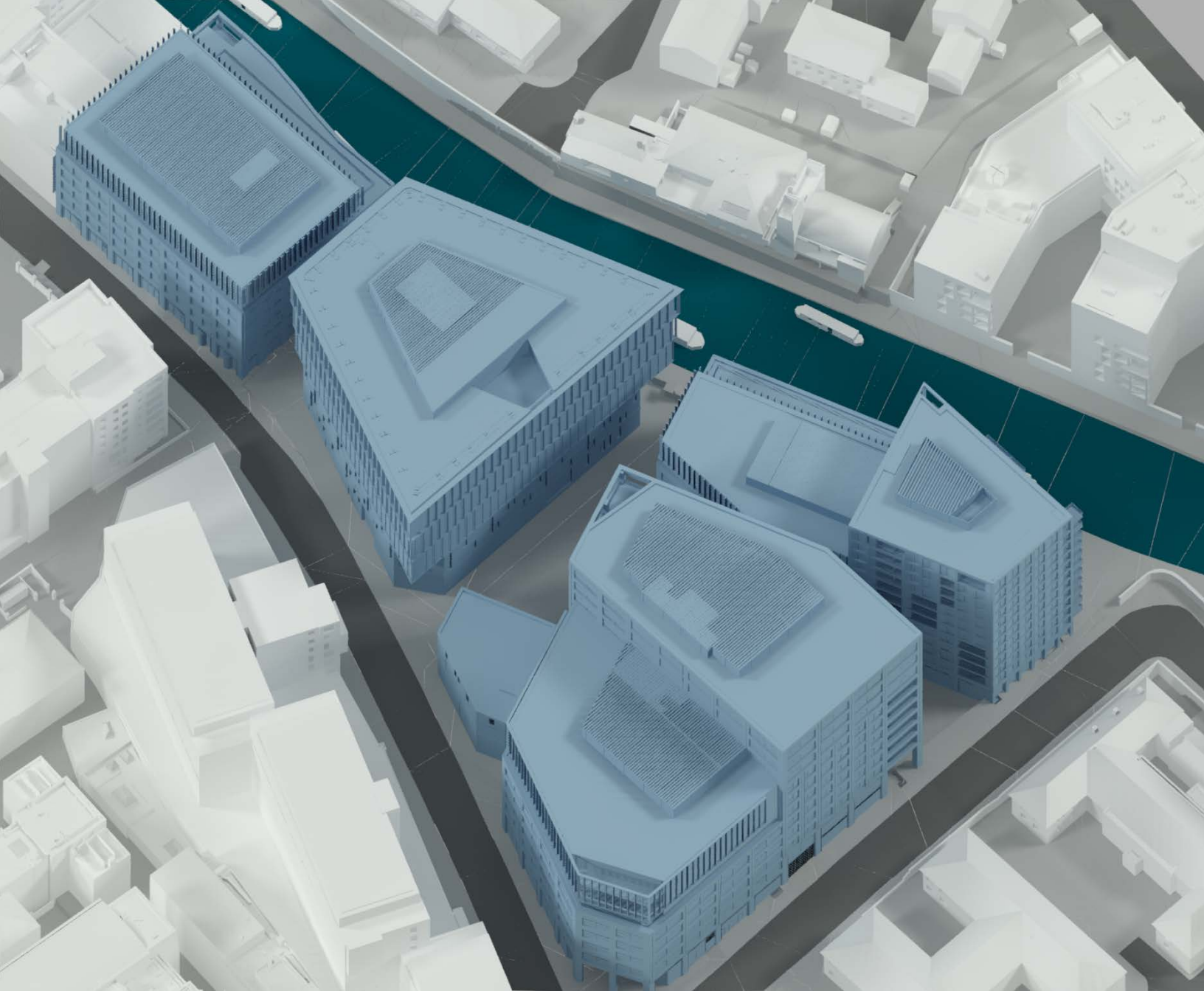

TRANSFORMATION OF THE UGLY BROWN BUILDING

Daylight and Sunlight Report

waldrams
daylight & sunlight

7th March 2018

waldrams
Waldrams Ltd
Chartered Surveyors

Daylight and Sunlight Report

Project:	Transformation of the Ugly Brown Building
Client:	Reef Estates Limited.
Prepared by:	James Bowman
Checked By:	Michael Harper
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Foreword

A planning application, for the redevelopment of the Ugly Brown Building, was submitted to the London Borough of Camden in September 2017. The application is currently pending (ref: 2017/5497/P).

During the course of determination, a number of further design sessions have been held with London Borough of Camden Planning, Design and Conservation Officers. During these sessions officers have made a number of suggestions as to how the scheme might be refined. Furthermore, comments from a range of third parties have also been received during the determination process.

In order to address the aforementioned comments, revisions have been made to the scheme accordingly. This daylight and sunlight report provides an assessment of the revised scheme, submitted to the London Borough of Camden in March 2018, and supersedes the original daylight and sunlight report submitted in September 2017.

Executive Summary

- This is a daylight and sunlight analysis of the Transformation of the Ugly Brown Building, 2-6 St Pancras Way, London, NW1 0TB (the Proposed Development) by Reef Estates Limited. This analysis has been carried out based on the planning application scheme drawings received 23rd February 2018.
- This daylight and sunlight report provides an assessment of the revised scheme, submitted to the London Borough of Camden in March 2018, and supersedes the original daylight and sunlight report submitted in September 2017. The daylight and sunlight results for the revised scheme have, in most cases, improved from the previous iteration in terms of daylight and sunlight to surrounding properties and have improved in terms of sunlight to amenity spaces around the scheme.
- In accordance with the BRE Guidelines, we have analysed the effect of the proposed scheme on the daylight and sunlight to the surrounding properties, the daylight and sunlight available to residential accommodation within the proposed development, and the sunlight amenity to internal spaces within the proposed development. We have additionally analysed the sunlight available to Regent's Canal adjacent to the proposed development and to the uppermost roof of 8-14 St Pancras Way in response to the owner's comments raised during the planning process. We have also analysed the daylight and sunlight to canal boats in the mooring locations along Regent's Canal.
- The BRE Guidelines make it clear in Appendix F that alternative target daylight and sunlight levels may be set. Alternative target values for the student accommodation on St Pancras Way have been based on a 'mirror-image' analysis as recommended in Appendix F of the BRE Guidelines. In relation to the other residential properties, based on our professional experience of applying the BRE Guidelines in an urban location, we consider that an alternative target VSC and Daylight Distribution loss of up to 33% should be applied. This alternative target reduction has been used throughout this report.
- Within all surrounding residential and student accommodation the majority of rooms either meet, or are in our opinion sufficiently close to, the BRE Guidelines for daylight and sunlight when the alternative baseline conditions are applied. Therefore, the proposed development should, in our opinion, be considered acceptable in planning terms.
- The two amenity spaces within the proposed development receive at least 2 hours of sunlight to 100% and 48% of their areas respectively on March 21st, showing that one meets while the other

is, in our opinion, sufficiently close to the BRE Guidelines for sunlight amenity, given the urban context, to be considered acceptable.

- Regent's Canal adjacent the proposed development receives at least 2 hours of sunlight to 82% of its area on 21st March and the uppermost roof of 8-14 St Pancras Way will receive at least 2 hours of sunlight to 98% of its area and therefore both continue to meet the BRE Guidelines for an amenity space.
- When considering daylight internal to the proposed development, 58 out of 73 units within the proposed development either have all rooms, the L/K/D, or majority of bedrooms, meeting the BRE Guidelines for internal daylight. Furthermore, the VSC façade analysis demonstrates that the facades of the residential parts of the proposal have a high propensity to receive good daylight overall. In sunlight terms, 30 out of 40 main living rooms that face within 90 degrees of due south meet the BRE Guidelines in terms of both annual and winter APSH. Of the remaining 10 rooms, 5 meet the BRE Guidelines for winter APSH and all 10 achieve at least 10% annual APSH.
- Overall, the proposed scheme allows for all surrounding properties to retain reasonably good levels of daylight and sunlight for an urban environment such as this; the daylight and sunlight internally to the proposal represents a reasonable level for a scheme in an urban environment and; good levels of sunlight are achieved to the amenity spaces around the scheme.

1. Introduction

Waldrams Ltd has been instructed by Reef Estates Limited to provide daylight and sunlight analysis of the Transformation of the Ugly Brown Building, 2-6 St Pancras Way, London, NW1 0TB (the Proposed Development). In accordance with the BRE Guidelines, we have analysed the effect of the proposed scheme on the daylight and sunlight to the surrounding properties, the daylight and sunlight available to residential space within the proposed development and the sunlight amenity to internal spaces within the proposed development. We have additionally analysed the sunlight amenity to Regent's Canal adjacent to the proposed development and to the roof of 8-14 St Pancras Way in response to their comments raised during the planning process. We have also analysed the daylight and sunlight to canal boats in the mooring locations along Regent's Canal.

This analysis has been based upon a detailed photogrammetric survey of the site and surrounding context, site photographs, Ordnance survey information and the latest scheme massing provided by Bennetts Associates, received 23rd February 2018. The internal daylight and sunlight analysis has been updated on the basis of the layouts received 23rd February 2018.

This analysis has been undertaken in accordance with the guidelines and methodologies contained in the BRE's Site Layout Planning for Daylight and Sunlight: A guide to good practice, which is used by the London Borough of Camden in order to assess the acceptability of the scheme for planning purposes in terms of daylight and sunlight.

As recommended by Appendix F of the BRE Guidelines in an urban location, such as this site, an alternative baseline may be set. Following this recommendation, calculation of an alternative baseline for the properties 11-13 and 15-23 St Pancras Way has been set based on a mirror image analysis. This analysis provides for the setting of alterative target levels for the scheme. See Section 2.3 below.

The following drawings and results are appended to this report:

- Existing site -1661-03-01 to 1661-03-03, Appendix 1,
- Proposed development 1661-12-01 to 1661-12-03, Appendix 1
- 'Mirror analysis' alternative baseline position 1661-07-17 to 1661-07-19, Appendix 1
- VSC facade analysis 1661-14-01 to 1661-14-03, in Appendix 1
- Window maps for the surrounding properties 1661-01-09 to 1661-01-30, Appendix 1
- Layouts used for internal Daylight analysis 1661-12-04 to 1661-12-09, Appendix 1
- Daylight and sunlight results for the surrounding residential properties, Appendix 2.1

- Daylight and sunlight results for 11-13, 15-23 St Pancras Way comparing the alternative baseline position with the proposed development, Appendix 2.2
- Daylight and sunlight results for Reapers Close and 103 Camley Street with obstructions removed, Appendix 2.3
- Internal daylight and sunlight results, Appendix 3
- Sunlight amenity results internal to the proposed development 1661-13-02, Appendix 4
- Sunlight amenity results to Regent's Canal and 8-14 St Pancras Way 1661-11-04 and -11-06, Appendix 4

2. Camden Planning policy

Camden planning Guidance CPG6 Amenity section 6.4 specifies:

> *A daylight and sunlight report should assess the impact of the development following the methodology set out in the most recent version of Building Research Establishment's (BRE) "Site layout planning for daylight and sunlight: A guide to good practice".*

In addition section 6.5 specifies:

> *While we strongly support the aims of the BRE methodology for assessing sunlight and daylight we will view the results flexibly and where appropriate we may accept alternative targets to address any special circumstances of a site.*

3. Summary of how daylight and sunlight are considered for planning

3.1 Introduction to the BRE Guidelines

Daylight and sunlight are planning considerations. The main reference used by local planning authorities to determine the acceptability of proposals in terms of their internal daylight and sunlight and the impact on daylight and sunlight to the surrounding properties is the Building Research Establishment (BRE) Guidelines, used in conjunction with British Standard BS8206 Part 2. The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme and the surrounding properties. In practice it is principally the main habitable rooms internal to the scheme and within the surrounding residential properties which are sensitive in terms of daylight and sunlight. This report therefore focuses on the internal daylight and sunlight and the change in daylight and sunlight to habitable rooms in the surrounding residential property.

The BRE Guidelines specify that the daylight and sunlight results be considered flexibly and in the context of the site. Clearly there would be a higher expectation for daylight and sunlight in a rural or suburban environment than in a dense city centre location. The important factor in all cases is that

the levels of daylight and sunlight are appropriate, taking into account all the planning policy requirements of the site. The BRE Guidelines acknowledge this in the introduction where the BRE Guidelines state:

> "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and thus this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."

(Page 1, BRE Guidelines)

Thus, the numerical figures should not be rigidly applied, but instead used as part of the overall evaluation of the daylight and sunlight to the surroundings in context of the site, its existing massing, and the need for regeneration and local planning policy guidance for the site. In particular existing local precedents or recent planning consents may provide a good indication as to appropriate levels in the vicinity.

The BRE Guidelines specifies in Paragraph H1.2:

> "Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of trees. This is because daylight is at its scarcest and most valuable in winter months when most trees will not be in leaf."

This summary in section 2 of this report is provided to briefly introduce some of the main methods of the BRE Guidelines however, the BRE Guidelines should be used as the basis for assessing the daylight and sunlight results included within this report. This section is not intended to override the wording of the BRE Guidelines for Daylight and Sunlight.

3.2 Daylight and sunlight criteria to surrounding residential property

According to the BRE Guidelines a surrounding existing building to a proposed scheme will retain the potential for good interior daylighting, provided that the scheme subtends less than 25 degrees from the horizontal as measured from the lowest habitable windows in the neighbouring windows. If this is not achieved then good daylighting to the neighbouring properties is still achieved if the Vertical Sky Component (VSC) is in excess of 27% or is reduced by less than 20% from its existing level and if the area of the room that can see the sky at desk height (known as the daylight distribution or no sky contour) is reduced by less than 20% of its existing area. The BRE Guidelines state this as:

"2.2.21 If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

- *The VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value*
- *The area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

The BRE Guidelines recommend that in urban development locations, alternative baselines or lower target values may be used (*cf* Appendix F of the BRE Guidelines for Daylight & Sunlight). Paragraph F1 states:

"…such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylight needs of the proposed development itself."

In Paragraph F4, the BRE Guidelines state:

"For example, in a mews in a historic city centre, a typical obstruction angle from ground floor window level might be close to 40°. This would correspond to a VSC of 18%, which could be used as a target value for development in that street if new development is to match the existing layout."

The Greater London Authority (GLA), in their representation hearing report D&P/3067/03-Appendix 1 (18th November 2013) in the context of a planning appeal state that:

"It should, nevertheless, be noted that the 27% VSC target value is derived from a low density suburban housing model. The independent daylight and sunlight review states that in an inner city urban environment, VSC values in excess of 20% should be considered as reasonably good, and that VSC in the mid-teens should be acceptable. However, where the VSC value falls below 10% (so as to be in single figures), the availability of direct light from the sky will be poor. With respect to the reduction factor, it should also be noted that whilst BRE guidelines state that a 20% reduction is the threshold for a materially noticeable change, the independent daylight and

sunlight review sets out that given the underdeveloped nature of the site relative to its context, this percentage reduction should be increased to 30%, with and upper threshold of 40%."[1]

The test for sunlight to the neighbouring properties is calculated for each main south facing window to habitable rooms and in particular living rooms. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less than 25% of the total APSH across the whole year or less than 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st). If the retained total APSH is reduced by less than 4% or the change from the existing is less than 20% for total and winter levels of APSH then this too would meet the BRE Guideline levels.

Following the BRE Guidelines recommendations, VSC and APSH are measured from a point on the outer window wall whilst ADF is measured from the point halfway between the inner and outer window wall.

3.3 Setting appropriate alternative baselines

The BRE Guidelines makes it clear in Appendix F that alternative target daylight and sunlight levels may be set. Section F1 states that the numerical target values provided within the BRE Guidelines are purely advisory and different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated may be generated from the layout dimensions of existing developments. These have been set as follows:

<u>Student accommodation on St Pancras Way</u>

Analysis of an alternative baseline daylight (VSC) level based on a notional mirror image reflecting 11-13 and 15-25 St Pancras Way. This shows the levels of VSC that would be achieved by windows within these properties were the same level of development permitted mirrored across the centreline of St Pancras Way between these properties and the development site. This mirrored analysis is shown on drawing 1661-07-17 to -07-19 in Appendix 1. This analysis indicates an absolute VSC of 10% would be reasonable.

[1] Greater London Authority, *representation hearing report D&P/3067/03-Appendix 1* (18 November 2013), page i.

All other residential properties

Research of the Reaper's Close properties shows that, the windows facing the scheme serve small galley style kitchens and entry corridors on the ground floor and bedrooms on the first floor. The kitchens on the ground floor are less than 10 square meters in size and are arguably so small that they not classed as habitable accommodation. In our professional opinion, a 20% retained VSC level would therefore represent a reasonable alternative baseline position. This is supported by the GLA who state, in their representation hearing report D&P/3067/03-Appendix 1 (18th November 2013) as detailed in section 3.2 above, that in inner city urban environments VSC values in excess of 20% should be considered as reasonably good. In relation to the first floor bedrooms, the overhanging eves and other blinkering effects can be ignored so as to isolate the impact from the scheme.

In relation to the other residential properties, based on our professional experience of applying the BRE Guidelines in urban locations, we consider that an alternative target VSC and Daylight Distribution loss of up to 33% should be applied. This level of reduction is also supported by the GLA who state, as detailed in section 3.2 above, that reductions of 30% with an upper threshold of 40% could be considered acceptable in planning terms. This alternative target of 33% reduction in VSC has been used throughout this report.

3.4 Internal new build criteria for daylight and sunlight

According to the BRE Guidelines and BS8206 (Part 2), the method for assessing internal daylight is:

- Average Daylight Factor (ADF);

and for internal sunlight it is:

- Annual Probable Sunlight Hours (APSH).

The ADF measure of daylight takes into account the main factors which affect the actual daylight appearance of a room including the area of the window.

ADF provides an absolute measure of daylight expressed as a ratio of daylight for the room in question as a proportion of the daylight outside at any moment in time. The ADF for a living room should be above 1.5% (i.e. the room should enjoy a minimum of 1.5% of the average external daylight at any moment in time), whilst that for a bedroom and kitchen should be in excess of 1% and 2% respectively. ADF is dependent on the area of sky visibility, which is closely related to VSC, the area of the window serving the room, the glazing transmittance, the total area of the room's surfaces and the internal reflectance of the room.

In terms of ADF, the GLA state in their representation hearing report D&P/3067/03-Appendix 1 (18th November 2013), "BRE Guidelines confirm that the acceptable minimum ADF target value depends on the room use. That is 1% for a bedroom, 1.5% for a living room and 2% for a family kitchen. In cases where one room serves more than one purpose, the minimum ADF should be that for the room type with the higher value. Notwithstanding this, the independent daylight and sunlight review states that, in practice, the principal use of rooms designed as a 'living room/kitchen/dining room' is as a living room. Accordingly, it would be reasonable to apply a target of 1.5% to such rooms."[2]

We have therefore used the threshold of 1.5% as a benchmark of acceptability for living room/kitchen/dining rooms.

The test for sunlight is calculated for each main south facing window to habitable rooms and in particular living rooms. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less that 25% of the total APSH across the whole year or less that 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st).

Following the BRE Guidelines recommendations, APSH is measured from a point on the inner window wall whilst ADF is measured from the point halfway between the inner and outer window wall.

3.5 Method used for calculating the daylight and sunlight results

The analysis provided in this report utilizes state-of-the-art software to calculate in three dimensions the daylight and sunlight following the methods specified in the BRE Guidelines. A three dimensional accurate computer model has been created for the existing site in context of the immediate surrounding properties, based upon a photogrammetric survey of the site and surrounding properties, site photographs and Ordnance Survey information.

Drawings of the existing and proposed building in context of the surrounding properties are shown in Appendix 1.

[2] Greater London Authority, representation hearing report D&P/3067/03-Appendix 1 (18 November 2013), page ii.

3.5.1 Surrounding properties

Daylight and sunlight levels comparing the existing and proposed daylight (VSC, daylight distribution and ADF) and sunlight (APSH) situation are then calculated for the surrounding properties. These results are provided in Appendix 2.

3.5.2 Internal residential rooms

Daylight and sunlight levels for the proposed daylight (ADF) and sunlight (APSH) internally to the scheme are then calculated. These results are provided in Appendix 3.

3.6 Method for analysing acceptable sunlight amenity to the open amenity spaces within the proposed scheme

The BRE Guidelines states that each open amenity space should receive at least 2 hours of sunlight on March 21st to at least 50% of its area or retains 80% of its former value with the proposal in place. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21st March.

References:

BRE Guidelines (BR 209):- Site layout planning for daylight and sunlight: a guide to good practice, by PJ Littlefair (2011).

These Guidelines provide the basis of the analysis described in this report. Please refer to this document for a detailed description as to the approach, methodology and implementation of the numerical analysis used in this report. A summary of the approach and methods recommended by the BRE Guidelines is included in Section 2 above of this report.

4. Assumptions used in the analysis

Uses of the surrounding properties have been based on external appearance to determine whether they are residential or commercial use. Where this is ambiguous we have researched the Council Tax records for the property, which if listed would indicate residential use.

It is important to note that the precise position of the surrounding property elevations has been estimated, based on brick counts from site photographs. The floor levels for the surrounding buildings are assumed unless otherwise indicated, which may affect the daylight distribution and ADF calculations.

Room layouts for the following properties have been obtained from the local authority planning website or from local estate agent websites, and incorporated into our 3D context model for analysis:

- 11-13 St Pancras Way
- 15-23 St Pancras Way
- 16 St Pancras Way
- 101 Camley Street
- 103 Camley Street
- Jubilee Waterside Centre
- St Pancras Hospital, North Wing

We have also obtained layouts for 3 Reapers Close from the local authority planning website, which we have used as a template to extrapolate and model the internal layouts for 4-12 Reapers Close used in our analysis, This extrapolation is reasonable since 3-12 Reapers Close appear identical, based on external observation.

Room layouts for all other surrounding buildings are assumed with rooms approximately 4.27m deep for property that appears to be of residential use and 6m deep for commercial space, with the exception of those buildings for which we have obtained room layouts. Reasonable window to room allocations have also been made.

5. Sources of Information Used in the Report

Bennetts Associates
1603_P_098_A.pdf
1603_P_099_C.pdf
1603_P_100_C.pdf
1603_P_101_C.pdf
1603_P_102_A.pdf
1603_P_103_B.pdf
1603_P_104_A.pdf
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1603_P_334.pdf
1603_P_341_A.pdf
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1603_P_100_180216.dwg
180216_MASTER MODEL.dwg
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1603_Amended scheme summary.pdf
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DP9
Canal&RiverTrust 29nov2017.pdf
NHS29nov2017.pdf
RegentsCanalConservationAreaAdvisoryCommittee
.pdf
Received 19.12.17

Waldrams Chartered Surveyors
Daylight and Sunlight report dated 23rd August 2017
Site Photographs
Ordnance Survey
Photogrammetric Survey

6. The Existing Site

The existing site is shown on drawings 1661-03-01 to -03-03 in Appendix 1, and also below in Photo 1.

Photo 1: The existing site

7. Daylight and Sunlight Analysis to the surrounding properties

The proposed development can be seen on drawings 1661-12-01 to 1661-12-03, in Appendix 1.

The impact to the daylight and sunlight to the following surrounding properties and consented developments has been analysed, taking into account the extent of the proposed development massing and their proximity to the site:

- 19 Ploughman's Close
- 4-13 Reapers Close
- 16-22 (even) Crofters Way
- 105 Camley Street (Jubilee Waterside Centre)
- 101 Camley Street
- 103 Camley Street
- St Pancras Hospital
- 11-23 (Odd) St Pancras Way
- 8-16 (Even) St Pancras Way

The BRE Guidelines prioritise the consideration of daylight and sunlight for habitable rooms within residential properties. The following properties are/will be entirely or partly of residential usage:

- 19 Ploughman's Close
- 4-13 Reapers Close
- 16-22 (even) Crofters Way
- 101 Camley Street
- 103 Camley Street
- 11-23 (Odd) St Pancras Way

- 8-16 (Even) St Pancras Way

While non-residential properties would not usually be of primary consideration for daylight and sunlight, the BRE Guidelines state that non domestic buildings "where occupants have a reasonable expectation of daylight", including "schools, hospitals, hotels and hostels, small workshops and some offices" may also need to be taken into account for daylight and sunlight. We have therefore analysed the Jubilee Waterside Centre (currently occupied by the Abacus Belsize Primary School) and St Pancras Hospital in daylight and sunlight terms and have provided commentary for these properties below.

With the proposed development in place, 19 Ploughman's Close and 4 Reapers Close meet the BRE Guidelines for daylight and sunlight and are not considered further.

There now follows commentary on the impact of the proposed scheme on the daylight and sunlight to the other surrounding properties.

11-23 St Pancras Way

11-23 St Pancras Way is a recently constructed, mixed-use development immediately to the west of the site, on the other side of St Pancras Way. It consists of commercial space on the lower floors with student accommodation on the upper floors. 11-13 St Pancras Way can be seen below in *fig*.1 and 13-23 St Pancras Way on Photo 2.

11-23 Pancras Way contains student accommodation, and so occupancy of this accommodation is transitory in nature with the majority of occupation in term time and in the evenings, outside the times when academic lectures are provided. In addition, students will only occupy this accommodation for a limited timescale, commonly on an annual basis. Due to this transitory occupation mainly in the evening and at night, there is not the same requirement for daylight to this accommodation and these properties when compared to permanent residential accommodation. Since the site of the proposed development is comparatively undeveloped in terms of height and massing as compared to 11-23 St Pancras Way, any reductions in daylight due to the proposed development may be seen as being unduly pronounced and this may prejudice the development potential of the development site. In such instances the BRE Guidelines state, in Appendix F, that - where a building has "windows that are unusually close to the site boundary and taking more than their fair share of light" – alternative target criteria can be set by mirroring the massing of the property across the boundary. We have carried out such a mirror analysis with drawings 1661-07-17 to -07-19 showing the 'mirror-image' notional baseline position, where the additional massing of the

mirror of 11-23 St Pancras Way has been superimposed upon the existing position, mirrored across the centre of the road between the two sites.

In daylight terms in the alternative baseline 'mirror-image' position, there are student bedrooms within 11-23 St Pancras Way that would have around 10% VSC in absolute terms. This 10% VSC level represents a reasonable basis on which to set an alternative baseline position for acceptable levels of daylight with the proposed development in place. When comparing the alternative baseline position with the proposed development in place, there are only 12 main windows which have VSC levels below 10% indicating that, in our opinion, the vast majority of windows will retain reasonable levels of daylight.

In sunlight terms, the BRE Guidelines makes clear that sunlight is of primary importance to main living rooms and that only windows that face within 90 degrees of due south require analysis. All of the 12 LKDs that have south facing windows meet the BRE Guidelines for sunlight with the proposed development in place.

Overall therefore, in the proposed situation all main living rooms meet the BRE Guidelines for sunlight and when comparing the alternative baseline position the vast majority (97%) will, in our opinion, remain reasonably well daylit.

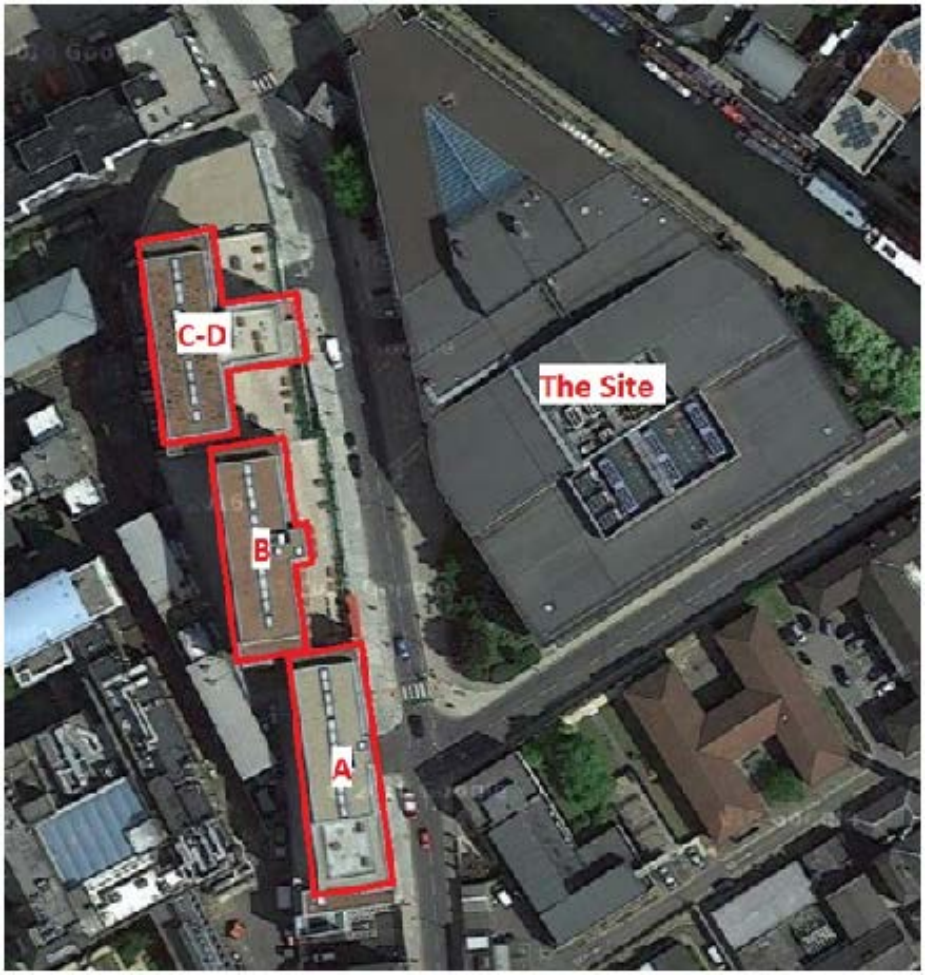

Fig.1: 11-13 St Pancras Way

Photo 2: 15-23 St Pancras Way

16 St Pancras Way

This property can be seen below in Photo 3 and is a residential property located to the north of the site. There are a number of windows to the rear of this property on its southern façade which face towards the site. We have obtained plans for this property from the local authority planning records, which have been incorporated into our model.

Photo 3: 16 St Pancras Way

In terms of daylight, our analysis shows that out of the 18 windows serving habitable rooms which overlook the development site, thirteen retain at least 80% of their existing VSC while the remaining five windows will only experience small reductions in VSC beyond this. There are two kitchen/dining rooms on the second and third floors, and one bedroom on the second floor which experience reductions in VSC between 21% and 27%; these rooms therefore all meet in terms of VSC when the alternative baseline of 33% VSC reduction (as set out in Section 3.3 above) is used.

In sunlight terms, there are three kitchen/dining rooms (KD) which have windows that face within 90° of due south meet the BRE Guidelines for annual APSH. The first floor KD meets the BRE Guidelines for sunlight. The second floor KD has two windows, one of which retains 2% for winter and the other 0%, below the 5% recommended for winter APSH. However, as this room retains 41% and 36% annual APSH, significantly above the recommended 25%, overall this KD is, in our opinion, likely to feel well sunlit. The third floor KD has one window which meets the BRE Guidelines for both annual and winter APSH (retaining 51% annual and 5% winter), while the other window retains 43% annual and 1% winter. Overall, this KD is, in our opinion, likely to feel well sunlit.

Overall therefore, the impact of the proposed scheme to this property meets the BRE Guidelines for VSC when the alternative baseline is used. In sunlight terms, all main living spaces (i.e.

kitchen/dinning-rooms) either meet, or are sufficiently close to, the BRE Guidelines and should, in our opinion, be considered acceptable in planning terms. Furthermore, the daylight and sunlight results have generally improved for this property from the previous scheme massing option as analysed in our previous daylight and sunlight report dated 23rd August 2017.

5-12 Reapers Close

These properties are residential, terraced houses located to the northeast of the site, indicated below in *fig.*2, two of which can be seen in Photo 4. We have obtained the layouts for 3 Reapers Close from the local authority planning website, which we have used to model the internal layouts for the other properties that we have analysed in Reapers Close. From external observation these properties appear to have been constructed together in one development from an identical design and it is our opinion that they are likely to share the same internal arrangement.

***Fig*.2: 4-12 Reapers Close**

Photo 4: 7 &8 Reapers Close

These layouts show that, within these 8 houses, the ground floor windows serve a WC, hallway and kitchen and the two first floor windows serve a bathroom and bedroom. The main living room spaces are on the ground floor looking over the gardens to the rear of these properties and will be unaffected by the proposed development. The daylight to these houses is obstructed however by large overhanging eaves and a side return to No. 7 that restricts the availability of daylight to the first floor windows and the ground floor kitchen. In such instances, the BRE Guidelines, in paragraph 2.2.11, permit undertaking a hypothetical analysis where such overhanging obstructions are removed in order isolate the impact of the proposal from other effects.

In daylight terms, with the overhanging obstructions removed and when using the alternative baseline target of a 33% reduction in VSC, fifteen of the sixteen windows serving habitable rooms meet for VSC.

The one room which does not meet is the ground floor kitchen of No.7. The kitchens within these properties are small, with a room area under 10 square meters, and will be too small to be used as a dining space and will likely primarily be used for food preparation. In addition, their working surfaces will have an expectation of artificial lighting for task based work. With the overhanging obstruction removed, there is a reduction in VSC to the window serving the ground floor kitchen at No. 7 of 34%, marginally beyond our baseline target of 33%. No 7 is additionally blinkered by the side return with

No 8. The BRE Guidelines state in paragraph 2.2.12 that, “a larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides”.

Therefore, when comparing the results with the alternative target values, as set out in section 3.3 above, and with the obstructions notionally removed, these properties either meet, or are very close to, the BRE Guidelines in terms of VSC.

In sunlight terms, these properties are considered compliant with the BRE Guidelines in terms of APSH since the main living rooms face away from the proposed development site.

16-22 (even) Crofters Way

These properties are residential terraced houses; there location is shown below in *fig*.3. We do not have information on the internal arrangements of these properties, and thus they have been modelled with assumed room layouts as detailed in section 4 above.

In daylight terms, all windows meet for VSC and daylight distribution when the 33% alternative target reduction as set out in Section 3.3 is applied. As such, all these properties will, in our opinion, likely retain acceptable levels of daylight.

In sunlight terms, all the ground floor main living rooms will retain at least 25% Annual APSH and 5% Winter APSH and will therefore meet the BRE Guidelines.

Overall therefore, when using the alternative baseline reduction, these properties meet the BRE Guidelines for daylight and sunlight and as such should, in our opinion, be considered acceptable in planning terms.

***Fig.*3: 16-22 (even) Crofters Way**

101 Camley Street

101 Camley Street can be seen below in *fig.*4. It is a site located to the southeast of the St Pancras Way site. We have obtained internal layouts for the consented mixed-use, 6-13 storey scheme (PA: 2014/4385/P) on this site and these have been incorporated into our analysis. We have considered the impact of the proposed scheme massing on the daylight and sunlight to the residential rooms within this consent.

In daylight terms, all windows and rooms serving habitable rooms within this property will meet the BRE Guidelines for daylight with the proposal in place and as such, should be considered acceptable in planning terms.

In sunlight terms, there are 2 living rooms, R2 on the first and second floors, which experience reductions in total annual probable sunlight hours marginally greater than the 20% recommended in the BRE Guidelines; they experience reductions of 24%. The retained percentage of total sunlight hours are nonetheless arguably still good for an urban location such as this and the level of winter sunlight hours retained by these windows is above the minimum recommendations of the BRE Guidelines. This indicates that these living rooms will be reasonably well-served in terms of sunlight and should, in our opinion, be considered acceptable in planning terms.

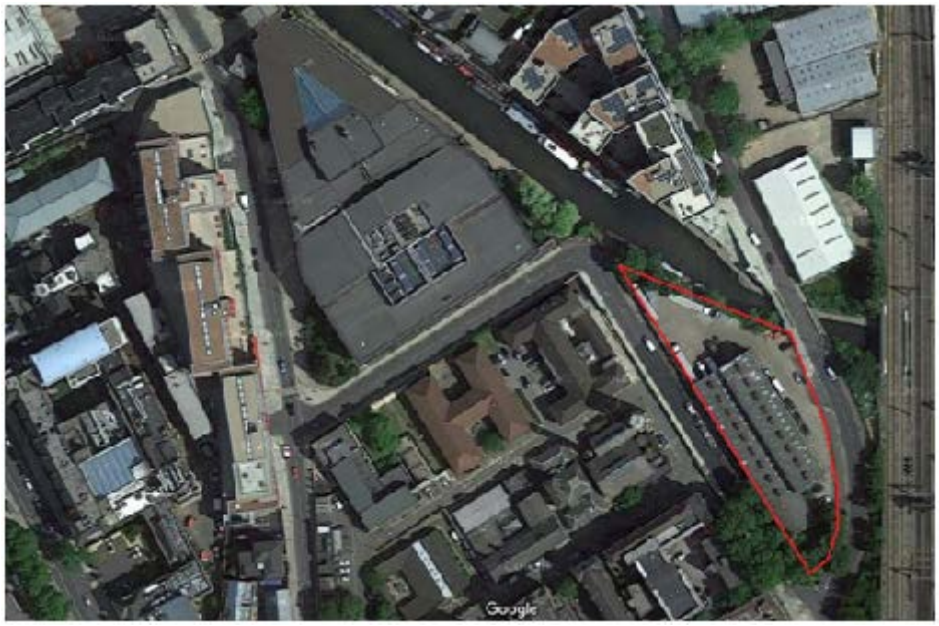

***Fig.*4: 101 Camley Street**

Overall therefore, our analysis shows that the impact of the proposed development on the daylight and sunlight to 101 Camley Street would either meet or come sufficiently close to the BRE Guidelines as to be, in our opinion, acceptable in planning terms.

103 Camley Street

This property is located to the east of the site and can be seen below in *fig*.5. It is a recently constructed mixed use development, comprised of residential flats, student accommodation, and office and retail space (PA: 2011/5695/P). Daylight and sunlight to the habitable residential spaces only have been analysed as recommended within the BRE Guidelines. We have obtained the plans for this development from the local planning portal and these have been incorporated into our analysis.

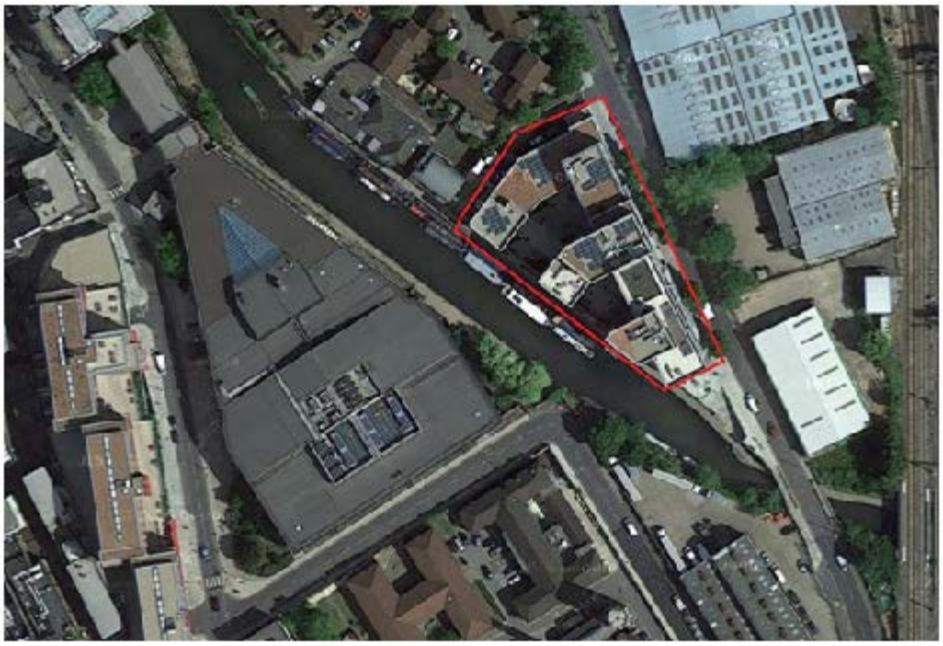

***Fig.*5: 103 Camley Street**

It should be noted that we have analysed the rooms in 103 Camley Street up to the fourth floor as there is only one room on the fourth floor which loses more than 20% of its existing daylight distribution level. The rooms on higher floors would be expected to have better access to daylight than those on the lower floors and on the basis of the analysis undertaken have been assumed to meet the BRE Guidelines for daylight.

In daylight terms, 100 out of 125 windows serving habitable rooms meet for VSC when the alternative baseline reduction is applied. 86 out of 89 habitable rooms meet for daylight distribution when the alternative baseline reduction is applied, indicating that, in our opinion, the vast majority of rooms in this property will remain well daylit with the proposal in place when considering the urban context.

The three remaining rooms, R5 on the second, third, and fourth floors, are bedrooms that have windows obstructed by inset balconies. The windows serving these rooms lose up to 43% of their existing VSC and 50% of their existing daylight distribution. In such instances, the BRE Guidelines suggest (see paragraph 2.2.11) that an additional analysis be carried out to isolate the impact of the proposed by notionally removing the overhanging obstructions. Considering the room in this location on the first floor, which is not set back and does not have an overhanging balcony obstructing it, retains 95% of its existing daylight distribution, this shows that were it not for the set back nature and overhanging balconies then the reduction in daylight due to the proposed development would, in our opinion, likely meet the BRE Guidelines for daylight distribution.

Overall therefore in daylight terms, when the obstructions caused by the design of this building are notionally removed to isolate the impact of the scheme, all rooms will either meet, or be close to, the BRE Guidelines for daylight distribution. This indicates that they will remain well lit with the proposal in place and should be considered acceptable in planning terms.

In terms of sunlight, the BRE Guidelines state in paragraph 3.2.3 that sunlight is primarily a consideration for main living spaces (i.e. living rooms and/or L/K/Ds). The living rooms in this property are generally all served by multiple (often up to four) windows. Our analysis shows that, at least one window for 16 out of the 18 living rooms within this property, meet the BRE Guidelines for sunlight.

The two remaining rooms are R5 on the ground floor and R9 on the second floor. Room R9 on the second floor retains 79% of its existing annual sunlight hours which may be considered sufficiently close to the recommended 80% in the BRE Guidelines as to be, in our opinion, acceptable in planning terms. Room 5 on the ground floor is served by three windows, one of which is north facing. The two remaining windows achieve 6% and 3% for annual sunlight hours and 0% and 1% winter sunlight hours.

Jubilee Waterside Centre

The Jubilee Waterside Centre is located to the northeast of the site and can be seen below in *fig*.6. We understand that it is currently home to the Abacus Belsize Primary School.

***Fig*.6: Jubilee Waterside Centre**

We have obtained plans for the building from the local authority planning website which show that the rooms with windows facing the site are predominantly secondary office space and WCs, with almost all the classrooms being located on the opposite side of the building facing away from the site and thus remaining unaffected by the proposed scheme massing. The one classroom with windows facing the site, R1 below ground, retains 99% of its existing daylight distribution, indicating that, with the proposal in place, it will remain very well daylit. Since all the teaching spaces within this property either retain good levels of daylight with the proposal in place, or face away from the development site, this property should be, in our opinion, acceptable in planning terms. The remaining rooms facing the site are either WCs or office space that will have an expectation for good artificial lighting, and which still retain acceptable levels of VSC and daylight distribution for their room use.

The classroom R1 has one main window, W1, which meets the BRE Guidelines for sunlight.

Overall therefore, this property should, in our opinion, be considered acceptable in daylight and sunlight terms with the proposed development in place.

St Pancras Hospital

St Pancras Hospital, seen below in Photo 5, is located immediately to the south of the site. The recommendations within the BRE Guidelines are primarily for residential buildings where there is a greater expectation of natural light and commonly a lesser dependence on artificial lighting, whereas non-residential properties, including hospitals, have a greater reliance on artificial lighting, and therefore we believe that it would be justified to apply the BRE Guidelines' criteria more flexibly in this instance. We have considered below those areas that have the potential to contain ward space where patients could be located for longer than a day visit or short term admission.

We have also taken into consideration Camden and Islington NHS' comments in regards to the planning application 2017/5497/P.

North Wing

We have been able to obtain plans for the north wing from the local authority planning website, which have been incorporated into our analysis. We understand that the rooms facing the site are a mixture of patient rooms and office space.

In daylight terms, the rooms shown as patient areas on the plans obtained are R1 and R2 on ground floor and R1 and R5 on first floor. These rooms all retain at least 92% of their existing daylight distribution and in absolute terms all achieve at least 80% daylight distribution. This indicates that they will remain very well daylit with the proposal in place and should, in our opinion, be considered acceptable in planning terms.

While Camden and Islington NHS have commented that some rooms do not meet for daylight distribution, based on the layouts obtained these rooms are not ward space and there is therefore less expectation of natural light and a greater use of artificial lighting within these rooms. It is also worth noting that the results to the north wing have improved from the previous iteration of this report.

In sunlight terms these rooms will all meet the BRE Guidelines.

New Ward, Ash House

In daylight terms, the main patient areas within this building are likely located in the main long sections of the building with the middle cross section containing ancillary space such as bathrooms and corridors. All rooms within these main sections (rooms R1 and R4 on the ground and first floors) retain at least 87% of their existing daylight distribution indicating that they will remain well daylit with the proposal in place.

Again, Camden and Islington NHS have commented that some rooms do not meet for daylight distribution but on the assumption that the rooms used as ward space are in the main long sections of the building then these rooms will meet for daylight distribution.

There is little or no change in terms of sunlight to any of the windows facing within 90° due south, which remain compliant with the BRE Guidelines.

Bloomsbury Day Hospital

This block is a day hospital and would therefore not include ward space. The office and examination rooms within the day hospital will have an expectation of good internal artificial lighting and are considered sufficiently well day lit and sunlit for their intended use. Despite this, we have analysed this property for daylight and sunlight.

Overall in daylight terms, the results indicate that there would be some reductions in daylight beyond the recommendations of the BRE Guidelines in VSC terms but all rooms retain between 87% and 99% of their existing daylight distribution indicating that they will remain well daylit with the proposal in place and should therefore, in our opinion, be considered acceptable in planning terms.

In sunlight terms, all south facing windows meet the BRE Guidelines for sunlight.

Photo 5: St Pancras Hospital

Canal Boats

We have, in response to the Canal and River Trust's letter dated 29th November 2017 and the Regents Canal Conservation Area Advisory Committee's response to the planning application 2017/5497/P, analysed six canal boats in assumed locations along the Regents Canal mooring locations on both the north and south banks of the canal. It should be noted that the dimensions of the canal boats have been assumed.

While the Canal and River Trust argue that canal boats should be treated in the same manner as residential properties, we would argue that a degree of flexibility should be permitted when analysing them as they are mobile vessels which, according to the Canal and River Trust, only moor in this location for up to 14 days at a time. Furthermore, they usually contain small windows which are not necessarily compatible with retaining good levels of daylight and sunlight. As such, we are not of the opinion that they should be considered within the same parameters as other fixed dwellings around the development site may questionable. Despite this however, we have analysed them for daylight and sunlight.

In daylight terms, the results show that the canal boats all retain between 84% and 98% of their existing daylight distribution indicating that they will likely remain well daylit with the proposal in place. While the levels of VSC for the windows which face the development site are below the recommended levels, the dual aspect nature of most rooms, with the windows facing away from the scheme and so unaffected in VSC terms, means that that the average VSC is likely to remain acceptable. Furthermore, due to the mobile nature of the boats and the fact that they would likely experience very good levels of daylight and sunlight at other times throughout the year they should, in our opinion, be considered acceptable in planning terms.

In sunlight terms, all the canal boats will receive adequate sunlight considering the length of their mooring period, the size of their windows, and the availability of alternative amenity to their residents. Furthermore, as our sunlight amenity analysis in section 9 below shows, the canal meets the BRE Guidelines for sunlight amenity indicating that the canal will be well sunlight with the proposal in place, therefore indicating that the residents of the canal boats will be able to enjoy a good level of sunlight.

8. Internal Daylight and Sunlight Analysis

We have analysed the internal daylight and sunlight for the residential accommodation within the proposed development. The internal daylight and sunlight analysis has been updated on the basis of the layouts received 23rd February 2018.

The analysis has been undertaken in terms of daylight and sunlight according to the methodologies established in the BRE Guidelines. The detailed numerical results of the internal daylight and sunlight analysis can be found in Appendix 3. The layouts used in this analysis can be found on drawings 1661-12-04 to -12-09 in Appendix 1.

The BRE Guidelines make it clear that ADF is the appropriate measure for daylight for new build accommodation such as this, and APSH is the appropriate measure for sunlight. We note that whilst the BRE guidelines recommend that a kitchen should enjoy daylight levels of 2% ADF and a living room 1.5%, where a room is designated as living room/kitchen/dining room (L/K/Ds), we have used the threshold of 1.5% as the benchmark of acceptability as its primary use is as a living room. This is supported by the GLA who used a benchmark of 1.5% ADF for L/K/Ds in their representation hearing report D&P/3067/03-Appendix 1 (18th November 2013), as detailed in section 3.2 above. Furthermore, in each of the deep plan L/K/Ds, the kitchen portions of these rooms are positioned at the rear of the room where these spaces will be well artificially lit to provide adequate light at the working plane to allow for food preparation etc. As such, we have analysed these rooms with the kitchen portions notionally subdivided so as to show the propensity for daylight for the main living space within these rooms.

In daylight terms, 110 of the 180 habitable rooms within the proposed development meet the BRE Guidelines in terms of ADF for their room use. Of the 73 units within the proposed development there are 32 units where all rooms within those units meet the BRE Guidelines in terms of ADF for their room use. There are a further 26 units where either the L/K/D or the majority of bedrooms meet the BRE Guidelines in terms of ADF for their room use. In addition, these units are mostly all served by a balcony which will provide future residents with an alternative amenity space and source of good daylight. Therefore, in our opinion, these units, where either the main living space or majority of bedrooms meet the BRE Guidelines, will likely feel well day-lit overall in particular when considering the additional amenity provided by the balconies serving these units.

We have in addition undertaken VSC facade analysis for the residential area within the proposed development; the results of this analysis can be seen on drawings 1661-14-01 to 1661-14-03, in Appendix 1. This analysis shows that the majority of the residential block within the proposed development has a very high propensity for good levels of daylight (VSC) to the façade of this block.

Even though a small portion of the façade received less than 27% VSC, the BRE Guidelines state that where a façade achieves at least 15% VSC and even where VSC levels are 5%, adequate levels of daylight can be achieved through careful design and use of large windows.

In sunlight terms, the BRE Guidelines makes clear that sunlight is of primary importance to living rooms and that only main windows that face within 90 degrees of due south require analysis. The BRE Guidelines recommend that each living room is served by at least one main window that receives at least 25% annual APSH and 5% winter APSH. There are 40 L/K/Ds or studio apartments that have main windows facing within 90 degrees of due south of which 30 meet the BRE Guidelines for both annual and winter APSH. Of the remaining 10 rooms, 5 meet the BRE Guidelines for winter APSH and all 10 achieve at least 10% annual APSH.

Overall therefore, 58 out of 73 units within the proposed development either have all rooms, the L/K/D, or majority of bedrooms, meeting the BRE Guidelines for internal daylight. Furthermore, the VSC façade analysis demonstrates that the facades of the residential parts of the proposal have a high propensity to receive good daylight overall. In sunlight terms, 30 out of 40 main living rooms that face within 90 degrees of due south meet the BRE Guidelines in terms of both annual and winter APSH.

9. Sunlight Amenity Analysis

We have assessed the level of sunlight to the outdoor amenity spaces within the proposed development and the sunlight available to Regent's Canal adjacent the proposed development. We have also analysed the uppermost roof of 8-14 St Pancras Way in response to the owner's comments during planning over concerns that the photovoltaic panels which they have consent to put on their roof will not receive adequate sunlight. We have obtained drawings from planning reference 2016/3313/P which show the location of the proposed PV panels.

The results of the analysis to the canal and to the uppermost roof of 8-14 St Pancras way can be found on drawings 1661-11-04 and -11-06 and internally to the scheme on drawing 1661-13-02 in Appendix 4.

The BRE Guidelines recommend that an outdoor amenity space receives at least 2 hours of sunlight on March 21st to at least 50% of its area in the proposed situation or retains at least 80% of its former value with the proposal in place.

Area A1 within the proposed development receives at least two hours of sunlight to 100% of its area on March 21st and therefore meets the BRE Guidelines. The amenity area A2 receives at least two hours of sunlight to 48% of its area on March 21st, only slightly below the 50% recommended. Given

the urban context and the flexibility permitted by the BRE Guidelines in such instances, this may, in our opinion, be considered acceptable in planning terms.

Regent's canal to the north east of the proposed development receives at least two hours of sunlight to 82% of its area on March 21st with the proposed development in place. Furthermore, almost all of the canal will receive at least 1 hour of sunlight on March 21st. We have also analysed the canal on June 21st, the results of which can be found on drawings 1661-11-06 in Appendix 4, which shows that with the proposal in place 93% of the canal will receive at least two hours of sunlight. These results have improved from the previous iteration where 80% received two hours of sunlight on March 21st.

The upper most roof of 8-14 St Pancras Way will receive at least two hours of sunlight to 98% of its area on 21st March with the proposal in place. This is well above the recommended 50% as stated in the BRE Guidelines and shows that the roof will retain very good levels of sunlight with the proposal in place.

We note that the Canal and River Trust and Regents Canal Conservation Area Advisory Committee expressed some concerns in regards to the proposal overshadowing the canal and reducing sunlight available to canal boats. As the drawings show, the canal boats will continue to enjoy good levels of sunlight with the proposal in place and as the results show, the canal will retain at least two hours of sunlight to 82% of its area (a 92% retention of its previous level) with the proposal in place, which is substantially more than the recommended level as set out in the BRE Guidelines, this should therefore, in our opinion, be considered very reasonable and acceptable in planning terms.

10. Conclusions and Recommendations

This is a daylight and sunlight analysis of the Transformation of the Ugly Brown Building, 2-6 St Pancras Way, London, NW1 0TB (the Proposed Development) by Reef Estates Limited. This analysis has been carried out based on the planning application scheme drawings received 23rd February 2018.

This daylight and sunlight report provides an assessment of the revised scheme, submitted to the London Borough of Camden in March 2018, and supersedes the original daylight and sunlight report submitted in September 2017. The daylight and sunlight results for the revised scheme have, in most cases, improved from the previous iteration in terms of daylight and sunlight to surrounding properties and have improved in terms of sunlight to amenity spaces around the scheme.

In accordance with the BRE Guidelines, we have analysed the effect of the proposed scheme on the daylight and sunlight to the surrounding properties, the daylight and sunlight available to residential

accommodation within the proposed development, and the sunlight amenity to internal spaces within the proposed development. We have additionally analysed the sunlight available to Regent's Canal adjacent to the proposed development and to the uppermost roof of 8-14 St Pancras Way in response to the owner's comments raised during the planning process. We have also analysed the daylight and sunlight to canal boats in the mooring locations along Regent's Canal.

The BRE Guidelines make it clear in Appendix F that alternative target daylight and sunlight levels may be set. Alternative target values for the student accommodation on St Pancras Way have been based on a 'mirror-image' analysis as recommended in Appendix F of the BRE Guidelines. In relation to the other residential properties, based on our professional experience of applying the BRE Guidelines in an urban location, we consider that an alternative target VSC and Daylight Distribution loss of up to 33% should be applied. This alternative target reduction has been used throughout this report.

Within all surrounding residential and student accommodation the majority of rooms either meet, or are in our opinion sufficiently close to, the BRE Guidelines for daylight and sunlight when the alternative baseline conditions are applied. Therefore, the proposed development should, in our opinion, be considered acceptable in planning terms.

The two amenity spaces within the proposed development receive at least 2 hours of sunlight to 100% and 48% of their areas respectively on March 21st, showing that one meets while the other is, in our opinion, sufficiently close to the BRE Guidelines for sunlight amenity, given the urban context, to be considered acceptable.

Regent's Canal adjacent the proposed development receives at least 2 hours of sunlight to 82% of its area on 21st March and the uppermost roof of 8-14 St Pancras Way will receive at least 2 hours of sunlight to 98% of its area and therefore both continue to meet the BRE Guidelines for an amenity space.

When considering daylight internal to the proposed development, 58 out of 73 units within the proposed development either have all rooms, the L/K/D, or majority of bedrooms, meeting the BRE Guidelines for internal daylight. Furthermore, the VSC façade analysis demonstrates that the facades of the residential parts of the proposal have a high propensity to receive good daylight overall. In sunlight terms, 30 out of 40 main living rooms that face within 90 degrees of due south meet the BRE Guidelines in terms of both annual and winter APSH. Of the remaining 10 rooms, 5 meet the BRE Guidelines for winter APSH and all 10 achieve at least 10% annual APSH.

Overall, the proposed scheme allows for all surrounding properties to retain reasonably good levels of daylight and sunlight for an urban environment such as this; the daylight internally to the proposal represents a reasonable level for a scheme in an urban environment and; good levels of sunlight are achieved to the amenity spaces around the scheme.