Impact Assessment and Tree Removal – Addendum

Background

A BS5837 Tree Survey, Implications Assessment & Constraints Report (ref. 550355mtsept12Dv03_BS5837) was produced for the planning application following dialogue and discussion with the team. Further information has been requested with regards to the protection of the group of London Planes along Vicar's Road. In response to this the proposed development block B2 has been relocated so as to reduce the incursion into the RPA areas. The attached drawing (dated 5.02.2013) with associated text on the Arboricultural Method Statement shows the new proposed blocks for this area and the associated control measures to ensure protection of these trees. Further comments below relate to these changes and to the rest of the site overall.

Development Proposals

The application seeks approval for the demolition and redevelopment of the District Housing Office (115 Wellesley Road) and workshop buildings (2-16 Vicars Road), followed by phased demolition and redevelopment of Bacton Low Rise (residential properties at nos. 121-219 – 99 units in total) to provide 290 residential units, comprising both affordable and market properties, employment floorspace and associated works.

Remedial tree works and tree protection measures for those trees to be retained which are located close to the boundaries of the application area should be carried out to ensure they survive in good condition. Details of these protection measures are given below.

Recommendations for Tree Protection

The GRNGE-BCTNLWRS-AMS_Final_revb drawing within the BS5837 Tree Survey, Implications Assessment & Constraints Report and the attached plan (GRNGE-BCTNLWRS-draft-proposal-overlay_B2) shows the minimum areas (known as RPAs) required to protect the trees on site in relation to proposed residential development. The RPA is the area that should be left undisturbed around any retained tree in order to avoid damage to roots or the rooting environment. Any construction activities undertaken within this area have the potential to adversely affect the health of these trees.

It is recommended that appropriate measures be taken to protect trees to be retained. indicates the locations of proposed tree protection fencing to be placed

Demolition of the existing buildings will have to be carried out from within the building footprint. In order to protect the retained trees, the tree protection fencing / site hoarding will need to be erected parallel with the existing building footprint as shown on GRNGE-BCTNLWRS-AMS_Final_revb and GRNGE-BCTNLWRS-draft-proposal-overlay_B2. The detail of the protective fencing is also shown on GRNGE-BCTNLWRS-AMS_Final_revb and GRNGE-BCTNLWRS-draft-proposal-overlay_B2. Tree protection fencing should be erected prior to commencement on site to protect the retained trees, together with the measures outlined below, in order to ensure their survival in a healthy condition. Tree protection fencing shall be erected following the remedial tree works and retained for the duration of the project. The fencing shall be erected as per GRNGE-BCTNLWRS-AMS_Final_revb and GRNGE-BCTNLWRS-draft-proposal-overlay_B2 with signage erected as per Detail 2 in the same drawings, every 10 meters along the linear length of the fence. Site hoarding, where

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it forms a physical barrier between the street trees and the site, shall be sufficient as tree protection fencing. Individual trees shall be protected as per Detail 1 and shown on the plan in orange. No works shall take place within the tree protection fencing without arboricultural supervision on site.

Limited construction work is proposed within most of the RPAs of these trees but where excavation works are planned then care should be taken to avoid damage to overhanging canopies and the protective fencing will be erected to prevent construction vehicles moving within the tree areas. Where the construction is to take place within the RPAs of the trees, caution is advised. Should tree roots be encountered, excavation should be carried out by hand and the guidance within the arboricultural method statement should be followed.

Significant incursion into the RPA of T4 and T7 would occur with the proposals as shown. It is the intention to carry out air spade investigative works under arboricultural supervision to determine the extent of the root crown of T4 and T7. This will be done in advance of any construction works and will investigate the distribution and direction of the main roots. These investigations will inform the proposals for incorporating T4 into the build and the options the special load spreading surfaces that are given in the Arboricultural Practice Note 12 *Through the Trees to Development* (APN12).

The proposals for balconies in some locations have also been reviewed against the trees and any previous management that these have been recently subjected to. In most instances the proposed balconies do not extend beyond the existing build line but in some instances existing tree canopies are close to where some external balconies are proposed.

T14 having been reduced previously, is now committed to a maintenance regime involving repeated reduction work at least every three years and should have little impact on the balcony adjacent to it.

The Limes, T15-T18 have balcony proposals in close proximity to the crowns; these trees do have asymmetric crowns due to repeated pruning to clear the adjacent existing windows and pruning works to maintain clearance would be continued.

The guidance outlined above and the method statement below aims to ensure that the tree stock to be retained survives in good health. In conjunction with the proposed planting outlined in the Design and Access Statement and Landscaping Strategy accompanying the application the retained trees will ensure a sustainable vegetative framework both within and surrounding the proposal site.

Arboricultural Method Statement

This section provides an arboricultural method statement for the recommended tree works and tree protection. The part of a tree most susceptible to damage is the root system; especially as the majority of the sensitive feeder roots are located within the top 600mm of soil, extending radially for distances frequently in excess of tree height. The factors which most commonly affect oxygen diffusion, causing root damage (and therefore must be avoided) include:

- Compaction of the ground;
- Ground excavation and soil stripping;
- Poor alignment and implementation of service channels;

• A change in soil levels (even if temporary);
• Covering the root zone with impervious surfaces;
• A rise in the water table level or ground saturation; and
• Damage by the direct toxicity of some materials (petrol, oil and lime in cement can kill underlying roots).

The tree protection measures outlined below will help to prevent root severance and asphyxiation. However, any work that has to be undertaken in close proximity to trees must be undertaken by hand, in order to minimise the risk of damaging retained trees.

General Precautions during Tree Removal

Any tree removal and all tree works should be undertaken by a qualified arboricultural contractor who must be listed in the Arboricultural Association's Approved Contractors Directory, all in accordance with the requirements of BS 3998: 2010 British Standard Recommendations for Tree Work and BS5837.

Trees in Relation to Construction.

Trees to be felled or vegetation to be removed should be clearly marked. The work should be timed to avoid the bird nesting season and other potential ecological constraints subject to consultation with an ecologist. If required, tree surgery work on mature trees with deadwood should be carried out under an Ecological Watching Brief. Care should be taken not to damage any surrounding vegetation to be retained.

Where appropriate, major limbs should be lowered to the ground during felling in order to minimise the impact upon the adjacent retained trees. Stump removal should also be actioned at this stage. Retained trees should not be used as anchorages for equipment used in stump removal. Work should be undertaken by hand where necessary and sections of a root system should be left *in-situ* if it is felt that damage may be caused to the adjacent trees.

Additional Precautions Outside Fenced Area

In accordance with BS5837: 2012, the following precautions should be undertaken to avoid damage to retained trees:

• No materials shall be stored under the canopies of retained trees;
• No oil, diesel, bitumen, cement, solvents or other material likely to be injurious to a tree shall be stored any closer than 5m from the edge of the canopy of any trees;
• Concrete or cement mixing shall not be carried out within 10m of a tree;
• Fires shall not be lit in close proximity to the canopy of any tree;
• Trees to be retained shall not be used as anchorages for any equipment;
• Notice boards, telephone cables or other services shall not be attached to any part of a tree;
• Care shall be exercised when using cranes or similar equipment near the spread of the canopy of a tree; and
• Allowance shall be made for any slope of the ground so that damaging materials do not run towards trees.

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Avoiding Damage to Stems and Branches

Access around the site area during any works shall be carefully managed to protect the existing trees to be retained. If there is insufficient space for standard vehicles between areas of protective fencing, smaller sized plant and vehicles will need to be used. Care shall be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs, and counterweights, can operate without coming into contact with the trees. Such contact could result in serious or detrimental damage to a tree.

Utility Service Connections

Proposed service routes should be outside of the RPAs of the trees to be retained to avoid disturbance of the tree roots. Where service runs do occur in close proximity to trees, all installations should be carried out in accordance with the guidelines set out in NJUG Volume 4. Great care should be taken to preserve and work around roots greater than 25mm in diameter, and clusters of smaller roots avoiding damage to bark. Where it is necessary to sever roots greater than 25mm in diameter, further arboricultural advice should be sought. Where smaller roots must be severed, they should be cut back cleanly using secateurs or a sharp pruning saw. Any services laid through protected areas should be installed at a greater depth than 600mm in order to preserve the maximum number of roots and avoid conflicts between the tree roots and utility service run.

Backfilling of trenches should be carried out using the excavated soil, which should be worked in and around the roots and lightly 'tamped', not compacted, while respecting the original soil profile. The topsoil should be left proud of surrounding levels to allow for settlement.

Trenches should not be left open overnight, and arboricultural supervision should be provided during excavation of trenches through protected zones, if required.

Siting of Temporary Offices, Toilets and Material Storage Compounds

Such locations to be outside of the tree protective fencing and remain in only those agreed locations throughout the construction phase.

Scheme Revisions

If any of the development proposals are amended or other changes to the site are proposed then this will invalidate the recommendations made in this report. Should this be the case then a suitably qualified arboriculturalist should be required to review the recommendations made in this report in respect of the revised development proposals.

Completion of Development

On completion of the proposed development, it is recommended that all retained trees are re-examined by a suitably qualified arboriculturalist to ensure there has been no change in the structural condition of the trees following the construction works. Any tree surgery that is necessary to ensure the health of the trees should be implemented before the development is complete.

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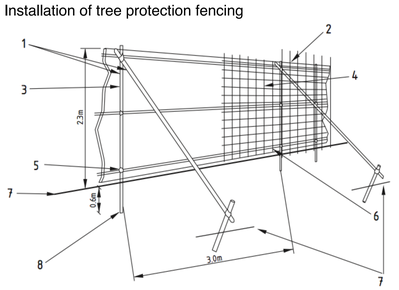
DETAIL 1
Installation of tree protection fencing



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

TREE CATERGORIES

Catergory B

Catergory C

Catergory R
(marked for removal)

Root protection area
(of retained trees)

Note 1:
Demolition of the existing buildings will have to be carried out from within the building foot print. In order to protect the retained trees, the tree protection fencing / site hoarding will need to be erected parallel with the existing building footprint.

DETAIL 2
Example signage that should be affixed to tree protection fencing

Photo showing root investigation work utilising an air spade

Significant incursion into the RPA of T4 and T7 would occur with the proposals as shown.
It is the intention to carry out air spade investigative works under arboricultural supervision to determine the extent of the root crown of T4 and T7.
These investigations are to inform the proposals for incorporating T4 and T7 into the build and are likely to include crown reduction and special surfaces to APN12.

Further more, no demolition and excavation works are to take place within the RPA's of T4 through to T7 without an Arboricultural Clerk of Works (AcoW) present.
Only hand digging will be permitted within the RPA's as per the British Standard.

Tree protection fencing shall be erected before the investigation works and shall be retained for the duration of the project. The fencing shall be erected as per Detail 1 with signage erected as per Detail 2 every 10 meters along the linear length of the fence.
Site hoarding, where it forms a physical barrier between the street trees and the site, shall be suffcient as tree protection fencing. Individual trees shall be protected as per Detail 1 and shown on the plan in orange.
No works shall take place within the tree protection fencing without arboricultural supervision on site.

During excavation and investigation works any exposed tree tree roots shall be covered in hessian under arboricultural supervision. Once the root mass has been by-passed, mechanical digging shall be allowed providing the machine sits outside the RPA.

Arboricultural solutions matrix

ref	issue	mitigation
1.	The layout as shown breaches the radial RPA of T4 and T7	• Investigations to determine the presence or absence of tree roots in the new area of the build should be undertaken pre-construction and a suitable surfacing type proposed if roots of retained trees are found; • A measure of tree root containment is suspected due to the existing buildings and hard landscape. Following investigation works, it may be possible to offset the RPA further
2.	Foundations of the two blocks will breach the radial RPA of T4 and T7	• Investigations to determine the presence or absence of tree roots in the new build will be undertaken pre-construction. This would involve either hand-digging or Airspading the ground down to the required depth of excavation (probably ca. 450-500mm). If few roots are found, then conventional construction can proceed. If extensive roots are encountered, then hand-digging and/or a bridged foundations and Geogrids maybe required.
3.	Some cutting back may be required to facilitate construction	• The crowns may need to be lightly cut back prior to commencement of construction and all work should comply with BS3998:2010 "Tree work- recommendations",
4.	Proposed new landscaping to the front of the new blocks breaches the RPA's of T4-T7	• Currently, no firm proposals have been seen for this work, it may be that Geogrid solutions will be appropriate in this area.

Arboricultural Method Statement - Bacton Low Rise - Block B2

Greengage

Greengage Matthew Harmsworth ND RS, Tech.Arbor.A	Project: Proposed mixed use residential development with associated hard and soft landscaping.		Drawing no. GRNGE-BCTNLWRS-draft-proposal-overlay_B2
	Drawing: BS5837 Arboricultural Method Statement	Location: Bacton Low Rise, Wellesley Rd, Gospel Oak	Date: 05.02.2013 / Scale: 1:500 @ A3