Arboricultural method statement (Draft)

Trees

at and adjacent to

15 Glenmore Road,
London,
NW3 4BY

for

AIM Developing Ltd

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document rev. no.:

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1. Scope and status

1.1 Scope

1.1.1 This method statement sets out measures for the protection of 5 trees standing within or adjacent to the property boundary of 15 Glenmore Road, London NW3 4BY in relation to proposed residential development.

1.1.2 The locations of the trees are shown on the **Tree protection plan** in **Appendix a.**

1.1.3 The principal elements of the proposed development are:

- Internal sub-division and refurbishment of the existing dwelling
- The construction of a basement floor and associated light wells
- Minor external works

1.1.4 The measures contained in this method statement are based on the advice and guidance set out in *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.*

1.2 Status

1.2.1 This method statement forms a part of the building contract and its requirements are an integral part of the contract specification and schedule of works.

1.2.2 A copy of the method statement must be available for inspection on site at all times.

1.2.3 All persons working on site should be aware of the importance of avoiding damage to trees and should observe the necessary precautions. A guidance leaflet is included in this method statement in **Appendix c**.

2. Preparatory works prior to construction

2.1 Tree works

2.1.1 Preparatory tree works to retained trees are listed in the **Tree works schedule** in **Appendix b** and should be carried out prior to the start of the main contract

2.1.2 All works will be carried out in accordance with *BS3998:2010 Recommendations for Tree Work,* by an appropriately qualified tree work contractor.

2.1.3 Unless otherwise specified, all arisings are to be taken off-site to an approved tip.

2.2 Protective measures: tree protection fencing

2.2.1 The extent and location of tree protection fencing is shown on the **Tree protection plan** in **Appendix a**.

2.2.2 It is particularly important that no demolition, soil stripping, breaking out of existing hard surfaces, re-grading or other excavation takes place before protective fencing has been installed.

2.2.3 Tree protection fencing will comply with the advice and guidance contained in *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations.*

2.2.4 2000mm high panels with a galvanised tubular frame and welded mesh infill (eg Heras round or square top panels or equivalent), mounted on proprietary concrete or rubber feet and braced on their inner (off-site) side at each panel join will be acceptable as tree protection fencing on this site, as specified in *BS5837:2012.* Panels must be linked to each other with two anti-tamper couplers per panel join. The distance between couplers will be at least 1000mm in the vertical axis.

2.2.5 A 1:20 detail of the current British Standard full specification for protective fencing is included for information at the end of this statement in **Appendix c.**

2.2.6 Areas separated from the construction site by protective barriers are **Construction Exclusion Zones (CEZ).**

2.2.7 **CEZs** are total exclusion areas. Access to all of the following from the construction site will be excluded:

- Animals
- Pedestrians
- Vehicles and construction equipment
- Materials and equipment storage
- Contamination from materials used outside the **CEZ** – (for example spillage of diesel or other toxic liquids)
- Surface water runoff from outside the **CEZ**

2.2.8 Clearly legible, weatherproof signs will be fixed to the perimeter fencing of each **CEZ** clearly setting out the access restrictions set out above.

2.2.9 The street tree numbered 005 on the **Tree protection plan** in **Appendix a,** will be protected with an individual stem guard for the duration of the construction programme. An indicative tree guard construction detail is included in **Appendix c**

2.3 Protective measures: ground protection

2.3.1 Ground protection layers will be installed and maintained in the areas indicated on the **Tree protection plan** in **Appendix a** prior to the start of works. It is particularly important that no demolition, soil stripping, breaking out of existing hard surfaces, re-grading or other excavation takes place before ground protection layers have been installed

2.3.2 Ground protection will consist of a single layer of scaffold boards (or a sheet material of equivalent strength) butted up to each other laid on 100mm of shredded bark or woodchips above a geo-textile membrane.

2.3.3 Each successive section of ground protection will be laid by personnel and machinery working from the immediately preceding section or from existing hard surfacing.

3. Works during development

3.1 Storage, handling and use of materials

3.1.1 Phytotoxic materials (diesel and cement for example) must not be stored within the RPA of any retained tree.

3.1.2 Phytotoxic liquids will be stored in a purpose-built bunded container or compound to prevent the risk of spillage.

3.2 Safe positioning of heavy equipment

3.2.1 Heavy equipment (eg cranes, excavators and piling rigs) must be located in such a way that, when in use, no part extends into the crown spread of any retained tree**.** If lifting and handling equipment is working beneath the crown spread of a retained tree, a banksman will be employed to guide operations and minimise the risk of damage to the tree's branch system.

3.3 No fires on site

3.3.1 No fires will be lit anywhere on site.

3.4 Special Construction Areas

3.4.1 Follow the procedures set out in this section within the **Special Construction Areas** shown on the **Tree protection plan** in **Appendix a.**

Excavation to reduced levels for basement voids

3.4.2 Within 300mm of the outer limits (the sides nearest to Trees 001 and 005) of any **Special Construction Area,** excavation be carried out by hand using non-powered, hand-operated tools.

3.4.3 Roots entering the approved excavation will be cut back to their point of origin or to the vertical face of the face from which they enter the working area with a sharp saw or loppers to promote recovery

3.5 Making good

Soft landscaping areas

3.5.1 Within the RPAs of retained trees, the ground surface will be cultivated by hand using hand operated tools only.

3.5.2 Roots exposed in the course of cultivation will be retained and immediately re-covered.

3.5.3 Where imported topsoil is used for backfilling or for the preparation of soft landscaping areas, it must be of good quality, be free of contaminants and foreign bodies and conform to the requirements for multipurpose topsoil set out in BS3882:2007.

4. Summary of methods

4.1 Conflicts and remedial actions

4.1.1 The main potential sources of damage to trees are listed in **Table 1** below together with the remedial measures that should be adopted to minimise or avoid damage.

Source of damage	**Remedial actions**	**See**	**Trees at risk**
Damage to tree stems and foliage	Carry out pre-contract works: Install and maintain tree protection fencing	Sections: 2.1, 2.2 **Tree protection plan**	001, 002, 003
Damage by surface compaction from site traffic/storage of materials	Install ground protection layer Observe **Special Construction Area** procedures	Section: 2.3, 3.4 **Tree protection plan**	001, 002, 003
Damage from spillage of toxic materials	Phytotoxic materials to be stored in a bunded compound/ container outside RPAs	Section: 3.1	All
Damage to tree roots	Install and maintain tree protection fencing Observe **Special Construction Area** procedures	Section: 3.4, 3.5 **Tree protection plan**	001, 005,

Table 1: Summary of Potential Damage Sources and Remedial Measures

Appendix a

Tree protection plan

KEY

EXISTING TREE

003

Trees are coloured on plan to correspond to the Retention Categories specified in: *BS5837:20 12 T rees in relation to design, demolition and construction - Recommendations* as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED

ROOT PROTECTION AREA as defined in *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations*

003

FOOTPRINT OF PROPOSED DEVELOPMENT

SPECIAL CONSTRUCTION AREA

GROUND PROTECTION LAYER

TREE PROTECTION FENCING

REVISION	CHCK'D	APP'D	DATE

Client:

AIM DEVELOPING LTD

Job Title:

15 GLENMORE ROAD
LONDON
NW3 4BY

Drawing Title:

TREE PROTECTION PLAN (DRAFT)

Drawing Number:	Scale:
510.03.00	1:125 (A3)
Date:	Drawn by:
25.10.16	MC/RS

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Appendix b

Pre-contract tree works schedule

Pre-contract tree works schedule

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Tree No.	Species	Height (m)	Diam (cm)	Crown Spread (m)				Crown Height (m)	Item
				N	E	S	W		
001	Purple Leaved Plum (*Prunus cerasifera 'Atropurpurea')*	8	300	3.5	3e	4e	3	2/2	Remove dead wood, ivy and basal growths Thin epicormic growths Lift crown to 4m above surrounding ground level on site side
002	Silver Birch (*Betula pendula*)	10	210	3.5	3.5	3.5	2.5	6/4	Remove ivy
003	Silver Birch (*Betula pendula*)	14	400 est	5	6	7	6	5/5	No action required
004	Lilac (*Syringa vulgaris var .)*	6	100	0	3e	4	2	1/1	No action required
005	Swedish Whitebeam (*Sorbus intermedia*)	6	400	4	2	4	3.5	2/3	No action required

Client: AIM Developing Ltd
Location: 15 Glenmore Road, London NW3 4BY
Date: 25.10.16
Job No.: 510

Specification

General

All works must be carried out in accordance with the provisions of *BS3889:2010 Tree works*

1. Felling

1.1 Where necessary to avoid damage to neighbouring trees and vegetation, trees for removal will be dismantled in sections and lowered under controlled conditions

1.2 No retained tree will be used as an anchorage point for any tree removal operation

2. Stump grinding

2.1 Stump grinding will be to a sufficient depth to extend through the base of the central part of the stump

2.2 Chippings from stump grinding will be treated as arisings and removed from site to an approved disposal location

3. Pruning: General

Active Target pruning

3.1 Pruning cuts will be made close to the point of origin of the branch or branchlet to be removed (to avoid stubs which can inhibit wound occlusion)

3.2 Where there is a visible branch bark ridge and branch collar, pruning cuts will be made between the outer edge of the branch bark ridge and the outer edge of the branch collar

3.3 Where no branch collar is visible, cuts should be made from the outer edge of the branch ridge at right angles to the grain of the branch to be removed

Size and location of pruning cuts

3.4 The size and number of all pruning cuts will be kept to a minimum consistent with the specified management objective

3.5 Preference will be given to the removal of a larger number of seconday branches rather than the removal of larger primary branches (to minimise pruning wound diameter) to achieve the specified management objective

3.6 Pruning cuts will not exeeced 30% of the diameter of the parent branch or stem

4. Remove dead wood (safety)

4.1 Remove dead secondary branches and branchlets of 25mm diameter or greater at their point of origin following the principles of Active Target pruning

5. Crown lift (to a specified height)

5.1 Achieve the clearance specified between ground level and the lowest point of overhanging crown

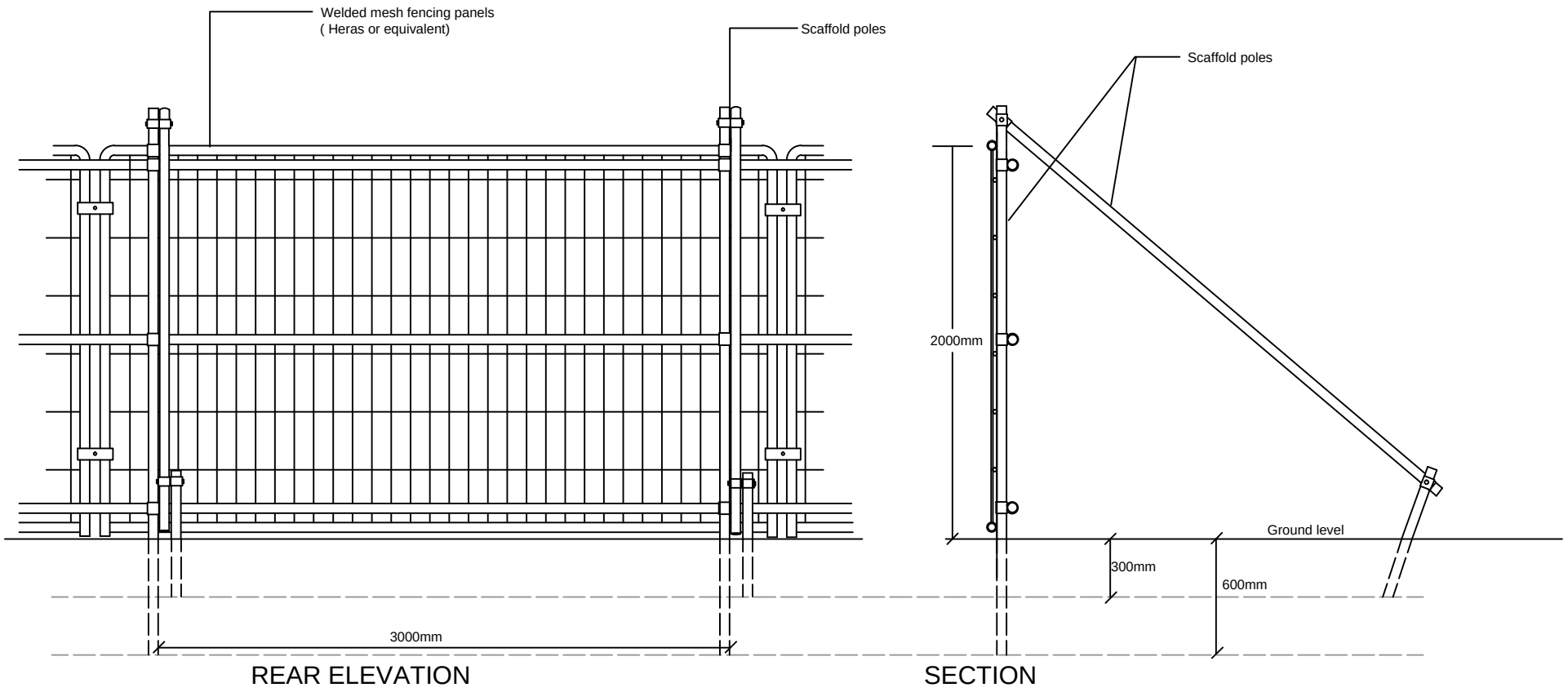
5.2 Achieve the specified increase in headroom by removing secondary branches with the smallest possible diameter in accordance with the principles of Active Target pruning

5.3 Where necessary to avoid pruning wounds in excess of 30% of the diameter of the parent branch or stem, shorten rather than remove the limb to be pruned back to a healthy lateral with the largest possible diameter in relation to its parent branch. .

5.4 Shortening cuts will be made distal to the union with the lateral branch using Active Target pruning principles

Appendix c

BS protective fencing detail
Tree protection notice
Tree protection notes
BS individual tree guard detail



Excerpts from *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations*

(*For barriers*) the default specification should consist of a vertical and horizontal scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m and driven securely into the ground.
Onto this framework, welded mesh panels should be securely fixed. using wire or scaffold clamps.
Care should be exercised when locating the vertical poles to avoid underground services and, in the case of bracing poles, also to avoid contact with o structural roots

NOTE: The above is preferred because it is readily available, resistant to impact, can be re-used and enables inspection of the protected area

BS5837:2012 Protective Fencing Detail
Scale: 1:20 [A4]

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TREE PROTECTION ZONE

KEEP OUT

NO DIGGING OR TRENCHING
NO STORAGE OF PLANT AND MATERIALS
NO VEHICULAR ACCESS
NO FIRES TO BE LIT
NO CHEMICALS TO BE STORED OR HANDLED IN THE VICINTY OF THIS ZONE
AVOID PHYSICAL DAMAGE TO TREES

REPORT DAMAGE TO TREES OR FENCING IMMEDIATELY

15 GLENMORE ROAD
LONDON
NW3 4BY

CARING FOR TREES

TREE PROTECTION NOTES

Trees are thin skinned and easily damaged

Their roots spread widely and run close to the ground surface.

All of the following can cause serious damage:

- Heavy traffic over and the storage of heavy materials above tree roots
- Direct damage to stems and branches from badly handled construction equipment,
- Root damage caused by unnecessary excavation
- Leakage of toxic liquids and powders above roots and close to tree stems.

Please keep the trees on site safe by following these simple rules carefully and in full.

There is a protective fence round each retained tree. These fenced-off areas are CONSTRUCTION EXCLUSION ZONES (CEZ). Don't enter any CEZ unless authorised to do so

In Construction Exclusion Zones

- Don't store any materials
- Don't use heavy machinery
- Don't handle toxic materials
- Stick to the planned work programme. Don't undertake unscheduled variations
- Don't light fires
- Report any damage to protective fencing to the Site Manager

Work Planning

Plan your work so that construction machinery does not come into contact with and cause damage to branches and stems of retained trees.

Appoint someone to supervise movement of machinery and equipment close to CEZs

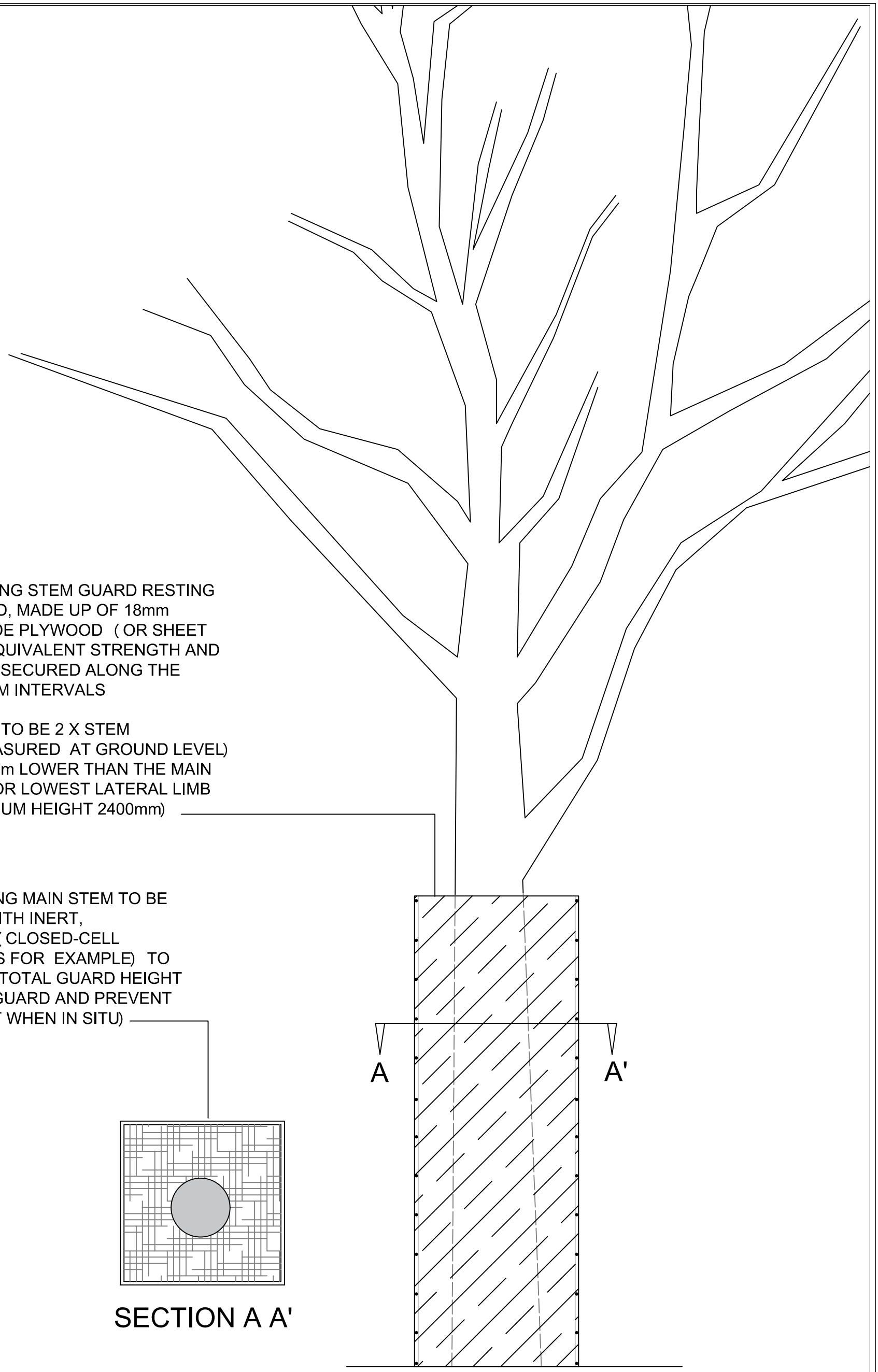
Tell the Site Manager if tree pruning is needed to get machinery in, out or around the site. Don't do it yourself

SELF-SUPPORTING STEM GUARD RESTING ON THE GROUND, MADE UP OF 18mm EXTERIOR GRADE PLYWOOD (OR SHEET MATERIAL OF EQUIVALENT STRENGTH AND ROBUSTNESS) SECURED ALONG THE EDGES AT 200MM INTERVALS

GUARD PANELS TO BE 2 X STEM DIAMETER (MEASURED AT GROUND LEVEL) WIDE AND 200mm LOWER THAN THE MAIN BRANCH FORK OR LOWEST LATERAL LIMB (UP TO A MAXIMUM HEIGHT 2400mm)

CAVITY SURROUNDING MAIN STEM TO BE LOOSELY PACKED WITH INERT, WATERPROOF FILL (CLOSED-CELL POLYSTYRENE CHIPS FOR EXAMPLE) TO A MINIMUM OF HALF TOTAL GUARD HEIGHT (TO STABILISE THE GUARD AND PREVENT LATERAL MOVEMENT WHEN IN SITU)

SECTION A A'



Client: AIM DEVELOPING LTD

Drawing Title: INDIVIDUAL TREE STEM PROTECTION GUARD (TREES UP TO 400MM STEM DIAMETER (MEASURED AT 1.5m ABOVE GROUND LEVEL)

Job Title: 15 GLENMORE ROAD LONDON NW3 4BY

Date: 510.05.00

Scale: 1:20 (A3)

Drawing Number: 25.11.15

Drawn by: RS

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