LOCATION:	Asmuns Place Allotments (Rear of 7 – 9 Asmuns Hill, London NW11 6ES)		
REFERENCE:	TPO/00421/12/F	**Received:**	30 July 2012
WARD:	GS	**Expiry:**	24 September 2012
CONSERVATION AREA	Hampstead Garden Suburb		
APPLICANT:	OCA UK Ltd		

PROPOSAL: 1 x Oak (T5 Applicant's Plan) – Fell, T1 of Tree Preservation Order.

RECOMMENDATION:

That Members of the Planning Sub-Committee determine the appropriate action in respect of the proposed felling of 1 x Oak (applicant's ref T5), T1 of Tree Preservation Order, either:

REFUSE CONSENT for the following reason:
The loss of the tree of special amenity value is not justified as a remedy for the alleged subsidence damage on the basis of the information provided.

Or:
APPROVE SUBJECT TO CONDITIONS

1. The species, size and siting of the replacement tree(s) shall be agreed in writing with the Local Planning Authority and the tree(s) shall be planted within 6 months (or as otherwise agreed in writing) of the commencement of the approved treatment (either wholly or in part). The replacement tree(s) shall be maintained and / or replaced as necessary until 1 new tree(s) are established in growth.

   Reason: To maintain the visual amenities of the area.
2. Within 3 months of the commencement of the approved treatment (either wholly or in part) the applicant shall inform the Local Planning Authority in writing that the work has / is being undertaken.

   Reason: To maintain the visual amenities of the area.

Consultations

Date of Press and Site Notices: 9th August 2012

Consultees:
Neighbours consulted: 9 also Hampstead Garden Suburb Trust
Replies: 70 0 support 70 objections

It may be noted that a number of objections were identically worded and in many cases multiple objections were received from different family members at the same address. The grounds of objection can be summarised as:

- Oak is an original boundary tree that predate houses
- Tree is one of oldest in Suburb (estimates between 100 to more than 350 years old)
- Presence of trees influenced design and layout of area

- Tree identified on Parker and Unwin 1911 plan of Hampstead Garden Suburb
- Oak significant to streetscene and allotments
- Oak integral part of Suburb's history
- Mature trees essential to unique green character and appearance of Suburb Conservation Area
- Oaks iconic species in Hampstead Garden Suburb
- Tree irreplaceable if removed / beauty and majesty take generations to replace
- Value for screening / privacy
- Importance for wildlife, particularly birds (including Green and Greater Spotted Woodpeckers, several species of finches and tits)
- Role of tree in filtering pollution and noise
- Tree is beautiful / fine / handsome / magnificent / 'the George Clooney of trees'
- CAVAT value of tree over £50,000
- Alternatives to tree removal
- Poor construction of extension with inadequate foundations
- Inaccuracies in supporting information submitted by applicant
- Problem with leaking drains
- Need to underpin
- Risk of heave
- Alternative causes for alleged property damage
- Tree felling is insurance company default position
- Argument based on cost to insurers does not take account of wider cost to community
- Precedent set by Northway Electricity Substation appeal decision
- The Hampstead Garden Suburb Trust submitted their own structural engineer's comments

MATERIAL CONSIDERATIONS

Relevant Recent Planning History:

Oak Tree
TREC11846B – crown thin 25% and deadwood, T1 of Tree Preservation Order
- conditional approval 8th November 1996

TREC11846D/04 – shorten back overhanging branches by up to 6ft, reduce density by up to 10%, T1 of Tree Preservation Order
- conditional approval 16th February 2004

TREC11846F/05 – thin by 20% to include removal of deadwood and necessary shaping. Remove 2 low branches encroaching laterally to main trunk, T1 of Tree Preservation Order
- conditional approval 4th July 2005

TREC11846H/08 – thin crown by 25%, remove deadwood and epicormic growth, T1 of Tree Preservation Order
- conditional approval 10th March 2008

TPO/00460/09/F – reduce density by 15%, deadwood, lift low branch to 3m, T1 of Tree Preservation Order
- conditional approval 12th October 2009

9 Asmuns Hill

C02479C – 9 & 11 Asmuns Hill – Single storey rear extensions to both houses. Alterations to ground floor and first floor windows to No. 9 Asmuns Hill.
- conditional approval 10th May 1995

C02479D – 9 & 11 Asmuns Hill – demolition of part of rear of both houses (Conservation Area Consent)
- conditional approval 10th May 1995

C02479E – Garden shed in rear garden
- conditional approval 11th May 1995

C02479K/00 – Loft conversion involving new window in gable end and two traditional rooflights in rear roof
- conditional approval 30th August 2000

C02479L/00 – Loft conversion involving new window in gable end and two traditional rooflights in rear roof. Internal alterations at first and second floor levels (Listed Building Consent)
- conditional approval 30th August 2000

F/02012/12 – Internal alteration including piled raft to rear extension (Listed Building Consent)
- conditional approval 28th June 2012

PLANNING APPRAISAL

1. Introduction

An application form proposing felling of the Oak tree on the boundary of the allotments in connection with alleged property damage at 9 Asmuns Hill was submitted via the Planning Portal in February 2012, however, there were discrepancies and shortcomings in the information – clarification was thus requested. Further information was submitted on 13th June and then on 30th July 2012, allowing registration of the application. In an e-mail on 30th July 2012, the applicant states "To clarify OCA UK Ltd were instructed in Jan 2012 in respect of the TPO Service that we provide and we submitted the TPO application in February 2012. Following your email of the 24 Feb 2012, which appears to have been interpreted as a refusal to validate the application and unfortunately some delays, we submitted a second application recently. As such there was no real delay between the last level monitoring of August 2011 and our instruction in January 2012."

OCA UK Ltd also provided an Arboricultural Assessment Report dated September 2010 to Oriel Services Ltd, the agent for application F/02012/12 – an application for Listed Building Consent for Internal piled raft to rear extension of 9 Asmuns Hill – which was approved 28th June 2012.

9 Asmuns Hill is a two-storey semi-detached dwelling, as with other houses in this part of the Hampstead Garden Suburb Conservation Area, it is a Grade II Listed Building.

2. Appraisal

Trees and Amenity Value

The subject Oak stands on the boundary of the allotments between Asmuns Hill and Asmuns Place, to the rear of 7 Asmuns Hill, on land owned by Hampstead Garden Suburb Trust. The Oak subject of this application is approximately 18m in height with a trunk diameter (at 1.5m above ground level) of 88cm. The tree forks at approximately 4 metres and has been previously reduced in the distant past with subsequent regrowth; it has been previously lifted (including the removal of a quite large branch) and thinned with some localised rot at previous branch removal points, but it appears to be in reasonable condition with no major faults apparent.

The mature Oak is one of the original field boundary trees that pre-date the development of the Suburb. The tree is marked on an old Suburb map dating from 1911 drawn by Parker and Unwin, the Suburb's master-planners. The tree (and others adjacent) were retained and influenced the design and layout of this part of the Artisans' Quarter – the Oak(s) are clearly visible above the roofline and there are glimpsed views between the houses from Asmuns Hill, and it provides screening and privacy between the residential properties and the allotments. The Oak contributes to the general character and appearance of the Hampstead Garden Suburb Conservation Area. Hampstead Garden Suburb is also within a designated Area of Special Character.

Hampstead Garden Suburb is internationally renowned for the way in which mature landscape features have been incorporated into the built environment. As noted by many of the objectors, the Oak appears to be older than the surrounding development (it was originally a field boundary tree) and would have been present at the time the Hampstead Garden Suburb was designed. The retention of trees such as this Oak was an integral part of the design ethos during the development of the Garden Suburb. The Hampstead Garden Suburb Character Appraisal Statement is one of many documents setting out the importance of trees to the character and appearance of the area e.g.:

- "Trees and hedges are defining elements of Hampstead Garden Suburb. The quality, layout and design of landscape, trees and green space in all its forms, are inseparable from the vision, planning and execution of the Suburb".
- "Wherever possible, in laying out the design for "the Garden Suburb" particular care was taken to align roads, paths, and dwellings to retain existing trees and views. Extensive tree planting and landscaping was considered important when designing road layouts in Hampstead Garden Suburb, such that Maxwell Fry, one of the pioneer modernists in British architecture, held that "Unwin more than any other single man, turned the soulless English byelaw street towards light, air, trees and flowers".
- "Unwin's expressed intention, which he achieved, was: 'to lay out the ground that every tree may be kept, hedgerows duly considered, and the foreground of distant views preserved, if not for open fields, yet as a gardened district, the buildings kept in harmony with the surroundings.'"
- "Trees contribute fundamentally to the distinctive character and appearance of the Conservation Area in a number of different ways, including:
    - Creating a rural or semi-rural atmosphere
    - Informing the layout of roads and houses with mature field boundary trees
    - Providing links with pre-development landscape and remaining woodland
    - Creating glades, providing screening and shade, and marking boundaries
    - Framing views, forming focal points, defining spaces and providing a sense of scale

- Providing a productive, seasonal interest and creating wildlife habitats

As the Conservation Area Character Appraisal Statement notes "The Artisans' Quarter was designed as a new kind of community in which attractively designed housing for a wide range of income groups was set within a green environment. The provision of large gardens and open recreational spaces was central to the vision……..The density of development is relatively high for the Suburb. However, houses were provided with generous gardens and there are areas of allotments, tennis courts and greens which provide generous open green spaces. Housing layouts were designed to retain existing mature trees." In describing the overall character of the Artisans' Quarter it notes "The retention of boundary oak trees from the pre-existing field boundaries, together with the street trees, hedges and the generous gardens, make a lush green setting for the houses." and included amongst the Principal positive features are "mature oaks from earlier woodlands or field boundaries still thrive, particularly in allotments and back gardens or as focal points in the layout"; "trees and greenery rise above cottages in some areas"; and "there are glimpsed views, between houses, of greenery".

The Oak is considered to be of special amenity value - in terms of its visual contribution to the streetscape; its environmental contribution to e.g. air quality, road noise attenuation, and to wildlife; its value for screening; and its historical significance in the layout of the Suburb. It contributes significantly to the character and appearance of the Hampstead Garden Suburb Conservation Area. The mature Oak is an original field boundary tree, if it was removed any replacement planting would take many years to attain a similar size and stature and its historic attributes would be lost - thus there would be considerable detriment to public amenity for decades and substantial harm to the character and appearance of the Conservation Area.

<u>The application</u>

The application submitted by OCA UK Ltd was registered on 30th July 2012. The reasons for the proposed removal of the Oak (applicant's reference T5) cited on the application form are:

1. *The above tree works are proposed as a remedy to the differential foundation movement at [9 Asmuns Hill] and to ensure the long-term stability of the building.*
2. *The above tree works are proposed to limit the extent and need for extent and need for expensive and disruptive engineering repair works at the insured property. In this instance the estimated repair costs are likely to vary between £8,000 and £28,000 depending upon whether the tree can be removed or have to remain.*
3. *The above tree works are proposed to limit the duration of any claim period and therefore allow the landowner their right to peaceful enjoyment of their property.*
4. *It is the case that an alternative to felling such as pruning or significant 'pollarding' of the tree would not provide a reliable or sustainable remedy to the subsidence in this case. We do not consider that any other potential means of mitigation, including root barriers, would be effective or appropriate in the circumstances.*
5. *I consider that in this specific instance the planting of either a container grown Silver Birch tree or Field Maple tree, 10 – 12cm stem diameter within 1m of the stump of T5; to the rear of the above would be a suitable replacement.*

The supporting documentation comprised:

- OCA Arboricultural Assessment Report dated 12 July 2012 based on survey dated 28 September 2010 including Cunningham Lindsey Engineering Appraisal Report dated 20th

September 2010 and CET Safehouse Ltd 'Factual Report of Investigation' dated 31st August 2010 and level monitoring 09/09//10 - 02/08/11

- Notwithstanding the OCA Report referring to the August 2010 CET Report, an updated CET Report issued 19th May 2012 was submitted which included trial pit and 2 borehole data dated 31st August 2010, soil testing dated 15th September 2010, root identification dated 3rd September 2010, drainage investigation 31st August / 1st September 2010; and a heave calculation dated 24th May 2012.

- There was also e-mail clarification that "[The insured] has confirmed that he has lost the Building regs certificate as it was so long ago. But it is very clear that the LA were involved at all satges *[sic]* and recalls the officer requested the foundations be dug deeper."

The OCA Tree Survey fails to include the neighbouring mature Oak (also an original field boundary tree) to the rear of 11 Asmuns Hill which is of a similar height and very slightly larger trunk diameter.

The Council's Structural Engineer having visited the site and assessed the information, notes:

Background Information
An application for building regulations was made in June 1995 for the construction of a rear extension, however structural details were not provided, and a completion certificate was not issued.

The construction of the extension appears to be a single storey timber frame on a trench fill foundation with a ground bearing slab.

According to our records one site inspection was undertaken by the building control officer, the foundations were recorded as 1.7m deep and no roots were visible within 0.6m of the base.

Trees
The OCA report shows the locations of trees around the property. Their report shows the Oak tree T5 in the allotments at the rear of the garden at a distance of 14.6m from the building and 18.8m high.

The other trees indicated are hazel T2, bay laurel T3 and cherry laurel T4.
Also there is another Oak tree in the allotments not shown on the OCA plan, which is approximately 20m from the building.

Damage
The damage to the rear extension was discovered in August 2010.
The damage consists of sloping floors, gaps below skirting boards worst at the rear left hand corner, step in level of the floor at the junction with the main house, binding of doors and cracking to brickwork of the left flank wall.

The crack damage is classified as category 1 in accordance with BRE Digest 251. This classification of damage is described in the BRE digest as fine cracks which can be treated easily using normal redecoration.

The Cunningham Lindsey report states the main damage is to the floor within the extension.

Subsoil investigations
CET carried out subsoil an investigation on 31/8/10. This consisted of a trial pit and borehole to the rear of the property and a control borehole at the front of the property.
Results of the investigation were as follows;

1. The foundations to the extension are 1650mm deep.
2. Firm/stiff brown Clay was encountered for the full depth of the borehole.
3. Roots extend to 2.0m depth. Dead and decomposing root fragments were recorded at 3.9m depth.
4. Oak tree roots identified at the underside of the foundation
5. No ground heave precautions were evident next to the foundation.

Soil Testing
The soil analysis results indicate desiccation to 2m depth.
A ground heave prediction has been calculated in accordance with BRE Digest 412 using the soil suction test results. The predicted potential ground heave is 38mm.

Monitoring
Level monitoring has been carried out from 9/9/10 to 2/8/11 and indicates seasonal movement with a maximum movement of 10mm to the rear left hand corner of the extension.

The distortion survey shows a large level difference across the extension. This does not relate to the monitoring results or the extent of the damage, and may simply indicate the extension was poorly constructed.

Drainage
The drain survey showed the drains under the extension were in a poor condition and failed the water test.
However the trial pits and boreholes were dry, with some water seepage at 4.1m, and the cyclical pattern of movement demonstrated by the monitoring indicates the underground drainage was not implicated in the damage; water leaking from drainage usually causes progressive widening of the cracks.

Summary
The site investigation results indicate the rear extension has been affected by a minor episode of subsidence due to tree root action affecting a narrow zone of soil under the foundations.

Roots have been found below the foundations and Oak roots were identified at the underside of the foundation. The most likely source of these roots shown on the OCA plan is the Oak tree T5 which is 14.6m from the building.

The extension does not have building regulations completion certificate according to our records, and the foundation depth does not meet NHBC guidelines for building near trees.
On the basis of the proximity of the Oak tree T5 the recommended depth according to the 1985 NHBC guide is 2m deep. However, at the time of the excavation of the foundation in 1995 the depth of visible roots is recorded as 1.1m, the nearest Oak tree was already a mature specimen and it was most likely considered further extensive root growth was unlikely.
There was no record of any inspection of the ground floor slab and no details of the construction were provided to the building control department.

On the basis of the description of the damage in the Cunningham Lindsey report the crack damage is slight and could be repaired during normal redecorations.

The problem of the sloping floor appears to be of more concern with gaps under the skirting board and a step at the junction of the main house.

The predicted potential ground heave of 38mm could cause greater damage to the extension than currently experienced, and take several years to complete.
It should be noted that a significant part of the potential ground heave would occur above the foundation level, and although this could still affect the building due to the friction between the clay soil and the side of the trench fill foundation, this will have a lesser effect than ground heave occurring to the soil below the foundation.

A heave assessment of all properties within the influence zone of Oak tree T5 should be undertaken before the T5 Oak tree is considered for removal.

No. 7 Asmuns Hill which is directly opposite the Oak tree T5 has a rear extension on deep foundation which would limit the effects of ground heave on this property.

Conclusion
Although the foundations of the extension are slightly shallower than the NHBC guidelines current at the time of construction, the crack damage to the superstructure slight and can be dealt with in the course of normal redecorations.

The main concern appears to be the sloping floor. This is most likely to be the result of constructing the concrete slab directly onto the ground where tree root activity was recorded.

In this situation where the ground has been affected by tree root action it is recommended the new ground floor is designed to span onto the foundations with a void between the underside of the floor and the ground level.

No inspection of the floor was carried out by the building control department and no construction details were provided for their assessment.

There are clear discrepancies between the applicant's contention and the Council's Building Control in respect of Building Regulations. In June 1995, a Building Notice Form was submitted to the Council – unlike a 'Full Plans application', this procedure does not involve checking of plans for compliance with Building Regulations and no approval notice is issued, but once the building / extension is subject of a satisfactory final inspection by Building Control, a completion certificate would be issued. However, if construction details are requested, they must be supplied by the applicant – in this case structural calculations for proposed timber beams and posts were requested but not provided, it appears that only one Building Control inspection took place and no completion certificate was issued. The foundations are some 300mm shallower than the NHBC guidance and the extension is not in compliance with Building Regulations. (Although unrelated to the current application, it may be noted that the loft conversion (C02479K & L/00) appears to have been implemented - also without Building Control approval.)

In Borehole 1, roots extend to 2m in depth – in accordance with NHBC guidance, this is the depth to which the foundations should have been constructed. Dead and decomposing

root fragments are noted to 3.9m in borehole 1 and to 3.5m in borehole 2 which is in the front garden remote from the Oaks – it is very likely that the condition of the roots is attributable to the defective drains which were not repaired until 12th October 2010 (although one objection notes that there were major drain problems in March 2011). The root analysis identifies Oak roots 1 – 1.5mm in diameter from the underside of trial pit 1, but the 'thread-like' root obtained from depth 1850 – 2000mm of borehole 1 was 'too immature to analyse'.

The main damage is to the single storey rear extension of 9 Asmuns Hill, taking the form of sloping floors with gaps apparent below the skirting board, in addition there are cracks above the skirting, a step in level across the floor, binding doors and low level external brickwork cracking – the cracks are described as being within BRE Category 1, but that the main damage is to the floor. The damage was first discovered on 3rd August 2010 and it is reported to have appeared suddenly, first commencing in July 2010. BRE Digest 251 *Assessment of damage in low-rise buildings* includes a 'Classification of visible damage to walls with particular reference to ease of repair of plaster and brickwork or masonry'. It describes category 1 damage as "Fine cracks which can *be treated easily using normal decoration*. Damage generally restricted to internal wall finishes; cracks rarely visible in external brickwork. Typical crack widths up to 1mm." The BRE Digest concludes "Category 2 defines the stage above which repair work requires the services of a builder. For domestic dwellings, which constitute the majority of cases, damage at or below Category 2 does not normally justify remedial work other than restoration of the appearance of the building. For the cause of damage at this level to be accurately identified it may be necessary to conduct detailed examinations of the structure, its materials, the foundations and the local clear ground conditions. Consequently, unless there are clear indications that damage is progressing to a higher level it may be expensive and inappropriate to carry out extensive work for what amounts to aesthetic damage."

The level monitoring data provided is for the period from 9/9/10 to 2/8/11, on updated monitoring being requested, the applicant responded "*I have checked with Cunningham Lindsey and they have confirmed that the level monitoring submitied [sic] in support of the application is all there is. Please could you therefore determine the application on these results.*" As the Suburb Trust's objection notes, "The movement readings supplied are sparse and need updating. The existing readings show minor net movement. The maximum movement of 10mm is upward. Upward movement is the antithesis of subsidence. Although there is some net downward movement, the Trust is advised that the movement shown could be due to seasonal movement rather than subsidence."

The Hampstead Garden Suburb Trust's independent engineering advice suggests that the problems at 9 Asmuns Hill appear to be related to the construction of the extension at this property and its interaction with the original structure as opposed to tree root subsidence – the foundations of the extension not appearing appropriate for the site and not in accordance with the appropriate building regulations.

No ground heave precautions were evident next to the foundation. Heave calculations predict a potential ground heave of 38mm – were the tree to be removed, ground heave could take several years to complete and may result in even greater damage to the extension than is currently being experienced, and may have implications for neighbouring properties. In commenting on the assertion by the applicant that the heave risk is acceptable, the Suburb Trust's Engineer states that they "do not consider that 38mm of heave is acceptable…..removal of T5 will not prevent damage to the extension reoccurring, but instead create a new set of problems. The damage to the extension is due to the way it has been built and not to T5. I consider that Mr Fox [engineer for Cunningham

Lindsey] should instead be addressing the facts that the extension was incorrectly designed and constructed."

On 11th October 2012, the applicant submitted additional information which included a conservatory floor contour survey dated 9th September 2010; confirmation that monitoring stopped in August 2011, the last reading was the 2nd August 2011; and in regards to the monitoring, CET's instruction was to undertake:

1) Level monitoring, brick course level survey and floor slab level survey - all to the rear extension.

2) Set up level monitoring of the floor in the extension as well as the brick courses - if possible.

In response to this information, the Council's Structural Engineer commented:

The slab contour plan, which we have not seen before, shows a 30mm level difference across the slab, which is much greater than the recorded seasonal movement. This suggests the slab has been affected by tree root action to a greater extent than the foundations, or the leaking drains have contributed to the slab settlement.
Without monitoring results of the slab levels (which CET was supposed to carry out according to OCA) it is not possible to confirm if the tree roots or drains have had the greater effect.

Listed Building application
A Listed Building application (F/02012/12) for internal piled raft to rear extension at 9 Asmuns Hill was registered by the Council on 23rd May 2012. The application included an Arboricultural Assessment Report by OCA UK Ltd dated 30th September 2010 based on a survey dated 28th September 2010; a CET Safehouse Ltd 'Factual Report of Investigation' dated 19th May 2012 which included trial pit and 2 borehole data dated 31st August 2010, soil testing dated 15th September 2010, root identification dated 3rd September 2010, drainage investigation 31st August / 1st September 2010; a Design and Access Statement; a Heritage Statement; some plans; and a letter from Hampstead Garden Suburb Trust dated 14th June 2011 to Oriel Services Ltd (the applicant's agent).

The Hampstead Garden Suburb Trust letter includes the following:
The Trust has now obtained advice from independent structural engineer in respect of the damage and movement at the above property a structural engineer of the Hampstead Garden Suburb Trust's considers that the form of construction of the extension at the rear of the property is a lightweight timber structure on 1.65m deep trench fill concrete foundations located on shrinkable clay. A structural engineer of the Hampstead Garden Suburb Trust's notes that the foundations have no anti heave precautions. On the basis of the disparity between the readings taken for the floor and the external level surveys, A structural engineer of the Hampstead Garden Suburb Trust's believes the floor is a solid ground bearing floor, which is built over a drain. A structural engineer of the Hampstead Garden Suburb Trust' s advice is that the form of construction of the extension does not accord with the NHBC and Local Authority guidelines for a structure located 17m from an Oak tree, and that 'trench fill foundations are problematic in clay sites because they are prone to damage due to seasonal movement'.

The site investigations showed live Oak roots immediately under the trench fill foundations. As the Oak tree T5 on the Trust's land is a mature specimen, astructural engineer of the Hampstead Garden Suburb Trust's suggests that if these Oak roots emanate from Oak tree T5, then they would have been present when the extension was constructed. Therefore, the extension should have been constructed differently.

A structural engineer of the Hampstead Garden Suburb Trust's considers that the floor slab should have been suspended with a movement joint installed between the extension and the original house. This would cater for the differential movement between the lightly loaded timber extension on mass concrete trench fill foundations and the original masonry house likely to be built on shallow concrete strip foundations.

A structural engineer of the Hampstead Garden Suburb Trust 's advises that removing the Oak tree T5 "will not solve any problem and will indeed cause more problems, due to heave. As the ground under the extension is desiccated, albeit in a narrow band, the ground surrounding the trench fill will also be desiccated. Removing the tree will cause the ground to swell up, grip the sides of the trench fill concrete and force the extension out of the ground."

This advice contrasts with the comments in OCA's report dated 30 September 2010 which states "The Engineer does not consider heave to be a consideration should the adjacent vegetation be removed."

A structural engineer of the Hampstead Garden Suburb Trust 's concludes that the design of the extension is not appropriate for the site conditions and that differential movement induced by the design is considered the cause of the damage. The fact that the extension is rising (as shown in CET Safehouse's report of 8 April 2011) casts doubt on the assertion that the cause of the damage is only due to downward movement.

The Design and Access Statement states "The works are required due to clay shrinkage & vegetation subsidence caused by moisture extraction from the nearby mature Oak Tree. To avoid further damage to the property, we feel the best solution is to carry out stabilisation works to the foundations to the rear addition. We are proposing to install internal piled underpinning to help stabilise the rear extensions foundations. The works will require the internal floor to be removed and a new suspended slab being installed."

The application for the internal piled raft to the rear extension was conditionally approved on 28th June 2012 – a month prior to the registration of the TPO felling application TPO/00421/12/F.

As the Appeal Inspector noted in his decision in respect of the proposed tree removal at the Northway Sub-station (TPO/00650/10/F) "The purpose of the TPO legislation is that trees of high amenity value should be protected, and it follows that other alternatives should be preferred to felling wherever possible." If stabilisation would be required in the light of the heave assessment or because of other factors, the proposed removal of the Oak may be considered excessive.

3. Legislative background

Government guidance advises that when determining the application the Council should (1) assess the amenity value of the tree and the likely impact of the proposal on the

amenity of the area, and (2) in the light of that assessment, consider whether or not the proposal is justified, having regard to the reasons put forward in support of it. It should also consider whether any loss or damage is likely to arise if consent is refused or granted subject to conditions.

The Town and Country Planning (Tree Preservation) (England) Regulations 2012 provide that compensation is payable for loss or damage in consequence of refusal of consent or grant subject to conditions. The provisions include that compensation shall be payable to a person for loss or damage which, having regard to the application and the documents and particulars accompanying it, was reasonably foreseeable when consent was refused or was granted subject to conditions. In accordance with the 2012 Regulations, it is not possible to issue an Article 5 Certificate confirming that the tree is considered to have 'outstanding' or 'special' amenity value which would remove the Council's liability under the Order to pay compensation for loss or damage incurred as a result of its decision.

In this case the applicant has indicated that "the estimated repair costs are likely to vary between £8,000 and £28,000 depending upon whether the tree can be removed or has to remain."

The Court has held that the proper test in claims for alleged tree-related property damage was whether the tree roots were the 'effective and substantial' cause of the damage or alternatively whether they 'materially contributed to the damage'. The standard is 'on the balance of probabilities' rather than the criminal test of 'beyond all reasonable doubt'.

In accordance with the Tree Preservation legislation, the Council must either approve or refuse the application i.e. proposed felling. The Council as Local Planning Authority has no powers to require lesser works or a programme of cyclical pruning management that may reduce the risk of alleged tree-related property damage. If it is considered that the amenity value of the tree is so high that the proposed felling is not justified on the basis of the reason put forward together with the supporting documentary evidence, such that TPO consent is refused, there may be liability to pay compensation. It is to be noted that the Council's Structural Engineer has noted "The most likely source of these roots [identified at the underside of the foundation].… is the Oak tree T5 which is 14.6m from the building." albeit having significant concerns about the construction of the extension and heave implications.

The compensation liability arises for loss or damage in consequence of a refusal of consent or grant subject to conditions - a direct causal link has to be established between the decision giving rise to the claim and the loss or damage claimed for (having regard to the application and the documents and particulars accompanying it). Thus the cost of rectifying any damage that occurs before the date of the decision would not be subject of a compensation payment. It is to be noted that Listed Building consent F/02012/12 was approved prior to the registration of the TPO felling application currently under consideration. At that time, the applicant's supporting documentation included the Hampstead Garden Suburb Trust's letter which indicated that the extension should have been constructed differently to take account of the proximity of the mature Oak tree(s) with a suspended floor slab and movement joint between the extension and original house to cater for the differential movement between the lightly loaded timber extension and original masonry house with their different foundations. If, as stated prior to the submission of the TPO felling application, the removal of *the Oak tree T5 "will not solve any problem and will indeed cause more problems, due to heave. As the ground under the extension is*

desiccated, albeit in a narrow band, the ground surrounding the trench fill will also be desiccated. Removing the tree will cause the ground to swell up, grip the sides of the trench fill concrete and force the extension out of the ground." and "*the design of the extension is not appropriate for the site conditions and that differential movement induced by the design is considered the cause of the damage. The fact that the extension is rising (as shown in CET Safehouse's report of 8 April 2011) casts doubt on the assertion that the cause of the damage is only due to downward movement.",* then it is to be questioned whether loss or damage could be considered to be in consequence of a refusal of consent.

The extension's existing slab floor was not inspected by Building Control and appears not appropriate for site conditions. The suspended floor for which Listed Building consent has previously been granted would be an improvement on the construction of the existing floor and thus may represent 'betterment'. A piled raft would be an excessive remedy for BRE category 1 crack damage to the superstructure.

If it is concluded that extension stabilisation works would be required in any event, regardless of the proposed tree removal; or if the removal would create even greater problems due to heave; it may be argued that loss or damage would not be in consequence of a refusal of TPO consent to fell.

However, if it is concluded on the balance of probabilities that the Oak's roots are the 'effective and substantial' cause of the damage or alternatively whether they 'materially contributed to the damage' and that the damage would be addressed by the tree's removal, there is likely to be a compensation liability (the applicant indicates repair works would be an extra £20,000 if the tree is retained) if consent for the proposed felling is refused.

COMMENTS ON THE GROUNDS OF OBJECTION
Matters addressed in the body of the report.

CONCLUSION
The applicant, OCA UK Ltd, arboricultural consultant on behalf of the building insurers of 9 Asmuns Hill, proposes to fell the former field boundary Oak standing in the allotments at the rear of 7 / 9 Asmuns Hill because of its alleged implication in subsidence damage to the property.

The proposed felling of the Oak would be significantly detrimental to the streetscene and would fail to preserve or enhance the character or appearance of the Hampstead Garden Suburb Conservation Area.

The Council's Structural Engineer has assessed the supporting documentary evidence and has noted that the subject Oak is the closest to the property and the most likely source of roots found at the underside of the foundations. However, the extension's existing slab floor was not inspected by Building Control and appears not appropriate for site conditions. Both the Council's and Hampstead Garden Suburb Trust's Structural Engineers have drawn attention to the shortcomings in the construction of the extension and believe that the applicant has considerably underestimated the heave potential of the proposed tree removal and have significant concerns about heave implications.

Bearing in mind the potential implications for the public purse, as well as the public amenity value of the tree and its importance to the character and appearance of the

Hampstead Garden Suburb Conservation Area, it is necessary to considered whether or not the proposed felling is justified as a remedy for the alleged subsidence damage on the basis of the information provided, particularly in the light of the Structural Engineers' concerns about heave and the need, regardless of tree removal, for previously consented remedial works to the extension.
If it is concluded on the balance of probabilities that the Oak's roots are the 'effective and substantial' cause of the damage or alternatively whether they 'materially contributed to the damage' and that the damage would be addressed by the tree's removal, there is likely to be a compensation liability (the applicant indicates repair works would be an extra £20,000 if the tree is retained) if consent for the proposed felling is refused.

However, particularly given the amenity value of the tree, if it is concluded that extension stabilisation works would be required in any event, regardless of the proposed tree removal; or if the removal would create even greater problems due to heave; it may be argued that loss or damage would not be in consequence of a refusal of TPO consent to fell, and that it would be justifiable to refuse the application.