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Manor Road / Richmond

Arboricultural Appraisal & Implications Assessment

ACS (Trees) Consulting

February 2019

Arboricultural Report

Planning and Development

Arboricultural Appraisal and Implications Assessment

Project Name and Address	**Homebase Site, Manor Road, Richmond**		
Prepared for	GVA	**Project Ref**	-
ACS Ref	ha/aiams5/19/manorrd	**Client**	Avanton Richmond Development Ltd
Prepared by	Hal Appleyard Dip. Arb (RFS), F.Arbor. A. MICFor RCArborA		
Report Date	6th February 2019		

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Executive Summary

The existing Homebase site, which comprises a retail warehouse, car parking and access roads for delivery vehicles, is to be re-developed. A summarised description of the proposal is: the demolition of the existing buildings and for the construction of a residential-led redevelopment for flexible retail, community and offices together with car and cycle parking and landscaping. The site supports a tree stock comprising relatively small trees, some which are included within a tree preservation order (TPO). A total of 64 existing tree records have been gathered.

This report assesses the quality of the existing tree stock and the implications of the proposed development upon trees and their mark upon the landscape. The TPO dates to 1993, which coincides with the likely planting of the trees currently at the site throughout the car parking area. The proposals will include the replacement of the current tree stock with the exception of one planted (T40.04) and six self-seeded trees (T40.01-T40.03 and T55-T57) at the western boundary, twelve off-site trees to the south-east of the site (T41-T52) and four of planted trees within the northern point of the site (T53, T54, T58 and T59).

The proposed construction project is coupled with a robust and diverse new tree planting and landscaping scheme. It will include the planting of 113 new trees, which is an increase in tree quantity by 49 individuals. The replacement and additional trees will enhance the quality of the landscape provided by trees, which is currently stressed and underdeveloped, resulting from the poor planting environment typical of the time. The contribution of the proposed landscaping and trees will be recognised both immediately and into the future.

1.0 Introduction and Scope

1.1 A planning application for the demolition of the existing Homebase buildings and associated car parking areas and re-development and landscaping, is to be submitted for consideration by the Local Planning Authority. The full description of the project is provided below:

'Demolition of existing buildings and structures and comprehensive residential-led redevelopment of four buildings of between four and nine storeys to provide residential units (Class C3), flexible retail /community / office uses (Classes A1, A2, A3, D2, B1), provision of car and cycle parking, landscaping, public and private open spaces and all other necessary enabling works.'

1.2 The proposed construction is to be undertaken in the vicinity of trees included within a TPO dated 1993. The implications upon the trees and the methods for tree protection and preservation during demolition, ground works and construction are set out in this report and which includes a requisite tree protection plan.

1.3 I have been appointed on behalf of the site owners as a competent and qualified arboricultural consultant to provide this report and to supervise any works that may have the potential to affect the protected and retained trees.

1.4 The trees have been inspected on 4th October 2018. The details are provided in accordance with the guidance set out in BS 5837:2012 'Trees in relation to design, demolition and construction- Recommendations' (the BS) and an extract from that guidance is appended herewith. The root protection areas (RPAs) of the relevant trees are indicated upon the plans.

2.0 The Site and Trees

2.1 The site comprises a retail shops, storage areas and car parking with associated access roadways. The site is adjoined upon the eastern side by Manor Road and to the west by railway land. Railway land also adjoins the site to the south and south-east. Small trees and soft landscaped areas exist within the car parking bays and at the very edges of the site.

2.2 The site is broadly flat, and no significant inclines occur in any direction. With a quick reference to the on-line British Geological Survey maps, the soil at the comprises sand and gravel as the superficial level, over London Clay formation.

Fig. 1 The site, looking south-east

2.2 The BS details of the trees are provided within the tree survey schedule at **Appendix 1** and their corresponding positions are shown on the tree protection plan included at **Appendix 2**.

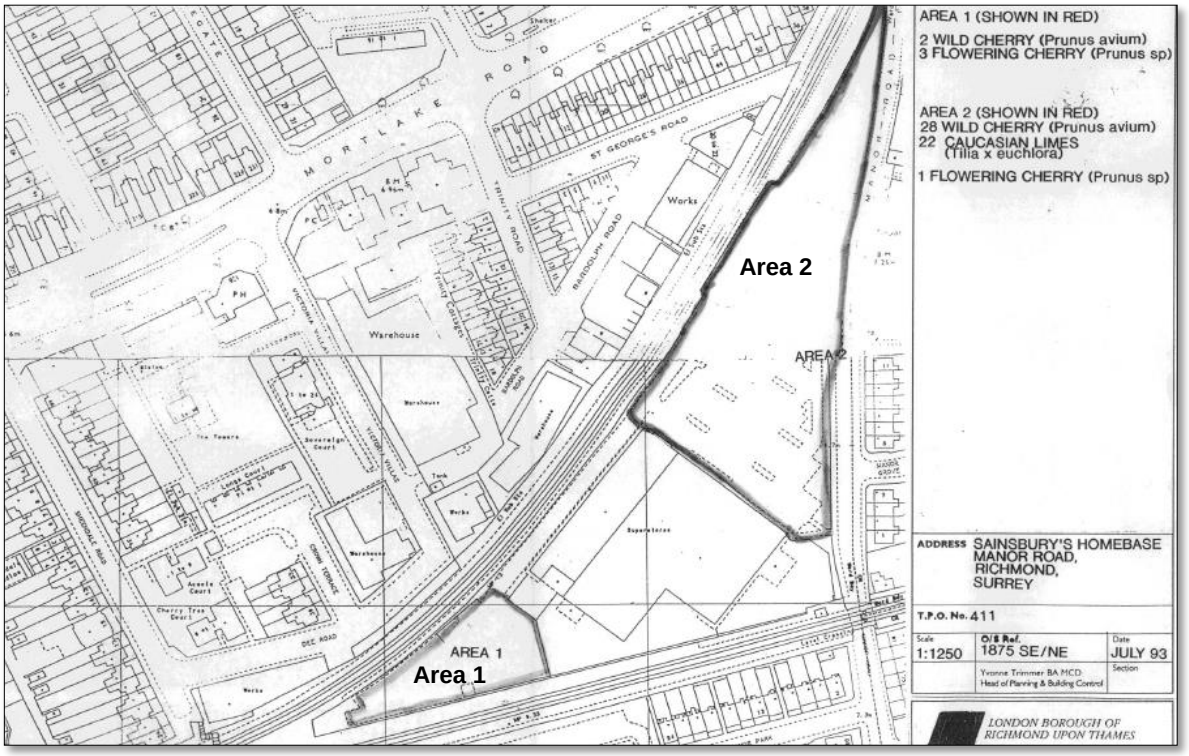
2.3 Table 1 Summary of tree data by BS grade (colour coded in line with the BS)

Total Tree records 64	A	B	C	U
	0	10	50	4
% of Total	-	16%	78%	6%

2.2 Trees at the site are covered by an Area tree preservation order (TPO). I have identified the two Areas (A1 and A2) upon the tree survey and protection plan at **Appendix 2**. Two dead trees, T1 and T10 are not protected by the TPO. Trees which grow outside the Areas are not protected.

2. 3 I note that the TPO plan is dated 1993 (See Fig. 2 below) and consequently, the trees extant at the time the TPO was served, and within the Areas, are protected.

Fig. 2 TPO Areas 1 and 2 - 1 South and 2 North.



2.4 The majority (nearly 80%) of the recorded trees are low quality, 'C' grade individuals, which are standard landscape planting at the time the area was developed. A small number qualify for the higher, moderate grading of 'B', simply owing to their somewhat larger size and limited number of defects. There are no 'A' grade, high quality trees. The trees provide a low collective contribution to the landscape owing to their mediocre quality and low stature.

2.5 The trees are planted in rather confined or constrained planting areas, which has doubtless restricted normal root growth. This may account for their relatively modest dimensions having been established, I assume, in the early 1990s. Under normal or better growing conditions, the trees would normally have attained larger dimensions over the twenty-five years of growth since planting.

2.6 A number of trees are not located within the site and these have been recorded in the schedule. Trees which are rooted beyond the site boundary are exclusively within the railway land to the west and south-east of the site. Roots of both on and off-site trees will have been modified in their form by the presence of local, subterranean structures such as foundations or retaining structures. This applies to both the boundary trees and those growing within the planting pits in the hard-standing areas.

2.7 Four dead trees are included in the survey, which should be removed irrespective of any development for general site safety and maintenance reasons.

Fig. 2 Poor quality trees associated with a poor planting and growing environment

T58, T59 and G60 at the north of the site

2.6 Some slightly larger trees have developed at the eastern side of the site near to Manor Road. The Cherry trees hang low and spread over the pavement and highway and the Lime trees are ill-suited to car parking areas, where the sticky Honey Dew is exuded from aphids attracted to the source of sap from the summer leaves, which promptly alights upon cars in their vicinity.

Fig. 4 Cherry trees and Lime trees are not the best choice for the location

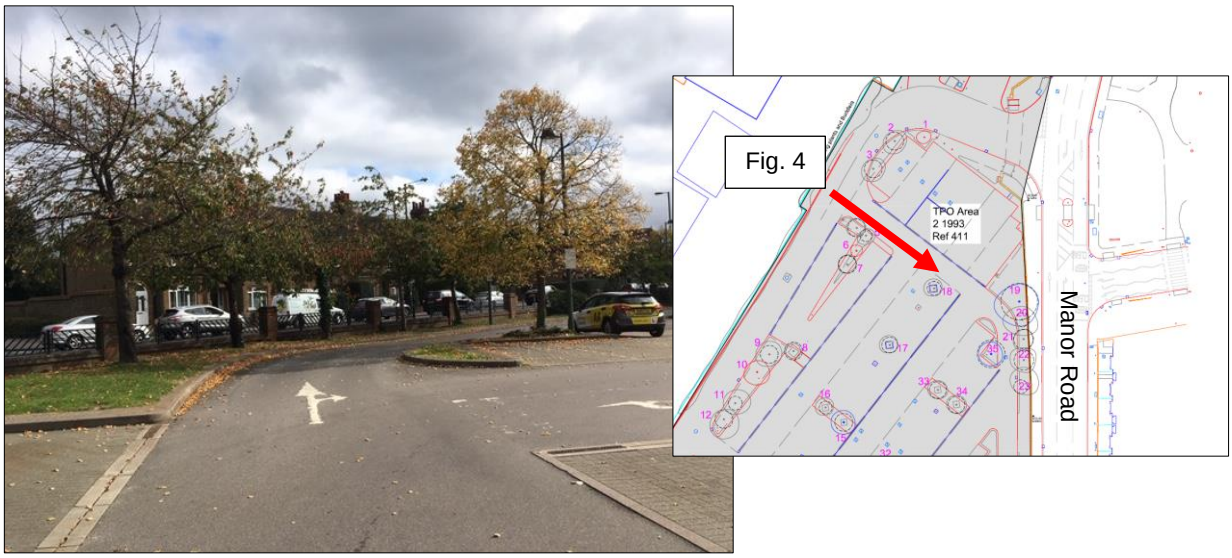


Table 2 **Proposed/Recommended Tree Works including Tree Replacements**

Tree Works (Spec.)	Tree Nos	Visual Landscape Impact of Works*	Space Available for Replacement Planting(Y/N)	Comments
Fell and replace (Sp6)	1-40	**Medium**	Y	Replacement trees better suited the location and planted in an environment conducive to tree root development and tree growth
Crown lift to 3m (Sp4); Crown thin by 14% (Sp5)	53 & 54	**None**	-	Low branches over pavement; dense, scruffy canopies; improvement pruning
Total		**None**		
Total No of A2 TPO trees	**Tree Ids.**	**TPOs to be removed**	**To be planted**	**% increase in tree stock**
43 (2 x dead trees T1 & T10 not incl.)	T2-T40 (excl.T1,T10), 53,54,58,59,60	T2-T9, T11-T40 (Total 38)	113	40 Replacement trees 73 Added trees; (24 retained trees) **90% increase in tree numbers**
No of TPO trees to be removed by BS Grade	**A - 0**	**B - 7**	**C - 30**	**U – 1 (excl. T1 & T10)**
TPO trees retained	**A - 0**	**B – 2**	**C - 3**	**U - 0**

*This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – None (no change or beneficial impact) Negligible or indiscernible difference to treed landscape; Low – Noticeable but mitigated by retention of other landscape trees and features; Medium – Obvious but temporary alteration to the treed landscape; High – Obvious and permanent alteration to the landscape.
Visual receptors include the public or community at large, residents, visitors or other groups of viewers together with the visual amenity of potentially affected people.

Specifications for recommended tree works (not all listed specs. may be applicable)**:**

General Notes upon tree works proposed as part of this report and project

All or any tree work is to conform to BS 3998:2010 'Tree work – Recommendations' and with current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover, equipment and PPE. All works and processes are to comply with all relevant Planning, Wildlife, Environmental, Conservation and Health and Safety legislation.

Sp1. Crown reduction will include reducing the height and spread of a tree's canopy (branching structure) whilst retaining the tree's natural tree form (species determined). The amount of reduction is described in linear metres e.g. 2m (from 6m to 4m radial spread) or 3m (from 15m to 12m tree height). Crown reduction work will be undertaken for a specific purpose, which may include containing tree growth in a given location or reducing wind purchase and stress.

Sp2. Part reduction (selective pruning) includes pruning back from structures or boundaries and which is normally applied to no more than two sides of a tree's canopy. The amount of pruning is specified in metres. The result form will be even and provide a framework for re-growth in an even form. The extent of pruning will not impinge upon tree condition and seek to preserve so far as possible, the natural outline of the tree, which is species determined. All pruning cuts are to be made to a suitable growing point (secondary shoot) or removed from the parent branch or stem and no inter-nodal cuts are to occur.

Sp2.1 Any branch shortening work, (including as part of crown reduction work) will be conducted by pruning back to a suitable growing point, e.g. a shoot or smaller branch, which can continue to support branch growth.

Sp3.Crown Cleaning involves the removal of all dead wood small and large diameter, stubs and broken branches. Some small, densely arranged shoots (including epicormic shoots) will be thinned out or removed as recommended.

Sp4.Crown lifting includes the removal of the lowest lateral branches and shoots, (which would not result in irrevocable tree injury), to a specific height above ground level measured in metres.

Sp5.Crown thinning involves the removal of sub-lateral (secondary) branches to appropriate branch/shoot unions, removal of dead and damaged (crossing branches) with a view to reducing the crown density by a specified %, normally no higher than 30%.

Sp6.Felling involves the careful removal of a tree to ground level (or other specified height), either in sections or in one unit (straight felling). The method of felling will be suited to the constraints of the site and judged by the competent operator undertaking the task. Removing the stump may be part of the requirements and this will be carried out using a mechanical stump grinder where accessible.

Sp7.Pollarding means the removal of all stems and branches to a given point above ground level. Re-pollarding means removal of all re-growth to but not beyond the point of previous pollarding.

Sp8.Root pruning is to be carried out or supervised by a competent person (arboricultural contractor). Only sharp and specific pruning tools will be used for the root pruning exercise. No roots are to be pruned if it is considered that their loss (or shortening) will adversely impact upon tree condition or anchorage, immediately or in the future. Any exposed roots will be covered with a material to prevent desiccation. All exposed cut root surfaces will be made as small as possible. If possible roots will be pruned back to side shoot.

Sp9.Coppicing refers to the practice of cutting the stems to a point above ground level to create a 'coppice stool'. The process is normally carried out on a cyclical basis and to tree species, which respond to this type of management e.g. Sweet Chestnut, Hazel, Ash or Hornbeam.

Sp.10 Removal of Epicormic Growth and Suckers (Brashing). Epicormic growth is any amount of shoots arising from activated buds situated at bole of the tree and on the main stem(s), the base of the crown. Sucker growth is shoots arising either from the bole of the tree or from roots belonging to a tree. Epicormic Growth, Suckers and low branches shall be removed by use of a hand saw or secateurs to a height above ground level of no less than 2.5m.

Table 3 Summary of Implications of Construction on Trees*

Tree Ident.*	Landscape Contribution	Implications /Impact	Mitigation measures	Impact Assessment**
1-40	Medium	Remove and replace to enable construction	1. Replacement tree planting with trees of a size to make a visual and ecological impact (e.g. circa 20-35cm girth)	Neutral to Positive
53-60	Medium and Low	Construction remote from trees	1. Erect tree protection during construction 2. Monitor tree protection 3. Specialist supervision during landscaping	Neutral
40.1-40.4, 41-51, 55-60	Low	Retained, protected and off-site trees	1. Erect suitable protection 2. Monitor protection during project	Neutral

* Main trees selected for comment included above. Refer to previous notes on other trees.
** Negative – adverse impact upon trees and landscape; Neutral – no material impact (negative or positive); Positive – improvement (potential) to tree quality and landscape

2.7 I have had due consideration to national, regional and local plan policies with regard to trees and woodlands, particularly:

i) NPPF 2018

'15. Conserving and enhancing the natural environment
170. Planning policies and decisions should contribute to and enhance the natural and local environment by:
a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.'

Response:

The proposals comply with the above plan policy because it seeks to both protect and enhance the landscape (trees) by retaining established trees where possible and by substantially increasing the number of trees (from 64 to 137), which is a net gain of 73 (reference items a), b) d)).

ii) Policy 7.21 'Trees and woodlands' of London Plan 2016

'Strategic
A - Trees and woodlands should be protected, maintained, and enhanced, following the guidance of the London Tree and Woodland Framework (or any successor strategy). In collaboration with the Forestry Commission the Mayor has produced supplementary guidance on Tree Strategies to guide each borough's production of a Tree Strategy covering the audit, protection, planting and management of trees and woodland. This should be linked to a green infrastructure strategy.
Planning decisions
B - Existing trees of value should be retained and any loss as the result of development should be replaced following the principle of 'right place, right tree'.

Wherever appropriate, the planting of additional trees should be included in new developments, particularly large-canopied species.

LDF preparation

C - Boroughs should follow the advice of paragraph 118 of the NPPF to protect 'veteran' trees and ancient woodland where these are not already part of a protected site.

D - Boroughs should develop appropriate policies to implement their borough tree strategy.'

Response:

The proposals comply with the above policy in relation to planning decisions because those trees of moderate value are to be replaced and by careful species and size tree selection to ensure that the right tree is identified for its role in and sustainable contribution to the landscape. Specialist landscape architects have drawn up robust new landscape planting plans, which include the provision of 10 streetscape (large) trees 13 feature (large) trees and 90 medium-sized trees, throughout the design. There are no veteran trees or ancient woodlands in or near the development site.

iv) Policy G7 Trees and Woodlands of the emerging London Plan 2018

Policy G7 Trees and woodlands

A Trees - London's urban forest and woodlands should be protected, and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

B In their Development Plans, boroughs should:

1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site107A

2) identify opportunities for tree planting in strategic locations.

C Development proposals should ensure that, wherever possible, existing trees of quality value are retained108. If planning permission is granted that necessitates the removal of trees. If it is imperative that trees have to be removed, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or other appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

Response:

The development project complies with the above policy also, because the existing tree stock is generally poor. Having been planted 25-26 years ago the trees are small and weak having grown only marginally since planting. The proposals seek to provide new, vigorous trees planted in contemporary manner to allow the full development of canopies for a significant improvement to the extent of canopy cover currently provided by the tree stock.

iii) Policy LP16 of LBRuT Local Plan 'Trees, Woodland and Landscape'

A.The Council will require the protection of existing trees and the provision of new trees, shrubs and other vegetation of landscape significance that complement existing, or create new, high quality green areas, which deliver amenity and biodiversity benefits.

B.To ensure development protects, respects, contributes to and enhances trees and landscapes, the Council, when assessing development proposals, will:

1. resist the loss of trees, including aged or veteran trees, unless the tree is dead, dying or dangerous; or the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value; or felling is for reasons of good arboricultural practice; resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland;
2. resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees;
3. require, where practicable, an appropriate replacement for any tree that is felled; a financial contribution to the provision for an off-site tree in line with the monetary value of the existing tree to be felled will be required in line with the 'Capital Asset Value for Amenity Trees' (CAVAT);
4. require new trees to be of a suitable species for the location in terms of height and root spread, taking account of space required for trees to mature; the use of native species is encouraged where appropriate;
5. require that trees are adequately protected throughout the course of development, in accordance with British Standard 5837 (Trees in relation to design, demolition and construction – Recommendations).

Response:

The development project complies with this local plan policy because; the individual trees, which are identified for removal, are of little or no amenity value; the proposals do not affect veteran or ancient trees; the proposals do not affect retained trees of amenity contribution; the proposals include trees located at sustainable locations and; the proposals include a significant enhancement to the existing tree stock both in numbers (approx.. 90% increase) and canopy cover. No off-site tree contribution is necessary because adequate space has been provided for an increase in the tree stock within the development.

2.8 Analysis

2.8.1 It is made clear in national (NPPF), regional (London Plan 2016 + emerging LP 2018) and local (LBRuT Local Plan) Policies, that new development is, where it is appropriate, to assess, plan for, protect and preserve trees and woodlands, and developments are to make provision of effective landscaping to incorporate new and replacement trees in order to sustain the green infrastructure of the locality.

2.8.2 40 trees are to be removed of which 38 are included in an Area TPO (Area 2). However, significant provisions for new trees and additional soft landscaping, forms and integral part of the proposals. 113 new trees are proposed to be planted throughout the site, including in locations when no trees currently exist toward the southern part of the site for example. Coupled with protection of the retained on and off-site trees (those which are included in the surveys), the proposals meet the objectives of the policies by protecting and enhancing the quality of the landscape.

2.8.3 With respect to item 3 of LP this project provides a total of 40 replacement trees, 73 additional trees and 24 retained and protected trees, which equates to a 90% increase in tree numbers. I conclude, owing to the expected and planned increase in tree quantity, quality and canopy cover to that which currently exists, that a Capital Asset Valuation System (CAVAT) assessment is not required for this project.

2.9 With reference to the summary Table 3 above, the quality of the trees is generally low to poor with a few exceptions (e.g. T15, T19, T24, T26, T28, T38 and T38) where trees have grown evenly and/or larger. The removal of the existing trees and redevelopment of the site provides an opportunity to install new trees with better prospects of development by using modern planting techniques, larger tree stock at the time of planting and a much wider and more interesting pallet of species. A tree planting and landscaping scheme, which provides ecological and other amenity benefits will be a positive contribution to the landscape and area in general, both at the time of planting and for the long term. Under these circumstances, I conclude the proposals comply with all relevant plan policies.

3.0 Recommended Tree Protection Methods (preliminary)

3.1 Although an appropriately-worded planning condition, controlled by the LPA would generally cover the implementation of construction and tree protection and management, I have set out a preliminary tree protection methodology here.

3.2 In order to afford protection from general construction processes associated with the demolition and construction project, it will be necessary to erect robust tree protection fences/barriers (normally wire mesh panels) in the position indicated on the Tree Protection Plan at **Appendix 2** (TPP1_MR). A recommended example of the type BS grade tree protection is included at **Appendix 3**. It will be prudent to ensure that all materials and equipment are transported to and from the site via the dedicated 'construction route' as indicated upon the tree protection plan.

3.3 Following erection of the tree protection fencing/barriers and following the completion of the tree works, I recommend installing the ground protection (refer to the TPP) to ensure that roots under the surface are not damaged by compaction during regular passing by operatives and light machinery. I have included recommended examples of ground protection at **Appendix 3** also.

3.4 Where trees are retained and new hard and or soft landscaping is proposed, manual digging near trees may be required. The methods of manual digging near trees is described with **Appendix 5** but for clarity I have set out the procedure below, which is to be overseen by the appointed arboricultural consultant:

i) Clearly mark out the area for hand dig (using biodegradable marker paint) (see TPP)

ii) Use hand tools (forks and spades) to remove the spoil and deposit beyond RPA.

iii) Identify roots to be retained by brushing or the use of compressed air

iv) Unless after professional assessment permits pruning, roots in excess of 25mm Ø are to be retained in-situ by manually clearing around (with compressed air for example), wrapping with non-woven geotextile (e.g.Terram), covering with a void former e.g. split, rigid polythene piping.

v) Unless after professional assessment permits pruning, retention of roots 50mm Ø or more will be by the use of void-formers (see **Appendix 5**).

vi) Roots <25mm Ø will be pruned using sharp pruning tools ensuring that no splits or tears occur and that the pruning wound is made as small as possible. Roots will be pruned back to a side shoot where possible or to a suitable position.

NOTE: THE APPOINTED ARBORICULTURAL SUPERVISOR IS TO BE CONSULTED BEFORE ANY WORK, EITHER SCHEDULED OR UNSCHEDULED, IS CONSIDERED WITHIN THE EXCLUSION ZONE OR ROOT PROTECTION AREAS OF ANY RETAINED TREE. FAILURE TO DO SO MAY LEAD TO ENFORCEMENT ACTION BY THE LPA.

3.5 In order to ensure that the tree protection measures are implemented effectively, a site monitoring exercise will be undertaken to confirm:

i) The efficacy and accuracy of the fencing and ground protection
ii) A root inspection and treatment exercise as necessary
iii) Maintenance of tree and ground protection

An example of a site record (tree protection) is provided at **Appendix 4**. In this case, the form will be used as confirmation that all practical precautions have been undertaken in accordance with this method statement.

3.6 A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.

3.7 The details pertaining to tree protection as set out in this method statement, specifically include:

i) erection of tree protection barriers:
ii) installation of any ground and root protection
iii) lines of communication and incident reporting,

are to be explained to the Site Agent at the pre-commencement site meeting. It will be the responsibility of the Site Agent to ensure that all personnel working on site understand the tree protection measures and processes. A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.

3.8 Key times for site supervision include:

1. Completion of agreed/necessary tree works
2. Erection of tree protection barriers and installation of root and ground protection
3. Works within RPAs of retained trees
4. Landscaping

3.9 Effective site monitoring will be undertaken from the outset of the project and at agreed intervals thereafter. The frequency of monitoring may well decrease following the proper installation of all tree protection measures. Below is a recommended programme of arboricultural supervision. (This programme may alter dependent upon site circumstances or by agreement.)

3.10 The process for recording the tree protection measures will involve:

i) Site Agent to contact Arboricultural Supervisor with a minimum of 5 days' notice of any site work commencement.
ii) Arboricultural Supervisor to monitor site to agree tree protection fencing
iii) When all tree protection is installed in accordance with the tree protection plan, the Arboricultural Supervisor is to arrange with LPA tree officer and relevant contractors **the pre-commencement site meeting** in order to agree the tree protection and subsequent works within RPAs of retained trees and importantly the lines of communication between the on-site contractors, the Arboricultural Supervisor and the LPA tree officer and incident reporting,
iv)Arboricultural Supervisor to record all site visits and distribute reports to LPA tree officer and contractors for their records
v)Subsequent to completion, Arboricultural Supervisor to sign-off and complete.
vi) Any incidents resulting in potential tree damage are to be reported in line with the 'Incident Reporting Flow Chart in **Appendix 4**.

Table 4 Preliminary site supervision schedule

Stage	Action	Arboricultural Supervisor (AS) (Required – Y/N)	Notes
1	Pre-commencement meeting*	Y	Site Agent(SA) and LPA tree officer, contractor to attend
2	Tree works	Y	Following completion of tree works
3	Installation of tree protection and ground protection	Y	PRIOR to ground/demolition works
4	Initial manual dig exercise and any root treatment	Y	SA to advise AS prior to commencement
5	Ground works and Construction phase	Y	AS to monitor tree protection at agreed and suitable intervals
6	Remove tree protection fencing/ground protection	N	No tree protection to be removed without prior agreement with the AS
7	Tree planting/landscaping	Y	Brief landscape company & sign off

3.11 The frequency of tree protection monitoring depends upon the nature of the project. In this case, it will be appropriate for the SA to organise with the AS monitoring visits to be twice in the initial 28 days from commencement and thereafter once every 28 days for two months and then by agreement.

Table 5 Contact List (to be completed **PRIOR** to commencement)

Interested Party	Name	Company/LPA	Contact Number(s)	Comment/ Responsibilities
Site Agent	TBA			Day to day site management; co-ordination of timings; **contact with project Arboriculturist**
Main Contractor	TBA			Legal and administrative running of the project; finance; appointment of and liaison with all project consultants
Arb. Supervisor	TBA			Tree protection and management; dissemination of tree-related information
LPA Tree Officer	Mr C Ruddick	L B Richmond	020 8831 6356	Tree protection and enforcement
Site Engineers	TBA			Technical advice and design
Architects	H Barker	Assael Architecture	020 7736 7744	Design
Landscape Design	Mr R Copeland	Gillespies Landscape Architects	020 7253 2929	All hard and soft landscape design

TBA – to be advised

***Pre-commencement means i) before any works including tree felling or pruning and ii) before any ground works or demolition commences and upon completion of the initial installation of the tree protection, including ground protection.**

4.0 Precautions during Landscape Work

4.1 The following steps (both general and site specific), are advisable in relation to implementing any landscape works, which may have the potential to affect retained and or protected trees:

1. Advise arboricultural supervisor of intended time frame of landscape work in advance of commencement.
2. Re-locate existing tree protection fencing/ground protection to enable landscape work to proceed.
3. With bio-degradable spray paint or site pins with plastic tape, mark out the position of the relevant tree root protection areas (RPA) as per the tree protection plan.
4. Within the RPAs, avoid using any mechanical tools or vehicles (e.g. tracked or wheeled machinery).
5. Spread any mulch or top soil manually, with the use of wheel barrows and hand tools. It will be acceptable to use of the back actor of a tracked excavator to spread piled top soil or mulch into the RPAs of protected trees provided the bucket does not come in contact with the ground and that the power unit is positioned outside of the RPAs at all times.
6. Any planting pits are to be excavated manually within the RPAs of any retained trees.

7. Multiple passes within the RPAs along one route, pedestrian and with wheel barrows will require some ground protection to be installed prior to working. Ground protection can be scaffold boards over wood chip for example.
8. A record of the landscape working method is to be made and provided to the Council for their file.
9. Hard landscaping features will be constructed under supervision within the RPA of retained trees and will avoid, where possible, the re-grading of soil.

5.0 General site care (trees)

5.1 No fires will be lit on site.

5.2 No access will be permitted to within the fenced or otherwise protected areas (unless for site accommodation or Authorised agreement) at any stage during construction.

5.3 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.

5.4 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.

5.5 A copy of this report and the Tree Protection Plan is to remain on site at all times.

6.0 Summary and Conclusions

6.1 I have reviewed the tree stock and proposed development plans and it is clear that much of the current tree stock will be replaced as a necessity of the construction designs. However, the trees currently growing within and adjacent the site, are of low to poor quality with the exception of ten individual trees from sixty-four recorded trees, which are of moderate quality and landscape contribution. There are no high-quality trees. Of the forty three trees included in the TPO Area 2, thirty eight are to be replaced, of which seven are of moderate quality, thirty are of low quality and one is of very poor quality, which and should be removed.

6.2 An integral part of the proposal is to include the planting of one hundred and thirteen, interesting and diverse new trees, coupled with the protection and preservation of twenty-four individual trees and small tree groups.

6.3 The proposed scheme complies with national, regional and local development plan policies, designed to protect and enhance the quality of the green infrastructure in the context of new development. This project increases the tree stock by 90% when accounting for both replaced and retained trees and increases the overall tree stock by seventy-three individuals. Additional and improved soft landscaped areas of low level planting is to be included also.

6.4 Although the proposal requires the removal of protected trees, these trees are of poor quality and with little prospect of ever making a significant contribution to the local landscape, owing to the low-quality planting techniques adopted at that time. This development will be able include the installation of new trees using modern planting materials and techniques, which provide optimum conditions for proper and full tree development. As such, the scheme makes a positive impact and contribution to the local landscape.

Liability Limitation

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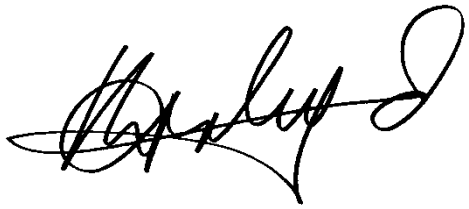
Please note that all relevant planning approvals and approval to planning conditions must first have been issued by the relevant planning authority in order for this report to become effective. We strongly advise that you consult your planning advisors before implementing any recommendations set out in this report.



Hal Appleyard
Date: 6th February 2019

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APPENDIX 1

ACS (Trees) Consulting
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Tree Survey Schedule

ACS CONSULTING

Site:Manor Road, Richmond

Date: 4th October 2018

Surveyor:H. Appleyard
Ref:ts1/manorrd

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
T1	Cherry, Flowering	7	2 2 2 2	2/N2	Young	120	12	1.4	Dead	Poor	Low	U	1	<10	Dead
T2	Lime, Caucasian	6	2 2 2 2	1/E2.5	Young	150	12	1.8	Normal	Good	Medium	C	2	10-20	Landscape planting; in confined planting space Epicormic shoots (basal only)
T3	Lime, Caucasian	6	2 2 2 2	1/E2.5	Young	150	12	1.8	Normal	Good	Medium	C	2	10-20	Landscape planting; in confined planting space
T4	Cherry, Flowering	6	2 2 2 2	1.5/N1.5	Middle Aged	150	12	1.8	Normal	Good	Medium	C	1,2	20-40	Landscape planting for car park Cankers (affecting amenity)
T5	Cherry, Flowering	6	2 2 2 2	1.5/N1.5	Middle Aged	100	12	1.2	Normal	Good	Medium	C	2	10-20	Landscape planting for car park Resin bleeding Dead top
T6	Cherry, Flowering	5	2 2 2 2	1.5/N1.5	Middle Aged	100	12	1.2	Poor	Fair	Low	U	1	<10	Landscape planting for car park; weak tree Dead top
T7	Cherry, Flowering	6	2 2 2 2	1.5/N1.5	Middle Aged	150	12	1.8	Normal	Good	Medium	C	2	20-40	Landscape planting for car park Broken & split branches

Notes:

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5. Protection Multiplier is 12 for single-stemmed trees; for multi-stemmed a cross-sectional area is calculated to derive the DBH, which in turn is multiplied by 12.
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7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
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T8	Lime, Caucasian	6	2 2 2 2	1/E2.5	Young	150	12	1.8	Normal	Good	Medium	C	2	10-20	Landscape planting; in confined planting space Epicormic shoots (basal only)
T9	Cherry, Flowering	6	3 3 3 3	2/N2	Middle Aged	150	12	1.8	Moderate	Good	Medium	C	2	20-40	Landscape planting for car park Ivy covered trunk and branches Dense canopy
T10	Cherry, Flowering	6	2 2 2 3	2/N2	Middle Aged	150	12	1.8	Dead	Poor	Low	U	1	<10	Dead
T11	Cherry, Flowering	6	3 3 3 3	2/N2	Middle Aged	120	12	1.4	Moderate	Good	Medium	C	2	20-40	Landscape planting for car park Ivy covered trunk and branches Dense canopy
T12	Cherry, Flowering	6	3 3 3 3	2/N2	Middle Aged	150	12	1.8	Moderate	Good	Medium	C	2	20-40	Landscape planting for car park Ivy covered trunk and branches Dense canopy; branches covering lamp
T13	Lime, Caucasian	5	2 2 2 2	2/N2	Young	110	12	1.3	Moderate	Fair	Low	C	1	10-20	Bark wounds (decay entry point) Landscape planting for car park Weak tree
T14	Lime, Caucasian	5	2 2 2 2	2/N2	Young	110	12	1.3	Moderate	Fair	Low	C	1	10-20	Leaning (slightly) West Landscape planting for car park Weak tree

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T15	Lime, Caucasian	8	2 2 2 2	2/N2	Young	150	12	1.8	Normal	Good	Medium	B	1,2	20-40	Landscape planting for car park Constrained growing space (roots) Even form
T16	Lime, Caucasian	5	2 2 2 2	2/W2	Young	110	12	1.3	Moderate	Fair	Medium	C	2	10-20	Bark wounds (decay entry point) Landscape planting for car park
T17	Lime, Caucasian	5	2 2 2 2	2/N2	Young	130	12	1.6	Moderate	Fair	Medium	C	2	10-20	A tree with insignificant defects Landscape planting for car park Weak tree
T18	Lime, Caucasian	5	2 2 2 2	2/E2	Young	120	12	1.4	Moderate	Fair	Medium	C	2	10-20	A tree with insignificant defects Landscape planting for car park
T19	Cherry, Flowering	8	3 5 4 5	2/N2	Middle Aged	310	12	3.7	Normal	Good	Medium	B	1,2	20-40	Landscape planting for car park Road-side tree with dense canopy
T20	Cherry, Flowering	8	3 3 3 2	2/N2	Middle Aged	120	12	1.4	Moderate	Fair	Low	C	1,2	10-20	Resin bleeding; stressed appearance Road-side tree
T21	Cherry, Flowering	7	3 3 3 3	2/N2	Middle Aged	170	12	2.0	Moderate	Good	Low	C	2	20-40	Ivy covered trunk and branches Dense canopy; resin bleeding; stressed Road-side tree

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T22	Cherry, Flowering	7	3 3 3 3	2/N2	Middle Aged	170	12	2.0	Moderate	Good	Low	C	1,2	20-40	Road-side tree by pedestrian 'desire line' Dense canopy; resin bleeding; stressed
T23	Cherry, Flowering	7	3 3 3 3	2/N2	Middle Aged	120	12	1.4	Moderate	Good	Low	C	2	20-40	Road-side tree Dense canopy
T24	Cherry, Flowering	6	3 3 3 3	1.5/W2	Middle Aged	180	12	2.2	Normal	Good	Medium	B	1,2	20-40	Leaning (slightly) east Dense canopy
T25	Lime, Caucasian	7	2 2 2 2	2/N2	Young	180	12	2.2	Normal	Good	Medium	C	1,2	10-20	Dead ivy throughout Landscape planting for car park
T26	Lime, Caucasian	8	2 2 2 2	2/N4	Young	200	12	2.4	Normal	Good	Medium	B	1,2	20-40	A tree with insignificant defects Landscape planting for car park Road-side tree
T27	Lime, Caucasian	8	2 2 2 2	2/S2	Young	150	12	1.8	Normal	Good	Medium	C	2	10-20	Dead ivy throughout Landscape planting for car park
T28	Cherry, Flowering	7	3 3 3 3	2/W2	Middle Aged	280	12	3.4	Normal	Good	Medium	B	2	20-40	Deadwood (small diameter) Ivy covered trunk and branches Dense

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T29	Cherry, Flowering	7	3 3 3 3	2/N2	Middle Aged	250	12	3.0	Normal	Good	Medium	C	2	10-20	Landscape planting for car park Subordinate tree Dense
T30	Lime, Caucasian	8	3 3 3 3	3/N2	Middle Aged	280	12	3.4	Normal	Good	Medium	C	1,2	10-20	Ivy covered trunk and branches Landscape planting for car park
T31	Lime, Caucasian	5	2 2 2 2	1.5/W1.5	Young	150	12	1.8	Normal	Good	Low	C	2	10-20	Subordinate tree Ivy covered trunk and branches
T32	Lime, Caucasian	5	2 2 2 2	2/S2	Young	140	12	1.7	Moderate	Good	Low	C	2	10-20	Subordinate tree Landscape planting for car park
T33	Lime, Caucasian	5	2 2 2 2	2/S2	Young	140	12	1.7	Moderate	Good	Low	C	2	10-20	Subordinate tree Landscape planting for car park
T34	Lime, Caucasian	5	2 2 2 2	2/S2	Young	140	12	1.7	Moderate	Good	Low	C	2	10-20	Subordinate tree Landscape planting for car park
T35	Lime, Caucasian	8	3 3 3 3	2/N2	Middle Aged	230	12	2.8	Normal	Good	Medium	B	1,2	20-40	Landscape planting for car park Even form

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T36	Lime, Caucasian	7	4 4 4 3	2/N2	Young	170	12	2.0	Normal	Good	Medium	C	2	20-40	Landscape planting for car park Unremarkable tree with some defects
T37	Lime, Caucasian	5	2 2 2 2	2/N2	Young	120	12	1.4	Normal	Good	Medium	C	2	20-40	Landscape planting for car park Unremarkable tree with some defects
T38	Lime, Caucasian	6	2 2 2 2	2.5/S2.5	Young	130	12	1.6	Normal	Good	Medium	B	2	20-40	Landscape planting for car park Unremarkable tree with minor defects
T39	Lime, Caucasian	5	2 2 2 2	2/N2	Young	120	12	1.4	Normal	Good	Medium	C	2	20-40	Landscape planting for car park Unremarkable tree with some defects
T40	Lime, Caucasian	5	2 2 2 2	2/N2	Young	120	12	1.4	Normal	Good	Medium	C	2	20-40	Landscape planting for car park Unremarkable tree with some defects
T40.1	Birch, Silver	7	1 1 1 1	2/N2	Young	120e	12	1.4	Normal	Good	Low	C	2	20-40	Off-site tree in railway land Self set sapling
T40.2	Oak, Common	4	1 1 1 1	1/E1	Young	100e	12	1.2	Normal	Good	Low	C	1,2	20-40	Off-site tree in railway land Self set sapling

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T40.3	Willow, Goat	6	3 3 3 3	2/N2	Young	100	12	1.2	Normal	Fair	Low	C	1,2	10-20	Boundary screen tree; shrubby Self sown; multi-stemmed, against fence
T40.4	Cherry, Flowering	5	3 3 3 3	2/E2	Middle Aged	120	12	1.4	Moderate	Fair	Low	C	2	10-20	Ivy smothered Landscape planting for car park
T41	Birch, Silver	9	3 3 3 3	3/W4	Middle Aged	150e	12	1.8	Normal	Good	Medium	C	1,2	10-20	Off-site tree in railway land Ivy covered trunk and branches Some small stems site side of fence
T42	Birch, Silver	11	4 1 3 2	2/N3	Middle Aged	200e	12	2.4	Normal	Good	Medium	C	1,2	10-20	Off-site tree in railway land Boundary self-set tree
T43	Birch, Silver	11	4 3 4 2	4/W4	Middle Aged	250e	12	3.0	Normal	Good	Medium	B	1,2	20-40	Off-site tree in railway land Boundary self-set tree Even form
T44	Maple, Norway	9	4 1 3 2	5/N5	Young	180	12	2.2	Normal	Good	Low	C	1,2	20-40	Off-site tree in railway land Self sown
G45	Sycamore saplings	5	1 1 1 1	1.5/N1.5	Young	100	12	1.2	Normal	Good	Low	C	1	10-20	Off-site tree/sapling group Wrong location (best removed) Self seeded trees

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T46	Sycamore	9	3 3 3 3	2/N2	Young	150e	12	1.8	Normal	Good	Medium	C	1,2	20-40	Off-site tree in railway land Ivy covered trunk and branches Self set tree
T47	Sycamore	9	3 3 3 3	2/N2	Young	150e	12	1.8	Normal	Good	Medium	C	2	20-40	Off-site tree in railway land Ivy covered trunk and branches Self set tree
T48	Sycamore	8	2 2 2 2	2/N2	Young	150e	12	1.8	Normal	Good	Low	C	1,2	20-40	Off-site tree in railway land Self sown Wrong/poor location (best removed)
T49	Sycamore	8	2 2 2 2	2/N2	Young	150e	12	1.8	Normal	Good	Low	C	2	20-40	Off-site tree in railway land Self sown Wrong/poor location (best removed)
T50	Sycamore	8	2 2 2 2	2/N2	Young	150e	12	1.8	Normal	Good	Low	C	2	20-40	Off-site tree in railway land Self sown Wrong/poor location (best removed)
T51	Sycamore	8	2 2 2 2	2/N2	Young	150e	12	1.8	Normal	Good	Low	C	2	20-40	Off-site tree in railway land Self sown; stems rubbing on wire fence, weakness Wrong/poor location (best removed)
T52	Sycamore	8	2 2 2 2	2/N2	Young	150e	12	1.8	Dead	Poor	Low	U	1	<10	Off-site tree in railway land Dead

Notes:

1. Height describes the approximate height of the tree in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N, E, S, W) clockwise.
3. Ground Clearance is the height in meters of crown clearance above adjacent ground level together with the height and direction of the lowest branch
4. Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level. The diameter may be estimated (e), where access is restricted. An average (a) may be taken for tree groups. A full inspection is always recommended.
5. Protection Multiplier is 12 for single-stemmed trees; for multi-stemmed a cross-sectional area is calculated to derive the DBH, which in turn is multiplied by 12.
6. Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present or suspected.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat. refers to British Standard 5837:2012 Table 1 category and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'U' - Remove or very poor quality.
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservation/ecological, historic and commemorative.
12. Useful Life is the tree's estimated remaining effective contribution in years.

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Tree Survey Schedule

ACS CONSULTING

Site:Manor Road, Richmond

Date: 4th October 2018

Surveyor:H. Appleyard
Ref:ts1/manorrd

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
T53	Cherry, Flowering	7	3 3 3 3	1.5/W2.5	Middle Aged	280	12	3.4	Normal	Good	Medium	B	1,2	20-40	Reduced in past with vigorous re-growth Dense canopy
T54	Cherry, Flowering	7	3 3 3 3	1.5/W2.5	Middle Aged	280	12	3.4	Normal	Good	Medium	B	2	20-40	Reduced in past with vigorous re-growth Dense canopy
T55	Sycamore	8	2 2 2 2	1/S1	Young	120	12	1.4	Normal	Good	Low	C	1	20-40	Off-site tree in railway land Self sown
T56	Ash, Common	8	4 4 4 4	3/W2	Young	240	12	2.9	Normal	Good	Low	C	1,2	20-40	Off-site tree in railway land Self sown; multi-stem Over-hanging branches to site
T57	Ash, Common	8	4 4 4 4	4/S2	Young	230	12	2.8	Normal	Good	Low	C	1,2	20-40	Off-site tree in railway land Self sown; multi-stem Over-hanging branches to site
T58	Cherry, Flowering	6	4 4 4 4	1.5/E2	Middle Aged	250	12	3.0	Normal	Good	Low	C	1,2	20-40	Squat form; secluded tree One of a group
T59	Cherry, Flowering	6	4 4 4 4	1.5/E2	Middle Aged	250	12	3.0	Normal	Good	Low	C	1,2	20-40	Squat form; secluded tree One of a group

Notes:

1. Height describes the approximate height of the tree in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N, E, S, W) clockwise.
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Tree Survey Schedule

ACS CONSULTING

Site:Manor Road, Richmond

Date: 4th October 2018

Surveyor:H. Appleyard
Ref:ts1/manorrd

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
G60	Hawthorn group	4	2 2 2 2	1.5/N1.5	Young	100	12	1.2	Normal	Good	Low	C	1,2	20-40	Scrubby mixture of planted and self sown trees

Notes:

1. Height describes the approximate height of the tree in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N, E, S, W) clockwise.
3. Ground Clearance is the height in meters of crown clearance above adjacent ground level together with the height and direction of the lowest branch
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Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

APPENDIX 2

ACS (Trees) Consulting
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TPO Area
2 1993
Ref 411

TPO Area 1
1993 Ref 411

COMMERCIAL
1813 sq m

COMMERCIAL
A=61=05
91.2 sq m

COMMERCIAL
198.5 sq m

ACS (Trees) Consulting LEGEND

Indicative

BS Root Protection Area, (RPA) shown uniform but site features such as roadways, retaining walls and foundations, may modify root patterns and therefore the position of the RPA.

A grade trees

B grade trees

C grade trees

U grade trees

Trees to be removed/replaced

Approximate position,outline of Area TPO. Trees within this area are protected by the TPO 411.

Position of tree protection barriers, which denotes a construction exclusion zone for the duration of the project.

Tree Management Methods to be adopted on site.

1. Undertake pre-commencement site meeting to agree tree protection methods and timings.
2. Carry out any agreed tree work (check for authority before beginning)
3. Install all tree protection (see Appendix 3).
4. Undertake the demolition work and ground works.
5. Construction phase.
6. Remove tree protection and carry out landscaping.

Client : Avanton Richmond Development Ltd			**ACS (Trees) Consulting** **Consultants in the Management of Trees and Woodlands** Tree Tops | 2 Redwood Mount | Reigate | Surrey | RH2 9NB TEL: 01737 244819 | Mobile: 07770 820 105 ALSO At: Office Eighty Five | 272 Kensington High Street | London | W8 6ND www.acstrees.co.uk
Project : Homebase, Manor Road Richmond			
Title : Tree Survey, Removal and Protection Plan			
Scale : 1: 250 A1	Dwg No : TPP1_MR	Rev : -	
Date : Dec. 2018			

Do not scale from this drawing. Any discrepancies are to be reported to ACS (Trees) Consulting.
This drawing is to be used when printed to scale & in colour.

ACS (TREES) Consulting
Urban & rural tree management

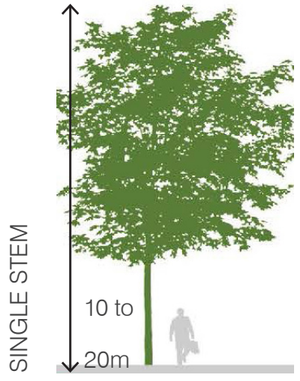
1.33 Tree Planting Strategy

Tree planting across the site relates closely to the character areas described above. Tree species will be selected from the recommended palette to suit the purpose and situation within each location and to achieve the desired effect.

Street trees will comply with Local Authority recommendations. Central courtyard tree layout is based on a grid of feature trees framing the space and supported by a secondary range of planting to the edges, containing the visual extent of this area.

Screen planting trees have been used to augment retained existing trees and hedge vegetation along the rail corridors and to create a visual buffer to the edges of the development.

Courtyards contain a ragne of colourful deciduous trees to add feature and colour to the landscape and to shade adn frame use areas.



KEY

	Streetscape trees
	Feature trees in Public square
	Mix of medium size Single-stem and Multi-stem trees
	Existing trees to be retained

TREE STRATEGY PLAN

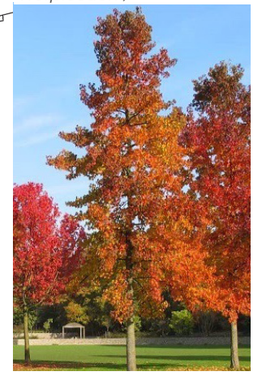
Acer campestre

Betula pendula

Acer ginnala

Alnus glutinosa

Liquidambar Styraciflua 'Worplesdon',



APPENDIX 3

ACS (Trees) Consulting
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Tree Protection Fencing

Specifications (specifically identified by outline box)

2.4m Hoarding

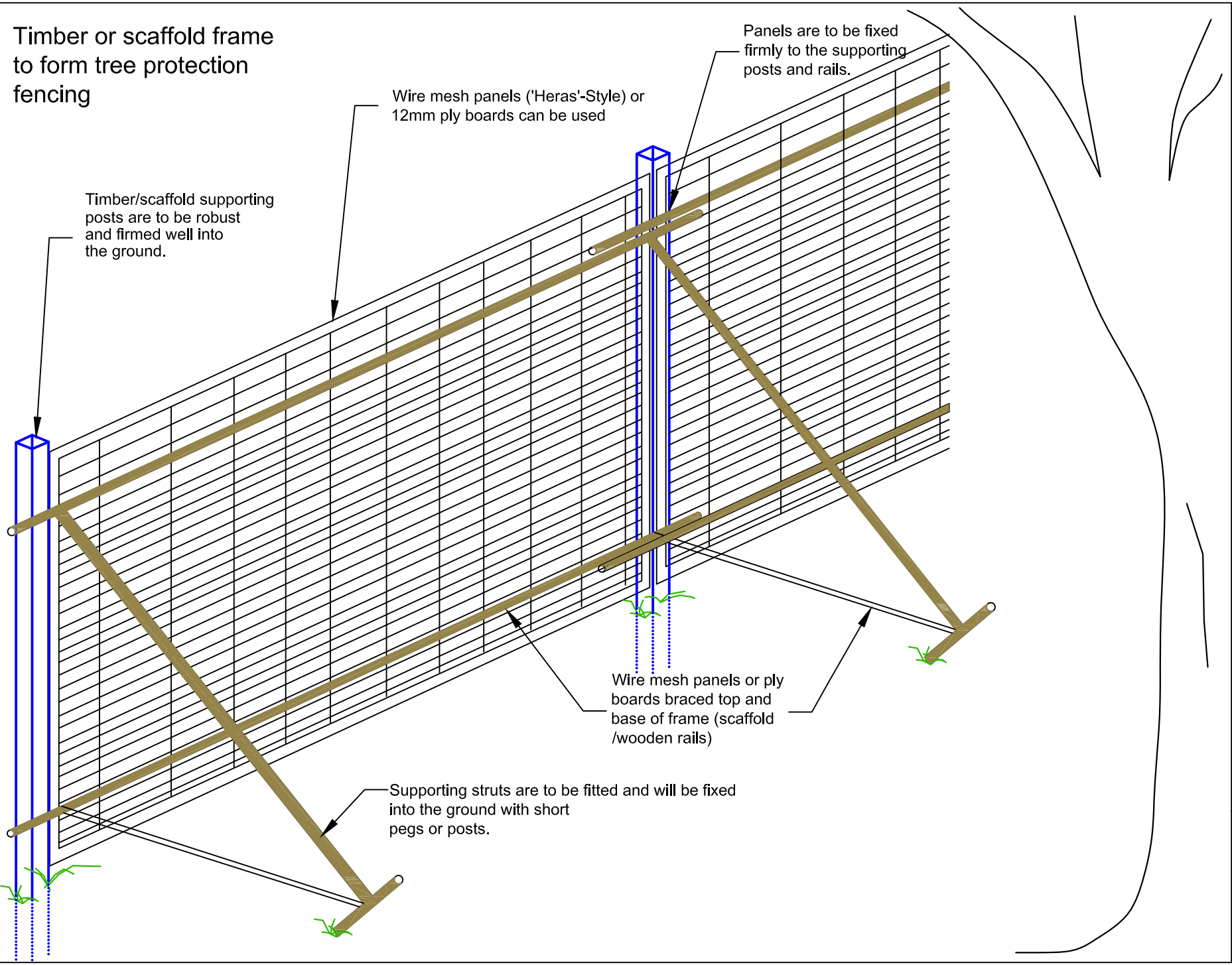
3.0m 100 X 100mm square wooden posts
3 X 38 X 87mm wooden rails affixed to posts
2.4m X 1200 outside grade ply panels (12mm) affixed to rails.
50 X 100mm angled supporting struts affixed internally (quantity as required).

(Supporting posts fixed into position using concrete. All post holes to be hand excavated. Post holes to be no larger than 300 X 300mm.)

Heras Fencing

Heras fencing describes the 2.4m galvanised steel mesh panelled fencing normally supplied with pre-cast concrete bases. **Bases are to be replaced with a fixed frame to which panels are clamped/ firmly fixed.** For extra stability, scaffold poles/4x4 wooden posts are to be firmed into the ground as supporting posts and supporting struts are to be attached at a 45 degree angle on the 'tree-side' of the fencing and fixed into the ground. Supporting posts will be braced at the top and base for added support.

Timber or scaffold frame to form tree protection fencing



ACS Consulting (London)

Tree Management Consultants

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Mitcham
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Title:

Example of Tree Protection Fencing

Note:

Steel scaffold or timber can be used to support boards or wire mesh panels

Date: Jan. 07

Ref:

Note: Sketch Plan Only - Not to Scale

Tree Protection Fencing

Scaffold Framework supporting ‘Heras’ type panels with signs attached.

Wooden Framework with ‘Heras’ type panels attached.

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Example of Tree Protection Box Frame

Designed to provide immediate protection from impacts and damage to the trunk and root crown.

Specification:

Uprights x 4, min. 100 X 100 treated wood

Batons top, middle and base min. 25mm x 75mm

45^{o} angled batons to and base for rigidity 25mm x 75mm

Fix 12mm OSB sheeting to framework

Affix ‘Tree Protection’ signage.

Fig. 1 Ground protection – hoarding over sharp sand and wood chip

Installing heavy-duty OSB boarding over a depth (min. 50mm) of sharp sand and/or wood chip between the tree protection fencing and the foundation line of new development is effective in protecting roots, which grow in the soil beyond the position of the fencing.

Fig.2 Side-butting scaffold boards and covered and fixed with 20mm OSB boarding

Ground Protection using heavy-duty ground plates.

(Courtesy of Eve Trackway UK – Tel: 08700 767676)

Robust aluminum, interlocking plates deflect heavy loads and prevent soil compaction beneath.

Effective use of X Trackpanel for site access.

Suitable for

- Heavy Duty Roadway
- Medium Duty Roadway
- Light Duty Roadway
- Walkway
- Eve Install

Specification

- Width: 3m
- Length: 2.5m
- Height: 50mm
- Weight: 254kg

1. Lay min. 75m depth of sharp sand/wood chip over identified ground area
2. Lay 15mm aluminium road plates over sand/wood chip
3. Fix ground protection cover into place with road pins or similar
4. Erect protection fence as per BS grade.
5. Monitor condition and efficacy and maintain as appropriate.
6. Remove ground protection upon completion/landscaping only.

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Example of a suspended work platform - ground/root protection.

Note:
Effective for confined work areas

Do not drive scaffold poles through roots

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Tree protection fencing or frame

TREE

Work platform

Scaffold poles supporting work platfrom of OSB boarding

existing ground level

scaffold clamp

Root zone

Root zone

Short scaffold driven firmly into the ground

APPENDIX 4

ACS (Trees) Consulting
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Arboricultural Site Supervision

ACS CONSULTING

Site:	Project Site Address/Name
Inspected By:	Arboricultural Supervisor (AS)
Client:	Client
Site Agent:	Site Agent's Name (SA)
Date of Inspection:	24/02/2017
Time of Inspection:	8:15:00

Tree Protective Fencing

Tree protection in correct location

Comments/Action

Ground protection - temporary concrete and existing paving

Agreed Construction Exclusion Zone

No debris within construction exclusion zone

Comments/Action

Amendments to Documentation Required

No amendments required

Comments/Action

Remedial Works

Robust hoarding and temporary concrete ground protection

Tree protection Hoarding and ground protection over sharp sand.

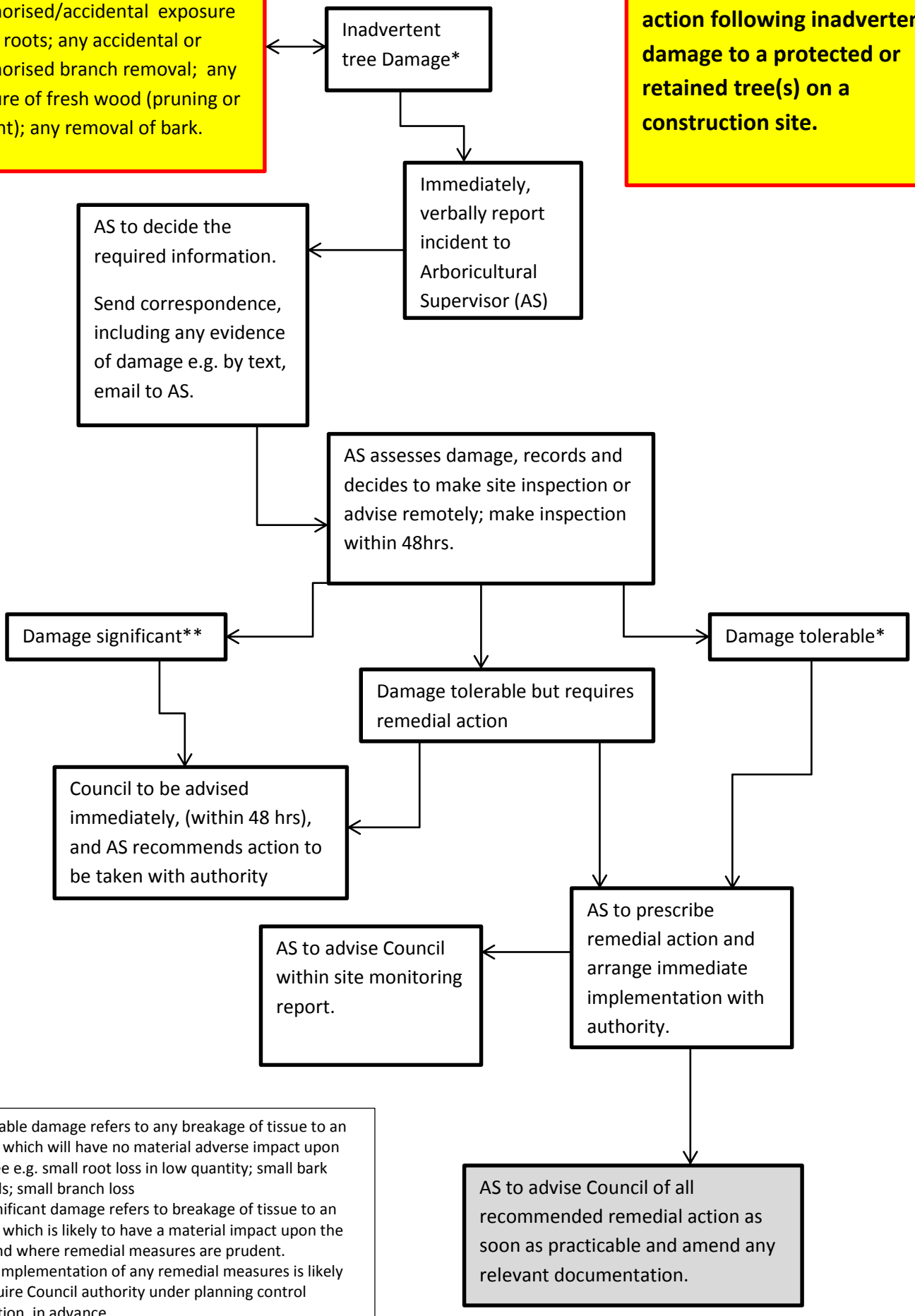
General Comments

1. Tree protection in position and effective
2. Position of site huts used as tree protection for T7 and T10
3. Temporary concrete used for ground protection for T10
4. Hoarding style tree and ground protection effective and in position

Next Inspection April 2017

*Tree Damage is defined as: any unauthorised/accidental exposure of tree roots; any accidental or unauthorised branch removal; any exposure of fresh wood (pruning or accident); any removal of bark.

Procedure for reporting and action following inadvertent damage to a protected or retained tree(s) on a construction site.



*Tolerable damage refers to any breakage of tissue to an extent which will have no material adverse impact upon the tree e.g. small root loss in low quantity; small bark wounds; small branch loss

** Significant damage refers to breakage of tissue to an extent which is likely to have a material impact upon the tree and where remedial measures are prudent.

Note: Implementation of any remedial measures is likely to require Council authority under planning control legislation, in advance.

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Also at: Office Eighty Five, 272 Kensington High Street, London W8 6ND | Tel: 0208 687 1214
E: hal@acstrees.co.uk | Partners: H.Appleyard and A. Appleyard