fencing to remain in situ during development phase.</td></tr>
<tr><td>4
Completion of main construction and undertaking of landscaping</td><td>Landscaping, Dismantling of protective fencing</td><td>It is essential that ground levels within the root protection areas are not altered, either by raising or lowering soil levels; even at the landscaping stage. No Landscaping operations must not be undertaken in a manner that will impact trees. A rotovator or similar soil tilling machinery must not be used within root protection areas. Where small divots or depressions are present it is acceptable to fill these with a good quality top-soil and lightly compact.</td></tr>
</table>

APPENDIX A - SIGNS TO ATTACH TO PROTECTIVE FENCING

Construction and Trees

Why Is Fencing Erected Around Trees?

1. The major cause of damage to trees on construction sites is due to **soil compaction**.
2. Roots use the spaces between soil particles to obtain Oxygen, Water and Nutrients.
3. Heavy plant and machinery compresses (compacts) the soil, squashing out the air spaces and preventing root function.
4. A compacted soil structure will stay compacted.
5. Consequently the tree suffers and will show signs of branch die-back.
6. Symptoms such as die-back may take several years to appear.
7. Soil compaction over roots can be prevented by maintaining a fenced exclusion zone over the tree roots.
8. The exclusion zone distance is calculated using British Standard 5837.
9. Protective Fencing is installed at the calculated distance.
10. Protective Fencing is a condition of planning approval, if it is removed or repositioned the construction firm is in breach of a condition and may be subjected to legal action.