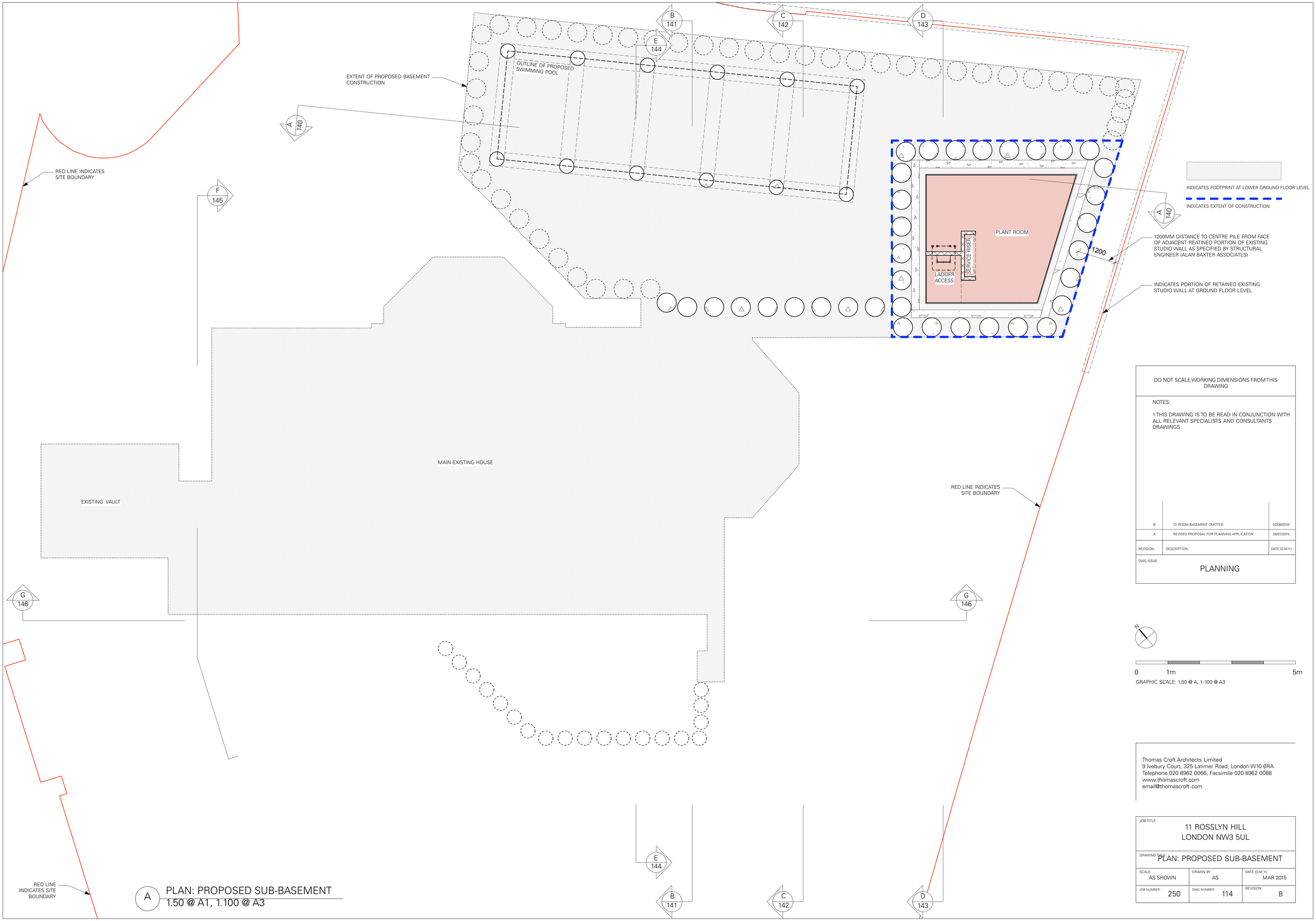

A PLAN: PROPOSED SUB-BASEMENT
1.50 @ A1, 1.100 @ A3

DO NOT SCALE WORKING DIMENSIONS FROM THIS DRAWING

NOTES:

1.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIALISTS AND CONSULTANTS DRAWINGS.

REVISION.	DESCRIPTION.	DATE (D.M.Y.)
B	TV ROOM BASEMENT OMITTED	02/06/2016
A	REVISED PROPOSAL FOR PLANNING APPLICATION	28/07/2015

DWG ISSUE: PLANNING

0 1m 5m

GRAPHIC SCALE: 1.50 @ A, 1:100 @ A3

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JOB TITLE: 11 ROSSLYN HILL
LONDON NW3 5UL

DRAWING TITLE: PLAN: PROPOSED SUB-BASEMENT

SCALE:	DRAWN BY:	DATE (D.M.Y):
AS SHOWN	AS	MAR 2015
JOB NUMBER: 250	DWG NUMBER: 114	REVISION: B

A SECTION: PROPOSED FF
1.50 @ A1, 1.100 @ A3

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REVISION.	DESCRIPTION.	DATE (D.M.Y.)
C	TV ROOM BASEMENT OMITTED	02/06/2016
B	REVISED ACCURACY OF LEVELS	28/07/2015
A	REVISED PROPOSAL FOR PLANNING APPLICATION	03/07/2015

DWG ISSUE:
PLANNING

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DRAWING TITLE: SECTION: PROPOSED FF

SCALE:	DRAWN BY:	DATE (D.M.Y):
AS SHOWN	AS	MAR 2015
JOB NUMBER: 250	DWG NUMBER: 145	REVISION: C

A SECTION: PROPOSED GG
1.50 @ A1, 1.100 @ A3

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C	TV ROOM BASEMENT OMITTED	02/06/2016
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DWG ISSUE:
PLANNING

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DRAWING TITLE:
SECTION: PROPOSED GG

SCALE:	DRAWN BY:	DATE (D.M.Y):
AS SHOWN	AS	MAR 2015
JOB NUMBER: 250	DWG NUMBER: 146	REVISION: C

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Design and Access, Planning and Heritage Statement

London
2 April 2015
Revision *

Index

1.0 Introduction

1.1 Project summary & team
1.2 What this Application includes & doesn't include

1.1 Project summary & team

This supporting Design and Access Statement has been prepared by Thomas Croft Architects to support the planning application for the amalgamation of the Main house and adjacent Studio dwelling to form an extended single family dwelling, the demolition of two Outbuildings, the addition of a Dining Room with Link and a new Basement beneath the Studio containing gym, sauna and swimming pool.

The document has been prepared on behalf of the Applicants Elizabeth & Andrew Jeffreys.

The Development Team:

The Applicants and Building Owners:
Elizabeth & Andrew Jeffreys

Architects:
Thomas Croft Architects Ltd

Historic Building Consultants:
Donald Insall Associates

Structural Engineer:
Alan Baxter & Associates

Sustainability Consultants:
Price & Myers

Planning Consultants:
Montagu Evans

Traffic Management Consultants:
Paul Mew Associates

Swimming Pool Consultants:
Clearwater Swimming Pools

Arboricultuist:
Boward Tree Surgery (Oxford) Ltd

M&E Consultants
CSG Ltd

Acoustic Consultants:
Cole Jarman

Tax Consultants:
Landmark PT

Landscape Designer:
Jinny Blom Landscape Design

Interior Designer:
Caroline Riddell Interiors

1.2 What this Application includes & doesn't include

The Application is quite complex & for the avoidance of any doubt we thought that it might be helpful to list its detailed extent.

Included in this Application

- The amalgamation of the existing Main House and existing flat roofed single storey 'Studio' dwelling to the south east of the Main House to form an extended single family dwelling. Currently they are 2 seperate dwellings.
- The complete demolition of the 2 existing timber garage sheds to the west of the Main House.
- The partial demolition of the Studio and conversion of the retained part of the previously separate Studio into an integral part of the adjacent main house.
- Studio's footprint to be amended to respond to the Main House's bay window and Lyndhurst Hall.
- The amending of the roof space to the Studio - the building appears single storey with a pitched roof, though in fact a partial 2nd storey is concealed within this roof pitch.
- A new Lower Ground building partly under the Studio & partly under the current parking area. This will link directly into the Main House at its Lower Ground level into its Playroom. This building contains a small Swimming Pool, a Sauna & a Gym
- A new Dining Room to the south of the main house. To be linked directly with the main house's Drawing Room by means of a curved glazed link structure. Some stairs go down from the link structure to allow the Main House to be entered at Lower Ground Level. This lower level also provides a WC & access to the new lightwell outside the Main House's Playroom.
- A new Lower Ground Media Room located to the west of the Main House. This is accessed from the existing Lower Ground cellar passage.
- A new lightwell to the Main House's bay window on its south eastern end, also new sash windows at Lower Ground level. The windows & lightwell will provide much better light to the existing Playroom & the stairs will provide direct access into the garden from both the Playroom & the new Swimming Pool building. It will also provide a WC for gardeners etc that can be accessed without going into the rest of the house
- A remodelled stone terrace between the Main House & the garden. This includes a slightly enlarged lightwell between the house & the terrace, also the provision of some mechanical ventilation plant under the terrace. This plant would be concealed behind lourves in this lightwell at Lower Ground Floor level.

Not included in this Application

- Any alterations to the Main House other than are necessary for the 3 new Lower Ground constructions to access the Main Building & the addition of the Playroom's new sash windows. (A variety of internal changes to the Main House were given Listed Building Consent in 2013.)
- Any alternations to the garden design beyond the redesigning of the existing stone terrace between the Main House & the Garden. Some of the drawings indicate a reshaping of the main lawn & a possible future summerhouse or gazebo at the lawn's western end, however this just indicates a long-term possible garden masterplan.

2.0 Historic development

2.1 The building's history in the 18th, 19th & 20th Centuries

2.1 The building's history in the 18th, 19th & 20th Centuries

18th Century

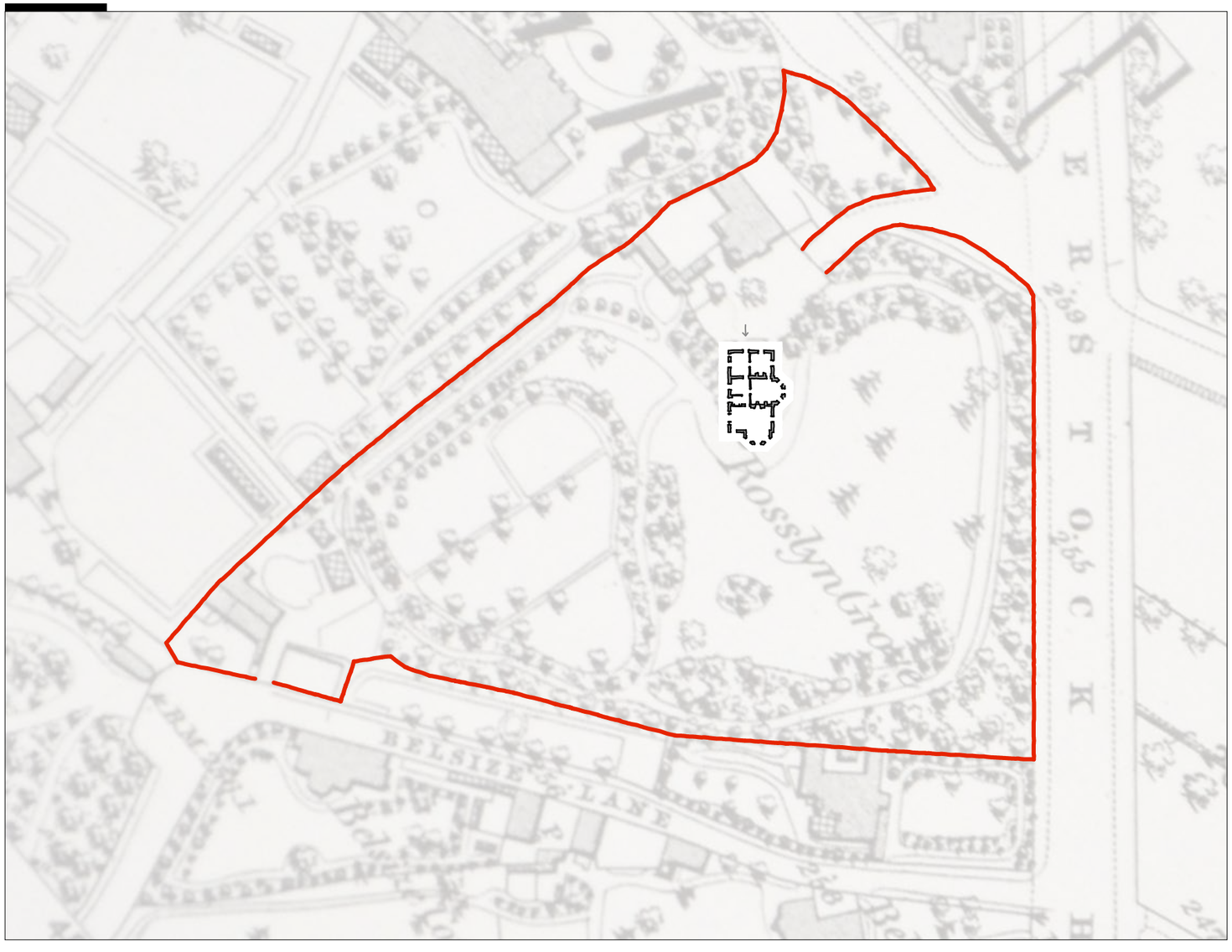
Rosslyn Grove, or 11 Rosslyn Hill as it is now known, is a rare survivor of an earlier Hampstead. It was constructed about 1770 on what would have been farmland as a bucolic mid-Georgian family home for a City businessman. Research by Donald Insall Associates (whose full historic report & justification will accompany the formal Application) show it having coachhouses (necessary for its owner to travel into town) and being set in a large park-like garden that looked out south towards an expanding, but still distant, metropolis. It was surrounded by other similar villas & it must have been an idyllic place to live.

19th Century

The original house has remained remarkably unaltered architecturally, however London's expansion has, unfortunately, wrought major negative changes on its setting.

In 1883 the Congregational Chapel (now Lyndhurst Hall) was built, designed by the great Victorian architect Alfred Waterhouse. This had the dual effect of both radically altering the way the house had orginally been approached from the street (because the chapel was built over the house's old entrance drive), & also of creating a massive disjunction in scale & style between the house & the chapel.

The chapel's orientation means that it curves around the house & presumably this 'embrace' must have been deliberate. However the chapel makes no concessions to its older neighbour in terms of its



1867 OS map showing extent of estate

2.1 The building's history in the 18th, 19th & 20th Centuries

architectural language, which is Waterhouse's personal version of Gothic/Romanesque Revival.

The conjunction of these 2 historic buildings produces a very unusual, though not unpleasant, effect. However it is definitely not the setting one would normally choose for a fine freestanding Georgian structure & the house is overshadowed in every sense.

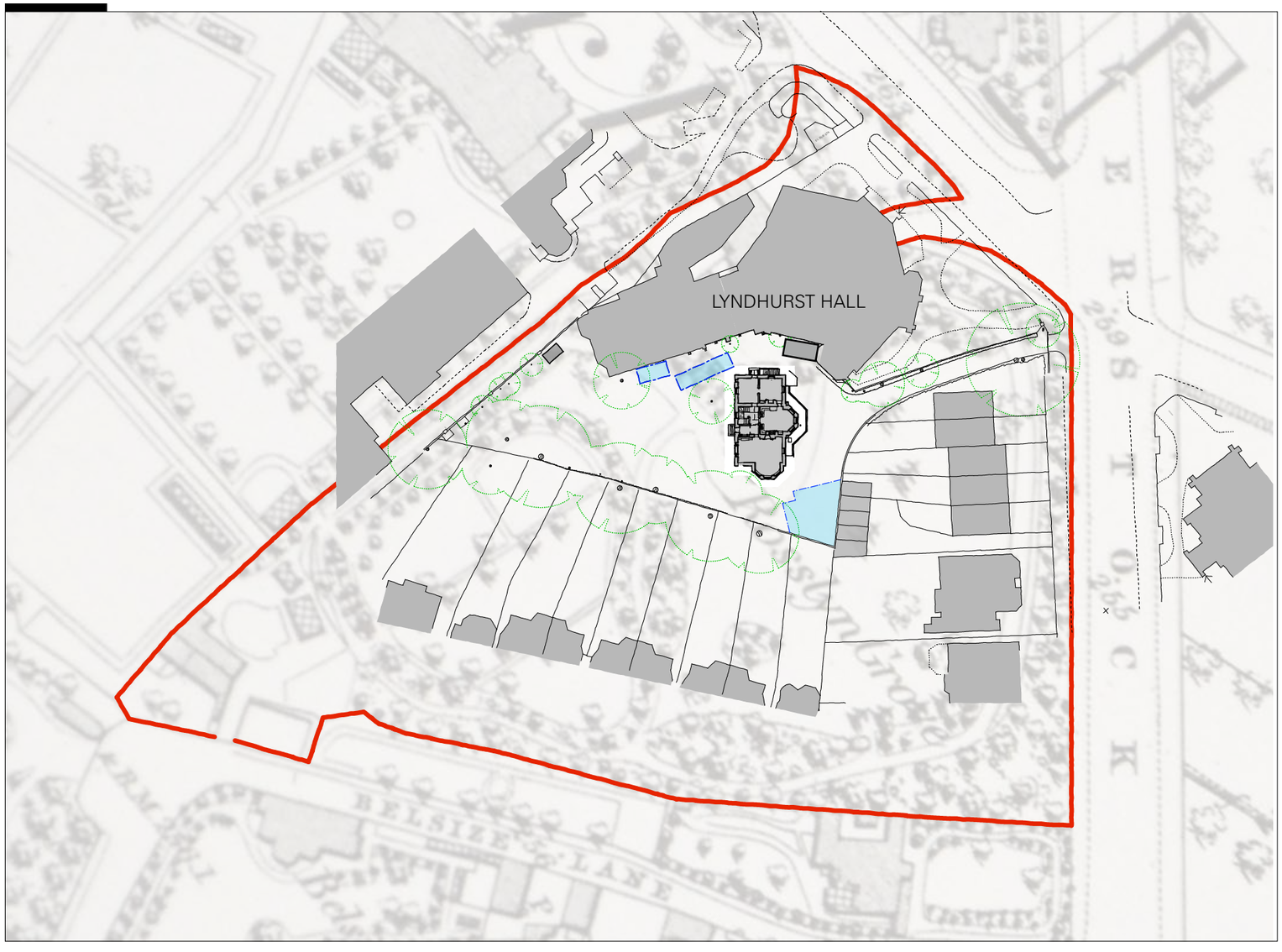
At around the same time the garden was divided up to create numerous building plots around the whole street periphery. The house was now accessed up a long narrow drive & it lost all street presence. The new plots were laid out in a rectangular fashion purely to maximize profit & the house's current-day garden is the result of these subtractions; consequently the garden lacks any design relationship with the house & it is a shadow of its former self. It is a victim of circumstance not design.

<u>20th Century</u>

At some point in the last century various timber garage sheds were built in the garden, which are deemed harmful to the setting of Lyndhurst Hall and the Main House. A single storey flat-roofed Studio was constructed in the site's SE corner. Post WW2 a new single storey dwelling 'The Studio' was added in the site's south eastern corner. In 1974 the house was Grade II listed & was by now one of only two Georgian period survivors on the Belsize Estate.

<u>Historic Building Report</u>

See the accompanying report by Donald Insall & Associates for a more detailed history & appreciation of the property. Structural Engineer Alan Baxter Associates have also provided some extra information in their report.



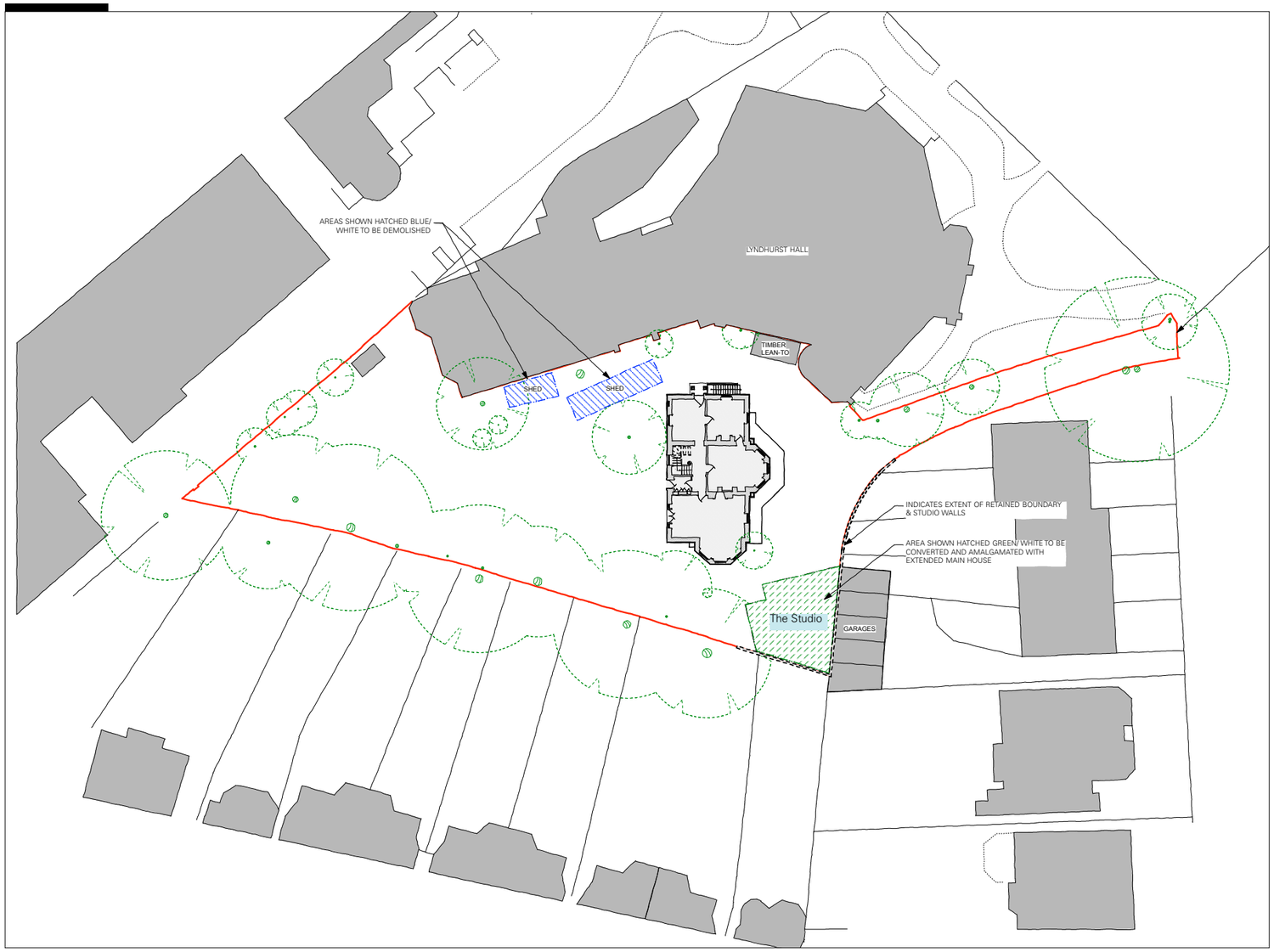
1867 OS map showing extent of estate with current site plan superimposed

3.0 Context & Analysis

3.1 Extent of demolitions
3.2 Previous planning permission for an extension

3.1 Extent of demolition & conversion

– Two old freestanding timber sheds removed.
– Partial demolition of 1960s brick Studio dwelling prior to conversion.



Current site plan, with perimeter shown in red. Buildings to be demolished shown in blue and Studio to be converted in green.

3.1 Extent of demolition & conversion

Existing view looking east, buildings to be demolished shown in blue,
Studio to be converted shown in green

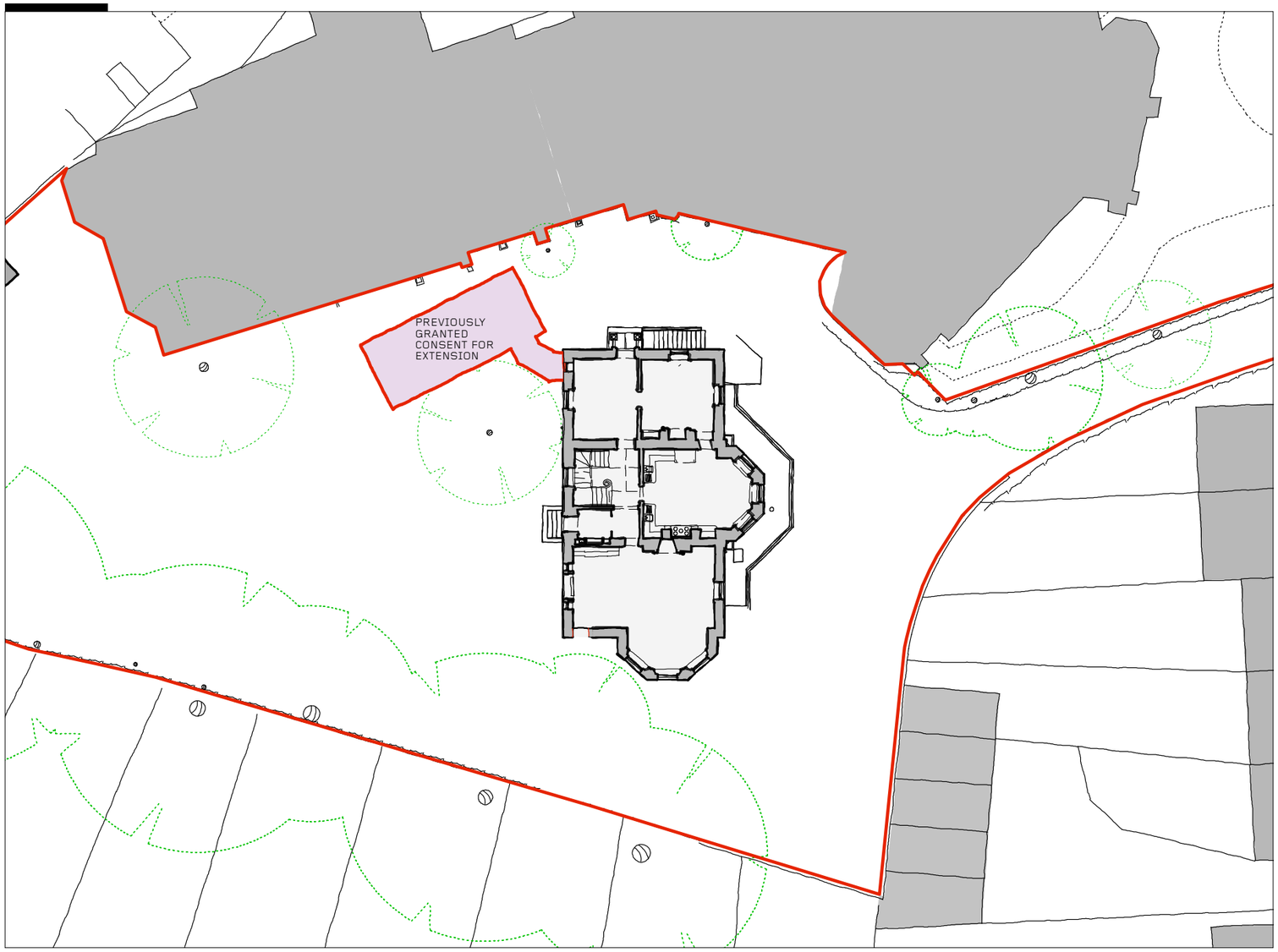
Existing view looking east, buildings to be demolished shown in blue,
Studio to be converted shown in green

3.2 Previous Planning Consent, 2010

In 2010 a Planning & Listed Building Consent was granted to demolish the existing wood shed to the west of the Main House & build a new Dining Room. This room would be attached by a small link structure & the existing window in the Entrance Hall would be altered to create a new doorway.

We rejected this design approach to creating a new Dining Room for the following reasons:

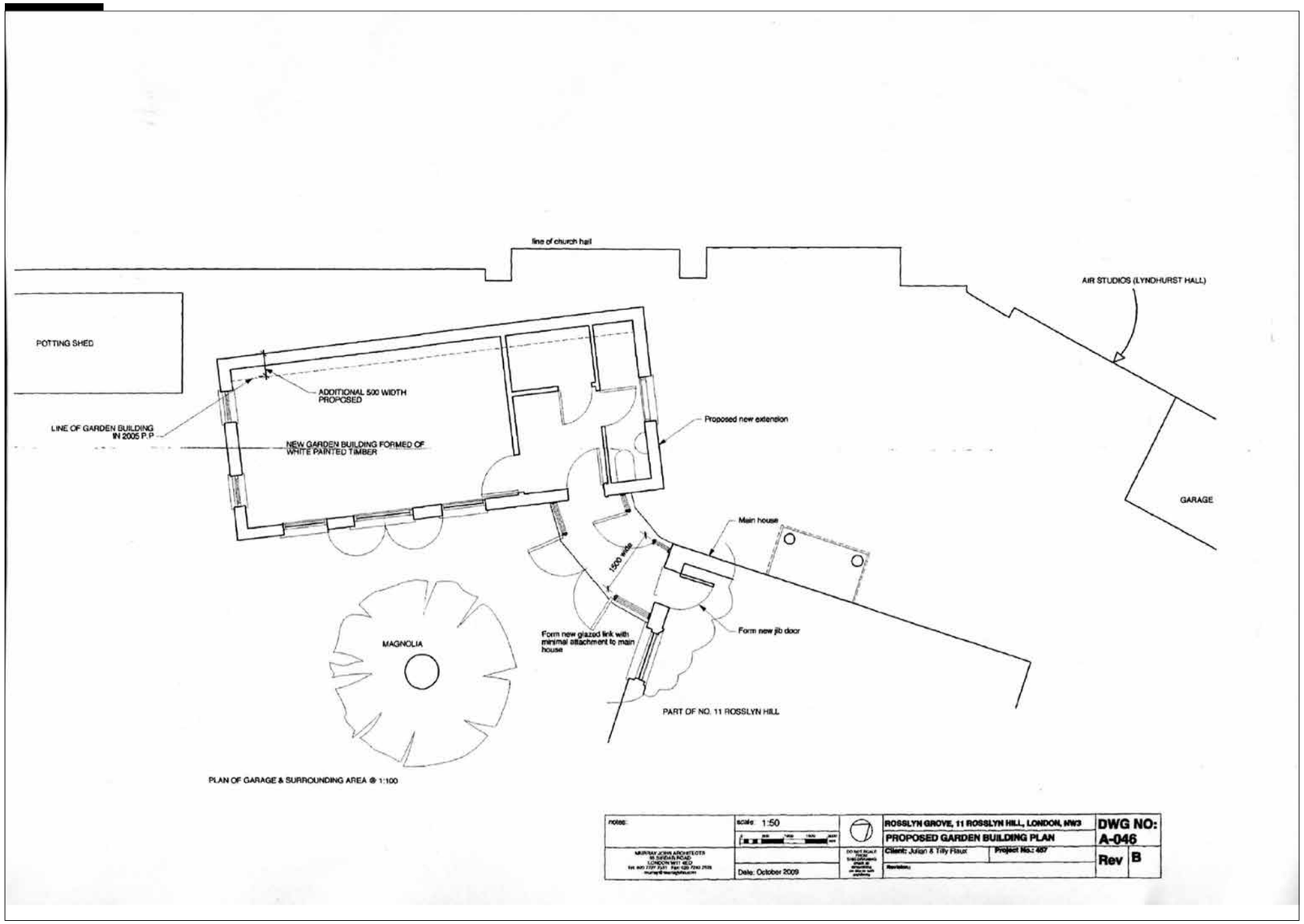
– We felt that the current sheds blocked the natural entrance flow into the garden & that this new building simply continued that tradition; it was like a cork in a bottle & required someone visiting the garden to squeeze between Lyndhurst Hall & the Dining Room in a very awkward way. Our new proposed Dining Room position avoids this problem.
– The sheds seem to compromise the historic setting of both the Main House & Lyndhurst Hall. The 2010 new Dining Room proposal seemed to continue that compromise. We feel that our new proposed Dining Room position suceeds in undoing this compromise.
– The proposed angle of the 2010 new Dining Room proposal relates to neither the Main House or Lyndhurst Hall. We felt our new proposed Dining Room should help frame & refinforce the Main House which has lost so much of its context.



Current site plan, with previously consented extension shown in red

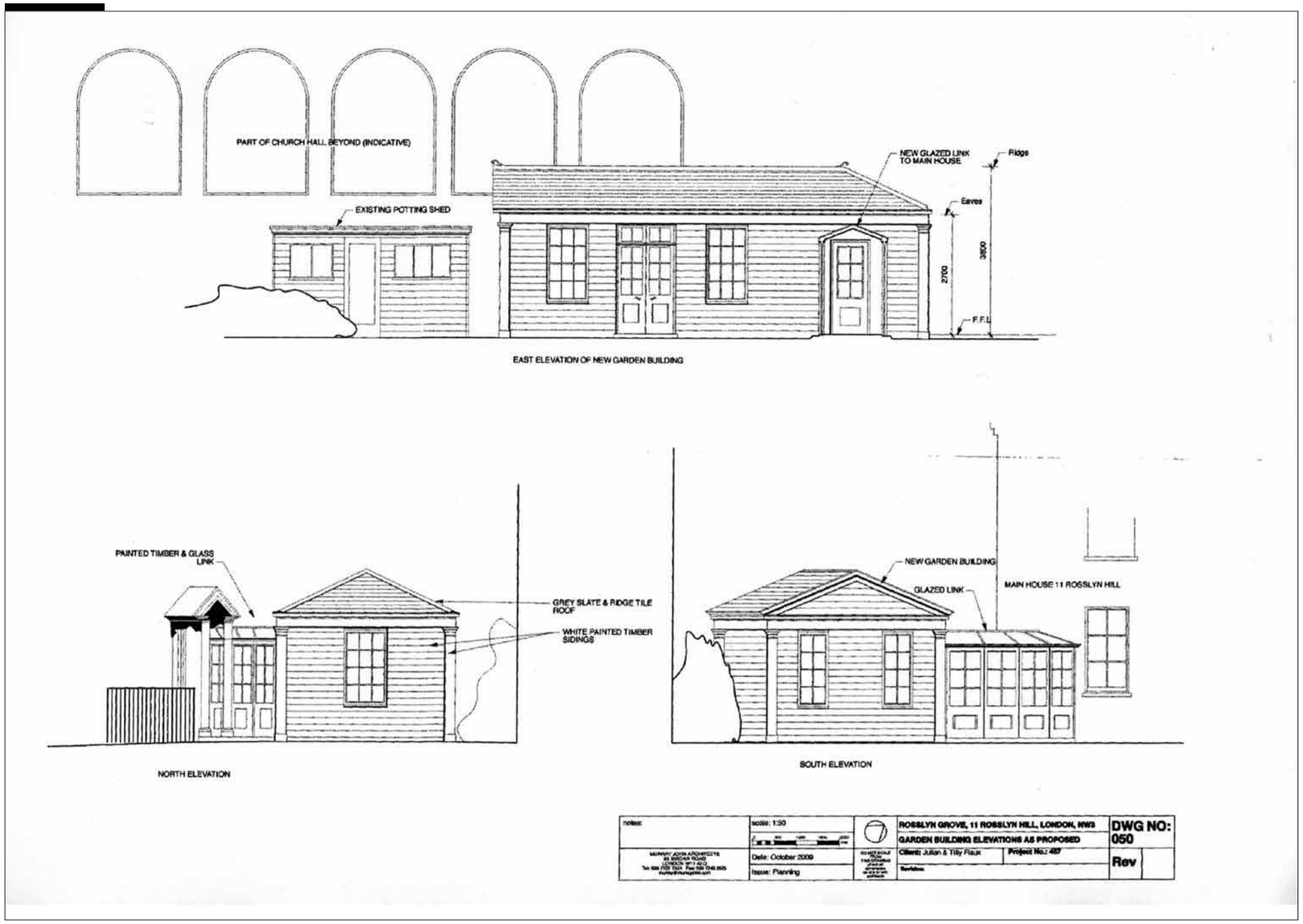
3.2 Previous Planning Consent, 2010

Previous Planning Consent
plan drawing



3.2 Previous Planning Consent, 2010

Previous Planning Consent
plan drawing

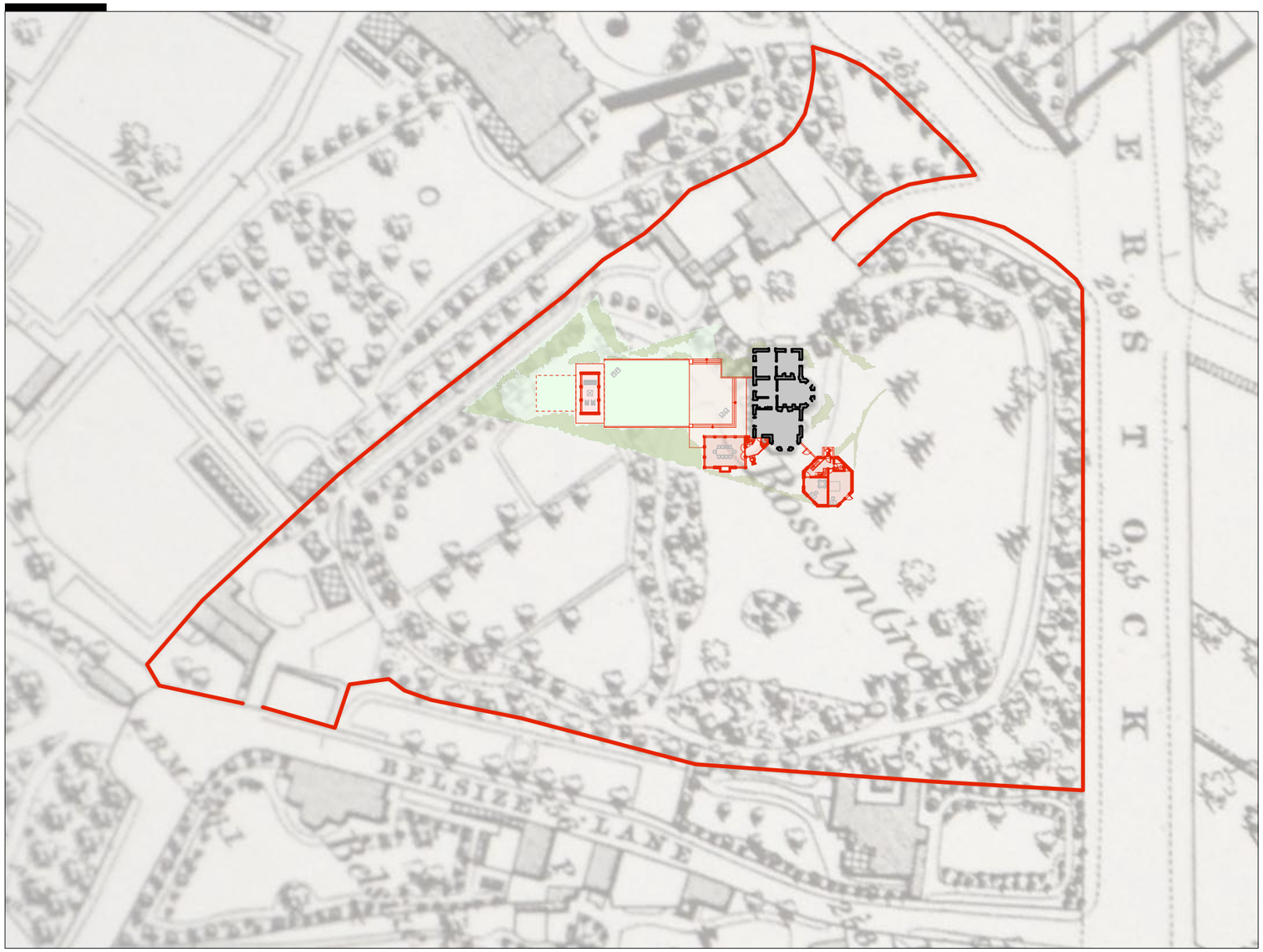


4.0 Design

4.1 Design proposals - concept idea
4.2 Design proposals - headlines
4.3 Design proposals - in detail
4.4 Landscape
4.5 Layout, use, scale, appearance, materials
4.6 Local & historic precedents & inspirations
4.7 Amount
4.8 Lifetime Homes

4.1 Design Proposals - concept idea

" a fictional fragment of 11 Rosslyn Hill's lost Georgian garden that both reimagines the setting of the existing listed buildings & provides a new logic for the shape of the house's garden & its site plan"



Proposed new site plan, superimposed over old OS plan. Original estate boundary shown in red

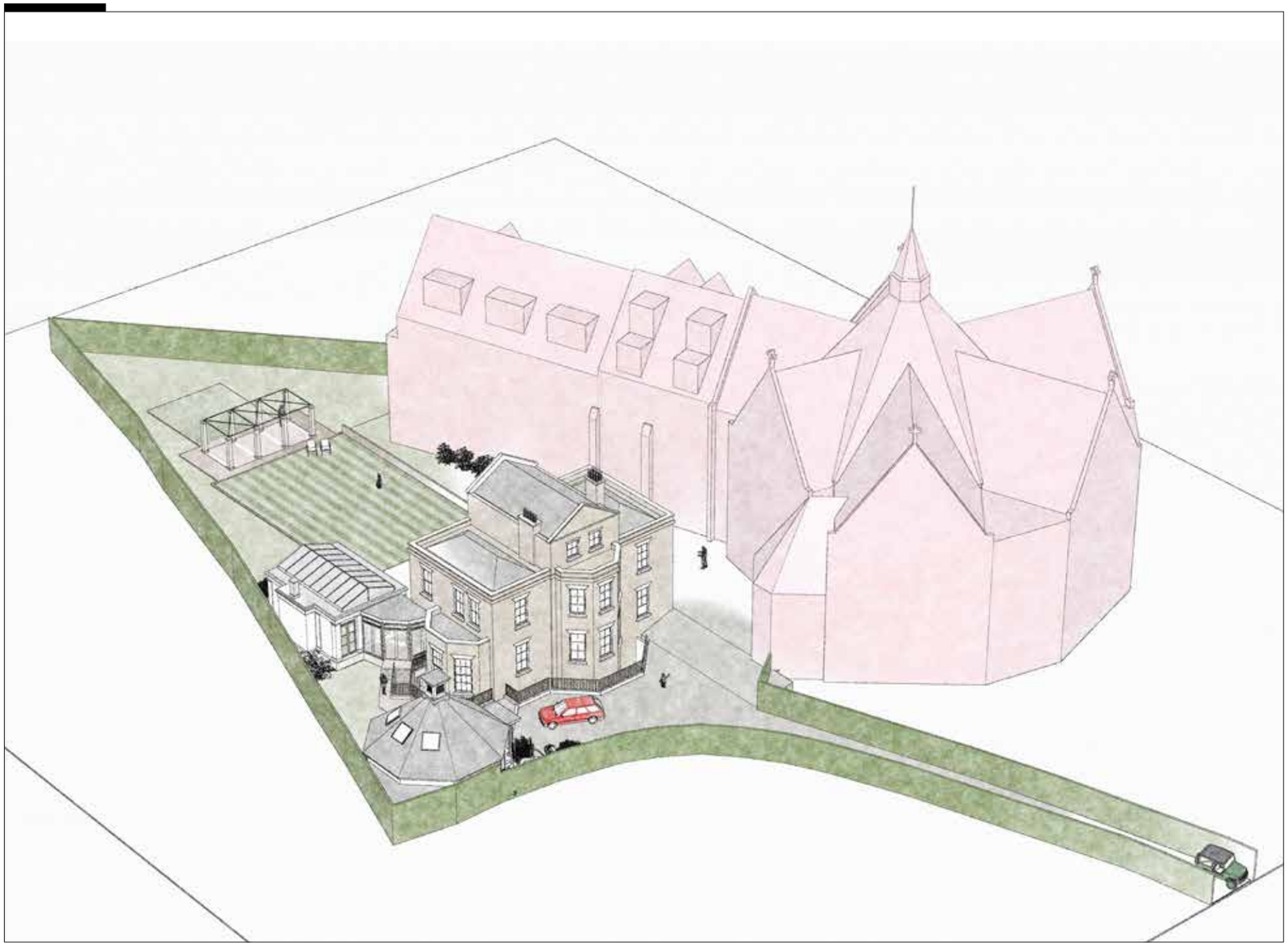
4.2 Design proposals - headlines

Above ground

– Old timber sheds demolished
– New Dining Room directly connected to House
– Enlarged lightwell to bay window
– Studio redesigned and converted

Below ground

– New TV Room
– New Swimming Pool under parking forecourt & Studio
– New link between House & Studio



View looking west, showing proposed new buildings

4.3 Design proposals - in detail

New design proposals

After long periods of neglect & dereliction the house is once again occupied by a young family that would like to enjoy both the house & garden to their fullest, & also to make some architectural interventions that, we hope, will help redress some of the aesthetic damage that has occurred to its setting.

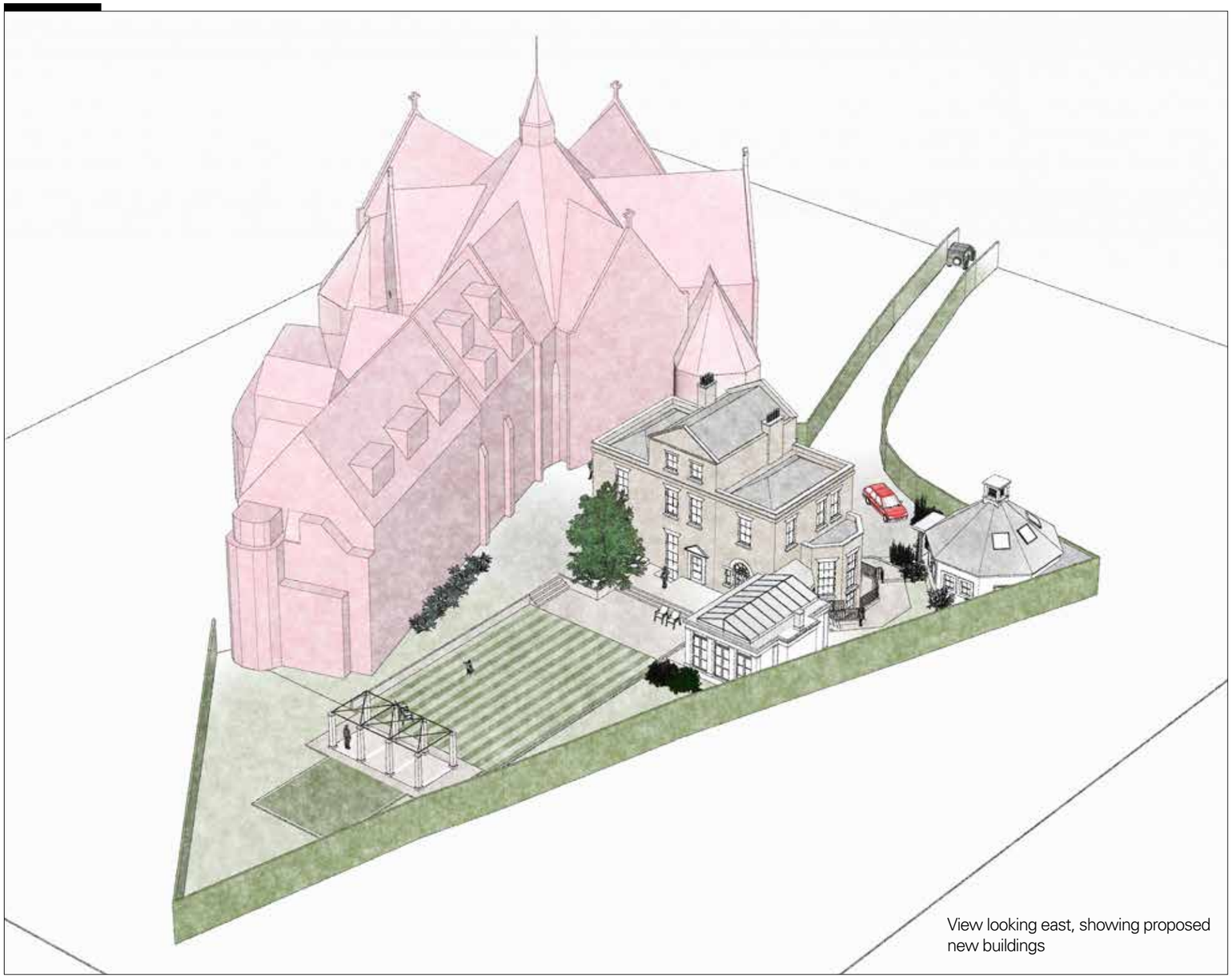
What we are proposing are 2 new above-ground structures & also some completely subterranean new rooms under the paved areas to the east & west of the house, plus some very minor changes to the house's historic envelope to facilitate these changes. We are not proposing any changes to the house's interior, although a recent Consent has been granted for minor layout & joinery alterations on the 1st & 2nd Floors.

We are also showing a long-term landscape concept by multiple Chelsea Flower Show award-winner Jinny Blom, though this does not form part of the current Application & is included for information only at this stage.

The proposed new above-ground structures are:-

New Studio

The current 20thC building 'The Studio' is not of any architectural significance according to both the Conservation Officer at PreApp & our Historic Building Consultants DIA. We propose the amalgamation of this Studio dwelling with the Main House. Its design



View looking east, showing proposed new buildings

4.3 Design proposals - in detail

will reference the chapel's idiosyncratic octagonal central tower, subsidiary estate/stable buildings that might once have stood on the site, & also old Hampstead's weatherboarded Georgian architecture (like Romney's House & the Spaniards Inn, see item 4.6).

With this building our intention was to find a way of 'holding' the site's southern corner. We feel that the very constricted drive & parking forecourt combined with the Chapel's enormous bulk to the north leads to a very unbalanced architectural spatial effect on the eastern side of the house. We also feel that a taller & more architecturally developed Studio will help redress this architectural imbalance & help the house regain it's architectural importance as the centrepiece of a tripartite composition. We hope this will all be welcomed as an improvement.

Dining Room

Modern family living means that the previous owners converted what would have been the original Dining Room into a big Family Room/Kitchen & this room does work very well as the heart of the home. However, in usage terms, a house such as this would benefit from a big formal Dining Room to complement the size & style of the existing Drawing Room & it would be very nice if this room could more directly address the garden.

The proposed Dining Room's style, form & materials are intended to provide a contemporary echo of the Georgian structure, especially the gabled central block

Proposed view looking SW up drive, converted Studio building on the left

4.3 Design proposals - in detail

on the 2nd floor. However as a semi-garden structure it is designed to feel a little more open. A partially glazed link structure connects it back to the house & we are proposing a new opening in an existing blank brick wall of the house to facilitate direct access from the house.

Consent has previously been given for a new build structure of similar proportions on the house's western corner linked back to the house through a glazed structure & a new opening in the existing brickwork. However we think that this building's location was not ideal because it would have the effect of physically blocking the primary entrance to the garden, & also because the existing timber shed sits in front of the house's primary garden elevation whilst having no architectural relationship to it. The position of both these sheds feels (& are) very arbitrary & they do rather crowd & obscure the chapel's south elevation.

We feel that the setting of both historic buildings (i.e. both the house & the chapel) would be greatly improved by the demolition of both the sheds in the garden & the relocation of the proposed new building to the house's SE corner with an orientation & architectural language that better relates it to the house. This would also allow a much more graceful pedestrian entrance to the garden & reduce the length & prominence of the link building between the house & the Dining Room. We hope this will all be welcomed as an improvement.

Proposed view looking SW up drive, to the converted Studio building on the left

4.3 Design proposals - in detail

Existing House

The only alterations we are proposing to the house's historic fabric in this Application are those required to access the new Dining Room & the new Lower Ground excavations. Also to create new sash windows for the Lower Ground Playroom in walls that are currently sitting against backfilled earth.

Evidence exists that that in all cases fairly major detail changes have taken place in these areas over the years. Also that the external ground levels & light wells may have been subject to significant changes.

With the Dining Room opening we are proposing making changes in an area of currently plain brickwork, however we would suggest this is occurring on a minor elevation, both internally & externally, & that any harm caused would be significantly less than that which would have resulted from the new opening in a more primary elevation associated with the previously consented new building on the western corner.

Subterranean development

We are proposing a single level of Lower Grounnd subterranean rooms under existing hardstanding to both the east & western sides of the building. None of this excavation occurs under, or particularly near, the building's historic fabric except in the eastern corner where we would like to make a new basement-level opening into the Playroom & the western corner where we are breaking through a currently blank cellar wall.

The historic building studies & our ground investigations suggest that much of this excavation may be in made-up ground & we would like to think

View looking SE towards proposed Dining Room

4.4 Landscape

that, given the very big size of the plot & the distance from neighbours, this development work is not contentious so long as the stability of the house & its neighbours can be assured & the resulting new accommodation can be designed in such a way that it makes no aesthetic impact on the historic buildings.

Garden concept

The new garden layout is only a concept intenion at this stage & does not form part of the current Planning & Listed Building Application.

Our intention with the above-mentioned new buildings & the new garden layout is to design what amounts to a fictional fragment of the House's original Georgian garden that simultaneously improves the setting of (both of) the listed building(s) & also provides a logic for the shape of the house's reduced garden & site plan.

The idea is that the garden layout reacts to all these things & the position of the new wooden Trellis is intended to provide a landscape object around which the existing garden boundary can 'stretch' & also to act as a western visual termination to the garden design in much the same way as a long-lost Georgian eyecatcher or summerhouse might have done. The Trellis's chinoiserie design is intended to reference the exotic feel of some Georgian garden fantasy buildings such as those at Vauxhall Gardens, as well as the arched niches in the chapel's elevation onto the garden. See item 4.6 for some inspirational images.

View looking East towards the Main House, with proposed Dining Room on the right

4.5 Layout, use, scale, appearance, materials

Layout

As previously described, the proposed layout of the new buildings is a direct response to the historic site & how those building serve the existing Main House which obviously still remains as the functional centre of the single family residence.

The new Studio sits on the same spot as the building it replaces. Consequently in development terms this position is not contentious & is located far away from any neighbour's dwellings. In historic building terms we are suggesting that this position works very well because it provides a (obviously much smaller) symmetrical counterpoint to Lyndhurst Hall & helps 'fix' the Main House better within the contemporary surroundings in which it now finds iteself & helps provide it with an architectural context that it has otherwise lost.

The new Dining Room is located so that it can be easily accessed from the Main House, so that once again it can help 'fix' the Main House better within its architectural context (see above) & so that the garden can be entered more gracefully than would have been the case with the previously consented Planning Consent (see item 3.2). Also so that the settings of both Lyndhurst Hall & the Main House are less compromised by very adjacant development than would have been the case if that previously granted Consent had been constructed inbetween them.

The new Lower Ground excavations have all been sited in positions that allow relatively easy access to the existing Lower Ground Floor, to allow access for windows & ventilation to the existing lightwells & in positions that don't conflict with tree root spread areas. All these excavations are adjacant to the floor

View looking NW towards the Main House, with proposed Dining Room on the left & the glazed link in the middle

4.5 Layout, use, scale, appearance, materials

plan of the existing Listed Building & no excavations are actually proposed below the Listed Building.

A small extra Sub-Basement level just provides extra mechanical plant space in order to reduce the overall plan area of the excavation. It is reached by ladder & is not habitable space.

Use

The Main House & whole garden & drive are currently all part of one dwelling, with the Studio comprising a completely seperate dwelling. Both dwellings are owned by the Applicants & this was the case with the previous owners also. Although seperate dwellings they are currently used together by the Applicants.

As part of the works the 2 dwellings will be joined into a single combined family dwelling with a new direct Lower Ground connection.

The new formal Dining Room adds back a room that the house has effectively been lost in recent decades. The original Kitchen would have been on the Lower Ground Floor & staffed by servants. However modern family living means that the Kitchen inevitably becomes the centre of family life & in recent decades this has moved to the room in the centre of the Ground Floor that was, presumably, originally the formal Dining Room. The little room currently used as the Dining Room was probably originally a Study or Parlour & is really too small for its current purpose. Thus the wish to build a new formal Dining Room that would restore this lost functionality to a house that would originally have had such a room & better balances the size & style of the Drawing Room.

The current Applicants are a large young family with

View looking NE towards the Main House, with proposed converted Studio building on the right & the new lightwell in the middle

4.5 Layout, use, scale, appearance, materials

the older members also working from home much of the time. The combination of the Main House & the Studio will provide substantial extra functionality & bedrooms for the family.

Scale

The floor plan areas of the proposed new Dining Room & the converted Studio building are very similar to the Dining Room already given Consent & the existing Studio. The PreApp Advice confirmed that the Conservation Officer was comfortable with the scale & position of the above-ground developement.

The new Lower Ground excavations might appear quite extensive at first glance. However a fair part are underneath the c onverted Studio building which, as Planning Policy currently stands, could currently dig its own basement anyway using its own Permitted Development Rights. Consequently the net extra space being requested is actually not that large if these PDR rights are taken into account.

The dwelling's total site area is, for Central London, really very large & we suggest that our proposals are in scale with that size.

Appearance & materials

The new Dining Room's appearance is intended to evoke the kind of glazed garden room that could easily have been added to the house over the years. A lightweight glazed link building makes clear that it is an addition & not part of the Main House's original fabric. The materials were chosen to be as sympathetic to this design intention as possible & we are not intending using anything externally or internally that could not be interpreted as being, say, post-WW2.

1867 & Current OS Maps overlaid

View looking NE towards the Main House, with proposed converted Studio building on the right & the new lightwell in the foreground

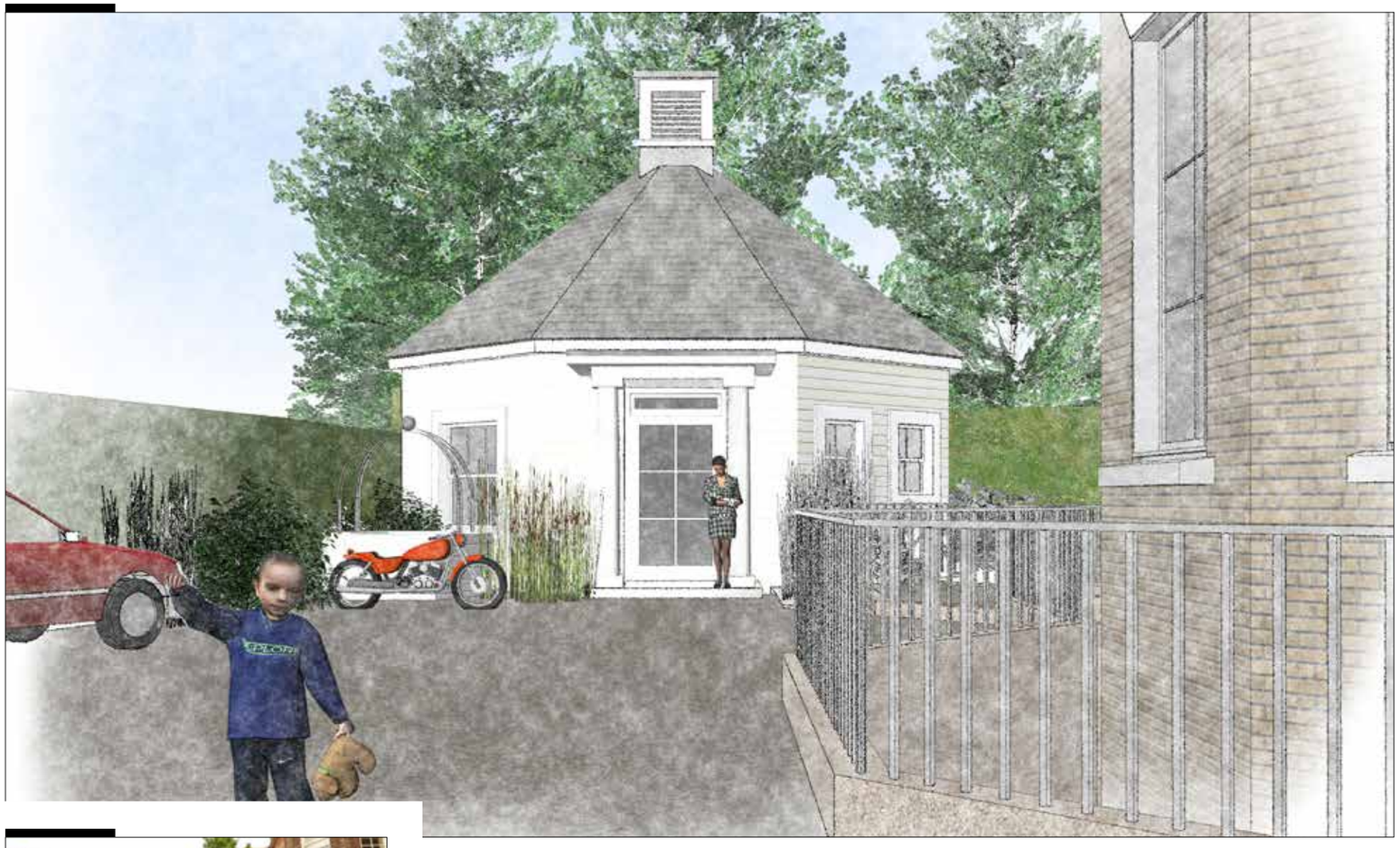
4.5 Layout, use, scale, appearance, materials

Externally the walls & details will be painted timber. The windows will be painted steel & the roof will be lead.

The redesigned Studio's appearance is intended evoke an old outhouse or lodge that might easily have been built as part of a semi-rural estate such as this one. The facetted plan form allows, we think, the architectural space to better circulate around the new building & the octagonal shape mirrors both the bays of the Main House & of Lyndhurst Hall, both of which it is intended the Studio should echo. The (non-functional) louvred roof terminal is intended to give the building a utilitarian air to indicate it is subsduary to the Main House, also to echo similar features on the roof of Lyndhurst Hall.

Externally the walls will be painted timber featherboarding to evoke some of Hampstead's other old 'secondary' structures & additions, see item 4.6 for examples. Details will also be in painted timber as will the sash windows. The roof will be natural slate, though on the faces pointing away from the Main House & Lyndhurst Hall this will be supplemented by some small patches of PV slates to add Sustainability.

The PreApp Advice confirmed that the Conservation Officer was comfortable with the general architectural language & appearance of these building, though he did have concerns about the scale of the converted Studio building in terms of its overall height (in the PreApp it was shown having a 2 storey wall elevation). Following his advice we have substantially reduced the converted Studio building's height & it now only has a 1 storey elevation.



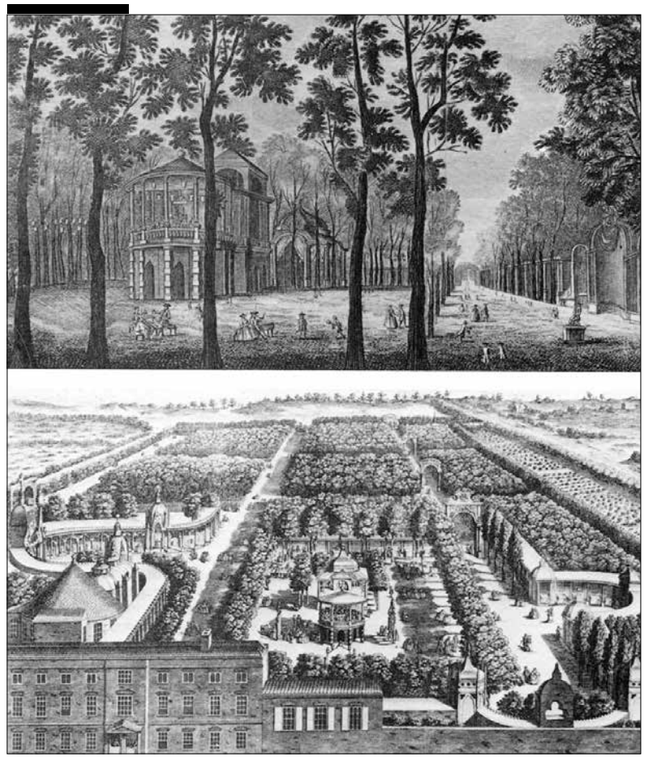
View looking south towards converted Studio building

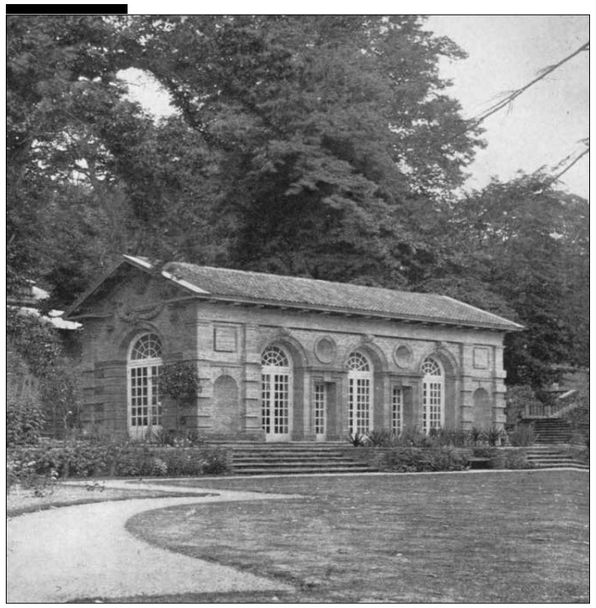
4.6 Local & historic precedents & inspiration

Clockwise, from top left:

Hampstead, Holly Bush pub
Hampstead, Romnys House
Hampstead, House in Church Row
Orangery, Longleat
Orangery, Longleat
Hampstead, Jack Straw's Castle

4.6 Local & historic precedents & inspiration





Clockwise, from top left:

Vauxhall Pleasure Gardens
Orangery at Hestercombe
Garden house at Stonyhurst College
Garden house at Murthly Castle
Pidgeon House, location unknown
Dovecote at Rousham
Garden house at Melford Hall

4.7 Amount

The changes in the gross internal floor areas (GIA) are as follows (figures shown are overall areas per floor):

Sub-Basement Plant Room:
Existing - 0 sqm
Proposed - 16 sqm
Change - additional 16 sqm

Basement Level:
Existing - 114 sqm
Proposed - 307 sqm
Change- additional 165 sqm

Ground Floor:
Existing - 210 sqm
Proposed - 256 sqm
Change- additional 46 sqm

First Floor:
Existing - 129 sqm
Proposed - 188 sqm
Change- additional 59 sqm

Second Floor:
Existing - 42 sqm
Proposed - 42 sqm
No change

The proposed scheme would add 286 sq m (GIA).

The minimum permissble sub-soil depth for furture planting/ soft landscaping, as stated in the Camden Development Policy; DP27 -.Basement and Lightwells is 0.5 metres.

The sub-soil above the construction in both front and rear garden will be maintained to a minimum depth of 0.5 metres but where possible we have allowed for 1.0 metres, as shown on the drawings accompanying this document submission.

4.8 Lifetime Homes

Lifetime Homes are ordinary homes incorporating 16 Design Criteria that can be universally applied to new homes at minimal cost.

As part of The Code for Sustainable Homes assessment (CSH) detailed in a subsequent section of this document; Section 5.2 - Code for Sustainable Homes - Level 4 Rating', TCA have agreed to achieve Lifetime Homes (LTH) Standard for the proposed new Cottage Development.

It is a requirement for the Code for Sustainable Homes assessment at the Pre-Assessment Stage to signal the intent to agree to reach Lifetime Homes standard. At the Design Stage it will then necessary to demonstrate that the scheme can achieve this by providing marked up drawings and the completed Lifetime Homes checklist to secure confirmation of the CSH credit.

The 16 Design Criteria for the Lifetime Homes Standard (from 5th July 2010) is as follows:

– Parking (width or widening capability)
– Approach to dwelling from parking (distance, gradients and widths)
– Approach to all entrances
– Entrances
– Communal stairs & lifts
– Internal doors & hallways
– Circulation Space
– Entrance level living space
– Potential for entrance level bed-space
– Entrance level WC and shower drainage
– WC and bathroom walls
– Stairs and potential through-floor lift in dwelling
– Potential for fitting of hoists and bedroom / bathroom
– Bathrooms
– Glazing and window handle heights
– Location of service controls

5.0 Sustainability

5.1 Outline of Sustainability Requirements
5.2 Code for Sustainable Homes - Level 4 Rating
5.3 Renewables - 20% Reduction in Site C02 Emissions
5.4 Part L - 35% Improvement over Part L 2013
5.5 Implementation

5.0 Sustainability

5.1 Outline of Sustainability Criteria & Assessment

In September of 2014, the Client appointed Price & Myers as Sustainability Consultants to provide advice to enable the proposed development to meet the sustainability targets required by the London Borough of Camden.

In accordance with the Borough's sustainability requirements; all new residential developments should demonstrate how they aim to achieve a Code for Sustainable Homes Level 4 and a 20% reduction in CO_2 emissions. As the proposed extension areas to the existing building (TV Room and Dining Room) account for under 500 sq m, it is assumed that there will not be any sustainability assessment required for these and therefore the reports only related to the proposed new cottage and swimming pool/ gym/ sauna in the basement

In March of 2015 Price & Myers concluded their work for Planning Submission and provided TCA with their findings by way of a Code for Sustainable Homes Pre-Assessment Report, together with an Energy Strategy Report describing the measures that could be incorporated to achieve the local authority's carbon reduction targets and meet the CSH energy requirements.

The following chapters give an overview of the main sustainablity assessment criteria and findings, the full detailed reports are included as part of the Planning Application submission documentation.

5.2 Code for Sustainable Homes - Level 4 Rating

The Code for Sustainable Homes (CSH) is an environmental assessment method for rating and certifying the sustainability performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The implementation of the CSH is managed by BRE Global under contract to Communities and Local Government.

The CSH assessment covers nine sustainability categories:

– Energy and CO_2 Emissions
– Water
– Materials
– Surface Water Run-off
– Waste
– Pollution
– Health and Well-being
– Management
– Ecology

We have worked closely with Price & Myers to develop the sustainability strategy for the proposed development in order for them to be able to produce the Preliminary Assessment Report.

The report demonstrates that the dwelling has the potential to achieve a score of 68.30%,which equates to a Level 4 CSH rating.

This is achievable through:

- Energy performance improved through passive design, energy efficient measures and LZCs
- 00% energy efficient lighting and controls to reduce energy consumption.
- Reduction of water consumption through low flush volumes on WCs and low flow fittings.
- Materials with low environmental impact selected.
- Responsible sourcing of materials to be maximised.
- Lifetime Homes
- Sustainable and responsible construction methods to be employed

The report findings for the proposals are in accordance with Camden Development Policy DP22 which requires developments to meet CSH Level 4 with 50% of the Energy, Water and Material credits. This provides a small buffer over the target score of 68% (the threshold for a Level 4 rating) should credits be lost through design or cost constraints as the project progresses.

5.0 Sustainability

5.3 Renewables - 20% Reduction in Site Carbon Dioxide Emissions

In line with Camden Development Policy CPG3 (Sustainability) the proposed development is required to demonstrate that renewable energy sources could provide a 20% reduction in site carbon dioxide emssions.

The report produced by Price & Myers demonstrates the 20% reduction of carbon emissions could be met by implementation of the following renewable energy technologies;

– 1no. Air Source Heat Pump (ASHP) - Accounting for 10.6% of the target 20%

– Photovoltaic Array of 0.79Kw 4.92m2, High Efficiency Solar Panel System - (Accounting for the remaining percentage of the traget 20%)

We have laised with CSG Ltd (M&E Consultants) to specify and size an approriate ASHP system and have specified 2no. ASHP units (that meet and exceed the 10% requirement) - refer to Price & Myers documentation for unit details and specification.

We have also consulted both the Structural Engineer (Alan Baxter Associates) and CSG Ltd in the sizing of a plant compound suitable for housing the 2no. ASHP along side an AC unit and its possible location.

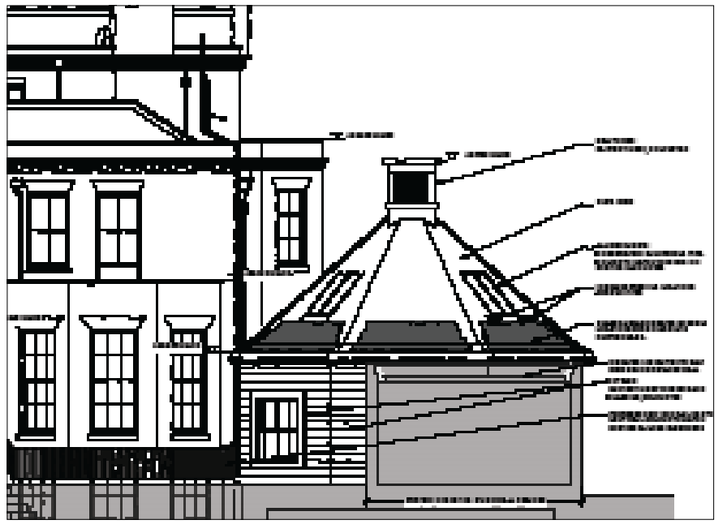
We have also liaised with Solar Slate Ltd (Photovoltaic Specialists) in specifying and sizing a suitable and discrete solar energy product, befitting of the immediate and surrounding historic context of 11 Rosslyn Hill.

25no. Solar Slate-Multi give an output of 1kW (meeting and exceeding the remaining 10% requirement) - refer to Price & Myers documentation for unit details and specification.

We have identified potential locations for these arrays on the following drawings that are submitted with the accompanying documentation:

– 11RH-113-*-Proposed2ndFloorPlan
– 11RH-144-*-ProposedElevationSouthEast
– 11RH-148-*-ProposedElevationNorthEast

Image of Solar Slate-Mutli tiles



Partial elevation showing possible solar slate locations

5.0 Sustainability

5.4 Part L - 35% Improvement over Part L 2013

Whilst the development does not need to meet the requirements set out in the London Plan, it will (as confirmed by the energy strategy) thus demonstrating a commitment to sustainability over and above the performance standards required.

Our aim is to achieve a 35% reduction over the Part L 2013 Target Emission Rate.

1no. single Air Source Heat Pump would satisfy this requirement alone however the proposed development, in specifying 2no. units, meets and exceeds this requirement.

5.5 Implementation

The previous chapters demonstrate that the proposal scheme can meet and exceed the necessary 20% reduction in site carbon dioxide emissions through renewable energy sources and the accompanying documentation and drawings show how these systems may be accommodated into the proposed development and existing fabric.

Section showing possible location of plant compound

6.0 Planning Status

6.1 Planning Policy - Relevant Policy Documents
6.2 Pre-Planning Advice

6.1 Planning Policy - Relevant Policy Documents

This section sets out a summary of the key planning policy framework that is relevant to the current proposals

The statutory adopted Development Plan comprises:

- The Camden Core Strategy (adopted 2010);
- Camden Development Policies (adopted 2010); and
- The London Plan (published 2011).

Section 38 (6) of the 2004 Planning and Compulsory Purchase Act states that planning applications must be determined in accordance with the statutory development plan unless material considerations indicate otherwise.

This section also summarises the main relevant provisions of the National Planning Policy Framework (NPPF). The NPPF sets out the Government's overriding objectives for the operation of the planning system and is a relevant material consideration in the determination of an application.

<u>The Core Strategy</u>

The Core Strategy sets out Camden's over-arching policies for development in the Borough. As such, policies are of a strategic nature. The relevant policies are as follows.

Policy CS13 sets out the Council's broad policies in terms of tackling climate change. The policy states that the Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation.

In connection with the above, paragraph 13.11 states that the Council will expect developments to achieve a reduction in carbon dioxide emissions of 20% from on-site renewable energy generation (which can include sources of site-related decentralised renewable energy) unless it can be demonstrated that such a provision is not feasible.

No. 11 Rosslyn Hill falls within the Fitzjohns/ Netherhall Conservation Area. Policy CS14 relates to the conservation of heritage in the borough. The policy states that Camden will:

Require development of the highest standard of design that respects local context and character; and preserve and enhance Camden's rich and diverse heritage assets and their settings, including conservation areas, listed buildings, archaeological remains, scheduled ancient monuments and historic parks and gardens.

6.1 Planning Policy - Relevant Policy Documents

Camden Development Policies

The Development Policies document provides additional detail on the implementation of the Core Strategy, and contains specific policies relating to the detailed design of developments.

Policy DP2 states that the Council will resist developments that result in the loss of two or more dwellings.

Policy DP22 relates to the promotion of sustainable design and construction. The policy states that applicants must demonstrate how sustainable development principles have been incorporated into the design and proposed implementation. Paragraph 22.5 provides additional detail and states that schemes should take into account the orientation of the site, the mechanical services and materials chosen and the density and mix of uses. The Policy states that the Council will require developments of more than 500 sq m to address sustainable development principles in their Design and Access Statement or in a separate Energy Efficiency Statement, including how these principles have continued to reductions in carbon dioxide emissions.

The policy states that the Council will promote sustainable design and construction by expected development of 500 sq m or above to achieve 'Very Good' in BREEAM assessments at present, rising to 'Excellent' from 2016.

As less than 500 sq m of additional floorspace is proposed, these provisions would not apply.

Policy DP25 relates to the conservation of Camden's heritage. The policy states that in order to maintain the character of Camden's conservation areas, the Council will:

- Take account of Conservation Area Statements, appraisals and management plans when assessing applications within Conservation Areas; and
- only permit development within Conservation Areas that preserve and enhances the character and appearance of the area.

In terms of listed buildings, the policy states that the Council will:

- Prevent the total or substantial demolition of a listed building unless exceptional circumstances are shown that outweigh the case for retention;
- only grant consent for a change of use or alterations and extensions to a listed building where it considers this would not cause harm to the special interest of the building; and
- not permit development that it considers would cause harm to the setting of a listed building.

Development Plan Policies Policy DP27 is relevant to proposals involving the excavation of a basement. The policy states that in determining planning applications for basements, developers will be required to demonstrate (where applicable):

- That the structural stability of the building and neighbouring properties will not be affected;
- That there will be no adverse effect on drainage and run-off;
- That cumulative impacts on structural stability or the water environment in the local area are avoided;

The policy goes on to state that the Council will also consider whether the scheme will:

- Harm the amenity of neighbours;
- Lead to the loss of open space or trees of landscape or amenity value;
- Provide satisfactory landscaping, including adequate soil depth;
- Harm the appearance or setting of the property or the established character of the surrounding area;

6.1 Planning Policy - Relevant Policy Documents

- Protect important archaeological remains.

The policy then states that in determining applications for lightwells, the Council will consider whether:

- The architectural character of the building is protected;
- The character and appearance of the surrounding area is harmed; and
- The development results in the loss of more than 50% of the front garden or amenity area.

Paragraph 27.9 of the Development Strategies document provides supporting text to the policy:

"A basement development that does not extend beyond the footprint of the original building and is no deeper than one full storey below ground level (approximately 3 metres in depth) is often the most appropriate way to extend a building below ground. Proposals for basements that take up the whole rear and/or front garden are unlikely to be acceptable."

Paragraph 27.11 of the Development Policies Document goes on to state:

"in the case of listed buildings, applicants will be required to consider whether basement and underground development preserves the existing fabric, structural integrity, layout, inter-relationships and hierarchy of spaces, and any features that are architecturally important. Listed buildings form an intrinsic element of the character of conservation areas and therefore basement development which harms the special architectural and historic interest of a listed building is also likely to fail to preserve or enhance the character or appearance of the conservation area in which it is located."

The Council has also published Camden Planning Guidance on Basements and Lightwells (CPG4). The document is mainly concerned with the technical assessment of basements (e.g. land stability, surface water etc).

With respect to listed buildings and conservation areas it states:

Where the building is listed, new basement development or extensions to existing basement accommodation will require listed building consent, even if planning permission is not required. The acceptability of a basement extension to a listed building will be assessed on a case-by-case basis, taking into account the individual features of the building and its special interest.

6.1 Planning Policy - Relevant Policy Documents

National Planning Policy Framework (NPPF)

The NPPF sets out guidance on the weight that should be accorded to currently adopted development plan policies.

According to paragraph 215 of the NPPF, after 27 March 2013 due weight should be given to relevant policies in existing plans according to their degree of consistency with the NPPF; the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given to the plan policies in planning decisions.

The Camden Core Strategy and Development Management Policies were adopted in 2010, prior to the adoption of the NPPF. In the event, if there is a conflict with the NPPF, the NPPF may be accorded greater weight.

Among the key objectives of the planning system set out in the NPPF, it states that planning should:

'…conserve heritage assets in a manner appropriate to their significance, so they can be enjoyed for their contribution to the quality of life of this and future generations.' (paragraph 17)

Paragraph 128 of the NPPF states that applicants should describe the significance of any heritage assets affected, including any contribution made by their setting. The paragraph goes on to state that the level of detail of that assessment should be proportionate to the asset's importance.

Paragraph 132 of the NPPF states that when considering the impact of a proposed development on the significance of a designated heritage asset (including that of its setting), great weight should be given to the conservation of the assets significance. Paragraph 132 goes on to state that the more important the asset, the greater the weight should be.

Paragraph 132 also states that the significance of a heritage asset can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Any harm or loss should require clear and convincing justification, mindful of its significance.

Paragraph 132 states that substantial harm to or loss of a Grade II listed building, park or garden should be exceptional. It goes on to say that substantial harm to or loss of designated heritage assets of the highest significance, including Grade I and Grade II* listed buildings, should be wholly exceptional.

Paragraph 134 of the NPPF states that where a development proposal will lead to less than substantial harm for the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

In general terms, the NPPF states at paragraph 60:

"Planning policies and decisions should not attempt to impose architectural styles or particular tastes and they should not stifle innovation, originality or initiative through unsubstantiated requirements to conform to certain development forms or styles. It is, however, proper to seek to promote or reinforce local distinctiveness."

6.2 Pre-Planning Advice, October 2013

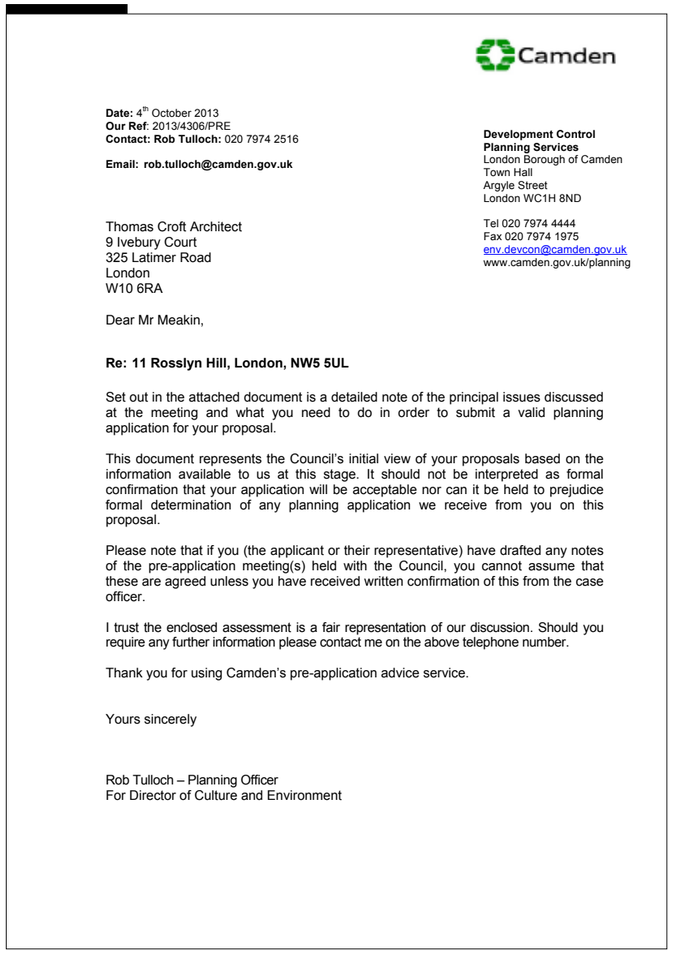
This advice was dated October 2013 & is reproduced again here.

The proposals were criticisied on the following points:-

– The Lower Ground excavations were thought to be 'excessive' in size.
– The garden paving was thought to be too large compared with the size of the lawn.
– We had proposed to flatten the lawn but we were advised that the existing sloping topography should be retained.
– The proposed Cottage design was thought to be too visually intrusive to the setting of the Historic Building & it was suggested that whatever is built in this location should be no more intrusive than the existing building.

Our Application responds to these criticisms in the following ways:-

– The Lower Ground excavations have been reduced in size. No excavation is now proposed under the main garden terrace & lawn, except for a small mechanical plant area opening onto the lightwell.
– The garden paving has been significantly reduced in size.
– Alterations to the lawn & the major part of the garden have been omitted from this Application.
– The proposed Cottage has been reduced in height & is thus now much less intrusive.



Camden

Date: 4th October 2013
Our Ref: 2013/4306/PRE
Contact: Rob Tulloch: 020 7974 2516

Email: rob.tulloch@camden.gov.uk

Development Control
Planning Services
London Borough of Camden
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Tel 020 7974 4444
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env.devcon@camden.gov.uk
www.camden.gov.uk/planning

Thomas Croft Architect
9 Ivebury Court
325 Latimer Road
London
W10 6RA

Dear Mr Meakin,

Re: 11 Rosslyn Hill, London, NW5 5UL

Set out in the attached document is a detailed note of the principal issues discussed at the meeting and what you need to do in order to submit a valid planning application for your proposal.

This document represents the Council's initial view of your proposals based on the information available to us at this stage. It should not be interpreted as formal confirmation that your application will be acceptable nor can it be held to prejudice formal determination of any planning application we receive from you on this proposal.

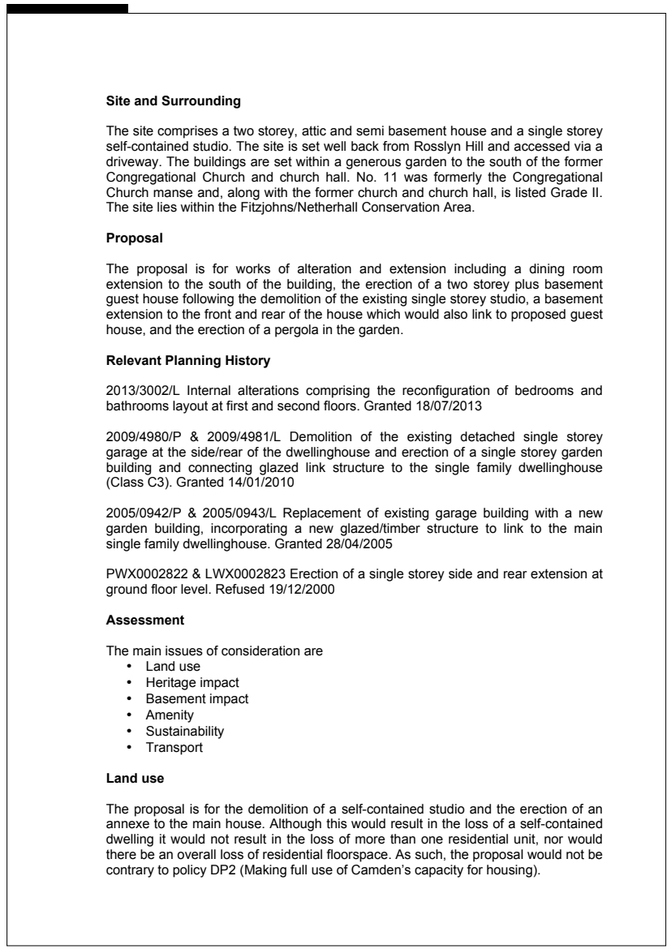
Please note that if you (the applicant or their representative) have drafted any notes of the pre-application meeting(s) held with the Council, you cannot assume that these are agreed unless you have received written confirmation of this from the case officer.

I trust the enclosed assessment is a fair representation of our discussion. Should you require any further information please contact me on the above telephone number.

Thank you for using Camden's pre-application advice service.

Yours sincerely

Rob Tulloch – Planning Officer
For Director of Culture and Environment



Site and Surrounding

The site comprises a two storey, attic and semi basement house and a single storey self-contained studio. The site is set well back from Rosslyn Hill and accessed via a driveway. The buildings are set within a generous garden to the south of the former Congregational Church and church hall. No. 11 was formerly the Congregational Church manse and, along with the former church and church hall, is listed Grade II. The site lies within the Fitzjohns/Netherhall Conservation Area.

Proposal

The proposal is for works of alteration and extension including a dining room extension to the south of the building, the erection of a two storey plus basement guest house following the demolition of the existing single storey studio, a basement extension to the front and rear of the house which would also link to proposed guest house, and the erection of a pergola in the garden.

Relevant Planning History

2013/3002/L Internal alterations comprising the reconfiguration of bedrooms and bathrooms layout at first and second floors. Granted 18/07/2013

2009/4980/P & 2009/4981/L Demolition of the existing detached single storey garage at the side/rear of the dwellinghouse and erection of a single storey garden building and connecting glazed link structure to the single family dwellinghouse (Class C3). Granted 14/01/2010

2005/0942/P & 2005/0943/L Replacement of existing garage building with a new garden building, incorporating a new glazed/timber structure to link to the main single family dwellinghouse. Granted 28/04/2005

PWX0002822 & LWX0002823 Erection of a single storey side and rear extension at ground floor level. Refused 19/12/2000

Assessment

The main issues of consideration are
- Land use
- Heritage impact
- Basement impact
- Amenity
- Sustainability
- Transport

Land use

The proposal is for the demolition of a self-contained studio and the erection of an annexe to the main house. Although this would result in the loss of a self-contained dwelling it would not result in the loss of more than one residential unit, nor would there be an overall loss of residential floorspace. As such, the proposal would not be contrary to policy DP2 (Making full use of Camden's capacity for housing).

6.2 Pre-Planning Advice

Heritage impact

The pre-application proposal has been considered against relevant policies:
CS14 – Promoting high quality places and conserving our heritage
DP24 – Securing high quality design
DP25 – Conserving Camden's heritage
Dartmouth Park Conservation Area Appraisal and Management Strategy Jan 2009
National Planning Policy Framework March 2012

Assessment

Replacement rear extension

Planning Permission and Listed Building Consent were granted for a similar sized structure on the northern part of the garden which replaced existing out buildings (2009/4980/P). This proposal now seeks to move this bulk to the southern side of the garden. The principle of the extension has been accepted (on the proviso that the other structures are removed) and the proposed extension location is an improvement over the approved. The new location is less conspicuous and when approaching the main entrance to the house views would then be possible through to the garden which forms an important part of the building's setting. Indicative drawings show an "orangery" type building. Such an approach could work in this location subject to the detailed design.

Any link to the main house should be kept as small and lightweight as possible and therefore should omit the WC which clashes with the canted bay on the southern elevation.

Front building

To the east of the building there is an existing modern single storey building which is detached from the main house. Architecturally it is of no merit although its redeeming features are that it is modest in appearance and scale and does not compete with the main listed building.

The proposal to replace this building with a significantly enlarged two storey plus basement building is not acceptable as it would detract from the setting of the main listed building. Historically the building sat within a large garden which over the years has been eroded and with historic neighbouring development. If there was no single storey building there presently it is unlikely permission would be granted for it now.

There is not an objection in principle to the demolition of the building and there is the opportunity to enhance this area of the site, but its replacement should not be larger or more visually intrusive than the existing.

Basement

This serves two functions, to create extra space but also to link all the separate outbuildings to the main building.

The proposed basement sits both to the east and west elevations of the existing basement of the listed building. Although it sits outside of the existing building's footprint and has limited visibility externally, its overall scale (almost twice the footprint of the original building) is excessive and creates dominant spaces which overpower the original scale and plan form of the main listed building.

A subservient basement (perhaps half the footprint of the existing building) under the rear garden accessed via a narrow link might be possible. External manifestations would need to be kept to a minimum. The proposals to use the existing lightwell at the rear looks like a sensitive way of providing natural light.

Garden works

A lightweight pergola type structure in the rear garden could be possible. It would need to be open on all side to minimise its impact. The proposed location stands a respectful distance away from the listed building.

Concern is raised about the extent paving proposed on what is a verdant space. Paving should be reduced in size and the topography should be more respectful of the slope of the land rather than introducing an artificial flatness to the garden.

Residential standards

Policy DP6 (Lifetime Homes and wheelchair housing) requires all new residential development should to meet the Lifetime Homes standards. Although the annexe would not be a separate unit, as there would potential for it to become self-contained it should meet the Lifetime Homes standards in line with policy DP6.

Amenity

The impact of the proposal on the amenity of adjoining occupiers would result from the erection of the dining room extension and the annexe to the east of the site. The proposed dining room would be 5m high with a flat roof, the annexe would be approximately 4.5m at eaves level (when measured from the neighbouring garden) with a pitched roof rising to 9m.

As such the proposed structures would rise above the existing boundary walls with the residential properties on Belsize lane and Rosslyn Hill. As the proposed structures would be more than 18m away from neighbouring properties it is not considered that there would be a loss of privacy to these properties. Due to the height of the annexe and its distance from neighbouring properties its is not considered that there would be an impact on daylight and sunlight to neighbours.

Basement Impact

Basements have the potential to harm the structural stability of buildings, and the local water environment. In line with policy DP27 (Basements and lightwells) and Camden Planning Guidance (CPG4 - Basements) applicants should submit a Basement Impact Assessment (BIA) which is specific to the site and particular proposed development.

The BIA should be compiled by a relevantly qualified professional and needs to answer questions in three separate areas: land stability, ground water and surface water. CPG4 gives detailed advice on how the Council will apply planning policies when making decisions on new basement development or extensions to existing basement accommodation. It also gives more detail about the format the BIA needs to take, including what questions need to be answered along with relevant notes and how to source information. The guidance also explains what qualifications are required for assessment.

Rosslyn Hill is not identified as a street at risk of surface water flooding, however Belsize Lane has suffered flood events in 1975 and 2002. In line with CPG4, a Flood Risk Assessment would be required to accompany the BIA.

The proposed basement is quite large and would have a footprint of approximately 300sqm. This is considered appropriate as the curtilage around the house is approximately 1,500sqm. It is indicated that the basement will extend below the parking area to the east, and below the garden and a new paved terrace to the west. It is expected that a minimum of 0.5 metres of soil be provided above basement development that extends beyond the footprint of a building, to enable garden planting, although the Council would encourage applicants to provide 1 metre of soil to mitigate the effect on infiltration capacity. The hard surfaces to the front and rear should also be permeable.

The use of a sustainable urban drainage system (SUDS) is sought in all basement developments that extend beyond the profile of the original building, and is considered particularly important given the scale of the proposed basement. For further guidance on SUDS, see CPG3 Sustainability (water efficiency chapter).

A Basement Impact Assessment is a local requirement for all applications that involve basement extensions, and an application submitted without one will be treated as invalid. Please refer to CPG4 for more detailed advice as to what is required for a Basement Impact Assessment, including the qualifications required of its author(s).

Sustainability

The proposed alterations and extensions would result in additional floorspace of just under 500sqm. In line with policies CS13 (Tackling climate change through promoting higher environmental standards) and DP22 (Promoting sustainable design and construction) an energy statement would be required to demonstrate how energy consumption can be reduced. Please refer to Camden Planning Guidance (CPG3 – Sustainability) for more information about energy statements.

Transport

The proposed development would involve considerable excavation and construction work, and Rosslyn Hill is part of the Strategic Road Network. The applicant is therefore required to provide a Construction Management Plan (CMP) detailing, among other things, construction vehicle numbers, movements and frequency. A final version will be secured via a Section 106 Agreement, but a draft CMP should

6.2 Pre-Planning Advice

be submitted with the planning application. Please refer to Camden Planning Guidance (CPG6 – Amenity) for more details of Construction management Plans.

As the proposed annexe would not be a separate dwelling, there would be no requirement for car-free housing or cycle storage.

Trees

The site is well treed with a row of mature trees along the south western boundary of the application site and in the rear gardens of the properties on Belsize Lane. The proposed basement, and the dining room extension, would be likely to encroach into the root protection area of these trees. These tree provide a level of amenity value and it would need to be demonstrated how the trees would be protected from damage during the construction process. An arboricultural report, including method statement and tree protection plan following the guidelines set out in BS5837:2012, will be required to accompany any application.
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Community Infrastructure Levy (CIL)

The Mayor of London's Community Infrastructure Levy was introduced on the 1st April 2012. This will be used to raise funds to contribute towards Crossrail. The CIL will apply to all development which adds one or more dwellings or more than 100sqm of floorspace at a rate of £50 per sqm. As the proposal would add more than 100sqm of floorspace a CIL contribution will be payable.

Camden is also introducing its own CIL which will be in addition to the Mayor's CIL, and is likely to be introduced in the Autumn of 2013. Please refer to the Council's website for further information on the Borough's CIL.

Conclusion

There is no objection in principle to the loss of the studio, however it is considered that the size of the proposed annexe and basement would be harmful to the special interest of the listed building. The proposal is not considered to harm the amenity of adjoining occupiers, or the local transport network with a suitable Construction Management Plan agreed with the Council.

Rob Tulloch – Planning Officer
For Director of Culture and Environment
4th October 2013

7.0 Access

7.1 Access & car parking

7.1 Access & car parking

Access to the site will remain as existing and will be unchanged by the proposed development as will the provision for parking except for the fact that currently the two dwellings share the existing car parking area and now, with the proposed amalgamation of the two dwellings, this will obviously no longer exist in the same way.

Refer to Price & Myers documentation for information regarding:

– Storage for cycles
– Bin storage and access
– Recycling

8.0 Planning: Assessment of Scheme

8.1 Planning: Assessment of Scheme

The proposals have been designed with the significance of the Grade II Listed building very much in mind and would form a new phase of alteration in the life- time of this building which has already transformed a number of times in its history.

The proposals also offer heritage benefits of enhancing the setting of the listed building, and the listed former church adjacent, through the removal of the outbuildings to the north-west and the replacement of the 1950s lodge with a high quality contextual building sympathetic to the architectural character of the listed building would stand more comfortably within the grounds.

These sensitive additions would preserve the architectural and historic interest of the building whilst taking advantage of the opportunity to enhance its setting. The proposals would therefore meet the tests within the NPPF for sustainable development, insofar as these relate to the historic environment.

Basement Excavation

The basement is the subject of a separate Basement Impact Assessment (BIA) that accompanies the planning application, prepared by Alan Baxter Associates. The officers have raised no concerns from a technical point of view regarding the basement excavation during pre-application proposals. The BIA confirms that the basement can be excavated without harm to the structure of the listed building or without affecting ground and surface water flows, ground stability etc., thus complying with Camden's Planning Guidance 4.

During pre-application consultations, the officers raised no issues with the effect of the basement on the fabric of the listed building itself. The openings are discreet and located within less sensitive parts of the house.

As there is no concern about the effects of interventions within historic fabric, the assessment of the basement falls to consider whether the scale, location and configuration of the proposed basement is harmful to the special interest of the building by virtue of its effect on the plan form and its hierarchy.

As set out in the Historic Buildings Report prepared by Donald Insall Associates that accompanies this application, the basement rooms are detached from the building's main circulation and the original scale, plan form and hierarchy of the building. Donald Insall Associates concludes that the basements will be read as completely separate and distinct entities apparent only when they are entered which would not have any effect on the significance of the building.

We make the further observation that the basement spaces proposed are secondary spaces. The primary entertainment, living and family rooms will remain on the ground floor. The configuration of the basement floorspace proposed would have no risk of becoming primary living floorsapce; the cinema room (without natural light) and swimming pool will clearly remain ancillary to the main house. This fundamental use of the ground floor will remain unaltered and therefore the hierarchical function of the building will remain intact.

The basement is therefore clearly subservient to the host building.

We note that the pre-application advice received from the Council refers to reducing the basement so that it is 50% of the footprint of the host building. There is no policy basis for applying such a ratio. Rather the form, function and location of the proposed basement and its functional and locational relationship to the host building are better indicators of whether the basement is subservient or not. For the reasons set out above, we consider that it is. Nevertheless, the size of the basement has been reduced following pre-application discussions to address the Council's concerns.

8.1 Assessment of Scheme

In summary:

- There is no policy objection to the loss of the studio dwelling (in compliance with Policy DP2);
- The proposals as a whole do not result in any harm to the special interest of the building;
- The proposals result in an enhancement to the setting of the house and the adjacent chapel (thus complying with Policy DP25), which are substantial planning benefits in the NPPF sense;
- The proposals achieve a high level of environmental performance (complying with Policies CS13 and DP22);
- The proposals do not result in any harm to the amenity of neighbouring occupiers;
- The proposed basement complies with the guidance set out in Camden's Planning Guidance relating to basements and Policy DP27); and
- The basement is a subservient addition to the house which does not affect its character or hierarchy, providing ancillary living accommodation for the uses of the main house.

9.0 Conclusion

9.1 Conclusion

9.1 Conclusion

We believe that our proposals represent a sensitive way to develop this fine Historic Building & make it suitable for modern family life, whilst also protecting & indeed enhancing its setting & historic integrity.

In addition we think that the proposals will enhance the setting of the neighbouring Lyndhurst Hall & will improve the relationship between these 2 Historic Building by the removal of unfortunate accretions such as the wooden garage structure & the relocation of the previously Consented Dining Room to another location.

We also believe that the new Lower Ground Floor excavations can be constructed without adversly affecting the Historic Building or neighbours & that they comply with the current Planning Policy in all aspects including their overall size.

Finally, we believe that we have made changes that properly address & satisfy any of the criticisms made in the PreApp Advice dated October 2013.

Thomas Croft Architects
March 2015

10.0 Appendix

10.1 References
10.2 Photographs of the existing building & site

10.1 References

- National Planning Policy Framework
- The London Plan
- Camden Core Strategy
- Camden Development Policy 2010 - 2025 (Local Devleopment Framework)
- Fitzjohns Netherhall Conservation Area Statement

10.2 Photographs of the existing buildings & site

10.2 Photographs of the existing buildings & site

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10.2 Photographs of the existing buildings & site

10.2 Photographs of the existing buildings & site

Schedule Issue Sheet - PLANNING

Sheet 1

TC A
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Project address	11 Rosslyn Hill, London NW3 5UL	Day	25	6									
		Month	1	6									
Job no.	250	Year	16	16									
P - Paper, **A** - PDF, **C** - CAD, **E** - Email, **D** - Disk, **O** - Online		➔	D	E									

Drawing No	Drawing Title	Size	Scale										
001	EXISTING: PLAN LOCATION & SITE	A1	1:250/ 1:1250		*								
002	EXISTING: PLAN GARDEN	A1	1:100		*								
003	HISTORIC: PLAN 1869 SITE OS	A1	1:400		*								
004	SITE: PLAN OLD CONSENT	A1	1:250		*								
010	EXISTING: PLAN LOWER GROUND FLOOR	A1	1:50		*								
011	EXISTING: PLAN GROUND FLOOR	A1	1:50		*								
012	EXISTING: PLAN FIRST FLOOR	A1	1:50		*								
013	EXISTING: PLAN SECOND FLOOR & ROOF	A1	1:50		*								
020	EXISTING: ELEVATION NORTH EAST	A1	1:50		*								
021	EXISTING: ELEVATION SOUTH WEST	A1	1:50		*								
022	EXISTING: ELEVATION SOUTH EAST & NORTH WEST	A1	1:50		*								
040	EXISTING: SECTION AA	A1	1:50		*								
041	EXISTING: SECTION BB	A1	1:50		*								
042	EXISTING: SECTION CC & DD	A1	1:50		*								
050	EXISTING: PLAN & ELEVATIONS STUDIO BUILDING	A1	1:50		*								
110	PROPOSED: PLAN LOWER GROUND FLOOR	A1	1:50		A	B							
111	PROPSOED: PLAN GROUND FLOOR	A1	1:50		B	C							
112	PROPOSED: FIRST FLOOR	A1	1:50		B								
113	PROPOSED: PLAN SECOND FLOOR	A1	1:50		A								
114	PROPOSED: PLAN SUB-BASEMENT	A1	1:50		A	B							
140	PROPOSED: SECTION AA	A1	1:50		A								
141	PROPOSED: SECTION BB	A1	1:50		A								
142	PROPOSED: SECTION CC	A1	1:50		A								
143	PROPOSED: SECTION DD	A1	1:50		A								
144	PROPOSED: SECTION EE	A1	1:50		A								
145	PROPOSED: SECTION FF	A1	1:50		B	C							
146	PROPOSED: SECTION GG	A1	1:50		B	C							
150	PROPOSED: ELEVATION SOUTH EAST	A1	1:50		A								
151	PROPOSED: ELEVATION NORTH WEST	A1	1:50		A								
152	PROPOSED: ELEVATION NORTH EAST	A1	1:50		A								

Issued to:

Planning (LB Camden)					•	•							

Appendix 7

Vanguardia Report 3rd June 2015

Air Studios

Potential Noise & Vibration Effects of the Proposed Construction Works at 11 Rosslyn Hill, London, NW3 5UL

VC-101936-RP-JETG-0002-00

Rev 00

3rd June 2015

Contents

Vanguardia Consulting Document Control			
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Project Number:	VC/101936	**Date:**	3rd June 2015
Document Reference:	VC-101936-RP-JETG-0002-00	**Author:**	Jim Griffiths FIOA
Status:	DRAFT	**Checked:**	Mark Murphy
Issued To:	Air Studios	**Passed:**	
Issue Notes:	To Air Studios and Planning team		

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The Association of Noise Consultants
The Audio Engineering Society
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ISO 9001 REGISTERED FIRM

1 Introduction

1.1 This report has been prepared under instruction from Air Studios. The Studios are concerned that the proposed development at their neighbours' property at 11 Rosslyn Hill, London NW3 5UL will l have a significant impact on their recording facilities, their clients and staff.

1.2 Air Studios are built in Lyndhurst Hall, a former church and missionary school, which is located in a quiet area of Hampstead, London.

1.3 The proposed development at 11 Rosslyn Hill comprises;

- Amalgamation of the main house and studio dwellings,
- Demolition of two single storey buildings
- Construction of a new dining room extension with a two storey link to the main house,
- Ground excavation and construction of a new basement media room where piling would be required,
- Ground excavation and construction of a new basement swimming pool where piling would be required,
- Part demolition and conversion of an existing studio dwelling and replacement with a single storey pavilion.

1.4 This report discusses:-

- the sensitivities of Air Studios, its ability to record audio and the effects on clients and staff caused by the potential noise and vibration impacts of 11 Rosslyn Hill development, in particular in respect of construction activities,
- a review of the relevant noise and vibration policy and standards that provide advice regarding acceptable levels of noise and vibration,
- A review of the documents submitted with the planning applications.

2 Effects of Construction

Sensitivity of Air Studios

2.1 Air Studios is a world-class recording facility comprising of state-of-the-art recording equipment. The facility comprises of four major recording studios, eight programing rooms and three 5.1 surround sound mixing rooms. The main hall is one of the largest recording rooms in the world and is large enough to house a full symphony orchestra. The facility is renowned for producing some of the finest film scores, classical and rock music. Air Studios operates 24 hours a day and with the high demand for its use, the studios cannot be comprised by construction or operational noise and vibration.

2.2 The effect of construction noise and vibration is of particular concern to the studios as it can pose an unacceptable impact in terms of:

- The highly sensitive recording equipment,
- the artists and musicians performing in the studios,
- the staff and engineers working in the facility.

2.3 Noise and vibration can be picked up by the recording microphones and recorded along with the intended musical or vocal performance. This kind of unwanted noise in the recording is not acceptable to producers and artistes who may not be able to use the recorded material to create the end product such as a film score or music album. This effect can render the facility completely unusable if construction noise is audible in the relevant rooms.

2.4 The effect of intrusive noise and vibration can have both short term and long term effects on the recording studio business. In the short term recording contracts may have to be cancelled due to the impact of the potential noise and vibration and in the long run the reputation of the business may suffer leading to loss of income.

2.5 Furthermore, whilst the studios are built with a ‘box-within a box’ construction to isolate most forms of external noise, the hall is not isolated in this way due to its size and historic building constraints. This facility in particular, therefore, is the most sensitive and vulnerable to noise and vibration impact.

2.6 In summary, the studios are a highly sensitive receptor that need to be protected against any risk of potential noise and vibration impacts.

Construction

2.7 In law the term 'construction' includes demolition. The greatest risk of disturbance to the studios is the excavation and piling works which are proposed extremely close to Lyndhurst Hall. This is likely to generate high levels of noise and in particular ground borne vibration which manifests itself as re-radiated noise in the studios. It should be noted that groundborne noise and perceptible vibration are hard to predict and when they occur, hard to control. For these reasons, this is a significant risk to the operation of the studios.

2.8 The extent to which noise and vibration will affect the studios will be determined by the phasing of the demolition and construction process, the possibility of hidden structural links and the propagation characteristics of the ground, as well as by the techniques and machinery used. This variables are difficult to predict and again this highlights the risk to the studios.

Noise

2.9 Airborne noise is 'predictable' in both literal and figurative senses. Noise levels can be predicted from source levels using the simple models presented in the relevant British and International Standards. Figuratively people are used to the sound of noise propagated through a window into a room. Groundborne noise is not predictable in either sense. It is very difficult to make any quantitative prediction of noise levels likely to be broadcast into a room after propagation through the structure of a building. Furthermore, subjectively the resultant is unfamiliar because its frequency distribution is likely to be quite different from that of similar airborne noise.

2.10 The level at which noise begins to annoy or disturb people is not a simple threshold. The character of the noise is a relevant factor. The activity in which the person receiving it is engaged is another. Impulsive noise is likely to be significantly more annoying and more likely to disturb than steady noise. This would be the case for the proposed piling works. All of these variables weigh in the question of what limiting level might define the threshold of tolerance.

2.11 For recording studios, another important factor is the effect of extraneous noise on the recording equipment from the microphone through the recording chain. The sensitivity of the microphones coupled with their frequency range can be greater than that of the human ear and therefore airborne and groundborne noise poses another risk to the successful operation of Air Studios.

Vibration

2.12 People are very much more sensitive to vibration than buildings are. The lowest magnitude of vibration that could cause superficial damage to a building, is an order of magnitude higher than the threshold of human perception. People are disturbed and worried by vibration at magnitudes not a great deal higher than the perception threshold. However, during demolition of a structure, there is a risk that very high magnitudes of ground vibration can be generated. If any structural link exists between buildings at foundation level, or if the ground condition supports propagation of vibration energy, neighbouring buildings can be excited by the motion. This ground borne transmission is clearly a potential risk for the studios.

2.13 Numerical standards for assessing building damage risk are set out in BS7385, Part 2, which is reiterated in BS5228-2:2009.

2.14 Vibration must be monitored in three dimensions. Buildings tend to sway in response to ground excitation and it is quite common to measure the maximum amplitude of motion in response to a source such as impact piling, which forces vibration energy into the ground vertically, in one or other of the horizontal axes.

2.15 The response of people to building vibration is influenced by the axis of motion and their relation to it as well as by the frequency, magnitude and time history of the excitation. Comprehensive guidance on annoyance risk is provided in BS6472. Although a protocol for measurement is specified in the Standard, the incidence of vibration in a studio environment and the particular demands of construction vibration monitoring tend to require a different, non-standard approach.

2.16 A digest of the standards for acceptable or limiting noise and vibration levels is set out in Section 3.

3 Noise & Vibration Policy and Standards

3.1 This section provides an outline of the relevant planning policy, guidance and standards that are applicable to the potential noise and vibration arising from construction activities. As noise from construction activities will intrude on the activities of the studios, there are two aspects which need to be considered;

- The acceptable levels of noise and vibration within the studio which do not have a significant adverse effects on the clients, artists and staff. This considers the more general guidance on noise and vibration given within the National Planning Policy Framework (2012), the Noise Policy Statement for England (2010), BS8233:2014, World Health Organisation Guidelines for Community Noise (1999), BS6472:2008, BS7835:1993 and DIN4150.

- Policy and standards which relate more directly to construction noise and vibration, this includes BS5228:2009 parts 1 & 2, The Control of Pollution Act 1974 and guidance given by the London Borough of Camden.

Part 1: Acceptable Levels of Noise & Vibration

National Planning Policy Framework (NPPF), 2012

3.2 The National Planning Policy Framework introduced in March 2012 extinguished and replaced the entire catalogue of Planning Policy Guidance (PPG) and Planning Policy Statements (PPS) including the well-established Planning Policy Guidance note PPG24: Planning and Noise.

3.3 The new guidance aims to devolve planning decision making to the local level, asserting the primacy of local development plans and especially of a presumption in favour of sustainable development. It encourages local planning authorities and communities to set their own standards for development within the National Policy Framework. Furthermore, it attempts to adopt a more holistic approach to various impacts and benefits of individual projects within the assumption of consent for sustainable development.

3.4 The NPPF addresses noise as a planning issue principally through a statement of four principles at paragraph 123:

"Planning policies and decisions should aim to:

- *avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*

- *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*
- *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established, and*
- *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."*

Noise Policy Statement for England, 2010

3.5 The NPPF refers to the Noise Policy Statement for England (NPSE) 2010 for advice on the achievement of these aims, and particularly for explanations of "adverse impacts."

3.6 The Noise Policy Statement for England (NPSE) seeks to clarify the underlying principles and aims in past and existing policy documents, legislation and guidance in relation to all forms of noise including environmental noise, neighbour noise and neighbourhood noise (but not noise in the workplace). It sets out the Government's long term vision (para.1.6) as to:

"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."

- And the policy aim is to:
- Avoid significant adverse impact on health and quality of life and mitigate and minimise adverse impacts on health and quality of life.

3.7 This vision is supported by policy aims that echo the four principles set out in the NPPF (para.3.4).

3.8 There are several key phrases within the NPSE aims that require explanation. These are:

'Significant adverse' and 'adverse'

3.9 There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

3.10 This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

3.11 This is the level above which adverse effects on health and quality of life can be detected.

3.12 Extending these concepts for the purpose of the NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

3.13 This is the level above which significant adverse effects on health and quality of life occur.

3.14 It is not possible to identify a single objective noise value that defines SOAEL and that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged in the NPSE that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, it suggests that not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available[1].

3.15 The second aim of the NPPF and NPSE, to mitigate and minimise adverse impacts on health and the quality of life from noise within the context of Government policy on sustainable development, refers to noise impacts somewhere between LOAEL and SOAEL. The NPSE asserts that while this means that all reasonable steps should be taken to mitigate and minimise adverse effects, this does not mean that such adverse effects cannot occur[2].

Studio Design – Acoustic Criteria

3.16 BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' gives specific guidance on noise criteria for dwellings and non-domestic buildings. Section 7.7.4 of the document references recording studios but gives no detailed guidance stating that specific advice should be sought from a specialist consultant.

[1] Defra, 2010, Noise Policy Statement for England, page 9, paragraph 2.22.

[2] Defra, 2010, Noise Policy Statement for England, page 9, paragraph 2.24

3.17 Unlike many of the noise criteria specified for dwellings which are quoted as a single dB(A) figure, studio design requires the sound to be assessed over the complete frequency range. Some of the pioneering work was completed by Beranek, Kosten and Van Os and Gilford. They all produced very similar results published by Gilford 'Acoustics for Radio and Television Studios'. The BBC also published guidance 'The Good Practice Guide to Acoustics' in 1991 which gave a series of sound level with frequency curves depending upon the recording activity. The results were again similar to those described by Beranek et al and in practice follow the European standard of background Noise Rating curves (NR Curves). For Television Studios the BBC criterion is typically equivalent to NR 25 and for studios for radio drama, the value is typically NR20. These values of NR curves are equivalent to very low background noise levels and would therefore be very sensitive to extraneous noise.

3.18 The original criterion for the design of Air Studios is being established from historical test data which has been archived. These results were not available when preparing this report, so Vanguardia undertook sound level measurements with a precision grade Class 1 sound level analyser (B&K 2250 calibrated before and after the measurements). The results showed (Appendix B and C) that the hall and studios were recorded to have a Noise Rating of NR15. This rating level is exceptionally low and below the BBC noise threshold values. These very low background levels are required for the type of multiple microphone techniques used in the studios especially when recording a full symphony orchestra.

BS7385-2:1993 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground borne vibration.

3.19 Structural damage from vibration is assessed in terms of peak particle velocity (PPV). Table 1 of the standard gives guidance as to the maximum levels which should not be exceeded to avoid cosmetic damage occurring to various construction types. These levels are reproduced in Table 3.1 below.

Table 3.1 Transient vibration guide values for cosmetic damage

Line (see Figure B.1)	Type of building	Peak component particle velocity in frequency range of predominant pulse	
		4 Hz to 15 Hz	15 Hz and above
1	Reinforced or framed structures Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	50 mm/s at 4 Hz and above
2	Residential or light commercial buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above
NOTE 1 Values referred to are at the base of the building. NOTE 2 For line 2, at frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.			

(Source: BS7385-2:1993 Table 1 page 5)

3.20 The standard also indicates that:

Minor damage is possible at vibration magnitudes which are greater than twice those given in Table 1, and major damage to a building structure can occur at values greater than four times the tabulated values.

Note: Damage categories are defined in 9.9 of BS 7385-1:1990.[3]

The guide values in Table 1 relate predominantly to transient vibration which does not give rise to resonant responses in structures, and to low-rise buildings. Where the dynamic loading caused by continuous vibration is such as to give rise to dynamic magnification due to resonance, especially at the lower frequencies where lower guide values apply, then the guide values in Table 1 might need to be reduced by up to 50%. [4]

The probability of damage tends towards zero at 12.5 mm Es.1 peak component particle velocity. [5]

[3] BS7385-2:1993, page 5 section 7.4.2
[4] BS7385-2:1993, page 5, section 7.4.3
[5] BS7385-2:1993, page 4, section 7.4.1

Important buildings which are difficult to repair might require special consideration on a case by case basis. A building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive.[6]

3.21 As the vibration could occur for a period of time and, consequently, resonant response is possible, 50% reduction in the limits may need to be considered for the studios. BS7385 notes this guidance is based on common practice. Assuming the studios can be considered under Line 2 classification, this would result in the vibration limits for cosmetic damage in Table 3.2 below.

Table 3.2 Reduced Limits to account for resonant response

	4Hz – 15Hz	**15Hz – 40Hz**	**>40Hz**
Vibration Limit (peak particle velocity)	8mm/s increasing to 10mm/s	10mm/s increasing to 25mm/s	25mm/s

DIN 4150: Part 3: 1986: Structural vibration in buildings – Effects on structures

3.22 The German standard often referenced, suggests slightly more conservative values to those shown above. This standard also gives advice on building types not covered by the Line 1 and 2 descriptions (which are broadly similar to those given in BS 7385), as follows:

Table 3.3 DIN4150 Vibration Limits

Line	**Type of Structure**	**Vibration velocity**			**Uppermost full storey all frequencies**
		<10Hz	**10Hz – 50Hz**	**>50Hz**	
3	Structures that, because of their particular sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (e.g. buildings that are under a preservation order)	3mm/s	3mm/s increasing to 8mm/s	8mm/s increasing to 10mm/s for frequencies greater than 100Hz	8

[6] BS7385-2:1993, page 5, section 7.5.2

3.23 Given the age of Lyndhurst Hall and its listed status, these criteria would be more appropriate in terms of assessing the potential for building damage.

BS6472-1:2008 Guide to evaluation of human Exposure to Vibration in buildings Part 1: Vibration sources other than blasting

3.24 Human perception of vibration is considered within BS6472-1:2008 which offers advice on the measurement and assessment of vibration affecting human beings in buildings. The first overt sign of an unfavourable reaction to building vibration is adverse comment, whereby occupants express negative responses to the vibration. The prevalence of adverse comment can be influenced by parallel effects such as re-radiated noise. The acceptable magnitudes for building vibration might depend similarly on these parallel effects.

3.25 The vibration tolerance of people at home or at work varies over a wide range. As well as a wide range of individual vibration sensitivity over the population, specific values depend on social and cultural factors, psychological attitudes and the expected degree of intrusion. Concern about damage to residential property is a factor in the response of owner occupiers [2] that might not be expected in office workers.

3.26 The thresholds of vibration perception across the population at the frequency of maximum sensitivity (f = 8Hz) for people sitting or standing on a vibrating surface are approximately:

Lower quartile: 0.01 m/s^2 (peak acceleration) or 0.2 mm/s (peak velocity)

Median: 0.015 m/s^2 (peak acceleration) or 0.3 mm/s (peak velocity)

Upper quartile: 0.02 m/s^2 (peak acceleration) or 0.4 mm/s (peak velocity)

3.27 BS6472-1 requires that human exposure to vibration is quantified cumulatively as a Vibration Dose Value (VDV) derived from the frequency weighted signal over time. The W_b weighting is applied for vertical motion while W_d weighting is applied for horizontal motion. Buildings affected by ground vibration generally exhibit the greatest magnitude of motion on their top floors.

3.28 The Standard does not offer any quantitative way of incorporating 'parallel effects' but advises that any noise accompanying the perceptible vibration including induced rattling, any visual effect and also the influence of a third party can modify the response. It is likely that the possibility of adverse comment increases if the subject has been influenced to take interest in the reported vibration by suggestion from third parties.

3.29 The Standard provides guidance on measurement of vibration, the most important component of which is to report meticulously the method used and reasons for having adopted it. Although ideally the experience of a person experiencing perceptible vibration should be represented by a measurement directly of their exposure, this is rarely achievable in practice and the Standard suggests approximations and the use of transfer functions to estimate true exposure values.

3.30 Numerical standards for assessing the results assuming residential occupancy are provided for 16 hour and 8 hour night exposures. It is appropriate to assume a working day's exposure and to rate it with respect to the residential day's standard. The suggested assessments are copied (Table 3.4) from the Standard in Table 1, with the metre units in the original having been transformed to millimetre units for consistency with other standards discussed in this report. This standard is not often used to assess construction noise as it takes a long temporal averaging time (16 hours) to obtain the final result. Other more appropriate indices for assessing construction vibration are discussed in the following paragraphs of this report.

Table 3.4 Vibration dose value ranges which might result in various probabilities of adverse comment within residential buildings

Place and time	Low probability of adverse comment $m.s^{-1.75}$ (1)	Adverse comment possible $m.s^{-1.75}$	Adverse comment probable $m.s^{-1.75}$ (2)
Residential buildings 16 h day	0.2 to 0.4	0.4 to 0.8	0.8 to 1.6
Residential buildings 8 h night	0.1 to 0.2	0.2 to 0.4	0.4 to 0.8

NOTE For offices and workshops, multiplying factors of 2 and 4 respectively should be applied to the above vibration dose value ranges for a 16 h day.
1) Below these ranges adverse comment is not expected.
2) Above these ranges adverse comment is very likely.

Part 2: Advice Concerning of Noise & Vibration from Construction Activities

BS5228-1:2009 Code of practice for noise and vibration control on construction and open sites – Part 1 Noise

3.31 The standard recognises the need of persons living and working in the vicinity of and those working on construction and open sites from noise and vibration, which can disturb and inconvenience those in proximity to the construction activities. The standard provides a method of predicting construction noise and recommendations for noise control.

3.32 The standard advises that a pragmatic approach needs to be taken to determining the significance of noise effects. There are two approaches to determining significance;

- Fixed noise limit – typically 75 dBA between 07:00 – 19:00 hours.
- Noise change – the ABC method or the 5dB change method.

BS5228-2:2009 Code of practice for noise and vibration control on construction and open sites - Part 2 Vibration

3.33 Human beings are very sensitive to vibration, with a typical perception threshold in the PPV range of 0.14 mm.s-1 to 0.3mm.s-1. Above these values, vibration can disturb startle, cause annoyance or interfere with work activities. This is particularly relevant to the highly skilled artists, performers and engineers working in Air Studios. At higher levels they can be described as unpleasant or even painful. In residential accommodation, vibration can promote anxiety that structural mishap may occur.

3.34 BS6472 sets down vibration levels at which minimal adverse comment is likely to be provoked from the occupants of the premises being subjected to vibration. It is not concerned primarily with short term health hazards or working efficiently. Generally, vertical vibrations are more perceptible than horizontal ones, but at very low frequencies this tendency is reversed. However, for construction it is considered more appropriate to provide guidance in terms of PPV, as this parameter is likely to be more routinely measured. Furthermore, as many empirical vibration predictors yield a result in PPV, it is necessary to understand what the consequences may be of any predicted levels in terms of human perception and disturbance. Table 3.5 below provides guidance on the effects

Table 3.5 Guidance on the effects of various vibration levels

Vibration Level (PPV)	Effect
0.14mm.s-1	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3mm.s-1	Vibration might be just perceptible in residential environments.
1.0mm.s-1	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents.
10mm.s-1	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

(Source: BS5228-2:2009, Table B.1 guidance on effects of Vibration Levels)

3.35 The response of a building to ground borne vibration is affected by the type of foundation, underlying ground conditions, building structure and condition. BS5228-2:2009 presents limits for transient vibration, above which cosmetic damage could occur which are taken from the advice contained in BS7385-2:1993, particularly Table 1 of the standard which is reproduced as Table 3.1 in this report.

Control of Pollution Act 1974

3.36 Section 60 of the CoPA 1974 empowers the Local Authority to serve a notice on those carrying out works (that include demolition, ground works and construction) to control noise (and vibration). The notice can perform the following functions:

- Specify the plant or machinery to be used
- Specify hours during which construction activity can occur.
- Specify level of noise and vibration that can be emitted
- provide for change of circumstances – e.g. if ground conditions change and there is a need to switch to alternative methods.

3.37 The Local Authority's notice must ensure that the best practicable means are employed to minimize noise and vibration and other types of plant or machinery that might be equally effective in minimizing noise and vibration.

3.38 Under section 61 of the CoPA 1974, the contractor/developer can apply to the local authority for consent to carry out the work. Once a consent has been granted, a local authority cannot take action under section 60 of the Act or section 80 of the 1990 Environmental protection act providing the consent remains in force and the contactor complies with its terms. Action against nuisance can be taken under section 82 of the EPA or under common law.

3.39 The application must contain 'particulars' about the works, the method by which they are to be carried out and the steps proposed to be taken to minimise noise resulting from the works.

3.40 The "particulars" that must be provided in an application are sufficiently broadly specified that they might include the whole monitoring regime on the basis that it can be seen as one of the steps proposed to minimise noise from the works. The local authority clearly has the power to impose standards. The developer intends to propose a regime of noise and vibration action levels and limits, and a protocol to monitor and enforce them which the Council can consent to. No doubt the appeal procedure provided in the section would be invoked if it did not.

3.41 With regard to vibration, the CoCP places a duty on contractors to ensure that residents and people at work are protected from nuisance and harm and buildings are protected from structural damage. It states that the contractor will comply with BS6472:1992. The vibration levels permitted are established by agreement with the Council on a site by site basis.

3.42 The permitted hours of work for any works audible at the site boundary are 8.00am to 6pm Monday – Friday and 8.00am – 1.00pm on Saturdays although it notes that individual site requirements which differ from these hours will be considered on a site by site basis.

3.43 Like most councils, Camden have their guidance on the assessment and control of construction noise and vibration which is based on the factors previously discussed for the CoPA. Camden Planning Policy CPG4, Basements and Lightwells specifically deals with Basement Impact Assessments (BIM) and planning development. Noise and vibration are mentioned although no particular criteria are recommended.

Re-Radiated Noise and Vibration Criteria

3.44 There are no particular standards related to re-radiated noise from construction affecting studios but guidance can be taken from other planning development schemes such as Crossrail where construction of the tunnels below a number of studios and theatres needed to be assessed. The Technical report included in the DS10 documentation, 'Assessment of Noise and Vibration Impacts' produced for Crossrail in February 2015 presented some agreed re-radiated noise guidelines. These values are also applied to the HS2 construction project. These noise levels are shown in the table below.

Table 3.6 – Re-Radiated Noise from Underground Sources – Threshold of Significant Impacts

Building	Noise Level, $L_{Amax,S}$
Theatre	25dB
Large Auditorium/Concert Hall	25dB
Studios	30dB
Churches	35dB
Courts, Lecture Theatres	35dB
Small Auditoria/halls	35dB
School Colleges	40dB

3.45 From this table, it is recommended that for Air studios, the target LAmax.S level should be 25dB.

4 Review of Application Proposals

Introduction

4.1 We have reviewed the documents submitted under planning application reference 2015/2089/P, in particular;

- Planning Application form
- Design and Access, Planning and Heritage Statement
- Outline Construction Management Plan
- Plant noise report
- Plant noise assessment
- Basement impact assessment
- Related drawings and plans

These documents are discussed below in relation to the potential noise and vibration impacts Air Studios.

Construction Management Plan

4.2 The so-called construction management plan described in the Camden Planning portal is not a Construction Management plan but a report dealing solely with the traffic impact and traffic management. There is no discussion or assessment of the noise or vibration impacts and no control procedures. No further construction noise and vibration information is contained within the other documents and we therefore consider the application to be flawed.

4.3 The construction management plan in respect of noise and vibration should provide details of:-

- The sensitivity of nearby properties, especially in respect of the Air recording studios being the closest to the applicants site.
- The noise and vibration criteria affecting all nearby adjoining properties based on relevant standards, guidelines and other schemes of a similar nature.
- The methodology for predicting noise and vibration levels from the construction activities.

- The predicted levels and an assessment against the relevant criteria for noise and vibration.
- The management and control of the noise and vibration.
- The monitoring and control procedures (target and action levels) to be adopted throughout the construction phase.

4.4 We would expect there to be a full review of the construction noise and vibration criteria and standards as described in section 3 of this report. With the lack of such information, we propose the following target levels (Table 4.1) based on the guidance, measurements and details provided on standards in section 3 of this report:-

Table 4.1 Guideline Internal Noise levels

Construction Effect	Maximum Level not to be exceeded in all the studios
Internal noise	NR 20
Re-radiated noise	25dB LAmax,s
Vibration for occupiers	0.5mm.s^{-1}
Structural vibration	3.0 mm.s^{-1}

Comments on the Cole Jarman Plant Noise Reports

4.5 There are two noise reports submitted in support of the Planning Application for the extension works to 11 Rosslyn Hill, NW3. The first report (Ref: 14/0692/R1) produced in January 2014 provides detail of a background noise survey (carried out in December 2014 – we deduce that the report is dated incorrectly) and suggests appropriate offsite noise limits for the proposed plant based on published 'Camden Council's Noise Standards'.

4.6 The second report (Ref: 14/0692/R2-1) produced in March 2015 relies on the information provided by the first report and sets out the noise limits and any required mitigation measures to achieve compliance with the recommendations of the first report.

Plant Noise Report (14/0692/R1)

4.7 This report is incomplete as whilst Air Studios is mentioned in the Section 2 – Site Description, it does not acknowledge that Air Studios is a noise sensitive receptor so no assessment is carried out at this location.

4.8 Vanguardia's further concerns with their report are:

- There is only one measurement position for the survey which is located in an area chosen to be representative of the identified noise sensitive receptors. This location is not wholly suitable for Air Studios to the North of the development.
- The microphone was located at a height of 4m above ground. There is no explanation for this when measurements are normally made at 1.2m from the ground.
- There seems to be an arbitrary choice of noise limit chosen from Table E in the 'Camden Council Noise Standards' document of 5dB(A) < L90 without explanation. This assumes that none of the plant will have a tonal component but no supporting evidence is provided for this decision.
- The assessment is performed at their 'nearest' noise sensitive receptors/worst affected. Air Studios is not included in the assessment. The identified area for the location of the plant does not include the area later identified in the second report for the 'A/C Condenser Unit and 2 Air Source Heat Pumps', so does not provide a complete assessment.

Plant Noise Assessment (14/0692/R2-1)

4.9 This report also raises concern as it relies on the information provided in the previous report which is inadequate. All of the bullet points above apply to this report. Again Air Studios is overlooked as a potential noise sensitive receptor.

4.10 Section 5 of the report itemises the Mechanical Services Installation and refers to Appendix 14/0692/PNS1 for the details of sound pressure/power levels of proposed plant and equipment.

- The assessment ignores Air Studios even though plant is identified as being nearer to the Studios than the noise sensitive receptors used in the report. The A/C Condenser and 2 Air Source Heat Pumps are closer to Air Studios than the properties on Rosslyn Hill and Belsize Lane

- The data provided in the Appendix suggests that some items of plant will be tonal but despite this the noise limits are not amended to account for this. We believe that the limit to be applied should be 10dB(A) < LA90 as specified in Camden's Noise Standards.

- Given our concerns raised for the initial assessment, the suggested mitigation is also likely to be wrongly specified. The design criterion is incorrect.

5 Conclusions

5.1 Vanguardia Consulting has been appointed by Air Studios to complete a detailed review of the supporting information accompanying the planning application for extensive building works at 11 Rosslyn Hill, London which is adjacent to the studios. Advice has been given on appropriate noise, vibration and re-radiated noise guidelines applicable to construction and operational activities from the application site. The advice has been supported by baseline sound level measurements made in the studio. Recommended criteria, should the application be granted, have also been provided.

5.2 Air Studios is a world-class recording facility comprising of state-of-the-art recording equipment. The facility is renowned for producing some of the finest film scores, classical and rock music. Air Studios operates 24 hours a day and with the high demand for its use, the studios cannot be comprised by construction or operational noise and vibration from 11 Rosslyn Hill.

5.3 The effect of construction noise and vibration is of particular concern to the studios as it can pose an unacceptable impact in terms of:_

- The highly sensitive recording equipment,
- the artists and musicians performing in the studios
- the staff and engineers working in the facility.

5.4 Noise and vibration can be picked up by the recording microphones and recorded along with the intended musical or vocal performance. This kind of unwanted noise in the recording is not acceptable to producers and artistes who may not be able to use the recorded material to create the end product such as a film score or music album. This effect can render the facility completely unusable if construction noise is audible in the relevant rooms.

5.5 The effect of intrusive noise and vibration can have both short term and long term effects on the recording studio business. In the short term recording contracts may have to be cancelled due to the impact of the potential noise and vibration and in the long run the reputation of the business may suffer.

5.6 Furthermore, whilst the studios are built with a ‘box-within a box’ construction to isolate most forms of external noise, the hall is not isolated in this way due to its size and historic building constraints. This recording facility in particular, therefore, is the most sensitive and vulnerable to noise and vibration impact.

5.7 Vanguardia's background noise measurements made in the studios with no recording in progress, show extremely low baseline sound levels (NR15). These low levels over the complete audio frequency range, facilitate the environment for exceptional recordings with high dynamic range. Noise rating levels of NR15 were consistently recorded in various locations in the hall and studios. This indicates that any low level airborne noise or re-radiated noise from outside construction works will be readily noticed and be a potential source of disturbance in such a quiet environment.

5.8 The review of the supporting information is summarised as follows:-

- There is no recognition of the sensitive nature of Air Studios in respect of the potential noise and vibration impact of the construction works.
- The Outline Construction Logistic Plan is flawed as it falls far short of a construction plan as it deals solely with transport related issues.
- There are no recommended noise or vibration criteria for the construction works in relation to the effect on the studios.
- There are no predictions of airborne noise, re-radiated groundborne noise and vibration levels from the construction works. These are critical to assess the potential impact on the operation of the studios.
- There are no mitigation or management plans provided with the application to minimise any risk from noise and vibration disturbance.
- There is no noise impact assessment for the proposed external plant at the nearest noise sensitive receptor which is Air Studios.
- Concern is raised regarding the criteria adopted for the plant noise which ignores the tonal characteristics of the units.

5.9 The review and measurements have shown that the studios are a highly sensitive receptor that need to be protected against any risk of potential noise and vibration impacts. Given the extent of the construction works in very close proximity to Lyndhurst Hall, it is highly unlikely that such works can be completed whilst not causing some considerable disturbance to the staff, artists and recording facilities at Air Studios.

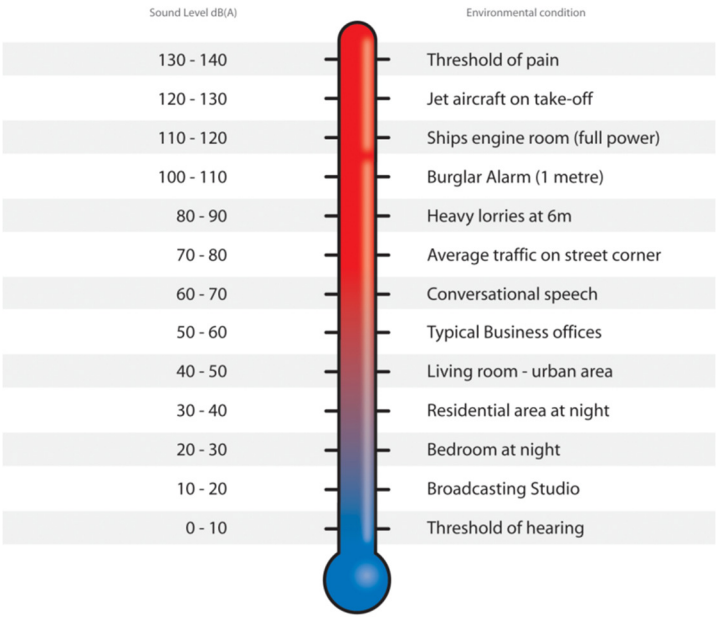
Appendix A / Glossary of Terms

A.1 Noise is defined as unwanted sound. The range of audible sound is from 0dB to 140dB, which is taken to be the threshold of pain. The sound pressure detected by the human ear covers an extremely wide range. The decibel (dB) is used to condense this range into a manageable scale by taking the logarithm of the ratio of the sound pressure and a reference sound pressure.

A.2 The frequency response of the ear is usually taken to be about 18Hz (number of oscillations per second) to 18,000Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than at the lower and higher frequencies, and because of this, the low and high frequency component of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most used and which correlates best with the subjective response to noise is the dB(A) weighting. This is an internationally accepted standard for noise measurements.

A.3 The ear can just distinguish a difference in loudness between two noise sources when there is a 3dB(A) difference between them. Also when two sound sources of the same noise level are combined the resultant level is 3dB(A) higher than the single source. When two sounds differ by 10dB(A) one is said to be twice as loud as the other.

A.4 The subjective response to a noise is dependent not only upon the sound pressure level and its frequency, but also its intermittency. Various indices have been developed to try and correlate annoyances with the noise level and its fluctuations. The parameter used for this measure is Equivalent Continuous Sound Pressure Level (L_{Aeq}). The A-weighted sound pressure level of a steady sound that has, over a given period, the same energy as the fluctuating sound under investigation. It is in effect the energy average level over the specified measurement period (T) and is the most widely used indicator for environmental noise. A few examples of noise of various levels are given right:



Displacement, Velocity, Acceleration

A.5 The precise position of a body in simple harmonic motion - the simplest form of vibration - can be described by its displacement from rest, its instantaneous velocity (rate of change of displacement) or its instantaneous acceleration (rate of change of velocity).

A.6 The 'strength' or magnitude of a vibration can also be described by any one of these parameters. When describing ground vibration or vibration in a structure the term 'particle' velocity or acceleration is used to describe the motion of a nominal particle on the surface in question. Displacement is not usually used in describing environmental or building vibration.

Peak, rms, rmq

A.7 Each of the three related descriptors: displacement, velocity and acceleration, varies from a maximum in the positive direction to a maximum in the negative direction through zero during one cycle of motion. To measure a vibration level requires a definition of where in the cycle to take the value. The maximum or peak value in either positive or negative direction can be adopted (peak particle velocity (ppv), peak particle acceleration (ppa)), the peak to peak value can be useful, but most environmental vibration is constantly variable and an average over some time interval would be more useful for assessing its effect on people than a single momentary peak value.

A.8 The most commonly used averaging process is 'root mean square' or rms averaging. Since a vibration has positive and negative components, the two cancel out if an attempt is made to average the magnitude of motion in the normal way and the average approaches zero. If the whole wave is squared, so that there is no negative component, the average of the squared values across a time interval can be taken and then square rooted to yield a root mean square magnitude which can be related to peoples' experience of the vibration.

A.9 Similarly, a signal can be averaged by 'root mean quad'. This is exactly the same as rms averaging except that the wave is raised to the power of 4 and then quad rooted to obtain the average value over a period of time. The rmq process emphasises short term peaks and jolts and has been found to better represent peoples' responses to intermittent vibrations.

Frequency weighting

A.10 Peoples' sensitivity to whole-body vibration is frequency dependent. The body is significantly more sensitive to vibration along its head to foot axis (denoted z) than along its front to back (x)

or side to side (y) axes. The frequency dependency differs between the z and x/y axes. At the order of magnitude of most environmental and building vibrations the body is most sensitive to motion at less than 10Hz, the sensitivity falling away as the frequency of motion increases to 80Hz which is the upper limit addressed in BS6472 or reduces below 1Hz, the lower limit.

A.11 In order to take the frequency-dependency of the body into account when assessing vibration it is necessary to apply a frequency weighting to the measured signal. This is exactly the same principle as is commonplace in noise measurements where 'A-weighting' is universally applied to take into account the frequency-dependency of the auditory system. In vibration assessment, however, different weightings must be used to assess motion affecting people along their z axis or their x/y axis. Usually the measurement is made relative to a building and people's z-axis may be vertical relative to the building during the day and horizontal at night. The weightings must be applied as appropriate to the orientation of the subject relative to the building.

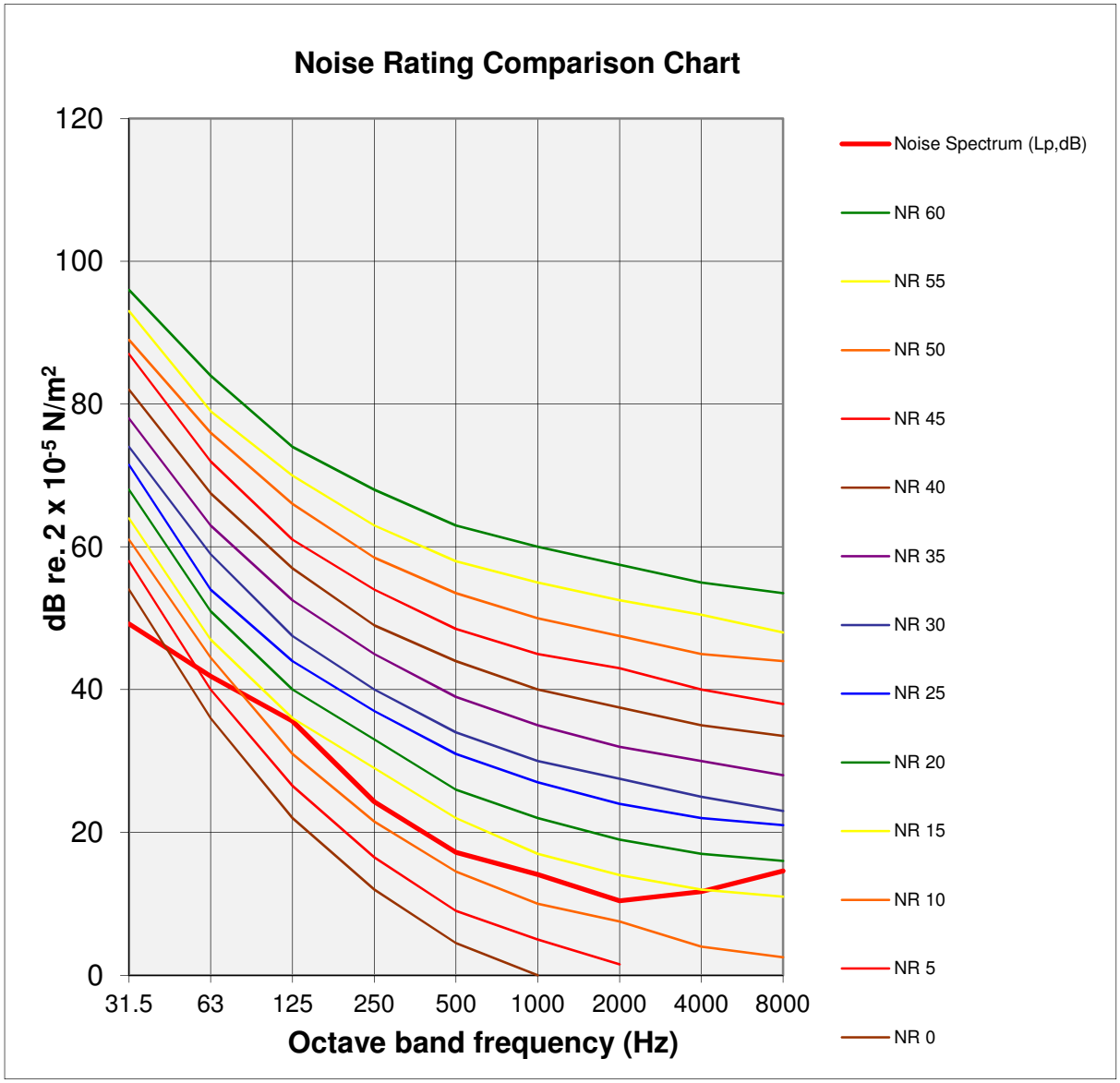
A.12 BS6472 directs that the vibration should be weighted according to linear approximations to curves presented more precisely in BS6841. The linear approximation for z-axis motion equates with the 'b' weighting specified (and denoted 'W_b') in BS6841. The linear approximation for x/y axis motion equates with BS6841 W_d weighting.

VDV

A.13 BS6472 provides guidance on the likelihood that vibration will provoke 'adverse comment' by reference to Vibration Dose Value, VDV. VDV is a compound index incorporating the magnitude, frequency components and duration of vibration exposure per day or night.

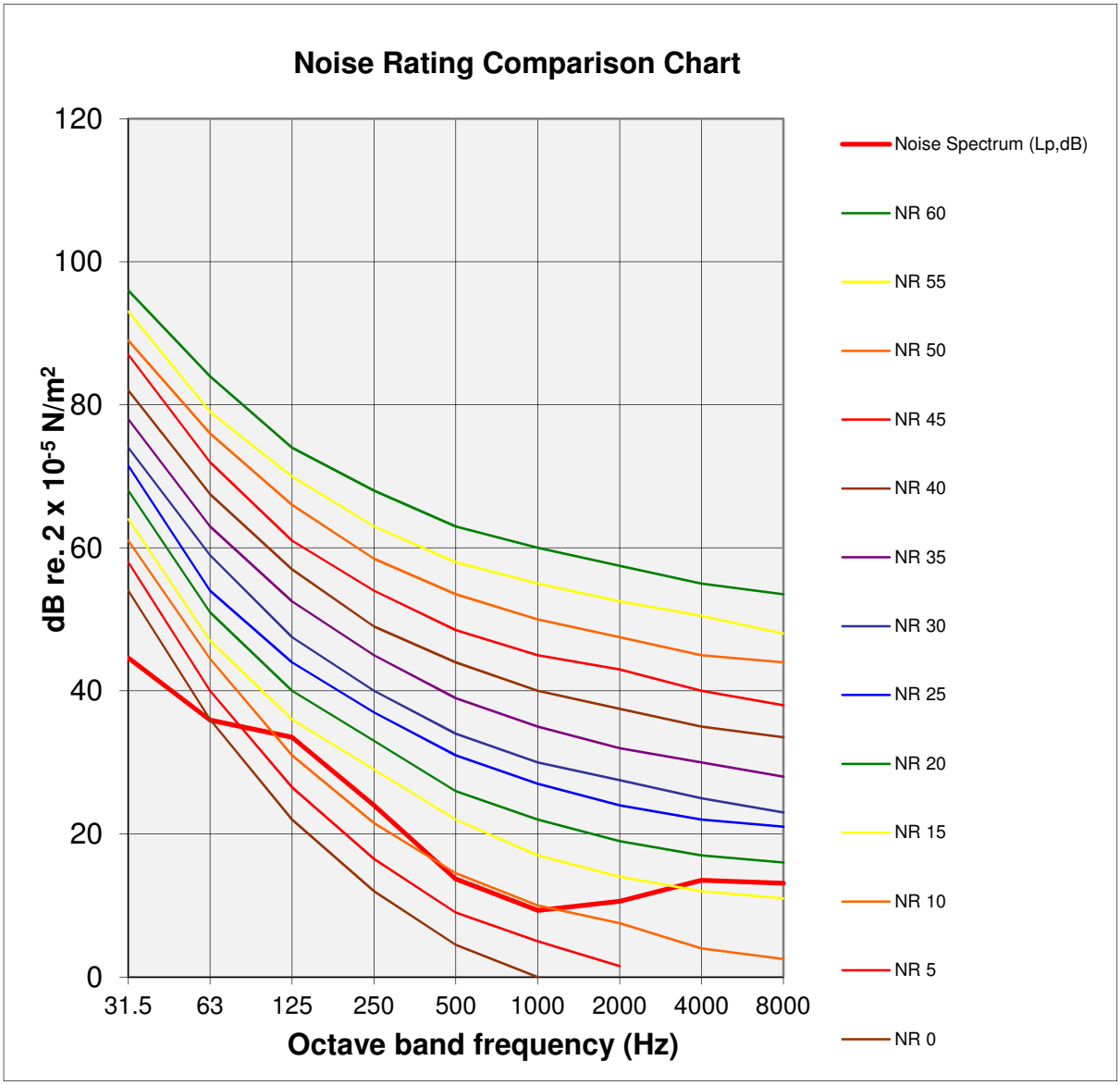
A.14 VDV is defined mathematically as the integral over time of the fourth power of the frequency-weighted, time varying vibration acceleration magnitude multiplied by the duration, all to the fourth root.

Appendix B / Noise Measurements in Hall



Note:
This is NR15 apart from the last three measurements which are affected by the self noise of the measurement equipment.
i.e. values represent the noise floor the measurement equipment

Appendix C / Noise Measurements in Studio 3



Note:
This is NR15 apart from the last three measurements which are affected by the self noise of the measurement equipment.
i.e. values represent the noise floor the measurement equipment

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Appendix 8

Cole Jarman Letter to Vanguardia 6th July 2015

Cole Jarman

Mr J Griffiths
Vanguardia Consulting
21 Station Road West,
Oxted
Surrey RH8 9EE

6th July 2015
Ref: 14-0692 L01-0

Dear Jim

Air Studios – Noise and Vibration Effects of Proposed Works at 11 Rosslyn Hill

Your report of 3rd June on behalf of Air Studios has been passed to us.

As you area aware we undertook the noise survey and plant assessment that accompanied the planning application. We have now had our brief extended to cover the issues of noise and vibration associated with construction.

I believe it would be helpful if we could meet at the studios, for me to look around them and for us to discuss the issues. This will enable us to provide a fully detailed response to your client and the local planning authority and enable us to consider the full range of appropriate mitigation which is of course in your and our clients' best interests.

Your report provides useful background to a number of reference documents.

I note that original information regarding the design of the studios has been archived (para 3.18). I presume you are seeking that, along with the planning history of the building. When available will you be able to share with us?

In paragraph 2.8 you refer to the possibility of hidden structural links between the studios and the application site. Do you have any evidence of this?

In paragraph 2.10 you state that impulsive noise being significantly more annoying and that would be the case for the proposed piling works. I would advise as was stated in the application the piling works would be undertaken not using impact piling, but rather continuous flight auguring. Therefore the noise would not be impulsive as you suggest. Also the auguring produces much lower levels of vibration than impact driven piling techniques.

I note that you undertook some noise readings in the studios. When we meet perhaps you could supply more details of these, with respect to noise units, duration, activity within the building etc?

With respect to going forward on this I would hope that we would be able to agree a suitably worded planning condition requiring local planning authority approval of a detailed noise management plan for the scheme that has regard to the issue affecting both local residents and Air Studios. This would be the normal approach for a scheme of the type proposed. As you

recognise the document “Outline Construction Logistics Plan” is not a construction management plan.

Finally with respect to the issue of plant noise and its impact upon the studios you can be assured that this will be mitigated so as to not affect the studios. My clients advise that they are not affected by sound from the studios, so there must be some sound insulation in place already to control sound break out, which of course will also work the other way too, keeping noise out. Therefore treating the building façade in the same way as a residential property may not be appropriate, however that will depend upon the sound insulation the studios have in place. Again a planning condition would be the appropriate way of addressing this point.

I trust the above is clear, however please call if you have any queries.

I look forward to hearing from you.

Yours sincerely

Neil Jarman

Appendix 9

Email Correspondence between Thomas Croft and Paul Woolf