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Arboricultural Method Statement (BS5837: 2012)

Site details:

The Garden House
Vale of Health
London
NW3 1AN

Client details:

James Gorst Architects
16a Crane Grove
London
N7 8NN

Date of Report:

7th December 2018

Report Reference

AMS/MF/0113/18

Report Prepared by:

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1. Introduction

1.1 This report has been commissioned by James Gorst Architects to provide an Arboricultural Method Statement (AMS) for the trees being retained as highlighted within the proposed development at The Garden House, Vale of Health, London, NW3 1AN. Planning consent for Planning Application:

LB Camden REF: 2016/2600P - 10th October 2017

requires for the submission of the AMS under *Condition 7* of the consent. Tree protective measures also are applicable under *Conditions 5* & *6.*

1.3 The site survey included 13 trees (T1-T13) surveyed within the site (see *Appendix A: Tree Survey Schedule* and *Appendix B: Tree Survey Site Plan*. The aim of this report is to ensure those trees retained are preserved in order to both protect the amenity value for those trees protected as highlighted within the report. Trees can be retained and comprehensively protected during the proposed redevelopment of the site by clearly setting out tree protection methods, construction techniques and working practices. This report provides this information; principles that are approved and enforced by the local planning authority.

1.4 It should be noted that this is a site specific AMS produced solely for the physical protection of those trees identified on the plan within the report and is not relevant to any other site or situation.

1.5 This report and the opinions within it have been produced by Marcus Foster, a qualified Arboriculturist holding a National Diploma in Arboriculture, and the Arboricultural Association's Technicians Certificate as well as a degree in History. Work experience within the industry includes work as a Contracts Manager for an Arboricultural Association Approved Company, a Local Authority Tree Preservation Officer and an independent Arboricultural Consultant.

1.6 The following information has been referenced for the compilation of this report:

James Gorst Architects Ltd
GH10- 1100A

CPA - Sequence Drawings
CBW/ CS03 - Envelope and Finishes
CBW/ CS04 - Piling & Basement

C559 CMP Pro forma 2.2
The Garden House - December 2017

Marcus Foster
GAR-LD-001-004 - October 2018

2. Summary

2.1 There are 8 retained trees located within or within close proximity of this site (trees T1-T10), which currently comprises the front and rear garden of 2 Glenside. The implementation of the proposed development can be achieved whilst retaining trees **T6, T7, T8, T6, T9, T10, T11 & T12** for the long term by taking into account all the above points and in addition to the following which must be adhered to at all times. The following conditions apply which require for tree protective measures:

Condition 5
No development shall take place until full details of hard and soft landscaping (including hard surfaced areas) of all un-built, open areas have been submitted to and approved by the local planning authority in writing. Such details shall include details of any proposed earthworks including grading, mounding and other changes in ground levels. The relevant part of the works shall not be carried out otherwise than in accordance with the details thus approved.
Reason: To ensure that the development achieves a high quality of landscaping which contributes to the visual amenity and character of the area in accordance with the requirements of policies CS14 and CS15 of the London Borough of Camden Local Development Framework Core Strategy and policy DP24 of the London Borough of Camden Local Development Framework Development Policies.

Condition 6
All hard and soft landscaping works shall be carried out in accordance with the approved landscape details by not later than the end of the planting season following completion of the development or any phase of the development, whichever is the sooner. Any trees or areas of planting which, within a period of 5 years from the completion of the development, die, are removed or become seriously damaged or diseased, shall be replaced as soon as is reasonably possible and, in any case, by not later than the end of the following planting season, with others of similar size and species, unless the local planning authority gives written consent to any variation.
Reason: To ensure that the landscaping is carried out within a reasonable period and to maintain a high quality of visual amenity in the scheme in accordance with the requirements of policies CS14 and CS15 of the London Borough of Camden Local Development Framework Core Strategy and policy DP24 of the London Borough of Camden Local Development Framework Development Policies.

Condition 7
Prior to the commencement of any works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the Council in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details.
Reason: To ensure that the development will not have an adverse effect on existing trees and in order to maintain the character and amenity of the area in accordance with the requirements of policy CS15 of the London Borough of Camden Local Development Framework Core Strategy.

2.2 For the trees proposed for retention the document will give site specific instructions to protect these trees. The methods are set out in a logical and coherent sequence for ease of understanding and implementation. The operations that may be required in order to ensure comprehensive tree protection include:

- Pre-construction meeting – for ensuring full understanding of the arboricultural method statement for all relevant parties

- Undertaking of all tree works required to BS3998:2010 as specified within the attached tree work schedule

- Implementation of Tree Protection Fencing and exclusion signage to BS5837:2012 standard as specified within this report

- Ground protection where required – techniques to avoid compaction, disturbance or contamination of the root environment

- Ground works, foundations and utility services where within close / relevant proximity to retained trees

- General tree care measures and awareness

- Site monitoring

2.3 The Tree Protection Plan will indicate retained trees, trees to be retained and precise locations of protective barriers and ground protection where applicable.

2.4 This document and the associated Tree Protection Plan will be endorsed by planning conditions, agreement or obligation as appropriate.

2.5 The Arboricultural Method Statement must be made available to all contractors and operatives on the site during the construction process so that they fully understand the importance of the measures set out for tree protection.

3. Sequence of Events

3.1 The following sequences are governed by operational constraints and are subject to change. The consulting arboriculturist must be noted of any changes to this schedule prior to implementation where trees / tree protection measures as exiting are likely to be affected.

3.2 *Pre-development stage*

a) Pre Contract / Commencement site meeting between Local Planning Authority, client and developers architect. The meeting should take place before any development activity begins to confirm the timing and implementation of the agreed tree works and tree protection measures including site storage and any pertinent time scheduled for site operators.

b) Pruning of trees retained as specified to to standard as specified within Tree Work Recommendations.

c) Tree protection measures installed as specified within Tree Protection Plan

d) Site to be inspected by consulting arboriculturist.

3.3 *Development Stage*

e) This stage is subject to site monitoring visits by the consulting arboriculturist at intervals as agreed at the pre-commencement site meeting. These visits are to ensure that the agreed protection measures are functional and correctly achieving their purpose.

f) Arboricultural supervision is to be carried out at all crucial stages throughout the development process to ensure detailed tasks are carried out as per the approved methodology and all objectives met.

g) The local authority arboriculturist will have free access to the site and forward any recommendations directly to the consulting arboriculturist.

3.4 *Final Development Stage*

h) For dismantling Tree Protection Fencing a minimum of seven days notice will be given to the Local Authority prior to the works.

i) Prior to the commencement of landscape works required to implement the final phase of the development, close adherence must be made to *Section 5: Hard Surface Removal within Tree Protection Area* and *Section 6: Installation of Underground Services* within this report.

j) All landscaping works once the protective fencing has been removed will avoid soil re-grading and disturbance within the original Tree Protection Area. No soil levels will be altered after the protection barriers have been removed.

4. Tree Protection Specifications

4.1 The implementation of the proposed development can be achieved whilst retaining trees **T6, T7 (retained as dead wildlife habitat) T8, T6, T9, T10, T11 & T12** for the long term by taking into account all the above points and in addition to the following which must be adhered to at all times:

- **The Tree Protection fencing as specified in Section 4.3 below and within the TREE PROTECTION PLAN (Appendix B.2) must be constructed prior to the commencement of any construction works**

- **The implementation of ground protection incorporating a load bearing cellular membrane as outlined within the TREE PROTECTION PLAN (T007) must be installed prior to any demolition works commence**

- **All construction activities must adhere to the tree protection guidelines as explained in the guidance below.**

4.2 Further to findings as highlighted with the original Arboricultural Impact Assessment Report it is clear that construction site activities will be required within the RPA of protected trees and therefore there is a requirement for close adherence to tree protection guidelines ensuring:

- No development / excavation works within the RPA of protected trees where protective fencing has been installed and protective measures implemented

- No ground works / access within the RPA of protected trees other than those areas where ground protection is implemented

4.3 In summary Tree Protection must be adhered to at all times and carried out within the following order:

a) Implementation of Tree Works Schedule
b) Installation of cellular load spreading base within RPA of retained trees
c) Installation of tree protection fencing
d) Designation of storage area for construction site materials
e) Continued monitoring of trees and tree protection
f) Terraventing of exposed soil areas within RPA on completion of works
g) Final hard landscaping works
h) Final soft landscaping works

It is imperative that where application of tree protection measures cannot be implemented to specifications outlined within this report, immediate consultation is required with the appointed arboricultural consultant and/or Local Authority Tree Officer.

Tree Works

4.4 The tree Works to be carried out in accordance with specifications provided within Tree Works Schedule, *Section 8* with works to be carried out to the specifications outlined within the report within 6 months of date of report. Further to this date and updated schedule must be provided to account for additional work which may be relevant to both the duty of care of contractors working within the site.

Installation of Cellular Load Spreading Base

4.5 Area for ground protection as highlighted within Tree Protection Plan is required to ensure compaction of tree roots does not occur for use of the following machinery within the RPA of trees T6 & T11:

> *Klemm 702 piling rig. (Machinery weight and size is limited by site access)*

Where machinery heavier in weight than that specified above, this should be agreed in writing with the Local Authority tree officer where being used within the RPA of trees T6 & T11.

4.6 As highlighted on the Tree Protection Plan - T007 - where the piling rig requires access within the RPA of trees T6 & T11 the installation of *Terram Geocell* (Tree Root Protection / Load Platform Geocell to specifications as outlined within *Section 5*) is required with suitable Type 3 aggregate in filled to provide load spreading surface for the duration of works where load bearing machinery requires access within these areas.

Installation of Tree Protection Fencing

4.7 For tree protection 4 main areas of tree protection are recommended. All tree protection fencing areas are recommended to be specified to standards as within BS5837:2012 (*Section 5* & *Appendix E.1*) is to be installed. The 4 main areas are:

- To enclose T6
- To enclose T7 (main stem only where retained for wildlife habitat)
- To enclose T8 & T9
- To enclose tree T10
- To enclose trees T11 & T12

4.8 The fencing is recommended to be constructed to the standard / specification as outlined within *Appendix E.1* and to the dimensions outlined within the Tree Protection Plan The fencing must be constructed prior to site clearance works following the pre-commencement site meeting. It is imperative that the fencing should include any ground not covered by the cellular load spreading base and that it is constructed within the outer point of this line.

Storage Area for Construction Site Materials

4.9 The storage area for materials, plant machinery, chemicals and aggregates is recommended to be outside of the RPA as recommended within the Tree Protection Plan and therefore the trees are not likely to be affected by this factor. The following plans have shown where storage of site materials / facilities occur:

CPA - Sequence Drawings
CBW/ CS03 - Envelope and Finishes
CBW/ CS04 - Piling & Basement

4.10 Where these storage areas occur within close proximity of tree T6 & T10 they must be outside of the RPA and tree protection fencing of each tree.

Arboricultural Supervision

4.11 Arboricultural supervision is required at all times for works being carried out to protect the trees from the pre-commencement meeting onwards.

Before & During Land Preparation
- Approval of any utility service routes approved that infringe within the RPA
- Approval of Site Storage Area
- Approval of Root Protection Areas (where fencing not implemented)
- Approval of Tree Protection Fencing positioning

Ongoing throughout development process:
- Monitoring of tree protection / condition
- Monitoring of land use
- Monitoring construction methods and storage areas in relation to trees

4.12 An arboricultural supervision schedule is included within *Section 8* of this AMS report.

Hard landscape works within RPA of retained trees

4.13 For final landscaping works the following should apply where carried out within the RPA of trees T6, T11 & T12:

- Hand digging for installation of fencing / hard landscape features for an initial 1000mm to determine existence and/or location of larger roots in this area and avoid damage for the entire RPA area is required where root morphology is not investigated.

- No reduction in levels of the underlying soil surface will occur during final landscaping works within the RPA of retained trees.

- Drainage channels generally to be excluded from RPA's. Should drainage channels be required to the north of T6, and west of T12 due to site constraints, this must be implemented via process of air spade only as highlighted within *Section 5.8*.

Soft landscape works within RPA of retained trees

4.14 For any soft landscaping works where specified within the RPA of retained trees these should account for the following:

-Retention of existing level with addition of only a maximum 10mm layer of fresh loam based topsoil. At no points should the soil level be lowered to the same specifications

-Planting of mainly 9cm or 3 litre pot (10 litre pot) maximum sized plants (perennials and shrubs) and smaller sized rootballs to avoid excessive digging and potential root severance for plants which are ultimately likely to fail within the sparse ground conditions.

- Planting of bare root whips only, concurrent with remainder of soft landscape scheme for this boundary within RPA of tree T6

- Planting of shade and drought tolerant plant species to encourage success of the soft landscape areas within RPA of retained trees

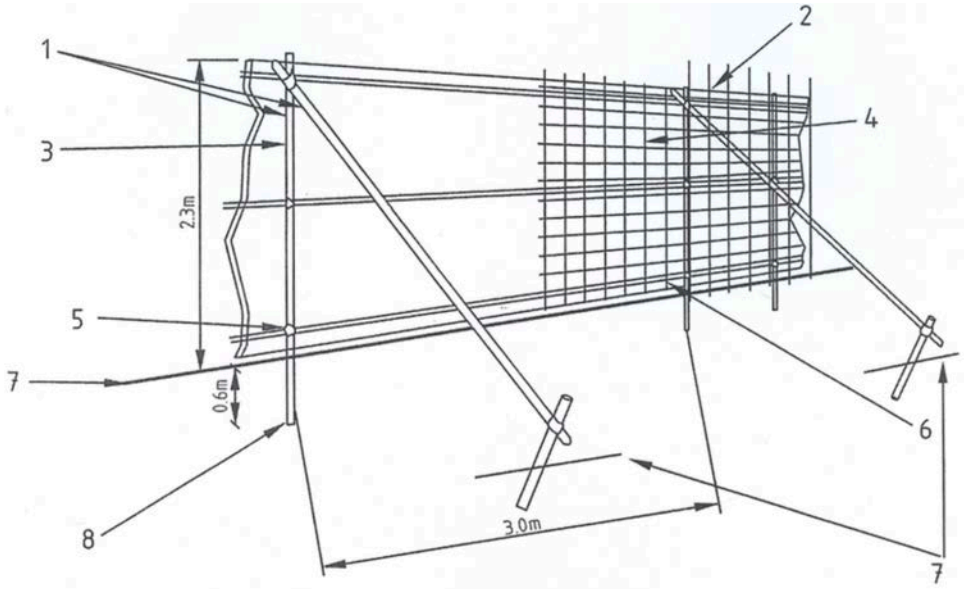
5. Detailed Ground & Tree Protection Specifications for works within the RPA of retained trees

5.1 The implementation of the following protective measures are required with additional detailing provided within this section:

- Tree Protection Fencing
- Installation of load bearing membrane
- Working methodology for final landscape works

Tree Protection Fencing

5.2 All tree protection fencing areas are recommended to be specified to standards as within BS5837:2012 - Diagram 2:



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Installation of Cellular Membrane for even load spreading within RPA during construction works and for the long term

5.3 For the area highlighted within the Tree Protection Plan (*Appendix B.2*) within the RPA of trees T6 & T11 the following ground protection should be installed where vehicular access / construction site access is required for the development process.

Terram Geocell 25/15 – 150mm depth / 250mm cell diameter
(or similar providing minimum equivalent load bearing capabilities)

This product should be installed to guidelines as highlighted within *Terram Cellular Confinement System – For the Protection of Tree* Roots guidelines as issued by the manufacturer and also as highlighted within *Arboricultural Practice Note 12: Driveways Close to Trees (APN12)* as provided by the Arboricultural Advisory and Information Service (2007)

5.4 The cellular membrane should be infilled with a granular infill with a hard wearing / coarse material finish provided to allow for plant / machinery to safely travel within the area. It is imperative that no storage of soil / chemicals or heavy plant should be carried out within this area and that the area should be used for the piling rig, associated construction site access and pedestrian construction site traffic only.

5.5 Any disturbance to the ground beneath the existing hard landscape (tarmac and concrete) within the RPA is not permitted and the installation of the cellular membrane will have to allow for level changes arising from the use of this product where relevant to an alteration in the final level.

5.6 *Examples of A: cellular memrane solution & B: Installation as specified within AMS Terram Geocell 25/15 – 150mm depth / 250mm cell diameter*

A

B

<u>Minor excavations and ground works within RPA of retained trees for final landscaping works in close proximity of trees T6, T11 & T12</u>

5.7 There should be no excavations undertaken within the RPA other than those highlighted within the AMS in order to implement final landscaping works. However where these works and those only authorised by the Local Authority in writing it should be noted that in the case of major roots being encountered the following points should be closely adhered to:

- The severance of any tree roots encountered larger than 25mm in diameter MUST NOT occur without prior consultation with the Local Authority Tree Officer or appointed Arboricultural Consultant.

- If at any point it is deemed not possible to continue with excavations without having to damage very significant tree roots, the Local Authority Tree Officer and / or the appointed Arboricultural Consultant must be contacted.

- Any excavations which for any reason are required within the recommended ROOT PROTECTION AREA must be firstly agreed in writing with the Local Authority Tree Officer and then be hand dug for the first 1000mm with close adherence to the specifications as highlighted below.

- Where the above is not possible, use of an air spade is required but not before the removal of any hard landscape surface such as the tarmac surrounding the base of the trees with light machinery / low impact pneumatic drill (hand held) only

5.8 Where installation of drainage channel are required within the RPA of trees T6, T11 & T12 is required, the consulting arboriculturist and Local Authority must be notified in writing prior to any ground tree protection / fencing and barrier removal and the following guidance must be adhered to:

- The method of trenching via use of an 'Air Spade' or similar, to remove soil with compressed air, therefore minimising damage to roots in the process MUST be used under Arboricultural supervision to determine proposed line of drainage

- Under arboricultural supervision the line of drainage channel below ground level should be agreed in writing and marked out

- The drainage channel must then be installed below ground level via non invasive method as a diverting enclosed drainage pipe channelling water for the RPA area beneath anchorage roots and massing of fibrous roots

<u>Installation of Planting Pit for Nyssa sylvatica tree</u>

5.9 For Installation of the *Nyssa sylvatica* tree the following key features of the planting must be applied

- Decompacted base
- Minimum 800mm depth
- Irrigation System
- Ground anchorage

Refer to L005_Tree Planting Pit Specification (Appendix E) for section detail of planting pit

6. Installation of Utility Services

6.1 It has been recommended that no excavations for utility services should be carried out within the RPA of trees where retained.

6.2 If for any reason installation of utility services within the Root Protection Area of trees being retained is required, the consulting arboriculturist and Local Authority must be notified in writing prior to any ground tree protection / fencing and barrier removal and the following guidance must be adhered to:

- Trenching for the installation of underground services severs any tree roots present and can have a detrimental impact on the structural integrity of affected trees. When services are required to pass through a Tree Protection Area, detailed plans showing proposed routes should be drawn up in conjunction with the consulting arboriculturist to avoid long term health and anchorage problems for related trees.

- The preferable method for trenching is to use a ‘Air Spade’ or similar to remove soil with compressed air, therefore minimising damage to roots in the process

6.3 Further reference can be made to National Joint Utilities Group (Volume 4, Issue 2) for guidance but any approach must be approved by both the consulting arboriculturist and Local Authority tree officer.

7. Communication, Monitoring and Compliance

7.1 In ensuring that all Tree Protections Specifications as highlighted within this method statement are closely adhered to at all times, it is important to set out for the long term of the development, communication details for key individuals and tasks that require monitoring.

7.2 The key individuals appointed for advising and complying with Tree Protection specifications must adhere to the following at all times:

- Relevant parties / key individuals must be advised of any changes in personnel or contractor during the development process.

- Relevant parties / key individuals must be responsible for relaying information regarding tree protection within work force where deemed applicable / relevant

7.3 Once the Tree Protection Fencing has been installed and for the remainder of the development until the final stage as highlighted in *Section 3: Sequence of Events* above, it must be considered as sacrosanct and should not be removed or altered without prior written consent from the Local Authority tree officer and/or consulting arboriculturist.

7.4 The local authority arboriculturist will have free access to the site and forward any concerns / recommendations directly to the consulting arboriculturist.

8. Arboricultural Supervision Schedule

8.1 The appointment of an arboricultural consultant will be required within the construction management of the development to carry out all arboricultural supervision for the scheme. In addition to attending site, *Site Meeting Notes* will be prepared to provide a summary of site conditions, submitted in writing within 5 days of each site visit to the Local Authority and therefore highlighting any potential problems or solutions required in order to ensure close adherence to the AMS is provided at all times.

8.2 This will ensure that Tree Protection is implemented as specified within this report therefore avoiding significant tree root damage or compaction of tree roots. The following is recommended:

Before & During Land Preparation:

- Approval of any utility service routes approved that infringe within the RPA
- Approval of Site Storage Area
- Approval of Root Protection Areas (where fencing not implemented)
- Approval of Tree Protection Fencing positioning

1 x Site Visit (additional required if protection not correctly implemented)

Ongoing throughout development process:

- Monitoring of tree protection / condition
- Monitoring of land use
- Monitoring construction methods and storage areas in relation to trees

Site visits during development process as following:

1 x Site Visit every 8 weeks
and/or
1 x Site Visit at key stages of development where affecting trees

All findings / comments to be documented and findings submitted to the Local Authority Tree Officer

8.3 In addition to the implementation of arboricultural supervision as above, the Local Authority Tree Officer will have open site access at any point during the development to undertake inspections as deemed appropriate

9. Tree Works Schedule

9.1 Any tree work should be carried out to BS 3998; 2010 *Recommendations for Tree Work*. Permissions from the Local Authority (Section 211 Notification or Tree Preservation Order Application) should also be sought where required prior to the commencement of any tree works.

9.2 It is recommended that any tree work is carried out by a Local Authority approved contractor (approved list or similar) or an Arboricultural Association Approved Contractor.

9.3 Recommended Tree Works Specification

T1 Ash
Fell to ground level and grind out stump

T2 Ash
Fell to ground level and grind out stump

T3 Berberis
Fell to ground level and grind out stump

T5 Berberis
Fell to ground level and grind out stump

T5 Mulberry
Fell to ground level and grind out stump

T6 Sycamore
Crown lift to 4m
Remove any major deadwood

T7 Cypress (dead)
Retain as standing feature / wildlife habitat

T8 Willow
No action required at present

T9 Yew
Remove major deadwood

T10 Ash
No action required at present

T11 Sycamore
Remove ivy and inspect main stem

T12 Magnolia
No action required at present

T13 Fig
Fell to ground level and grind out stump

NOTE: Where works specified are not carried out within 12 months of this survey (for arboricultural and health and safety reasons) the tree/s should be re-surveyed and a revised specification prepared as appropriate

9.4 Replacement Tree Planting Specification

It is recommended that the replacement of the proposed tree removal is carried out with the replacement planting of the following trees within the site as proposed within replacement planting / landscape scheme - James Gorst Architects Ltd *Dwg No: GH16_130 Rev P1*

Western Boundary / adjacent to 13 Heath Villas

1 x *Nyssa sylvatica*
Minimum 16-18cm girth tree
Refer to Section 5.9 and L005 (*Appendix E*)

South / South Western boundary

4 x trees from the following species
Minimum 10-12cm girth trees

3 x Magnolia stellata
Minimum 10-12cm girth tree

1 x Sorbus vilmorinii
Minimum 10-12cm girth tree

Soft landscape plans including tree species and key characteristics are included within Appendix F - GAR-L001-004.

All tree planting is recommended to be carried out to the following specifications:

- All tree planting to be carried out to *BS 8545; 2012 'Trees: From Nursery to Independence in the Landscape*'

- Irrigation pipe and suitable staking implemented as part of the scheme. It is recommended that the tree is protected with artist made tree guard with seating surrounding for interactive garden experience

- A weed suppressing bark mulch layer between 40-60mm thickness should be applied to the planted area The

- The tree planting should be accompanied with a strict watering schedule for the first 3 x full seasons after planting which should be incorporated as an interactive garden based activity

- The tree planting should be carried out within the dormant season (Nov-March) to ensure transplanting success

The sizes / specification of tree plantings are to be confirmed with the Local Authority prior to planting to ensure that suitable replacement amenity value is provided from the commencement of completion of the proposed scheme.

10. Appendices

Appendix A

Tree survey (BS5837:2012)
August 2017

The Garden House
Vale of Health
London
NW3 1AN

- Category A
- Category B
- Category C
- Category U

The Garden House, Vale of Health, London, NW3 1AN Tree Schedule (BS5837:2012) - 240817												
Tree No	**Species**	**Height (m)**	**DBH (mm)**	**Spread (m)**	**Age**	**Visual Condition**	**Vigour**	**BS5837 (2012) Rating**	**Remaining Contribution (years)**	**Comments / Structural Condition**	**Preliminary Management Recommendation**	**Root Protection Area (RPA) Radius (m)**
T1	Ash	10	180	N: 4 E: 3 S: 4 W:2	EM	G	G	C.2	20 years +	Tree is generally structurally sound with good buttress roots although constrained within raised planter; leans to north straightening at approx 2-3m. Sited within 0.8m height x 1.5m width planter. Approx 4m height historic boundary wall to west - tree will be problematic in the long term.	Fell to ground level and provide suitable replacement planting to restore amenity value for the long term	N/A
T2	Ash	8	t/s 310	N: 4 E: 2 S: 3 W:3	EM/M	F	G	C.2	20 years +	Tree is twin-stemmed at the base with western stem leaning at 45degrees to west and eastern stem straight, ivy clad to 7m; fair union - some signs of included bark. Crown reduced to cyclical crown reduction points - likely within past 2 years. Unbalanced form and growing directly on boundary of rear garden area of property to south	Fell to ground level to implement improved landscape scheme for boundary in accordance with all restrictive covenants	N/A
T3	Berberis	5	t/s 200	N: 2 E: 2 S: 2 W:2	M	F	G	C.2	Less than 10 years	Very mature shrub / small tree; ivy clad throughout. Twin stemmed at base and suppressed beneath adjacent Mulberry tree	Fell to ground level to implement improved landscape scheme for boundary in accordance with all restrictive covenants	N/A
T4	Berberis	5	180	N: 1 E: 1 S: 2 W:1	M	F	G	C.2	Less than 10 years	Very mature shrub / small tree; ivy clad to 3.5m; suppressed beneath adjacent Mulberry tree	Fell to ground level to implement improved landscape scheme for boundary in accordance with all restrictive covenants	N/A
T5	Mulberry	9	440	N: 4 E: 4 S: 3 W:4	M	G	G	B.2	20 years +	Tree is generally structurally sound at base growing from informal hard landscaping area. Sever kink @ 1.5m in main stem to south where large stem has been previously been removed due to proximity to property - wounds have moderately occluded only and structural integrity compromised. Stem straightens @ 3m at main union to give low broad domed canopy as is characteristic with species. Mid canopy to north growing against building with branches deflected due to proximity.	Fell to ground level to implement improved landscape scheme for boundary in accordance with all restrictive covenants	N/A

Tree No	Species	Height (m)	DBH (mm)	Spread (m)	Age	Visual Condition	Vigour	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Preliminary Management Recommendation	Root Protection Area (RPA) Radius (m)
T6	Sycamore	10	250	N: 4 E: 3 S: 4 W:3	EM	G	G	B.1	40 years +	Tree generally structurally sound with good buttress roots at base particularly to the south - straight main stem to crown break at 4m. At 4-5m some decay / canker / squirrel growth with strong occluding growth - selectively repeated through mid canopy. Developing and balanced canopy in prominent location at rear of properties. Low growth to north over The Garden House.	Crown lift to 4m. Remove any major deadwood	3.0m
T7	Cypress	12	410	N: 2 E: 2 S: 2 W:2	OM/D	P	P	U	Dead	Dead tree with associated ivy growth dead also further to being cut at ground level. Waterlogged ground at base likely cause of tree's decline	Fell to ground level	N/A
T8	Yew	13	720	N: 6 E: 3 S: 4 W:4	M/OM	P	F/P	C.2	Less than 10 years	Tree has significant dead sections throughout but is an old tree with wildlife habitat directly adjacent to the pond / heath. To the west the tree is completely dead; to the north 25% live growth; to east very limited growth; to south 10% live growth ; upper canopy 50% live growth. Dieback likely due to tree's permanently waterlogged ground condition, not preferred by species	Option 1: Fell to ground level to implement improved landscape scheme for boundary in accordance with all restrictive covenants Option 2: Crown reduce height 40% / Spread 25% to retain for habitat whilst removing hazards	8.6m
T9	Willow	10	600 (e)	N: 5 E: 3 S: 3 W:3	M/OM	P	F	C.2	10-20 years	Tree is a heavily leaning specimen to the north east over the adjacent pond. Not able to fully inspect due to this location but in latter stages of life offering important wildlife habitat	No action required at present	7.1m
T10	Ash	10	320	N: 2 E: 4 S: 4 W:4	EM / M	G	F	C.1	10-20 years	Tree is twin stemmed at the base - western stem straight growing on boundary; eastern stem ivy clad to 6m with dieback throughout and particularly mid - upper canopy likely due to water logging. Fair specimen	No action required at present	3.8m
T11	Sycamore	14	660	N: 3 E: 5 S: 3 W:4	M	F	F	C.1	10-20 years	Tree is growing 300mm from historic retaining / boundary wall - 1.2m height with garden level to neighbours retained to this full height. Base appears generally structurally sound with tone of mallet inspection consistent. Tree is single stemmed with significant compensatory growth 1.6-1.8m on west side likely due to removal of large stem growing towards property. Tree excessively crown lifted therafter to 7-8m and ivy clad to this point so unable to inspect main stem without full removal / severance. Canopy limited for size / species with no lower crown	Remove ivy and inspect main stem	7.9m

Tree No	Species	Height (m)	DBH (mm)	Spread (m)	Age	Visual Condition	Vigour	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Preliminary Management Recommendation	Root Protection Area (RPA) Radius (m)
T12	Magnolia	7	t/s 280	N: 3 E: 3 S: 2 W:3	M	F	G	C.1	10-15 years	Tree is ivy clad to 6m; sited on sloping topography east-west with unbalanced canopy with low growth to south and west; suppression from adjacent T11. Appears generally structurally sound.	No action required at present	2.8m
T13	Fig	6	m/s 100	N: 2 E: 2 S: 2 W:2	M	F	G	C.1	10-20 years	Ornamental tree grown against boundary retainer wall	No action required at present	1.0m

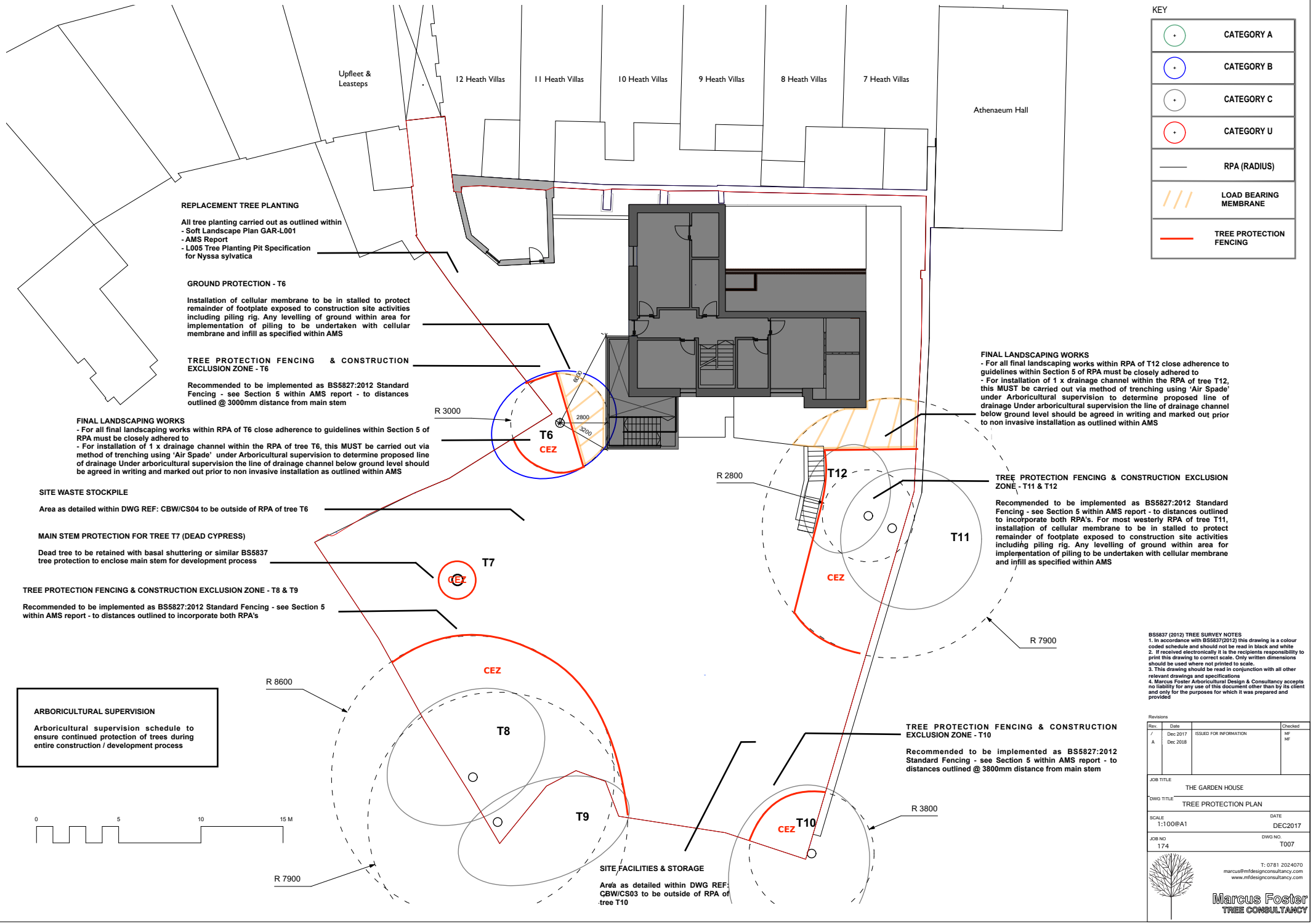
Appendix B

T007_RevA
Tree Protection Plan
(TPP)

The Garden House
Vale of Health
London
NW3 1AN

Tree Canopy Colour Key: BS5837: 2012 (see *Section 2.6*)

- **Category A**
- **Category B**
- **Category C**
- **Category U**



BS5837 (2012) TREE SURVEY NOTES
1. In accordance with BS5837(2012) this drawing is a colour coded schedule and should not be read in black and white
2. If received electronically it is the recipients responsibility to print this drawing to correct scale. Only written dimensions should be used where not printed to scale.
3. This drawing should be read in conjunction with all other relevant drawings and specifications
4. Marcus Foster Arboricultural Design & Consultancy accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided

Revisions

Rev.	Date		Checked
/	Dec 2017	ISSUED FOR INFORMATION	MF
A	Dec 2018		MF

JOB TITLE: THE GARDEN HOUSE
DWG TITLE: TREE PROTECTION PLAN
SCALE: 1:100@A1
DATE: DEC2017
JOB NO: 174
DWG NO.: T007

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Marcus Foster
TREE CONSULTANCY

Appendix C
Tree Protection Notice

Tree Protection Notice (BS5837: 2012):

The Garden House
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London
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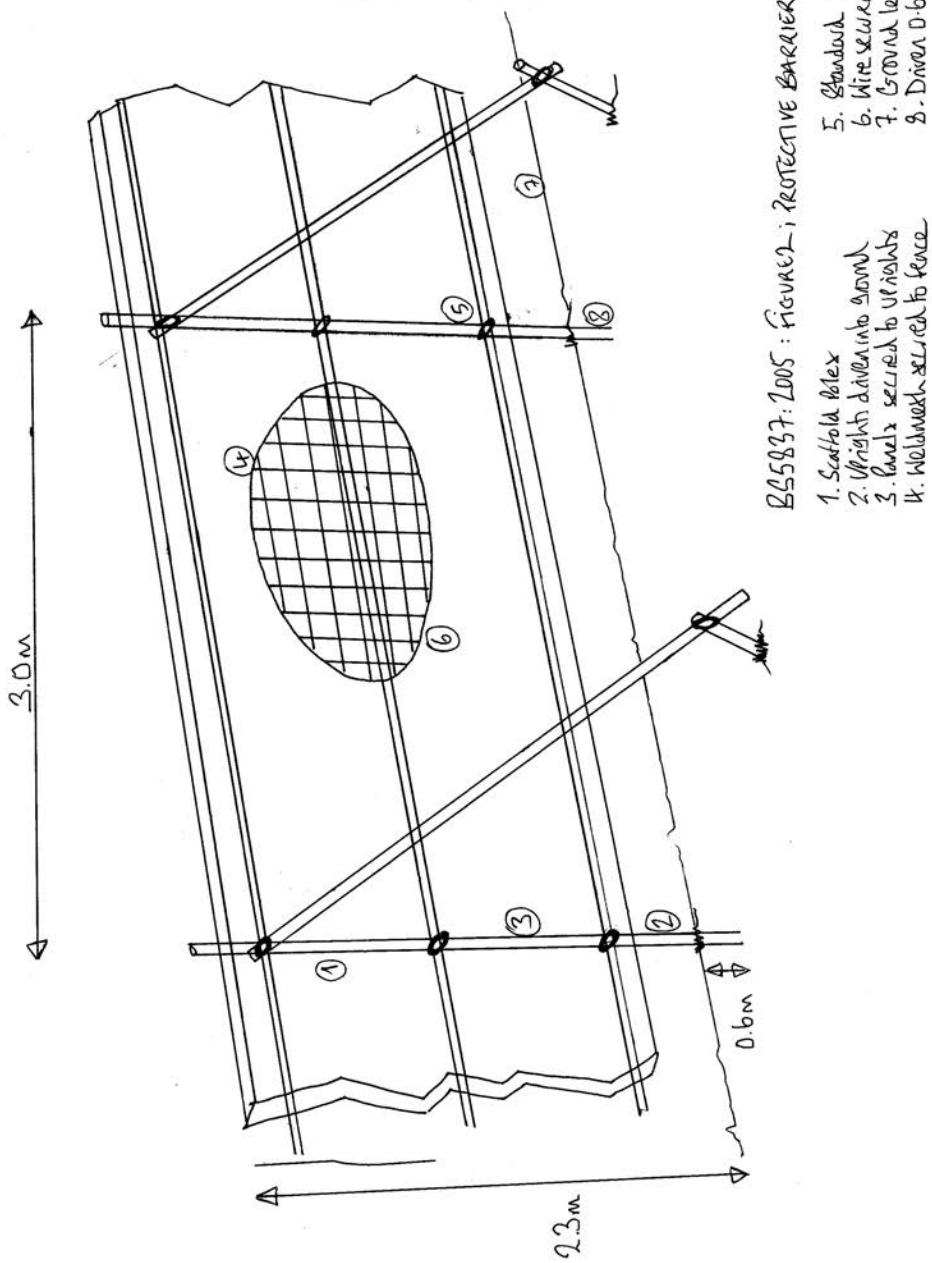
Notice to be clearly shown on site AT ALL TIMES

TREE PROTECTION AREA
KEEP OUT !
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY
PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

Appendix D.1: Tree Protection Fencing as outlined in BS5837 (2012) Specifications

Appendix D: Diagram of Figure 2, Specification for protective fencing, as illustrated in BS5837: 2005



Appendix D.2: Example of Basal Shuttering

Basal shuttering offers immediate protection for the lower main stem and initial root plate of a tree where exposed with a porous surface. This method of tree protection does not offer protection to the root plate of a tree where surfaces are exposed / development works are being undertaken within the Root Protection Area of a tree. however, it does offer immediate protection to the main stem and provides vital clearance between the tree and construction site activities such as storage of materials, ad hoc toilet usage and compaction of exposed soft landscaped ground (in addition to many other additional construction site activities.

Photograph taken by Marcus Foster within City of Westminster, 2015

Appendix E

L005
TREE PLANTING PIT LANDSCAPE DETAIL

NYSSA SYLVATICA

The Garden House
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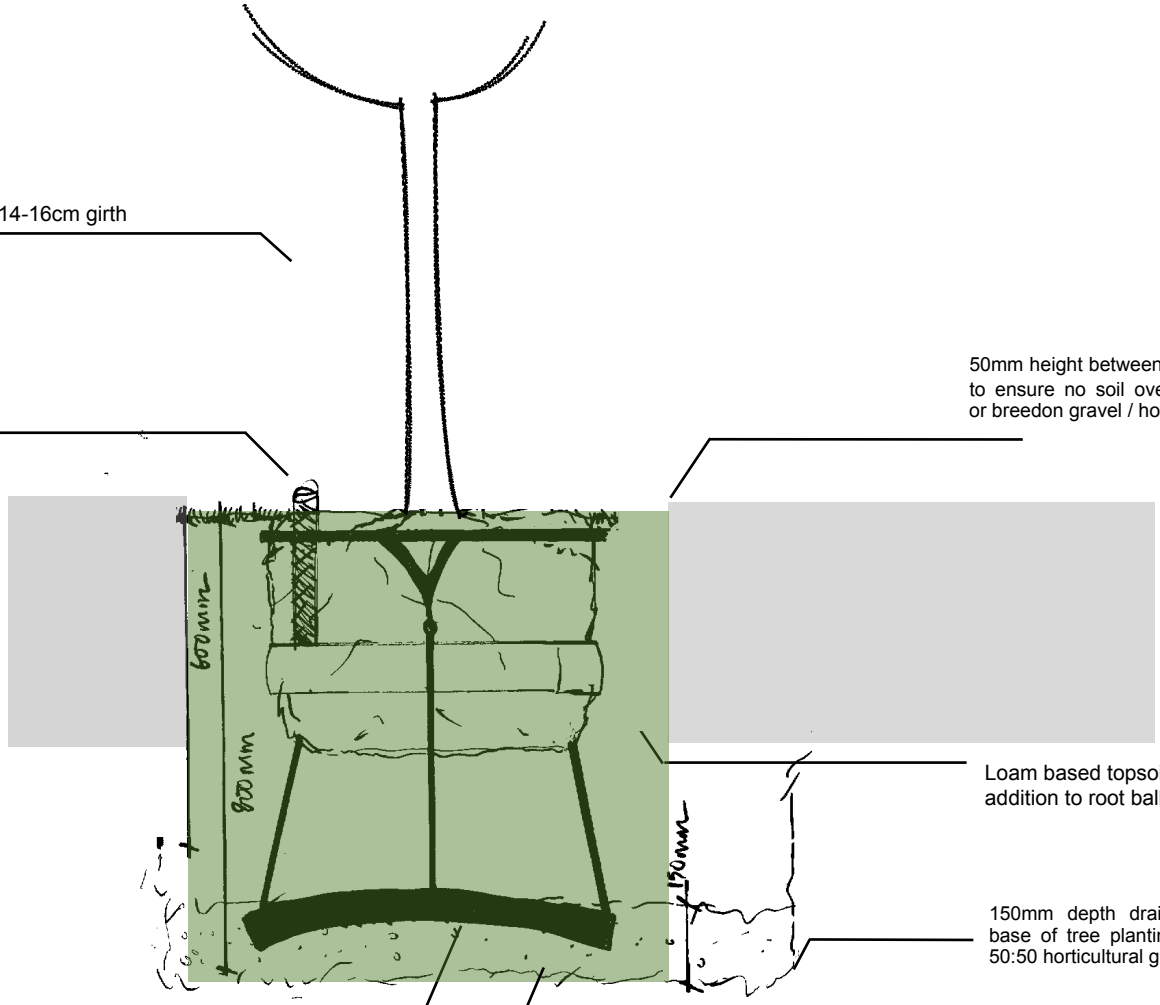
THE GARDEN HOUSE
L005_TREE PLANTING PIT LANDSCAPE DETAIL - NYSSA SYLVATICA



Nyssa Sylvatica (single stem)
Feathered or standard - minimum 14-16cm girth

Pidler irrigation system

50mm height between final soil finish level and concrete terrace to ensure no soil overspill and allow Liriope underplanting to or breedon gravel / hoggin style tree pit dressing

Loam based topsoil within planting pit - 0.8cubic metre in addition to root ball

150mm depth drainage aggregate at base of tree planting mit to consist of 50:50 horticultural grit : topsoil mix

SASMP Arborguy strapped anchor system with ground anchors

Ground at base of planting pit to be de-compacted prior to aggregate base installed and no builders rubble left within

SCALE 1:10 @ A3 0 500 1000 **mm**

Do not scale from this drawing - always take site measurements

PREPARED BY MFOSTER - NOVEMBER 2018

Appendix F

Marcus Foster
Soft Landscape Plans
GAR-LD-001-004 - October 2018

The Garden House
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London
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Revisions

Rev.	Date	Checked

JOB TITLE: GARDEN HOUSE

DWG TITLE: GENERAL ARRANGEMENT - FRONT GARDEN

SCALE: 1:50 @ A1 / 1:100@A3

DATE: AUG 2018

JOB NO: 214

DWG NO: LD-001

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Revisions

Rev.	Date	Checked

JOB TITLE: GARDEN HOUSE

DWG TITLE: TREES & SHRUBS - FRONT GARDEN

SCALE: 1:50 @ A1 / 1:100@A3

DATE: AUG 2018

JOB NO: 214

DWG NO.: LD-002

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Revisions

Rev.	Date	Checked

JOB TITLE: GARDEN HOUSE

DWG TITLE: PERENNIALS - FRONT GARDEN

SCALE: 1:50 @ A1 / 1:100@A3

DATE: AUG 2018

JOB NO: 214

DWG NO.: LD-003

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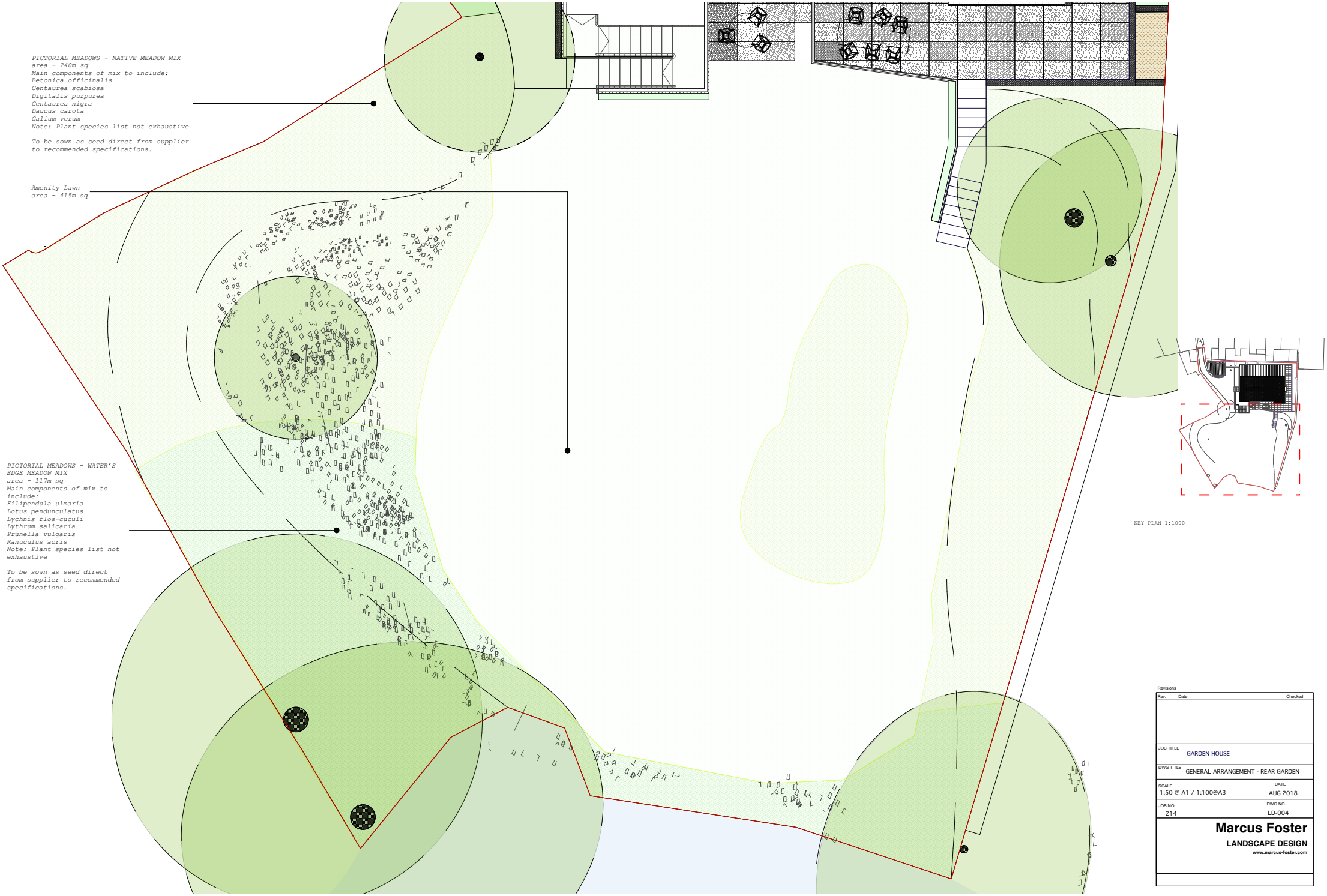

Revisions

Rev.	Date	Checked

JOB TITLE: GARDEN HOUSE

DWG TITLE: GENERAL ARRANGEMENT - REAR GARDEN

SCALE: 1:50 @ A1 / 1:100@A3

DATE: AUG 2018

JOB NO: 214

DWG NO: LD-004

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LANDSCAPE DESIGN
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Appendix G: References

1. *Arboricultural Practice Note 12: Driveways Close to Trees (APN12)* as provided by the Arboricultural Advisory and Information Service (2007)

2. *BS5837: British Standard: Trees in relation to construction - Recommendations*, British Standard (2012)

3. *Principles of Tree Hazard Assessment and Management,* Lonsdale, D. (Department for Transport, Local Government and the Regions, 1999)

4. *The Body Language of Trees*, Mattheck, C. and Breloer, H. (HMSO, 1994)

5. *Trees in Britain,* Philips, R. (Pan Books, 1978).

6. *Diagnosis of Ill Health in Trees,* Strouts, R. and Winter, (TSO, 1994)

7. *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2),* (November 2007)

Report Prepared by Marcus Foster
December 2018