Landmark Trees

REVISED ARBORICULTURAL METHOD STATEMENT

Proposed Lidl Store

Former Hayes Swimming Pool Site

Botwell Lane

Hayes

Middlesex

REPORT PREPARED FOR:

Lidl UK

London North Property Office

4-14 Blackbird Hill

Wembley

London NW9 8SD

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MSc ARB MICFor FArbor A MRICS C Env

Ref: LUK/BLH/AMS/03a

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Appendices

1.0 Introduction

1.1 Purpose & Use of the Method Statement

1.1.1 This outline method statement has been prepared for Lidl UK, to assist with the discharge of planning conditions for the revised scheme for a Lidl Store at the former Hayes swimming pool site, Botwell Lane, Hayes, Middlesex. The site has extant planning permission for a new store at this site (London Borough of Hillingdon planning permission Ref: 1942/APP/2013/3565). The document will address precautions to minimise damage to trees on and around the site.

1.1.2 This document lays down the methodology for any proposed works that may have an effect upon the trees on and adjacent to the site. It is essential within the scope of any contracts related to the development proposals that this method statement is observed and adhered to. It is recommended that this document form part of the work schedule and specification issued to the building contractors and can be used to form part of the contract.

1.1.3 Copies of this document will be available for inspection on site. The developer will inform the local planning authority within twenty-four hours if the arboricultural consultant is replaced.

1.2 Terms of Reference

1.2.1 We (LT) are instructed by the client, Lidl UK to prepare a method statement with reference to BS 5837:2012 Trees in Relation to Design, Demolition and Construction for the revised scheme comprising a 2,824 sqm GEA store with 146 car parking spaces.

1.2.2 For this purpose, the client has supplied us with a site lay-out plan (03 Topographical Survey) and the current proposals plan (3176 402P 403K 404F Plans). We are also reliant upon our own impact assessment report LUK/BLH/AIA/03, with plan overlays of tree constraints contained therein.

1.3 Development Proposals & Potential Impacts

1.3.1 The principal primary impacts for the proposed store remain as in the extant proposals, with the felling of 7 trees, comprising 2 category B trees, 5 category C trees and 2 category U trees (Note: category U trees recommended for felling for sound husbandry, therefore the removal of these dead/poor quality trees should not be rated an impact).

1.3.2 Other primary impacts relate to the new access (felling of category B tree T44), and new parking areas (felling of category C trees, T41 & T43, in addition to category U trees, T42 & T46 which require removal on the grounds of sound husbandry). All felling is noted on the Tree Protection Plan (TPP) in Appendix 5, with red identifying trees to be removed for good husbandry and purple the trees to be removed to facilitate development.

1.3.3 The proposed excavation of the new store within the RPA's of T3, T5, T7, T9 and T11 will be mitigated by hand-digging the line of the foundations within the RPA. There will also be RPA impacts from the provision of new hardstanding/removal of old hardstanding, where mitigation is available to reduce the theoretical potential impacts (T3, T5, T7, T9, T11, T13, T15, T17, T18, T19, T20, T30, T33, T34, T35, T36, T37, T37a, T38, T39, T40, T45, T48, T49, T52, T53, T54, T55, T57, T59, T60, T61, T62 and T63). Crown lifts to T37 and T37a will also be required.

1.3.4 The revised scheme will require the manual removal of the existing surfacing and careful supervision. The main parking area and access roads within the RPA of the retained trees will require the use of no-dig construction and porous replacement surfacing, either using the existing sub-base or with a construction technique such as 'Infraweb'.

1.3.5 Further impacts to retained trees from construction below the canopy of T3, T5 and T7 are unlikely provided mini-rigs are used (canopy clearance is 6.0 meters). Possible minor tree surgery may be required to cut back/crown lift the canopy of T11. Secondary impacts comprise minor organic deposition (including leaves/honey dew) on to cars and car parking spaces, with some shading. Given that car parking should be short term only, the impact should be minimal; some shading may be beneficial.

1.3.6 Services will also proceed through these protected areas under supervision, adopting the NJUG provisions for hand-digging and trenchless techniques.

1.4 Sequence of Works

1.4.1 The sequence of works will be as follows:

- initial tree works – felling, stump grinding and pruning for working clearances
- installation of Tree Protection Barrier (TPB) & ground protection
- demolition of hard landscaping
- installation of supplementary ground protection
- installation of underground services
- main construction
- removal of TPB
- soft landscaping

These works and their arboricultural implications are outlined in sequence below

1.5 Site Supervision

1) Site supervision – an individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. An agent must be nominated for each phase of work, if demolition and construction contracts are to be awarded separately. The agent(s) must:

- be present on site for the majority of the time
- be aware of the arboricultural responsibilities - to this end, a site briefing / meeting between the agent and arboricultural consultant must be held before the commencement of each phase of works.
- have the authority to stop any work that is causing, or has the potential to cause harm to any tree
- be responsible for ensuring that all site operatives are aware of their responsibilities toward trees on site and the consequences of the failure to observe these responsibilities.
- Make immediate contact with the local authority and/or a retained arboriculturalist in the event of any tree related problems occurring, whether actual or potential.
- Contact details for Landmark Trees are provided on the cover to this report.
- Contact details for the Local Authority Tree Officer are as follows:

  Trevor Heaps
  Tree and Landscape Officer
  London Borough of Hillingdon
  3N/02,Civic Centre,
  High Street
  Uxbridge UB8 1UW

  E-mail: theaps@hillingdon.gov.uk
  Telephone: 01895 250230

1.6 Site Monitoring

1.6.1 Landmark Trees are to be retained as Arboricultural Consultants responsible for site monitoring for the duration of the development. As noted above Adam Hollis MSc (Arb) is the key contact, with monitoring occasionally undertaken by James Bell Tech Cert. (subject to any new staff intake). Site monitoring will be undertaken by a qualified and experienced arboriculturalist at pre-determined and agreed time intervals as indicated in Table 1 below.

1.6.2 The arboriculturalist will arrive at the site, check in at the site office and be safely escorted around the site by the site agent, checking the maintenance of tree protection measures. Routine visits will generally be unannounced. However, the arboriculturalist will also visit subject to advance notification and agreement to supervise any agreed works within the RPA.

Table 1: Site Monitoring Visits

Supervision Visit No:	Details	Action
Visit 1: Pre-Development Site Inspection (S.2.3 of AMS)	• To included construction Site Agent briefing (S.1.5). • To confirm position of protective fencing and that it has been erected in accordance with AMS (S.2.2 and Tree Protection Plan in Appendix 5); • To check any pre-demolition/construction ground protection is in place. • To check any tree works have been undertaken in accordance with this AMS (S.2.1. and Appendix 1). • Determine if further tree work is required and seek required permission if necessary. • To check site facilities/access are in accordance with the AMS (S.3.3).	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit (see Appendix 3).
Visit 2: Installation of any new services within RPA (S3.4)	• Attend any excavation within RPA's where arboricultural supervision is prescribed by the AMS to ensure work is undertaken in accordance with NJUG provisions or other specification. • Date to be confirmed following formal project planning. • 2 weeks prior notice required.	
Visit 3: Demolition of hard surfaces/structures within RPA (S3.6) and Arboricultural supervision of construction within RPA	• Confirm position of any additional temporary ground protection and that temporary ground protection is in accordance with AMS. • Attend any excavation within RPAs where arboricultural supervision is prescribed by the AMS and any other unplanned incursions into the protection areas (subject to Local Authority agreement as noted above). • 2 weeks prior notice required.	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit
Ongoing Supervision Visits	• Periodically during 12 months (or longer) of entire project. • Visits will be based intensity of site operations; once a month is considered reasonable. • To be carried out before, between and after detailed visits 2 and 3 above. • Attend site to confirm protective measures are still in place. Ensure attendance is timed for any other key elements of proposed (and any other unplanned) incursions into the protection areas.	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit.
Final Site Visit - Completion of construction phase supervision visit (S.5)	After it has been confirmed that the construction phase is complete, allow removal of temporary ground protection and protective fencing. Specify any remedial work if necessary.	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit.

1.6.3 The LPA's Arboricultural Officer will have free access to the site and report on any problem areas directly to the developer's Project Arboriculturalist, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure implementation. A final sign-off visit will be carried out at the end of the development and a formal letter sent to both the client and LPA indicating an end to the monitoring period. It is the client's duty to notify LT that the project has been completed, in order to facilitate such an inspection.

1.6.4 N.B. Landmark Trees will only be responsible for providing monitoring in so far as they fully instructed to do so and regularly paid for such services by the client. In the absence of routine payment (as per our business terms), routine monitoring will cease (temporarily or permanently) and the LPA will be informed of the cessation of monitoring. The client will also reserve the right to dismiss Landmark Trees and replace with another arborist, but must inform the LPA.

1.7 Statement Adoption

1.7.1 It is recommended that, in due course, acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of tree protection recommendations have been priced in to the job. If conflicts between any part of a tree and the building arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflects lack of best practice. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

2.0 Pre- Development Site Preparation

2.1 Arboricultural Works

2.1.1 All works must be carried out by a competent arborist in accord with BS 3998: 2010 and any other prevailing good professional practice.

2.1.2 Specific works recommended to facilitate development (trees to be felled marked purple on the TPP and remedial tree surgery to T37/T37a) and any other husbandry works (including trees to be felled marked red on the TPP) are listed in Appendix 1, including those that have been recommended for the off-site trees.

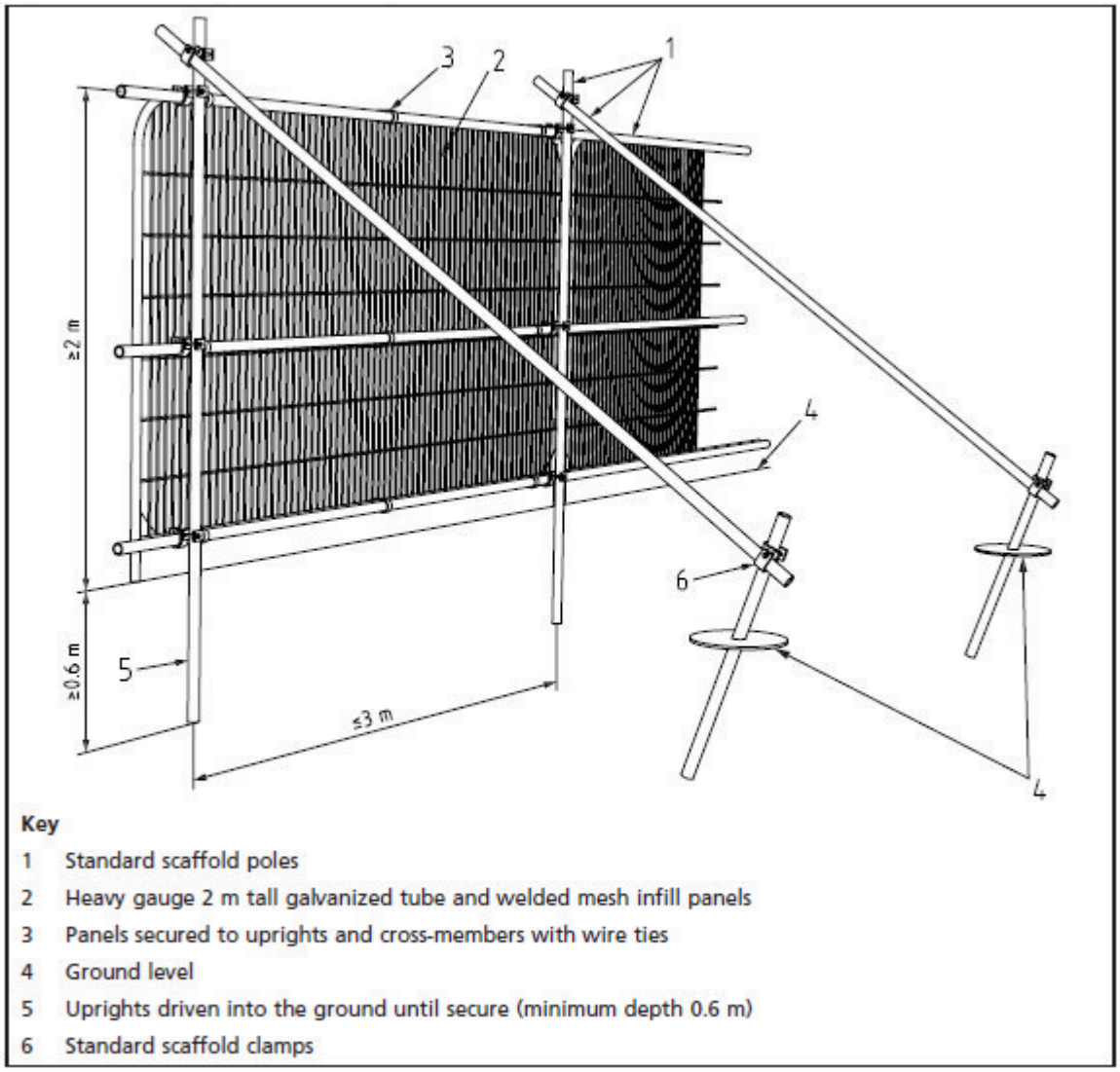
2.2 Installation of Tree Protection Barrier

2.2.1 Tree Protection Barriers [TPB] comprising mainly steel mesh panels of 2.4m in height ('Heras') should be erected to protect trees near buildings to be demolished on site. These panels will be mounted on a scaffolding frame as shown in Figure 1 below (this is also Figure 2 of BS5837: Trees in Relation to Design, Demolition and Construction in paragraph 6.2.2.2).

2.2.2 These TPBs are to be erected before any work commences on site, is to remain 'in situ' undamaged for the duration of all work or each phase, and only to be removed once all work is completed. If any work is deemed necessary prior to the erection of fencing a Landmark Trees representative should be informed to enable their presence to oversee the work being carried out.

2.2.3 The only other exception is the completion of soft landscaping but if any excavations, however minor, are to be carried out as part of soft landscaping within RPAs, an arboricultural assessment must be carried out beforehand and any arboricultural protection measures incorporated. The TPB should carry waterproof warning notices denying access within the RPA.

2.2.4 The Tree Protection Plan in Appendix 5 illustrates where the protective fencing will be located to form the boundary of the Construction Exclusion Zone (CEZ). The CEZ is an exclusion zone and suitable steps will be taken to prevent access by pedestrians and vehicles and the storage of any works materials and equipment will be located outside of the CEZ.



Key

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

Fig. 1 Tree Protection Barrier Specification
(Source: Figure 2 from BS5837 - Default specification for protective barrier)

2.3 Pre-Development Site Inspection

2.3.1 Upon completion of the tree works and installation of the protection measures, the standard of work can be checked by the retained arboricultural consultant who can then liaise with the local authority. If there are any amendments to either the tree works or additional protection measures, they will be agreed at this meeting and confirmed in writing.

3.0 Development Phase

3.1 The following general precautions will apply:

- No fires shall be made on any part of the site, or within 20m of any tree to be retained.
- No spilling or pouring of fuels, oils, solvents, tar shall be made on any part of the site.
- No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained.
- No spillage or discharge of wet mortar or concrete shall be made on any part of the site.
- No storage of materials shall be made within the protective fences.
- No breaching or moving of the protective fences without the approval of an arboriculturist.
- Alterations in levels within the tree protection fence areas shall be avoided.

3.2 Root Protection Areas (RPA)

3.2.1 The Root Protection Area (RPA) is a desirable zone of protection around the trees' rooting system and these have been marked on the plan in Appendix 5. As much as possible, the RPA's will lie within the CEZ and therefore, be fully fenced off. However, this degree of protection is not entirely possible on the site: it is necessary to perform some works (in part) within the RPA i.e. removal of existing hard landscaping, installation of services and construction of new car parking spaces/hard landscaping areas.

3.2.2 All involved parties will need to be made aware of the deficiencies. In these instances, careful and supervised working, as described in sections S1.3, S.3.4 (routing of services) and S.3.6 (demolition of surfaces) and S.3.7 (construction) will be required.

3.2.3 Ground outside the CEZ must be protected from site traffic and not left exposed during construction. As far as practical, existing hard surfaces should be retained as initial ground protection (where fit for purpose for anticipated loading) until the landscaping phase and / or substituted / supplemented with appropriate materials (e.g. Infraweb, Ground Guards etc.), capable of withstanding anticipated loads. **NB the provision of ground protection on plan does not prohibit the consented laying of services and related works in those areas. It means that those operations should proceed under caution and protect adjacent ground to that immediately requisitioned for the work in hand.**

3.3 Site Access, Accommodation & Storage

3.3.1 Full details of the phasing and site set up are to be confirmed, although initial site access is likely to make use of the existing access off Central Avenue, with accommodation positioned outside any of the RPA's noted on the Tree Protection Plan (Appendix 5). Pedestrian access will run parallel, but

separate to vehicular access. Once available, the proposed access off Church Road is likely to be used.

3.3.2 Delivery lorries will be excluded from RPA's by tree protection fencing and ground protection. Adequate allowance must be made for vehicle heights and ground clearance, where tree canopies overhang access routes. Any further pruning for working clearances must be discussed first with the arboriculturalist; once agreed in principle these works should be approved by the appropriate tree officer and approved in writing by the LPA. Materials can be unloaded onto protected ground within RPA's and stored throughout the interior of the site(s) away from protected trees

3.3.3 Many site activities are potentially damaging to trees e.g. material storage, parking, soil compaction and the use of plant machinery. In this latter example particular care is required to ensure that the operational arcs of excavation and lifting machinery, including their loads, do not physically damage trees in use.

3.4 Routing & Installation of Services

3.4.1 Every effort should be made to ensure that the routing and instillation of services avoid the RPA at the design stage; however if unavoidable then it may be possible, with written permission from the LPA, to implement the provisions of BS5837 and NJUG VOLUME 4 (e.g. radial trenching and /or mole trenching) under arboricultural supervision.

3.4.2 To avoid direct damage to drains, BS5837 recommends minimum distances to be maintained between newly planted trees and drains. These distances vary for different depths of drain (e.g. sewer laterals or mains) and different sizes of trees. See Table 3 below:

Table 3 — Minimum distance (m) between young trees or new planting and structure to avoid direct damage to a structure from future tree growth

Type of structure	Diameter of stem at 1.5 m above ground level at maturity		
	<30 cm	(30–60) cm	>60 cm
Buildings and heavily loaded structures	—	0.5	1.2
Lightly loaded structures such as garages, porches etc.	—	0.7	1.5
Drains and underground services			
<1 m deep	0.5	1.5	3.0
>1 m deep	—	1.0	2.0
Masonry boundary walls[a]	—	0.5	1.0
	—	(1.0)	(2.0)
In situ concrete paths and drives[a]	—	0.5	1.5
	(0.5)	(1.0)	(2.5)
Paths and drives with flexible surfaces or paving slabs[a]	—	0.5	1.0
	(0.7)	(1.5)	(3.0)

[a] These distances assume that some movement and minor damage might occur. Guidance on distances which will generally avoid all damage is given in brackets.

3.4.3 The foundation pits for any proposed lampposts should be positioned using trial pits to determine the root mass within the preferred location. Where these trial pits determine that there is significant

rooting mass, the foundation pit will be relocated. Any roots found within a pit will require pre-emptive pruning, with roots over 25mm pruned under arboricultural supervision. Some remedial tree surgery may also be required, although this must be approved by the appropriate tree officer and approved in writing by the LPA.

3.4.4 The foundations for any proposed charging points should be trial excavated as above. Where significant roots are found, then either cantilevered foundations or alternative locations will be used for the charging points.

3.5 Changes in Grade

3.5.1 The upper layer of top soil contains the majority of a tree's roots and if this is disturbed by a reduction in ground level, serious damage can be caused. If ground levels need to be marginally altered within the RPA of any tree, prior agreement must be sought from the Tree Preservation Officer and given in writing by the LPA.

3.5.2 If such soil is to be disturbed within the CEZ / RPA, it will be done only with hand tools and the supervising arborist will be informed if roots are exposed. If the ground level requires raising, this will be achieved using coarse, granular material such as pebbles.

3.6 Demolition Measures.

3.6.1 The removal of hard surfaces within what would otherwise be an RPA will proceed with due caution to avoid unnecessary damage to trees. The hard standing within the trees' RPA's will be first broken up with manual power tools and then carefully removed with light plant by a skilled machine operator, either operating outside the RPA, or working from within the existing built structure and hard standing, near trees. Soil exposed beneath the structure will not be scraped away, but preserved in situ and protected immediately (not tracked over) with replacement ground protection (as per para 3.2.1) before the continuance of operations.

3.6.2 If the weather is "dry," the site will be watered down to reduce dust travelling to adjacent properties. Where levels of dust build-up on trees occur, it may be necessary to seek the advice of Landmark Trees on remedial measures, e.g. hose down the tree(s) immediately following any significant accumulation of dust.

3.7 Construction Measures

Detailed method statements and risk assessments will be obtained from all specialist subcontractors involved in the new build and these will be scrutinised by the site agent to ensure the AMS requirements have been considered therein.

3.7.1 Construction materials will generally be delivered on lorries with mechanical off load stored within designated areas away from the trees.

3.7.2 The low RPA encroachments from the new store to T3, T5, T7, T9 and T11 will be pre-emptively excavated by hand or with an Airspade under arboricultural supervision. Roots smaller then 25mm diameter may be cut cleanly with a sharp pruning saw or secateurs back to a junction. Roots larger then 25mm diameter may only be cut in consultation with the retained arboriculturalist. The replacement paving/car parking spaces/hard landscaping within RPAs will require a no-dig construction technique, either using a cellular confinement system with no fines aggregate for the sub-base or simply building upon the existing sub-base without disturbing the ground below. Choice of construction method will initially depend upon root penetration within the existing sub-grade. The key principle is not to excavate in the presence of roots and to provide a porous surface to promote healthy soil water relations for future root growth. A further consideration in the use of a more expensive cellular confinement system or similar, may be the claimed reduction in risk of possible future slab / surface displacement by roots of trees growing in paved areas. The replacement hard surfaces within the RPAs should also comprise porous surfaces where possible.

3.7.3 A sample specification for no-dig construction for new hard surfaces is given below. NB: use of the no-dig construction and its impacts (c.150mm rise) will need to be factored into the finished site levels. Further information on the 'Infraweb' system is provided in Appendix 2.

i. The Construction should ideally be undertaken between May and October when the ground is sufficiently dry to prevent compaction occurring. Any surface vegetation should be removed by hand or with suitable herbicide.

ii. Fill any hollows in the exposed ground with sharp sand or 4/20mm or 40/20mm clean angular stone.

iii. Place Permatex 300 Geotextile over the area to be protected ensuring laps are a minimum of 300mm. The geotextile should not be trafficked across at any time.

iv. The Infraweb system is available in 5 depths for varying traffic loadings but each site should have a specific design detailed to ensure the correct depth of product is used. However, unless the existing ground conditions are very soft and have a low CBR then the following can apply:

- 50mm deep InfraWeb for Pedestrians and Cycleways, non-vehicular traffic;
- 75mm deep InfraWeb for Pedestrians, Cycleways and vehicles up to 1.5 tons;
- 100mm deep InfraWeb for Cars, 4 Wheel Drives, Vans etc up to 6 tons;
- 150mm deep InfraWeb for Fire Tenders, Removal Vehicles and Dust Carts up to 20 to 20 tons;
- 200mm deep InfraWeb for construction vehicles, cranes etc 40 tons and above.

v. The system components are as follows:

- InfraWeb 3 Dimensional Cellular Confinement System
- Permatex 300 Separation Geotextile
- Permatex 200 Separation Geotextile (depending on surface finish)
- InfraWeb Staking Pins
- InfraWeb Stapler and Staples

- 4/20mm or 40/20mm Clean angular stone to BS EN 13242 and 12620.

vi. Place the collapsed panel on the geotextile and pin through 3 cells across the 2.42m orientation using InfraWeb staking pins. Expand the panel to its full length of 8.7m and pin across the opposite panel end using InfraWeb staking pins. Pin along the length of the panel with 2 pins on each side using InfraWeb staking pins. If full panels are not being used then ensure the cells have been expanded to their full dimension. Staple any adjacent panels together using the Infraweb stapler and staples. The InfraWeb panels can be cut to shape if required with a heavy duty Stanley Knife.

vii. The correct specification of the granular infill is vital to the long term performance of the system. Use only 4/20mm or 40/20mm clean angular stone to Bs EN 13242 and 12620 (depending on cell depth being used). Fill the pockets of the InfraWeb with a 4/20mm or 40/20mm clean angular stone. Allow for any settlement of the stone in the cells and top up if necessary. **If the system requires trafficking immediately after installation for construction purposes then a 50mm sacrificial surcharge of the 4/20mm or 40/20mm granular material shall be placed on top of the InfraWeb.**

viii. The Infraweb TRP system can be surfaced with any of the materials listed below. Porous systems will be of greater benefit for the trees, however it is understood that this is not always possible.

Block Paving:

- Place Permatex 200 separation fabric over the filled InfraWeb.
- Lay sand / gravel bedding material as per manufacturer's recommendations.
- Place porous / standard blocks as per manufacturer's instructions.

Porous and Standard Ashalt:

- Slightly surcharge the InfraWeb with 25mm of 4/20mm or 40/20mm clean angular stone.
- Place hot Asphalt as per manufacturer's instructions.

Resin Bound Gravels:

- Place Permatex 200 separation fabric over the filled InfraWeb.
- Lay Asphalt carpet and resin bound gravel to the required thickness and as per manufacturer's instructions.

Loose Gravels:

- Option 1 is to slightly overfill the InfraWeb with the clean angular stone.
- Option 2 is to place a 25mm thick decorative stone above the filled InfraWeb.

Slimblock Gravel Retention System

- Place Permatex 200 separation geotextile over the filled InfraWeb.
- Place 20mm bedding layer of 5mm single sized stone and lightly tamp.
- Lay Slimblock units and fill with a 10 to 14mm decorative gravel.

Slimblock Grass Protection System.

- Place Permatex 200 separation geotextile over the filled InfraWeb.
- Place 50mm of Rootzone (60% sand/40% soil) bedding layer and lightly tamp.
- Lay Slimblock units and fill with Rootzone mix and seed accordingly. (Please allow for 4 to 6 weeks for seed germination)

Tree Mulch

- Place Permatex 200 separation geotextile over the filled InfraWeb.
- Lay mulch to desired depth.

Concrete

- Place Permatex 200 separation geotextile over the filled InfraWeb.
- Cast the concrete slab over the geotextile.

3.8 Removal of Ground Protection & Post Construction Landscaping & Treatment

3.8.1 The tree protection may be removed upon completion of the construction phase and when all drainage and service runs have been installed and any site machinery has been removed from the RPA.

3.8.2 Following the developing phase, impacted trees within the site boundary, identified for such treatment, will receive remedial soil remediation treatment: deep root fertiliser / mycorrhizal injection and surface mulching

3.8.3 Any further landscaping works should avoid the changing of ground levels or deep digging. Mechanised cultivation such as tractor-mounted rotovation must not be used within the RPA's of existing trees.

3.8.4 Heavy machinery should not be used in the vicinity of any retained trees.

3.8.5 If herbicides are to be used they should be appropriate to their purpose and not in such a way as to damage any retained trees or vegetation; they must be applied by a suitably qualified person i.e. a holder of a recognised 'certificate of competence'.

3.8.6 Ideally, retained trees should be within a shrub area as this reduces the chances of compaction and disturbance of root systems.

3.8.7 Any new planting schemes adopted should consider aspects of the site such as current design, layout and future use. Consideration should also be given to the soil type, climate and overall character of the landscape.

4.0 Summary of Proposed Methods

4.1 Table of Impacts and Mitigation

4.1.1 The table below summarises the main areas where trees could become damaged by the proposed development and the methods that need to be adopted in order to prevent such damage:

Impact	Mitigation	Reference	Trees Affected
General site access, material storage etc.	Ground protection to acceptable standards.	Paras 2.2.1 & 3.3.3 Tree Protection Plan in Appendix 5	All retained trees
Removal & construction of hard surfaces beneath existing canopy	Tree surgery potentially required	Sections 1.3, 2.1	T11, T37 & T37a
Proposed Lampposts /charging points within RPAs	Trial pits to determine roots likely to be affected. Relocation of pit where required. Pre-emptive root pruning. Potential use of cantilevered foundations for charging points situated close to stems.	Section 3.5	TBC
Removal of existing hard standings within RPA	Manual power tools and then careful removal with light plant	Section 3.6	T3, T5, T7, T9, T11, T13, T15, T17, T18, T19, T20, T30, T33, T34, T35, T36, T37, T37a, T38, T39, T40, T45, T48, T49, T52, T53, T54, T55, T57, T59, T60, T61, T62 and T63
Construction of new hard surfaces in RPA	Use of existing sub-base/"InfraWeb" Use of InfraWeb where no existing hard-surface exists Pre-emptive root pruning with minimal encroachment for new parking area	Section 3.7	T3, T5, T7, T9, T11, T13, T15, T17, T18, T19, T20, T30, T33, T34, T35, T36, T37, T37a, T38, T39, T40, T45, T48, T49, T52, T53, T54, T55, T57, T59, T60, T61, T62 and T63

5.0 Completion

5.1 Completion Meeting

5.1.1 Following completion of the works listed above, a Landmark Trees consultant will meet with a local authority representative and agree upon any remedial works deemed necessary. It is the client's duty to notify LT that the project has been completed, in order to facilitate such an inspection.

5.1.2 A separate LT post-development tree inspection (with specific reference to trees identified in the Appendix 1 schedules) is recommended to facilitate a constructive meeting and to monitor the health of some of the more senescent trees on site.

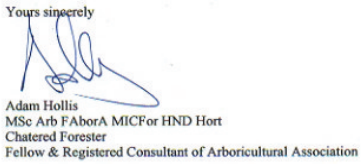
5.1.3 Any works agreed in the above meeting will be confirmed in writing and will be performed to BS 3998: 2010 Tree Works.

5.1.4 Landmark Trees recommend that any work proposed post development is checked to avoid penalty for performing illegal work on a protected tree.

5.1.5 As noted at 1.7 above, it is recommended that, in due course, acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of tree protection recommendations have been priced in to the job.

5.1.6 If conflicts between any part of a tree and the building arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflects lack of best practice. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

Signed



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Adam Hollis MSc ARB MICFor FArbor A

6th November 2015

For and on behalf of ***Landmark Trees***

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APPENDIX 1: ARBORICULTURAL WORKS

Notes for Guidance:

1, 2, 3 - Urgent (ASAP), Standard (within 6 months), Non-urgent (2-3 years)

RP - Pre-emptive root pruning of foundation encroachments under arboricultural supervision.
CB - Cut Back to boundary/clear from structure.
CL# - Crown Lift to given height in meters.
CT#% - Crown Thinning by identified %.
CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs).
CR#% - Crown Reduce by given maximum % (of outermost branch & twig length)
DWD - Remove deadwood.
Fell - Fell to ground level.
FInv - Further Investigation (generally with decay detection equipment).
Pol - Pollard or re-pollard.
Mon - Check / monitor progress of defect(s) at next consultant inspection which should be <18 months in frequented areas and <3 years in areas of more occasional use. Where clients retain their own ground staff, we recommend an annual in- house inspection and where practical, in the aftermath of extreme weather events.
Svr Ivy / Clr Bs - Sever ivy / clear base and re-inspect base / stem for concealed defects.