From: Nathaniel Young
Sent: 16 December 2021 13:26
To: Planning Planning
Subject: FW: 2021/4259/P Elm Tree House, 13 Netherhall Gardens London NW3 5RN
Attachments: Objection & Comments 13 NG 2021-4259-P.pdf

Please log the attached comments.

Kind regards,

Nathaniel Young
Senior Planning Officer

[redacted]

The majority of Council staff are continuing to work at home through remote, secure access to our systems. Where possible please communicate with us by telephone or email.

From: Vicki Harding [redacted]
Sent: 15 December 2021 12:33
To: Nathaniel Young [redacted]
Subject: 2021/4259/P Elm Tree House, 13 Netherhall Gardens London NW3 5RN

Dear Nathaniel Young,

Re: 2021/4259/P Elm Tree House, 13 Netherhall Gardens London NW3 5RN

Please accept this objection/comment on this planning application.

With many thanks and all good wishes

Vicki Harding

--
Dr Vicki Harding
Society Tree Officer

Heath & Hampstead Society

The Heath & Hampstead Society

The Society examines all Planning Applications relating to Hampstead and Hampstead Heath Fringes, and assesses them for their impact on conservation and on the local environment.

To London Borough of Camden, Development Control Team

Planning Ref:	2021/4259/P
Address:	Elm Tree House, 13 Netherhall Gardens London NW3 5RN
Case Officer:	Nathaniel Young
Date:	15th December 2021

This planning application is an improvement on the previous reports we saw at pre-app 2 years ago with removal of the rotary stress across the joint between the previous building and the garden basement. Continuing the Lower Ground Floor under almost all the building using hit and miss underpinning methods would appear to be a good way to stabilise the building and increase the square meterage though it would seem wise to extend the lower ground floor more securely beneath the front wall of the building to ensure this is firmly supported.

It has now been recognised that the internal walls need adequate support, transmitted down onto more stiff clays, due to their past subsidence. Needless to say the trees have been blamed rather than recognising the much more likely causes related to silt erosion, groundwater softening effects and landslip. In view of the amount of groundwater likely to be present, it is unlikely that the trees present could have had an effect on subsidence; it is much more likely they were planted in order to deal with *excess* water and landslip potential.

The basement floor however is regrettable in view of its risk during construction to retaining walls on the boundary and its neighbour Imperial Towers, and it is this aspect that prompts us to object to its inclusion.

We request that Camden refuse this planning application due to inadequate ground testing for a basement digout at this site. The documents presented confirm that the acutely sloping and fragile ground beneath the building and the neighbours at Imperial Towers is not yet understood for its reaction to the pressure changes that will be involved or to groundwater storm surges while the ground is open or in the long term.

In the Design & Access Statement point 3.5 regarding Neighbourhood Associations consultation, our recommendations were summarised, to my mind not sufficiently fully, as follows:

> Also noted the instability of the strata on the area and presence of silt layers and pockets sitting on/within sinkable [sic] London clay, Warned of underground water flowing down from higher ground in Hampstead and the disturbance of underwater courses by deep basements regarding flooding and ground stability…. Any Basement Impact Study will need to address these issues.

It seems our advice and the evidence submitted has been neither taken nor explored.

We now urge Camden to ensure our proposals and evidence are explored, with firming up of several factors in line with their own policies.

Hydrogeological testing

Hydrological testing at Elm Tree House still relies on the 2018 studies that were very sparse and do not confirm to Camden's requirements in Arup (2010) detailed in sections 7.2.2 Intrusive testing (boreholes and trial pits) and 7.2.3 Monitoring. The BCP states

> *3.6 Ground water was not encountered during the investigation. Subsequent groundwater monitoring by GEA has confirmed that standpipes were dry for the three weeks after installation.*

This is not true. Groundwater was not found at the time (15-16th August 2018) as the borehole digging method used and its timing contributed to preventing the finding of groundwater, or the knowledge of where any might be coming from. Testing was not done "for the three weeks" but was inspected once: three weeks post insertion. Presuming the visit to check for groundwater was exactly 3 weeks later, this would have been on 6th Sept 2018: there had been no rain for 8 days (see http://nw3weather.co.uk/wxdataday.php?vartype=rain&year=2018) and the prior day which had experienced more than light rain i.e. 13.6mm on 26th August, was 11 days before the borehole check. This gave plenty of time for any groundwater flow from the extensive source of productive ground above (classed by *Landmark Information Group* as High variably permeable 1, 2, 3, U secondary aquifer) to slow, and in the boreholes to soak away into the ground, unevaluated for its permeability and not understood for how it will react to rainstorms or to the proposed work. This also fails to conform with Camden's own guidelines commissioned from Arup (2010)[1].

It is not sufficient to rely on Landmark's description of the site as 'unproductive' when elsewhere such 'unproductive' land in Hampstead (typically shaded green in Landmark's Groundwater Vulnerability maps, as for this address and presented in BIA4) is pockmarked by old wells, many modern pumps have been installed in an attempt to keep lower floors dry, basement dig-outs have flooded and even whole sites been washed away (see below). Netherhall Gardens was fields before it was built over in the late 19th century so there are no old wells to inform us; ditches and field boundary trees were used instead so more precise historical data on groundwater are absent, but this does not make it unlikely to be productive; from local experience, quite the opposite.

There have already been 9 days in 2021 when the rainfall was higher than 26th August 2018, the day with the highest rainfall between digging the (only) two boreholes at Elm Tree House and re-checking them. The highest 2021 rainfall figures including 25.2mm on January 14th; 42mm on July 12th; 38.2mm on 25th July; 25.2mm on 20th October. What are the chances of a groundwater storm surge occurring during the dig out nowadays? The unsupported dig-out of the garden behind the house seems very unwise, but consideration of a storm surge while a metre of wall is open during hit & miss underpinning should also be considered, including the potential space behind it at any stage for large volumes of silt and sand to be washed in to.

Despite the lack of appropriate testing, groundwater WAS found, though due to the method used there is no evidence of where it came from. The 1920 British Geological Survey (BGS) map (figure 12 of Arup, 2010[1]) shows 13 Netherhall Gardens to be possibly on a spring line. It is certainly sited on the complex transition zone between the Claygate Beds and Band D of the London Clay Formation, with a still not inconsiderable amount of silt and water-bearing sand partings within the clay, found here but ignored. It should also be suspected that an intermittent aquifer exists beneath the superficial Quaternary Head deposit. This has been merely named 'Made Ground' and has not been recognised despite the fact that it was found to be up to 2.6 metres thick. Hampstead is the source of four of London's rivers for very good geological reasons.

Hampstead's past history of groundwater storm surges is another factor that should give cause for concerned and adequate evaluation.

It has been stated that:

> 'London Clay is a very low permeability soil and is designated as Unproductive Strata. Any groundwater flow within the London Clay is isolated to discrete bands where permeability is slightly increased, but would not readily transmit large volumes of water, and flow rates would be expected to be low.'

To illustrate the consequences of not knowing the actual hydrogeology of this area, the report is given below of an incident at Air Studios Haverstock Hill during its redevelopment from Congregational church to world-renowned recording studios, a building on not dissimilar ground, though on a much less-inclined slope. It can be found at: http://camdocs.camden.gov.uk/HPRMWebDrawer/PlanRec?q=recContainer:%222015/7079/P%22 then open 'Fisrt Steps Addendum Report Jan 2016' dated as being entered on Camden's site on 9/05/2016 09:31 but we believe it is worth reporting in full:

[1] Arup (2010) 'London Borough of Camden, Camden geological, hydrogeological and hydrological study: Guidance for subterranean development'

> "There was considerable rain during the night of 30 July 1991…. This heavy rain resulted in the instantaneous swelling of the underground watercourse discovered below the centre of the building known as Lyndhurst Hall, Lyndhurst Road, Hampstead.
>
> The resultant underground torrent washed away much of the soil surrounding the foundations of the building known then as "The Cottage" leaving it looking the next morning as though it was standing on brick pillars!".
>
> Up until that time groundwater had not been a problem…
>
> A borehole had been drilled to assess the ground conditions and recorded 1.3m of Made Ground (silty clay with flint gravel) over weathered London Clay. No water was recorded *"during the short time the hole was open"* (quote from BH log).
>
> Formation level for the basement was approximately 4.5m below ground level and thus within the weathered London Clay.
>
> … the void eroded from beneath the Cottage and what is now the Reception… give an approximate volume of 60m^3. The void contained groundwater which could be see flowing from the area of the lift towards the front door, but in the ground. …Samples of water revealed it contained traces of sewage; i.e. it was a mixture of pure ground water and leaking utilities.
>
> The basement was full of water which when pumped out revealed its floor was covered in sediment. …The dimensions of the basement…9.5m x 9.5m x 4.5m = 406m3…the sediment eroded from beneath the Cottage landed up in the basement covering the reinforcing with silt, sand and clay to a depth of approximately 0.7m.
>
> *The material point* is that failure occurred on the night a pulse of water infiltrated from rainfall, augmented by the sudden discharge from leaky sewers and soakaways, could be expected within the sediment above the London Clay. A change in the level of water came and went within the space of hours, and found any weakness in the engineering that stood in its way. Further, the Made Ground, i.e. the material above the London Clay in this case, eroded readily given the circumstances to do so.

The material point for the Elm Tree House site is the potential but as yet unexamined effect of the local hydrogeology on Elm Tree House, Imperial Towers and Frognal Court Wood and Frognal Court below.

It is known that Unit E (the Claygate Beds) and, to a lesser but still significant extent, the Unit D of the London Clay Formation (LCF), particularly in transition zones, can transmit groundwater, and that this ability to transmit increases during storm surges. To state the weathered clay beneath the superficial deposits is unproductive without providing any evidence for this when the site is not far from a Spring line and the boreholes (such as they are) clearly indicate its potential water transmissibility requires further examination. Automatic log water measurement recorders should be left activated in the boreholes over a sustained period of contrasting rain cycles to demonstrate local groundwater and water table levels and the local extent of groundwater surges during and immediately following storms. While hit & miss underpinning methods are being used, there could nevertheless be times when the site is sufficiently open for there to be potentially disastrous consequences to 13 Netherhall Gardens if groundwater surges are a possibility.

Apart from one pump, there are no stated methods to deal with storm surges when the site is open which could affect the retaining wall between 13 & 15 Netherhall Gardens, remove considerable material beneath Elm Tree House (that is already fragile) at the wrong moment, and even impact on 15 Netherhall Gardens.

Incidentally, we noted in our pre-app letter that:

> 'It should also be noted that 6 and 8 Frognal and their rear gardens have already suffered significantly and expensively at the hands of 11 Netherhall Gardens' long standing leaking/failing water feature, with a total loss of garden shrubs and lawn and a huge mature lime tree now dying. It would not be appropriate to then add to this by exposing their properties to vibration too, and possibly divert additional groundwater to it *now a route through has been re-established*.'

We see no evidence that this has been understood, just as the insurance company for 10-12 Frognal has ignored this and other factors when wrongly attributing the subsidence of the building to trees without solid evidence.

Slope stability and movement

The superficial slope here masks a more dramatic landscape with steeper slopes of the underlying layers at a depth of a few metres, fashioned by mass movements: the quaternary peri-glacial hill wash and mudflows that travelled down the slope from the upper Hampstead area and subsequent landsides. The soles of these movements can be defined by paper thin shear surfaces having a shear strength much lower than the ground above and below them, and lying on clay slopes likely to be even more than the 11°-13° noted on the surface in the BIA. The likely presence of shear surfaces within the Head deposits has implications for the stability of neighbouring properties and retaining walls founded above 2.6 metres.

The BGS map of greatest landslide potential (figure 17 in the Arup (2010)[1] study shows that Imperial Towers is on the 'crimson line' of greatest potential for landslide and 13 Netherhall Gardens is on its edge. This is due to the high angle of slope here, the thick layer of overlying complex and laminated superficial quaternary deposits with Head propensity, and the presence of the intermittent aquifer beneath this deposit, as well as the many sand partings that run through this transition zone that can carry groundwater and were present in both Boreholes 1 and 2 during a period of low rainfall.

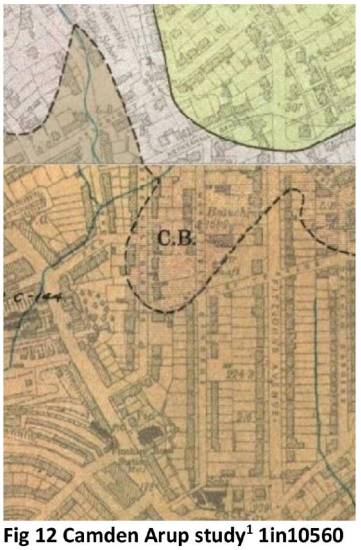
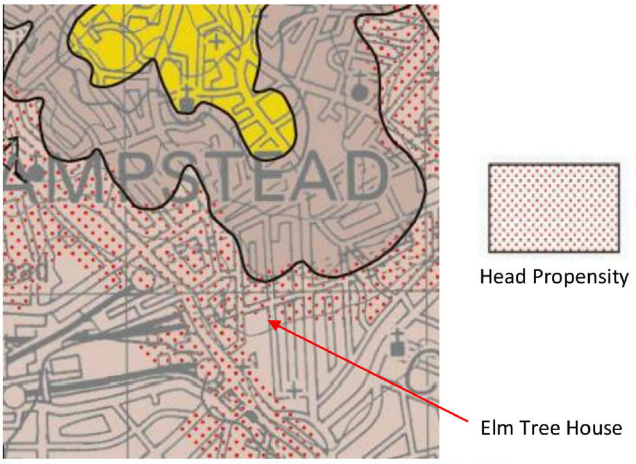
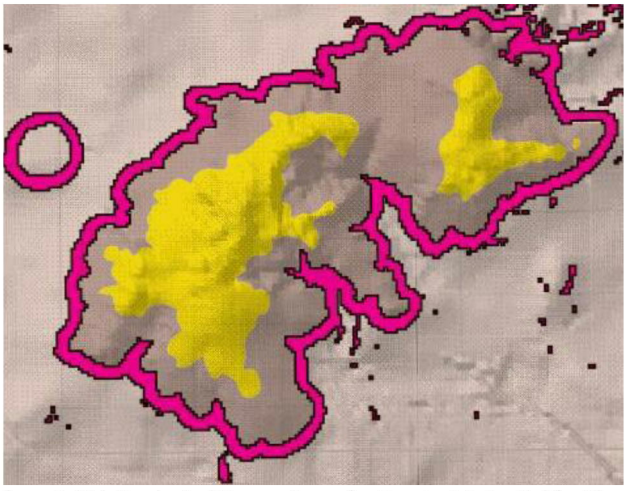


Fig 12 Camden Arup study[1] 1in10560 geological map with rivers 1920-1

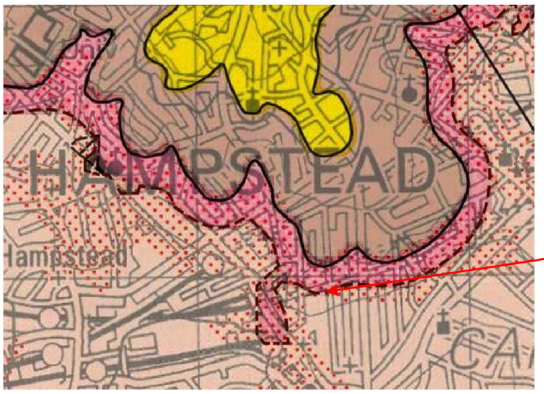


North London Bedrock & Superficial Deposits 1:50 000 series
http://www.largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001750



from **British Geological Survey Areas for Greatest Potential for Slope Instability**
http://www.largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001750

Combining the BGS geology and the BGS landslide greatest potential maps above:



Confirmation can be found in the Heritage statement also by Kristian Kaminski dated February 2020 for 2020/0971/P -

> 9.2. As discussed above, during the site visit it was evident that the existing building is in a very poor state of repair and is in need of significant works to maintain its structural integrity. For instance, signs of significant subsidence were visible to both the Western and Northern elevations as well as to the retaining wall between the site and Imperial Towers.

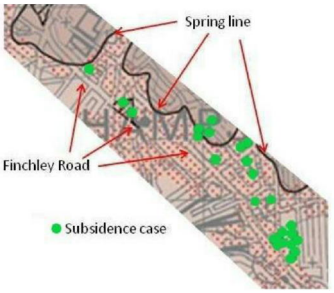
- and peppered throughout this application.

It is thus surprising that open-cut digging-out of the garden basement has been proposed, even if daily monitoring is promised, particularly bearing in mind that one of the Trial Pits unexpectedly "collapsed". A drainage route for groundwater around or under the building would be wise, but above all there needs to be certainty that the collapsed trial pit here is not a sign that landslide could be precipitated by altered pressures in unsupported high-risk ground, softened further by a groundwater surge at the wrong moment.

While not within the tunnel exclusion zone, vibration from passing trains in the tunnel below the edge of the site has not been considered for its impact on the basement project, particularly into the garden. This has been a cause for refusal of other projects in the past. Some apparent clustering of subsidence cases over these tunnels, while insufficient in numbers to prove cause and effect yet, are nevertheless a factor that should prompt some thought and calculation, adding its contribution to other sources of vibration impacting on neighbouring buildings and walls on this fragile slope: construction activity and construction vehicle movement.

The considerable amount of past and present subsidence in the area and the strong history of landslide on the north side of Finchley Road should be of concern and prompt a proper assessment of slope stability. As well as numerous subsidence claims in Maresfield Gardens, Finchley Road, Arkwright Road and Frognal, in Netherhall Gardens alone I have been alerted to subsidence claims or statements that it is or has been present at the following properties:

1 (1995*); **1A** (2003* & 2010), **2** (1993* & 2012), **3** (2005), **5** (1998*); **6** (2000*); **10** (2019), **11** (2003), **12** (2000* & 2010); **13** (on-going many years), **14** (1999*); **19** (1998*); **22** (2003*); **24A** (1998 and on-going), **34** (2020); **53** (1994*); **55-57** (2020 and in the past). * the year underpinning was completed



Known cases of subsidence north of Finchley Road

The contemporary experience reported by local people of the widening of Finchley Road in the 1960s with severe landslides and measures taken to ameliorate them, and our experience of more recent excavations on the north side of Finchley Road at numbers 120, 122A, 252, 256-258A and 272 are very pertinent. They confirm significant landslides, garden and tree group collapses, and serious subsidence of neighbouring buildings with cracks of 10cms wide in places including beneath walls as they separate from the dropping and sliding foundations. There are nine instances of landslide in all that I am aware of and plenty of lesser cases of 'subsidence' blamed on trees. Elm Tree House and Imperial Towers are on the same slope. Reports of on-going silt erosion post-construction and further movement makes us extremely concerned that these factors have not been measured adequately, noticed or considered.

Both of the Oasys packages used suppose the ground to be flat, which it won't be until after the slope has been dug out and which is the riskiest time for the neighbouring buildings and retaining walls. It is also extremely risky for Elm Tree House itself unless this damaged and fragile building had been *entirely* supported prior to doing so. As well as inputting more and accurate data about ground composition and stiffness, and making the input data available, more appropriate methods should be used to perform the calculations and assess this ground and its likely reaction, with all the known parameters.

The quantity and timing of storm-derived groundwater has not been assessed, despite this having a potentially large impact on both ground stability and silt wash-out. Oasys packages do not take account of this; good and appropriate assessment should be required if the basement part of the project is going to be given permission.

No input data that was entered for the Oasys calculations has been presented, and on past experience with other cases it is not given when requested unless by Camden. It is suspected that little input data was available: no Standard Penetration Tests were done until 3 metres down in Borehole 2 on the advice of the Japanese Knotweed expert; bulk density tests were not done above 5 metres in both boreholes 1 & 2; soil samples above 3 metres below ground level were not sent to the lab for testing. N.B. It is curious that the boreholes were dug through this soil with Japanese Knotweed when root fragments could get snagged on the machinery, yet GEA were persuaded not to send soil samples to the lab, who presumably know what they are doing, are very careful and would dispose of it safely. These are key input data required for Oasys packages. Camden and Campbell Reith should require this data to be available, and placed online for neighbours' experts to assess.

While the constructors will be instructed not to drive plant onto the top of the open cut ground and to watch it carefully when it rains, this still puts the digger operator in his hole at some risk, in addition to Elm Tree House itself. Levelling the slope by cutting it back will also provide lateral pressure changes which could well be of concern to Imperial Towers and older retaining walls. Since we do not have the input data we suspect this has not been included adequately in the equations. Propping is going to have little if any effect on lateral ground pressure changes. Even if screw piling is resorted to, the potential ground movement should be assessed adequately using a programme capable of including data on slope angles, the complexity and laminated nature of the superficial deposits and clay/silt with sand partings beneath, and the actual stiffness of the ground.

In 'Outstanding risks and issues' part 12 of the BIA part 1 it is stated that

> '… the ground conditions should be subject to review as the work proceeds to ensure that any variations from the Ground Model are properly assessed by a suitably qualified person. Monitoring of the standpipes should be continued to determine equilibrium groundwater levels and to establish any seasonal fluctuations. Ideally, trial excavations extending to as close to the full depth of the proposed foundations as possible should be carried out to determine likely groundwater inflows into the basement excavation. Once confirmation from Network Rail has been obtained, the outstanding shallow open-drive sampler boreholes should be carried out in order to confirm the ground conditions to the south of the existing house.'

Considering the boreholes were dug in August 2018, and that apart from the one visit made 3 weeks later to assess the hydrogeology we are not aware that anything has been done further yet after all this time. Can this project therefore be trusted to do a proper assessment after planning consent has been awarded? We consider this site is potentially so fragile that only full and proper testing by someone who understands the geology of this area, the ground's behaviour and local slope stability across storm surges can assess the implications of all the findings that should have been done already. Camden and the neighbours need full access to such data and analysis for the project to be adequately assessed for whether it will cause significant damage to Imperial

Towers, the retention walls and Elm Tree House itself. This should include knowledge of how the ground will react to groundwater storm surges, if landslide cannot be ruled out, and if it is viable. Not only should further monitoring of existing standpipes and presentation of the data occur *before* planning consent is awarded, but so should adequate new boreholes that are able to inform a good analysis, including implications of all findings. Doing this now will prevent later problems if the basement turns out not to be viable, and will allow Camden to assess if damage to the neighbours by the basement part of this application really is of low risk.

Drainage

Since groundwater was encountered in the mere 2 boreholes that were dug and more should be envisaged and tested for, it is surprising that groundwater drainage beneath and around the building has not been proposed. However the ultimate fate of such groundwater should also be considered, bearing in mind the best interests of the SINC Frognal Court Wood, and 6, 8 and 10-12 Frognal.

Summary of geotechnical factors

Site-specific historical evidence is absent, testing should be more rigorous, and there should be more consistency across the entire BIA, CMP and BCP to indicate that all experts are aware of the geotechnical factors operating here. It is not appropriate for any part of this project to put reliance on Landmark's assertion that the ground is unproductive. An analysis of what little testing has been done indicates this is far from the reality, and there is not even any consideration of the geological reasons for why Hampstead is the site of four of London's rivers. It is not appropriate to merely suggest a pump is in place in case groundwater is encountered

i) without considering settlement due to loss of fines if the groundwater lowering system continually pumps silt and sand sized particles in the discharge water (Arup 2010[1] para 221).
ii) without considering the effect of ponding or diversion of groundwater on complex laminated and erodible ground on a very steep slope.

Removing the slope does not deal with the risks to Imperial Towers and the SINC below: the process of removing it will more than likely prompt landslide, has not been assessed for damage risk, and the need to protect construction workers during slope removal has not been thought through. It is not enough to merely ask machinery not to park on the top of the unsupported cutting and to check its face daily.

Vibration across this precarious site needs to be scrupulously assessed across all aspects of this project from start to finish, including construction traffic and from the train tunnel. While noise and vibration are an environmental factor for neighbours and the school nearby this will be temporary. Damage to Imperial Towers, to Elm Tree House and to retaining walls will not be temporary. The BIA shows that GEA and others working on this project are not yet sufficiently aware of the problems; all should be sorted before permission is granted.

Since the lower ground floor is now bigger, we believe it would be better to save a lot of hassle and money and abandon the basement dig-out with all its potential problems. From the point of view of risk to Imperial Towers we urge Camden to reject the basement part of this application unless there is a fully tested and calculated method of safely building it with a belt and braces approach to risk in place, in view of the complexity and fragility of the steep slope here, so far not adequately investigated.

Thinking of sustainability and the future, considering the known poor stability of this hillside the difficulties and risks of digging out a basement here might be surmountable with sufficient finance now, though this has yet to be set out for scrutiny or confirmed. However, when whim, fancy, large amounts of money and the political will to remove all semblance of planning regulation combine again in the future, having a safely built basement here would still leave owners with a massive amount of metalwork and concrete deep into the hill. Since the wider hillside is deemed at greatest potential risk of landslide and there is plenty of evidence that that this has already occurred many times, the vibration involved in removing or adapting such structures is likely to cause major problems to this and other buildings. Big potential problems would be stored up for the future even *if* a solution could be found to deal with the current one.

Landscaping

The ecologist has missed that there is a Borough level grade II Site of Importance for Nature Conservation (SINC) at the end of part of the garden: 'CaBII03 Frognal Court Wood'. This should have a major impact on the ecology report and hence the proposed landscaping that is on the immediate fringe of this SINC. In a list of all local SINCs it is stated for Frognal Court Wood:

Due to the distance between the SINCs and the site, direct impacts as a result of the proposals can be ruled out.

This is extraordinary considering the two are contiguous for a short distance and Frognal Court Wood is also backed onto by all Elm Tree House neighbours' gardens. Since much of the tree removal at Elm Tree House has occurred, and certainly once this is completed, this SINC will have little wildlife support or biodiversity corridors from the gardens that surround its north-eastern sides. The landscape plan indicates that Elm Tree House may contribute some trees that replace the huge number of existing trees that were allowed to deteriorate, plus have had to be removed for the development and to get rid of Japanese Knotweed. Bat and bird boxes are rarely inhabited when there are no mature trees around them for shelter so do not mitigate at all for the habitat that has or will be removed and previously supported a range of wildlife. Deadwood log piles, wild flower meadows, more vertical greenery and a pond have been suggested to enhance the biodiversity of the site which is welcomed and supported, deadwood piles particularly so in relation to the SINC. Details however, promised to be in the Ecologist Report, seem to be missing? We request that a specific Condition goes in to ensure this all happens. At the moment the landscaping plans look tidy and sparse. The computer-generated views from the basement 'wings' remind one of an atrium in a bank's Head Office in the City.

Additionally, no-one has addressed why 8 poplars, 2 elms and 11 limes were planted on this site from around the time it was set out. These species are known to be very high water users, particularly the poplars, and were usually planted in Hampstead where spring lines or particularly waterlogged areas are. This information should help inform whoever decides if the hydrogeological testing has been sufficient. In our view, far from it.

We really like the idea from the arboriculturalist of using scots pines. These are fast growing and characteristic of both Hampstead and the Heath with possible links to past drovers roads for moving livestock to the City. However, we suggest that, apart from the three Caucasian limes, insufficiently thirsty trees have been planted. Rowan trees and birches are good, but it would be great too (as suggested at pre-app) if elms could be planted: either a variety that is resistant to Dutch elm disease, or a small group that could be kept low, beneath the height that the beetle attacks them, and perhaps their roots constrained so that they don't sucker and invade other gardens. Otherwise, it is a shame to lose the link to the name of the house.

Boundary Wall fronting Netherhall Gardens

We request that Camden place a specific and appropriate Condition for the boundary wall fronting Netherhall Gardens that includes the historic burnt 'clinker' brick panels and details of the wall dimensions, including the angle of the brick panels, and the bricks themselves, particularly the burnt bricks which must be preserved. Camden is developing a good track record for determinedly protecting such walls in the Hampstead area.

These burnt bricks were most likely made within a few hundred yards of the site in the kilns on the Finchley Road Brickfield portrayed in the painting of 1875 by Claude Hayes (1852-1922). We believe the pattern of housing and fields in the area confirms that St Peter's church Belsize Square can be seen in the background.

https://artuk.org/discover/artworks/finchley-road-fields-hampstead-123265

The form of clay from the geological bands D and E (Claygate Beds) of the London Clay Formation that is present across Hampstead and Highgate contains a lot of silt, making it ideal for brick making (see Brick making: https://www.ucl.ac.uk/earth-sciences/impact/public-engagement/londons-geology/londons-geology-fieldwork/hampstead-heath/geology-hampstead and http://londongeopartnership.org.uk/wp/wp-content/uploads/2018/08/The-Geology-of-Highgate-Wood-and-Queens-Wood-AGS-final.pdf)

This also of course adds to the evidence that silt erosion is a possibility, and whose impact on the project is one of the factors that should be considered at the site.

Dr Vicki Harding
Society Tree Officer and member of the Planning Sub-Committee, Heath & Hampstead Society