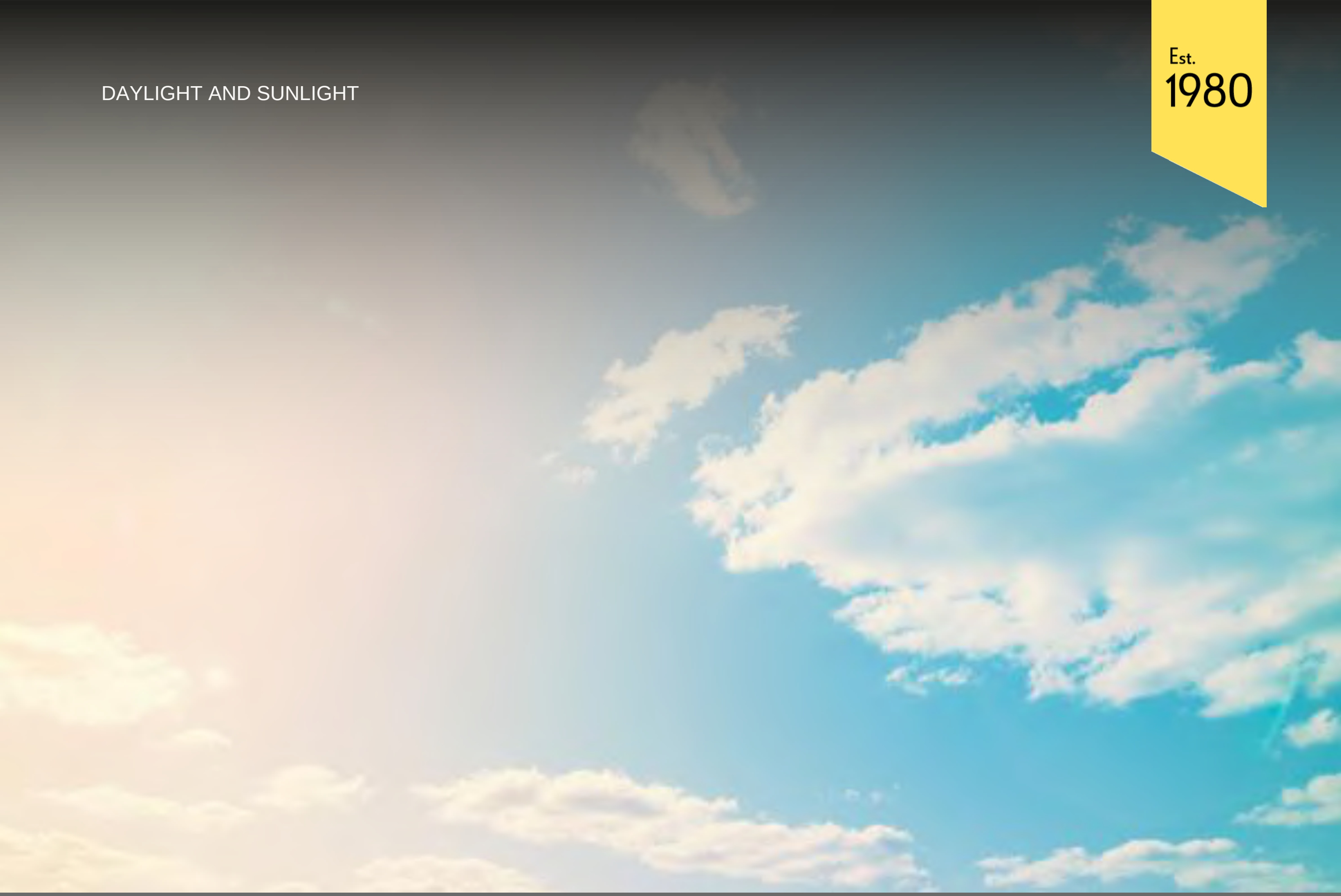

19 - 23 & 39 ELLIOTT SQUARE, LONDON

Daylight and Sunlight Report
Neighbouring Properties

15 July 2022

Delva Patman Redler LLP

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 450 9703

info@delvapatmanredler.co.uk
delvapatmanredler.co.uk

DELVA PATMAN REDLER
Chartered Surveyors

PROJECT INFORMATION

Project: 19 - 23 & 39 Elliot Square, London NW3

Job No: 22292

Client: Burd Hayward Architects

DPR Contact: Stuart Gray BSc
T: 0207 936 3668
E: stuart.gray@delvapatmanredler.co.uk

DPR Office: London

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OFFICES

London

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

Tel: 020 7936 3668

North West

The Quay
12 Princes Quay
Liverpool L3 1BG

Tel: 0151 242 0980

South West

40 Berkeley Square
Bristol
BS8 1HP

Tel: 0117 450 9703

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APPENDICES

1. Introduction

1.1. Delva Patman Redler LLP have been engaged by the Applicant to assess the potential effects of the proposed development at 19 - 23 & 39 Elliott Square ("the Site") on daylight and sunlight to neighbouring properties. This report has been prepared to accompany the Applicant's planning application.

1.2. The Site is shown central to the aerial photograph in Figure 1 below and on the location plan in Appendix 2.

Figure 1 - Aerial photo of the Site and neighbouring buildings (© Google)

1.3. The Site is located within the London Borough of Camden.

1.4. The proposed development is illustrated in the plan and 3D view drawings in Appendix 2. The development comprises the upward extension of each of the four properties to create a new third floor for each.

1.5. Our daylight and sunlight study has been carried out using the assessment methodology recommended in the Building Research Establishment (BRE) Report 209, *'Site Layout Planning for Daylight and Sunlight: A guide to good practice'* (second edition, 2022) ("the BRE guide") and the Professional Guidance Note, *'Daylighting and sunlighting'* (1st edition, 2012), published by the Royal Institution of Chartered Surveyors.

1.6. This report is accompanied by the Appendices listed on the Contents page, including an explanation of the BRE assessment methodology, a glossary of technical terms, drawings, and tabulated results.

2. Planning policy and guidance

National Planning Policy and Guidance

National Planning Policy Framework (July 2021)

2.1. The National Planning Policy Framework (NPPF) sets out the Government's planning policies and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. It places an emphasis on sustainable development and delivery of housing.

2.2. Chapter 11 of the NPPF, entitled *"Making effective use of land"*, promotes the effective use of land in meeting the need for homes and other uses. It gives examples such as developing under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively, and upward extensions to create new homes, where they would be consistent with the prevailing height and form of neighbouring properties and the overall street scene.

2.3. In particular, paragraph 125 of the NPPF states:

> *Area-based character assessments, design guides and codes and masterplans can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:*
>
> *c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).*

BRE Report 209, 'Site Layout Planning for Daylight and Sunlight: A guide to good practice' (2022)

2.4. The leading publication providing national guidance on the provision of daylight and sunlight to new development, and the impacts of development on daylight and sunlight to neighbouring buildings and open spaces, is BRE Report 209, '*Site Layout Planning for Daylight and Sunlight: A guide to good practice*' (third edition, 2022). It is referred to in the development plan documents or supplementary planning documents of most planning authorities. This guide supersedes the 2011 edition, which is now withdraw. However, the main us the same.

2.5. The BRE guide states:

> *(Its) main aim is … to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions.*
>
> *The guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the guide 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. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings… The calculation methods … are entirely flexible in this respect.*

Regional planning policy and guidance

The London Plan (March 2021)

2.6. The London Plan 2021 is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. Its policies should inform decisions on planning applications across the capital.

2.7. The Plan notes that if London is to meet the challenges of the future, all parts of London will need to embrace and manage change. In many places, change will occur incrementally, especially in outer London, where the suburban pattern of development has significant potential for appropriate intensification over time, particularly for additional housing. The areas that will see the most significant change are identified as Opportunity Areas, many of which are already seeing significant development. London's Central Activities Zone (CAZ) and town centre network have a crucial role to play in supporting London's growth.

Policy GG2 *'Making the best use of land'*

2.8. Policy GG2 states:

> *To create successful sustainable mixed-use places that make the best use of land, those involved in planning and development must:*
>
> *B prioritise sites which are well-connected by existing or planned public transport*
>
> *C proactively explore the potential to intensify the use of land to support additional homes and workspaces, promoting higher density development, particularly in locations that are well-connected to jobs, services, infrastructure and amenities by public transport, walking and cycling*
>
> *D applying a design–led approach to determine the optimum development capacity of sites*

Policy D3 *'Optimising site capacity through the design-led approach'*

2.9. Policy D3 states:

> *A All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations. Optimising site capacity means ensuring that development is of the most appropriate form and land use for the site…*
>
> *B Higher density developments should generally be promoted in locations that are well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling…*

Policy D6 *'Housing quality and standards'*

2.10. Policy D6 states:

> *C Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 'Optimising site capacity through the design-led approach' than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.*
>
> *D The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.*

2.11. The supporting text notes that dual aspect dwellings with opening windows on at least two sides have many inherent benefits, including better daylight, a greater chance of direct sunlight for longer periods, natural cross-ventilation, etc. It notes that the design of single aspect dwellings must demonstrate that all habitable rooms and the kitchen are provided with adequate daylight, and that the orientation enhances amenity, including views. Single aspect dwellings that are north facing should be avoided. Having bay windows can optimise daylight and sunlight and allow buildings to be closer together than can otherwise be achieved.

2.12. The Mayor intends to produce a single guidance document on housing design standards which need to be met in order to implement Policy D6 *'Housing quality and standards'*. This will include guidance on daylight and sunlight standards and will build on the guidance set out in the 2016 Housing SPG.

Mayor of London's Housing Supplementary Planning Guidance (March 2016)

2.13. The Mayor of London's *'Housing Supplementary Planning Guidance'* (March 2016) was developed to support previous versions of the London Plan but remains relevant for the implementation of the London Plan 2021.

2.14. Part 1.3 of the SPG deals with optimising housing potential in development opportunities. At paragraphs 1.3.45 and 1.3.46 it states:

> *Policy 7.6Bd requires new development to avoid causing 'unacceptable harm' to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.*
>
> *The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.*

Good Quality Homes for all Londoners - consultation draft (October 2020)

2.15. *'Good Quality Homes for All Londoners'* is consultation draft guidance on housing design and delivery. The consultation ended in January 2021 and the final guidance is awaited. It illustrates the direction of travel for standards and guidance for housing design in London, including daylight and sunlight guidance.

2.16. The consultation draft contains the following draft housing standards:

> *C5.2 Aspect and outlook*
>
> *C5.2.1 All new dwellings should be dual aspect, unless there are exceptional circumstances that justify the inclusion of any single-aspect homes. Single-aspect dwellings that are north facing, contain three or more bedrooms, or are exposed to noise levels with significant adverse effects on health and quality of life, should not be permitted.*
>
> *C5.2.2 Where single-aspect dwellings are proposed (by exception), the design team should demonstrate how good levels of ventilation, daylight, privacy and thermal comfort will be provided to each habitable room and the kitchen.*
>
> *C5.3 Daylight, sunlight and overshadowing*

C5.3.1 New dwellings should achieve a minimum average daylight factor (ADF) target value of 1 per cent for a bedroom and 1.5 per cent for a living room.

C5.3.2 Proposed development should maximise quality and availability of sunlight and natural light in outdoor spaces, particularly in winter. Outdoor spaces should benefit from at least two hours of daylight on 21st March into 50 per cent of space in line with BRE guidance.

C5.3.3 All homes must provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight.

2.17. The supporting text on daylight, sunlight and overshadowing states:

Balancing natural light

Providing good levels of natural light makes for a more pleasant internal environment, improving wellbeing as well as reducing the energy required for artificial lighting. This document prioritises good daylight to the home in determining suitable development capacity…

…Natural light can be restricted in densely developed areas. However, an appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts within proposed new homes, as well as the impact that proposed development would have on surrounding homes and open spaces.

Applying BRE guidelines in relation to neighbouring homes

Decision-makers should recognise that fully optimising housing potential on sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

Guidelines should be applied sensitively to higher density development, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances, the need to optimise housing capacity, and the scope for the character and form of an area to change over time.

The BRE guidelines apply nationwide, and the default numerical targets provided are purely advisory. These are based on a uniform, 25-degree development angle (vertical obstruction angle) typical of a low-rise suburban location. This corresponds to the Vertical Sky Component (VSC) target of 27 per cent cited in the guidelines. Typical development angles in a city or central urban location are considerably higher. In Central London, development angles of 40 degree or 50 degree are common and can, if well planned, deliver successful schemes. A uniform development angle of 40 degree corresponds to a VSC target of 18 per cent, and 50 degree gives a VSC target of 13 per cent. Such daylight levels have been accepted in many desirable central areas for well over a century. Module A: Optimising Site Capacity - A Design-led Approach therefore adopts a 50-degree development angle to determine offset distances.

Even with access to good levels of daylight on the outside of a building, it is possible to have low levels of daylight within a building due to design features such as small windows, recessed windows, poor placement of balconies or deep rooms. Therefore, consideration of the retained target VSC should be the principal consideration. Where this is not met in accordance with BRE guidance, it should not be less than 0.8 times its former value (which protects areas that already have low daylight levels).

Less weight should be given to the room-based measures of daylight such as 'no-sky line' or average daylight factor as these are dependent on the design of the

> *neighbouring property. Except in exceptional circumstances, design features of neighbouring properties (referred to above) should not hamper the development potential of a site.*

Local planning policy

Camden Local Plan 2017

2.18. The Camden Local Plan (adopted 3 July 2017) contains the following policies that are relevant to daylight and sunlight.

Camden Planning Guidance, 'Amenity'

2.19. Camden's Planning Guidance on Amenity (adopted January 2021) contains supplementary planning guidance of relevance to daylight and sunlight. It states:

> *The Council expects applicants to consider the impact of development schemes on daylight and sunlight levels. Where appropriate a daylight and sunlight assessment should submitted which should be follow the guidance in the BRE's 'Site layout planning for daylight and sunlight: A guide to good practice'.*
>
> *Levels of reported daylight and sunlight will be considered flexibly taking into account site-specific circumstances and context.*
>
> *The Council aims to protect the quality of life of occupiers and neighbours through Local Plan policy A1 Managing the Impact of Development, which seeks to ensure that development does not cause unacceptable harm to amenity, including in terms of daylight and sunlight.*
>
> *Major developments and proposals for new dwellings are expected to provide daylight and sunlight reports. These should always include the daylight and sunlight levels to any proposed new residential units. The reports should also include any nearby existing residential properties that may be affected. Although it is normally only residential uses that are assessed, there may also be non-residential uses, existing nearby or proposed as part of the application, that are particularly sensitive to light and so justify a report.*
>
> *To help determine whether a daylight and sunlight report is needed for other types of development, the Council will have regard to several tests, taken from the BRE guidance. These are referred to as the 45-degree test and the 25- degree test.*
>
> *The BRE guidance should form the basis for daylight and sunlight reports. They should be prepared by a specialist surveyor or consultant and assess the following:*
>
> 1. *Levels of daylight and sunlight that occupiers are likely to experience within the proposed development and gardens and open spaces (where relevant); and*
>
> 2. *The extent that the proposed development is likely to cause on levels of daylight and sunlight entering windows of neighbouring properties, gardens and open spaces (where relevant)*
>
> *Daylight and sunlight reports should also demonstrate how the design has taken into consideration the guidance contained in the BRE document on passive solar design; and have optimised solar gain.*
>
> *The Council will expect daylight and sunlight reports to report daylight and sunlight levels using the tools cited in the BRE guidance. The most common tools used are:*
>
> - *Vertical Sky Component (VSC)*
> - *No Sky Line (NSL) also referred to as Daylight Distribution (DD)*
> - *Average Daylight Factor (ADF)*

- *Annual Probable Sunlight Hours (APSH)*

Flexible consideration of daylight and sunlight

The Council notes the intentions of the BRE document is to provide advice to developers and decision makers and therefore it should be regarded as a guide rather than policy.

While we support the aims of the BRE methodology for assessing sunlight and daylight we will consider the outcomes of the assessments flexibly where appropriate, taking into account site specific circumstances and context. For example, to enable new development to respect the existing layout and form in some historic areas, or dense urban environments, it may be necessary to consider exceptions to the recommendations cited in the BRE guidance. Any exceptions will assessed on a case-by-case basis.

Camden Planning Guidance, 'Housing'

2.20. Camden's Planning Guidance on Housing (adopted January 2021) contains supplementary planning guidance of relevance to daylight and sunlight. It states:

Layout

In general, the internal layout should seek to ensure the main living room and other frequently used rooms are on the south side and rooms that require less sunlight (bathrooms, utility rooms) are on the north side. Kitchens are better positioned on the north side to avoid excessive heat gain.

Additionally, it is preferable that permanent partitions are present between eating and sleeping areas; and between kitchens and living rooms. Combined kitchens and living areas can be acceptable where sufficient floor area allows a greater range of activity.

- *Dual aspect – Proposals should achieve good dual aspect [London Housing SPG 2016 Standard 29]. Habitable rooms should also have suitable outlook.*

- *Natural light, Daylight/sunlight - All the habitable rooms must have direct natural light, particularly the main living room. The applicant must ensure that the levels of daylight and sunlight that enter habitable rooms comply with BRE standards and that the report for 'Daylight and Sunlight' is submitted with the proposal [London Housing SPG 2016 Standard 32; CPG for Amenity].*

Amenity

- *Amenity of neighbours – The proposal should not have a significant detrimental impact to neighbouring amenity in terms of neighbouring outlook, privacy, sunlight, daylight, noise or vibration. Additionally, the proposal should not result in any overlooking into neighbouring habitable rooms. [Local Plan Policy A1; CPG for Design and for Amenity].*

3. Acceptability of daylight/sunlight levels and effects

3.1. The assessment of the effects of development on daylight and sunlight amenity is a two-part process[1]: first, as a matter of calculation, whether there would be a material deterioration in conditions by reference to the BRE guidelines; and second, as a matter of judgment, whether that deterioration would be acceptable in the circumstances.

3.2. The first stage can be addressed by applying the BRE assessment methodology and numerical guidelines. The second stage brings into play much wider considerations, such as:

i) Whether the neighbouring building stands unusually close to the site boundary, including the highway, taking more than its fair share of light, such that a greater reduction in light may be unavoidable if one site is not to be prejudiced by how another has been developed. (A 'mirror-image' study can be informative in such cases.)

ii) Whether windows in neighbouring buildings are self-obstructed by overhanging or inset balconies or other projections such as to make relatively larger reductions unavoidable even if there is a modest new obstruction opposite - in effect themselves taking away more than their fair share of light. (A 'without balconies' study can be informative in such cases.)

iii) In historic city centres or areas characterised by modern tall buildings, high density and close proximity, a higher degree of obstruction may be unavoidable if new buildings are to match the height and proportion of existing buildings.

iv) In areas that are designated by planning authorities for substantial growth or providing opportunities for change and sustainable regeneration, the sort of change that would be brought about by the introduction of taller, denser development is to be expected, including reductions in daylight and sunlight levels, closer proximity, loss of outlook, etc.

3.3. Where a higher degree of obstruction may be unavoidable it is appropriate to consider the reasonableness of the retained levels of daylight and sunlight with the proposed development in place.

[1] Rainbird, R (on the application of) v The Council of the London Borough of Tower Hamlets [2018]

4. Assessment methodology and numerical guidelines

4.1. The technical assessments that underpin this daylight and sunlight study have been carried out in accordance with the assessment methodology recommended in the BRE guide.

4.2. The principal assessments and numerical criteria are summarised below. A fuller explanation of the assessment methodology is given at Appendix 1 of this report.

Daylight to neighbouring buildings

4.3. If the head of the new development subtends an angle of more than 25° measured from the centre of the lowest affected window in an existing neighbouring building in a plane perpendicular to the window wall, then a more detailed check is needed to find the loss of skylight.

4.4. The more detailed tests are:

i) vertical sky component (**VSC**) at the centre of each main window, which measures the total amount of skylight available; and

ii) no-sky line (**NSL**) on the working plane inside a room, where room layouts are known, which measures the area that can receive direct skylight and assesses the distribution of daylight around the room.

4.5. Loss of daylight resulting from development will be noticeable if either:

- the VSC at the centre of the window will be reduced to both less than 27% and less than 0.8 times its former value, or
- the area of the working plane in a room that is enclosed by the no-sky line (NSL) and can receive direct skylight will be reduced to less than 0.8 times its former value.

4.6. The VSC test need only be run where room layouts are known, for example from planning or estate agents' records. The author of the BRE Guide, Dr Littlefair, recommends not running the NSL test using estimated layouts because it can give inaccurate findings.[2]

4.7. Here we have provided with layouts for the properties subject to the application and as the properties are essentially the same within the square we have adopted those layouts for relevant neighbouring properties. Notwithstanding that some internal alterations may have occurred within each of the various properties assessed.

4.8. In respect of these numerical guidelines, the BRE guide states:

Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints.

4.9. In respect of the windows and rooms to be assessed, the BRE guide states:

The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms.

4.10. In housing, living rooms, dining rooms and kitchens have a greater requirement for daylight. Bedrooms should also be analysed but are less important. Bathrooms, stairwells and other areas without a requirement for daylight need not be assessed.

4.11. For a bay window, the centre window facing directly outwards can be taken as the main window for the VSC calculation. If there would be a significant loss of light to the main window but the room has

[2] BRE Client Report dated 5 March 2019 for a review at Reardon and Lowder Houses, Wapping on behalf of London Borough of Tower Hamlets (Planning application reference PA/18/03541/A1)

one or more smaller windows, an overall VSC may be derived by weighting each VSC element in accordance with the proportion of the total glazing area represented by its windows.

Sunlight to neighbouring buildings

4.12. In designing new development, care should be taken to safeguard the access to sunlight for existing dwellings and any nearby non-domestic buildings where there is a particular requirement for sunlight.

4.13. Obstruction to sunlight may become an issue if part of the development is situated within 90˚ of due south of a main window wall of an existing building, and in the section drawn perpendicular to this existing window wall, the new development subtends an angle greater than 25˚ to the horizontal measured from the centre of the lowest window to a main living room.

4.14. The amount of sunlight reaching a room is measured by calculating the percentage of annual probable sunlight hours (**APSH**) at the centre its windows.

4.15. If, following development, the APSH will be greater than 25%, including at least 5% of APSH in the winter months between 21 September and 21 March, then the room should still receive enough sunlight.

4.16. Sunlight will be adversely affected if the centre of the window will:

- receive less than 25% APSH or less than 5% APSH during the winter months (21 September to 21 March); and
- less than 0.8 times its former sunlight hours during either period; and
- the reduction in sunlight over the whole year will be greater than 4% APSH.

4.17. All main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90˚of due south. Normally loss of sunlight need not be analysed to kitchens and bedrooms, except for bedrooms that also comprise a living space.

4.18. Our assessment has therefore assessed the loss of sunlight to living rooms

5. Categorisation of magnitudes of impact and significance of effects

5.1. In our summary tables, we have counted the number of impacts inside and outside the BRE guidelines and categorised the latter according to their magnitude of impact. The BRE guide does not include a standard scale of impact, so this study adopts the widely used approach in Table 1 below.

Table 1 – Categorisation of magnitudes of impact on existing neighbouring properties

Impact inside BRE guidelines	Impact outside BRE guidelines		
	0.70-0.79 times former value *(21% to 30% loss)*	0.60-0.69 times former value *(31% to 40% loss)*	<0.60 times former value *(>40% loss)*
Negligible impact	Low impact	Medium impact	High impact

5.2. To understand the significance of effect on a building, it is necessary to consider both the number and magnitude of impacts and a range of other factors. Appendix H of the BRE guide, which is intended for use in Environmental Impact Assessments, provides the following advice on ascribing significance to effects:

> *Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space.*
>
> *The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.*
>
> *Where the loss of skylight or sunlight fully meets the guidelines, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.*
>
> *Where the loss of skylight or sunlight does not meet the guidelines, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:*
>
> - *only a small number of windows or limited area of open space are affected;*
> - *the loss of light is only marginally outside the guidelines;*
> - *an affected room has other sources of skylight or sunlight;*
> - *the affected building or open space only has a low level requirement for skylight or sunlight; and*
> - *there are particular reasons why an alternative, less stringent, guideline should be applied.*
>
> *Factors tending towards a major adverse impact include:*
>
> - *a large number of windows or large area of open space are affected;*
> - *the loss of light is substantially outside the guidelines;*
> - *all the windows in a particular property are affected; and*
> - *the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground.*

5.3. The sensitivities of the various receptors are set out in Table 2 below.

Table 2 *– Receptor Sensitivity Descriptors*

Sensitivity	Receptors for daylight assessment	Receptors for sunlight assessment
High	Main living rooms and kitchens	Main living rooms, back gardens, and shared or public amenity spaces
Medium	Bedrooms	-
Low	-	Kitchens and bedrooms
Negligible	Circulation spaces, bathrooms and other non-habitable rooms	Circulation spaces, bathrooms and other non-habitable rooms

6. Scope of the assessment of neighbouring properties

6.1. The principal recommendations in the BRE guide relate to residential buildings. Its guidelines on daylight are intended for use for rooms in neighbouring dwellings where daylight is required, including living rooms, kitchens and bedrooms (BRE paragraph 2.2.2). Its guidelines on sunlight apply to all main living rooms of neighbouring dwellings and conservatories that have a window facing within 90˚of due south (BRE paragraph 3.2.3).

6.2. Consequently, our assessment has been scoped to include nearby residential accommodation, as is common practice for studies for planning applications. The properties assessed are set out in Section 8, 'Baseline conditions for neighbouring properties'.

6.3. We identified properties with residential use from a site visit and online research, including the Valuation Office Agency council tax list, local authority planning records, and estate agency websites.

6.4. We have run the BRE daylight and sunlight tests in the existing baseline and proposed development scenarios. This establishes the levels that would be retained in the proposed development condition and the degree to which they could change from the existing baseline.

7. Information used in our technical study

7.1. We have undertaken our technical study using a 3D computer model built in AutoCAD and specialist analysis software, which runs the assessments recommended in the BRE guide.

7.2. We compiled our 3D computer model from the following information:

7.2.1. 3D computer model of the existing buildings on the Site and the contextual massing produced from photogrammetry (aerial photography) supplied by ZMapping Ltd, subsequently enhanced by Burd Haward Architects with the more detailed information of the adjacent buildings within the immediate vicinity of the square

7.2.2. Proposed development: 3D model supplied by Burd Hayward Architects in June 2022 (file name: 2217_3D model V2020.skp)

7.3. Our 3D computer model is illustrated in our spot-height drawings at Appendix 2.

7.4. To aid accuracy of the assessment and interpretation of the results, we have adopted the layout information provided within the Architects 3D model. This is based on information of the layouts adopted from the subject properties for the application and as the neighbouring properties are essentially of the same design and layout and so these are considered reasonable assumptions notwithstanding that some of the neighbours may have undergone some minor internal reconfigurations themselves.

Limitations and assumptions

7.5. In compiling our 3D computer model for our technical study, we have sought to be as accurate as reasonably possible within the scope of our instruction. We have relied upon the information noted above.

7.6. Whilst we have used plans for neighbouring buildings where available, we have typically made reasonable assumptions as to their internal floor levels and wall thicknesses adopted from the architects 3D modelling.

7.7. We have used proven and trusted specialist computer software (Waldram Tools for AutoCAD®) to run the calculations recommended in the BRE guide.

7.8. To the best of our knowledge, the information and advice contained in this report is accurate at the date of issue, based on the information provided to or procured by us prior to its production.

8. Baseline conditions for neighbouring properties

Daylight and sunlight to neighbouring properties

8.1. We assessed the daylight and sunlight levels to the neighbouring properties in the existing baseline condition shown in our spot-height drawing no. EX1_001 at Appendix 2. The relevant windows are shown on the window maps at Appendix 2.

8.2. The neighbouring buildings/properties that were assessed are listed in Table 3 below. Their daylight and sunlight levels in the existing baseline condition are shown in the results tables at Appendix 3 in the columns headed "Exis." (being an abbreviation of "Existing").

8.3. Table 3 below summarises the number of windows and rooms assessed in each neighbouring building/property, and the number meeting the BRE recommended targets in the existing baseline condition. The recommended targets are: 27% VSC; 80% NSL; 25% APSH annually; and 5% APSH in winter.

Table 3 *- Summary of adherence to BRE daylight and sunlight targets in existing baseline condition*

Property address	VSC		NSL		ADF		APSH (room)			
	No. of windows tested	No. meeting VSC guideline	No. of rooms tested	No. meeting NSL guideline	No. of rooms tested	No. meeting ADF guideline	No. of rooms tested	No. meeting APSH & WPSH	No. meeting APSH guideline	No. meeting WPSH guideline
20 Lower Merton Rise	5	4	3	3	3	0	-	0	0	0
22 Lower Merton Rise	5	5	3	3	3	0	-	0	0	0
24 Lower Merton Rise	5	4	3	3	3	0	-	0	0	0
26 Lower Merton Rise	6	6	3	3	3	0	1	1	1	1
28 Lower Merton Rise	5	5	3	3	3	0	-	0	0	0
4 Elliott Square	5	5	3	3	3	0	3	2	2	2
5 Elliott Square	5	5	3	3	3	0	3	2	2	2
6 Elliott Square	5	5	3	3	3	0	3	2	2	2
7 Elliott Square	5	5	3	3	3	0	3	2	2	2
8 Elliott Square	5	5	3	3	3	0	3	2	2	2
9 Elliott Square	5	5	3	3	3	0	3	2	2	2
10 Elliott Square	5	5	3	3	3	0	3	2	2	2
11 Elliott Square	5	4	3	2	3	0	3	2	2	2
12 Elliott Square	5	4	3	3	3	0	3	2	2	2
13 Elliott Square	5	5	3	3	3	0	3	2	2	2
14 Elliott Square	5	5	3	3	3	0	3	2	2	2
14 Elsworthy Rise	5	4	3	3	3	0	3	3	3	3
16 Elsworthy Rise	5	4	3	3	3	0	3	3	3	3
16 Elliott Square	5	4	3	3	3	0	3	2	2	2
17 Elliott Square	4	4	2	2	2	0	2	2	2	2
18 Elliott Square	4	4	2	2	2	0	2	2	2	2
19 Elliott Square	5	4	3	3	3	0	3	2	2	2
20 Elliott Square	4	4	2	2	2	0	2	2	2	2
21 Elliott Square	4	4	2	2	2	0	2	2	2	2
22 Elliott Square	5	4	3	3	3	0	3	2	2	2
23 Elliott Square	5	4	3	3	3	0	3	2	2	2
24 Elliott Square	5	4	3	3	3	0	-	0	0	0
25 Elliott Square	5	4	3	3	3	0	-	0	0	0
26 Elliott Square	5	4	3	3	3	0	-	0	0	0
27 Elliott Square	5	4	3	2	3	0	-	0	0	0
28 Elliott Square	5	4	3	3	3	0	-	0	0	0
33 Elliott Square	4	4	2	2	2	0	-	0	0	0
34 Elliott Square	4	4	2	2	2	0	-	0	0	0
35 Elliott Square	4	4	2	2	2	0	-	0	0	0
36 Elliott Square	4	4	2	2	2	0	-	0	0	0
37 Elliott Square	5	5	3	3	3	0	-	0	0	0
38 Elliott Square	5	4	3	3	3	0	-	0	0	0
39 Elliott Square	5	4	3	3	3	0	-	0	0	0
Totals:	**183**	**166**	**106**	**104**	**106**	**0**	**60**	**45**	**45**	**45**
		91%		98%		0%		75%	75%	75%

9. Effects of the proposed development on neighbouring properties

9.1. The proposed development scenario is illustrated on spot-height drawing no. PRO_002 at Appendix 2.

9.2. Daylight and sunlight levels in the proposed development scenario are shown in the results tables at Appendix 3 in the columns headed “Prop.” (an abbreviation of “Proposed”). The difference between the existing and proposed levels is shown in the columns headed “Loss”. The relative impact is shown in the columns headed “Pro./Ex.” (an abbreviation of “Proposed/Existing”) and is expressed as a ratio or factor of former value (e.g. 0.80 times former value). Any potential impacts outside the BRE guidelines are identified in red font.

Daylight and Sunlight to neighbouring properties

VSC, NSL & APSH

9.3. The results of the VSC and NSL analyses of the neighbouring buildings/properties are tabulated in Appendix 3 and summarised in Table 4.

***Table 4** – Summary of VSC impacts to neighbouring windows*

Property address	No. of windows tested	No. of rooms tested	C (window	SL (rooms	No. of rooms tested	No. inside **APSH annual & winter** guidelines
			No. windows inside guidelines	No. rooms inside guidelines		
20 Lower Merton Rise	5	3	5	3	-	-
22 Lower Merton Rise	5	3	5	3	-	-
24 Lower Merton Rise	5	3	5	3	-	-
26 Lower Merton Rise	6	3	6	3	1	1
28 Lower Merton Rise	5	3	5	3	-	-
4 Elliott Square	5	3	5	3	3	3
5 Elliott Square	5	3	5	3	3	3
6 Elliott Square	5	3	5	3	3	3
7 Elliott Square	5	3	5	3	3	3
8 Elliott Square	5	3	5	3	3	3
9 Elliott Square	5	3	5	3	3	3
10 Elliott Square	5	3	5	3	3	3
11 Elliott Square	5	3	5	3	3	3
12 Elliott Square	5	3	5	3	3	3
13 Elliott Square	5	3	5	3	3	3
14 Elliott Square	5	3	5	3	3	3
14 Elsworthy Rise	5	3	5	3	3	3
16 Elsworthy Rise	5	3	5	3	3	3
16 Elliott Square	5	3	5	3	3	3
17 Elliott Square	4	2	4	2	2	2
18 Elliott Square	4	2	4	2	2	2
19 Elliott Square	5	3	5	3	3	3
20 Elliott Square	4	2	4	2	2	2
21 Elliott Square	4	2	4	2	2	2
22 Elliott Square	5	3	5	3	3	3
23 Elliott Square	5	3	5	3	3	3
24 Elliott Square	5	3	5	3	-	-
25 Elliott Square	5	3	5	3	-	-
26 Elliott Square	5	3	5	3	-	-
27 Elliott Square	5	3	5	3	-	-
28 Elliott Square	5	3	5	3	-	-
33 Elliott Square	4	2	4	2	-	-
34 Elliott Square	4	2	4	2	-	-
35 Elliott Square	4	2	4	2	-	-
36 Elliott Square	4	2	4	2	-	-
37 Elliott Square	5	3	5	3	-	-
38 Elliott Square	5	3	5	3	-	-
39 Elliott Square	5	3	5	3	-	-
Totals:	**183**	**106**	**183**	**106**	**60**	**60**
			100%	100%		100%

9.4. Of the 183 windows and 106 habitable rooms assessed in the 38 neighbouring buildings/properties, 183 (100%) windows would satisfy the VSC guidelines, and 106 (100%) rooms would satisfy with the NSL guidelines for daylight and 60 (100%) would satisfy the sunlight guidelines for both annual and winter criteria.

10. Conclusion

10.1. The Site is in an urban location in the London Borough of Camden.

10.2. We assessed the potential effects of the proposed development on daylight and sunlight amenity to all relevant surrounding residential properties.

10.3. We ran our assessments using methodologies recommended in the BRE guide.

10.4. The advice contained in the BRE guide is not mandatory and its numerical guidelines should be interpreted flexibly.

10.5. The daylight and sunlight assessments covering VSC, NSL as well as annual and winter sunlight criteria each illustrate that all neighbouring properties will fully comply with the 2022 BRE Guidelines covering neighbouring daylight and sunlight amenity.

10.6. In conclusion, it is submitted that the layout of the collective proposed development is consistent with the Council's local planning policy on daylight and sunlight.

Delva Patman Redler LLP
Chartered Surveyors

Appendix 1

Assessment methodology and glossary

1. This appendix explains the daylight and sunlight assessment methodology recommended in BRE Report 209, *'Site Layout Planning for Daylight and Sunlight: A guide to good practice'* (2022) and provides a glossary of the terminology used.

Assessment methodology

Daylight and sunlight to neighbouring buildings

<u>Daylight to neighbouring buildings</u>

2. The BRE guide states:

> *In designing a new development or extension to a building, it is important to safeguard the daylight to nearby buildings.*
>
> *The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices.*

3. To quantify the impact of development on daylight to a building, the BRE guide recommends two tests:
   a) calculating the vertical sky component (**VSC**) at the centre of each main window on the outside plane of the window wall, to measure the total amount of skylight available to the window; and
   b) plotting the no-sky line (**NSL**) on the working plane inside a room, where layouts are known, and measuring the area that can receive direct skylight, to assess the distribution of daylight around the room.

4. The VSC measures the skylight available at the window. The guide states:

> *Any reduction in the total amount of skylight can be calculated by finding the VSC at the centre of each main window … For a bay window, the centre window facing directly outwards can be taken as the main window. If a room has two or more windows of equal size, the mean of their VSCs may be taken. The reference point is in the external plane of the window wall. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.*

5. The NSL test is described thus:

> *Where room layouts are known, the impact on the daylighting distribution in the existing building can be found by plotting the 'no sky line' in each of the main rooms. For houses this would include living rooms, dining rooms and kitchens; bedrooms should also be analysed although they are less important. In non-domestic buildings each main room where daylight is expected should be investigated. The no sky line divides points on the working plane which can and cannot see the sky.*

6. If, following development, the VSC to a neighbouring window will be greater than 27% then enough skylight should still be reaching the window. Any reduction below this level should be kept to a minimum. If the VSC will be both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear more gloomy and electric lighting will be needed more of the time.

7. If, following development, the no-sky line moves so that the area of the existing room that can receive direct skylight will be reduced to less than 0.8 times its former value, this will be noticeable to the

occupants and more of the room will appear poorly lit. This is also true if the no-sky line encroaches on key areas like kitchen sinks and worktops.

Sunlight to neighbouring buildings

8. The BRE guide states:

> *To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90˚of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.*
>
> *A point at the centre of the window on the outside face of the window wall may be taken [as the calculation point].*

9. To quantify the available sunlight, the BRE guide advises measuring the percentage of annual probable sunlight hours (**APSH**), which is defined as follows:

> *'probable sunlight hours' means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question.*

10. The assessment calculates the percentage of APSH over the whole year (annual sunlight) and between 21 September and 21 March (winter sunlight).

11. If, following development, the APSH to a neighbouring window will be greater than 25%, including at least 5% of APSH in the winter months between 21 September and 21 March, then the room should still receive enough sunlight. Any reduction in sunlight access below this level should be kept to a minimum.

12. If the available sunlight hours will be both less than the above amounts and less than 0.8 times their former value, either over the whole year or just in the winter months, then the occupants of the building will notice the loss of sunlight; if the overall annual loss is greater than 4% of APSH, the room may appear colder and less cheerful and pleasant.

Glossary of terms

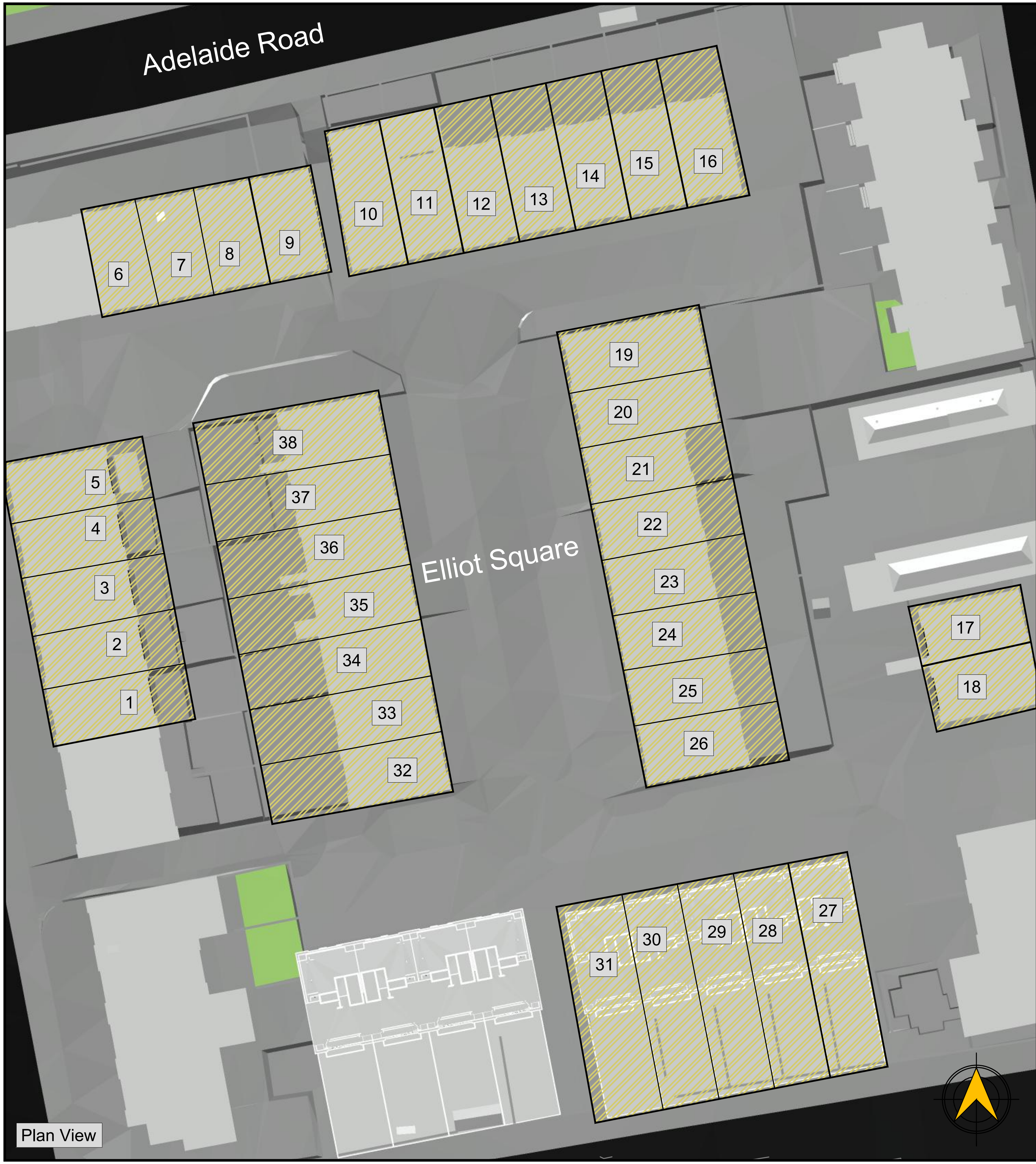
13. The daylight and sunlight terminology used in our report is explained below.

Term	Meaning
Annual probable sunlight hours (**APSH**)	The long-term average of the total number of hours during a year in which direct sunlight is expected to shine on the unobstructed ground, allowing for average levels of cloudiness for the location in question.
Daylight	Combined skylight and sunlight.
No-sky line (**NSL**)	The outline on the working plane of the area from which no sky can be seen. It divides points on the working plane which can and cannot see the sky.
Obstruction angle	The angular altitude of the top of an obstruction above the horizontal, measured from a reference point in a vertical plane in a section perpendicular to the vertical plane.
Sky factor	Ratio of the parts of illuminance at a point on a given plane that would be received directly through unglazed openings from a sky of uniform luminance, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The sky factor does not include reflected light, either from outdoor or indoor surfaces.
Sun on ground (**SOG**)	The measure of sunlight potential to gardens and amenity spaces. It is measured in hours on the spring equinox (21 March) at a point on the ground accounting for the latitude of the site location. Sunlight below an altitude of 10° is usually discounted as it is likely to be prevented from reaching the ground by fences, plants or other low-level obstructions.
Vertical sky component (**VSC**)	The amount of daylight falling on a vertical wall or window. It is the ratio of that part of illuminance, at a point on a given vertical plane (e.g. window), that is received directly from a CIE standard overcast sky, to simultaneous illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The VSC does not include reflected light, either from the ground or from other buildings. The ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.
Working plane	Horizontal, vertical or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 0.85 m above the floor in housing.

Appendix 2

Location drawings

Site location plan
Spot-height drawings
Window maps



NEIGHBOURING PROPERTIES CONSIDERED FOR ANALYSIS

1: 20 Lower Merton Rise:
Dwg No: 22292_LOC_001

2: 22 Lower Merton Rise:
Dwg No: 22292_LOC_001

3: 24 Lower Merton Rise:
Dwg No: 22292_LOC_001

4: 26 Lower Merton Rise:
Dwg No: 22292_LOC_001

5: 28 Lower Merton Rise:
Dwg No: 22292_LOC_001

6: 4 Elliott Square:
Dwg No: 22292_LOC_002

7: 5 Elliott Square:
Dwg No: 22292_LOC_002

8: 6 Elliott Square:
Dwg No: 22292_LOC_002

9: 7 Elliott Square:
Dwg No: 22292_LOC_002

10: 8 Elliott Square:
Dwg No: 22292_LOC_002

11: 9 Elliott Square:
Dwg No: 22292_LOC_002

12: 10 Elliott Square:
Dwg No: 22292_LOC_003

13: 11 Elliott Square:
Dwg No: 22292_LOC_003

14: 12 Elliott Square:
Dwg No: 22292_LOC_003

15: 13 Elliott Square:
Dwg No: 22292_LOC_003

16: 14 Elliott Square:
Dwg No: 22292_LOC_003

17: 14 Elsworthy Rise:
Dwg No: 22292_LOC_004

18: 16 Elsworthy Rise:
Dwg No: 22292_LOC_004

19: 16 Elliott Square:
Dwg No: 22292_LOC_005

20: 17 Elliott Square:
Dwg No: 22292_LOC_005

21: 18 Elliott Square:
Dwg No: 22292_LOC_005

22: 19 Elliott Square:
Dwg No: 22292_LOC_005

23: 20 Elliott Square:
Dwg No: 22292_LOC_005

24: 21 Elliott Square:
Dwg No: 22292_LOC_005

25: 22 Elliott Square:
Dwg No: 22292_LOC_005

26: 23 Elliott Square:
Dwg No: 22292_LOC_005

27: 24 Elliott Square:
Dwg No: 22292_LOC_006

28: 25 Elliott Square:
Dwg No: 22292_LOC_006

29: 26 Elliott Square:
Dwg No: 22292_LOC_006

30 27 Elliott Square:
Dwg No: 22292_LOC_006

31: 28 Elliott Square:
Dwg No: 22292_LOC_006

32: 33 Elliott Square:
Dwg No: 22292_LOC_007

33: 34 Elliott Square:
Dwg No: 22292_LOC_007

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Dwg No: 22292_LOC_007

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Dwg No: 22292_LOC_007

36: 37 Elliott Square:
Dwg No: 22292_LOC_007

37: 38 Elliott Square:
Dwg No: 22292_LOC_007

38: 39 Elliott Square:
Dwg No: 22292_LOC_007

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighbouring Property

SOURCE DATA:
Drawings Used:

Existing & Surrounding Buildings:

- ZMapping 3D Model.

- Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:
Relevant neighbouring properties considered for analysis

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

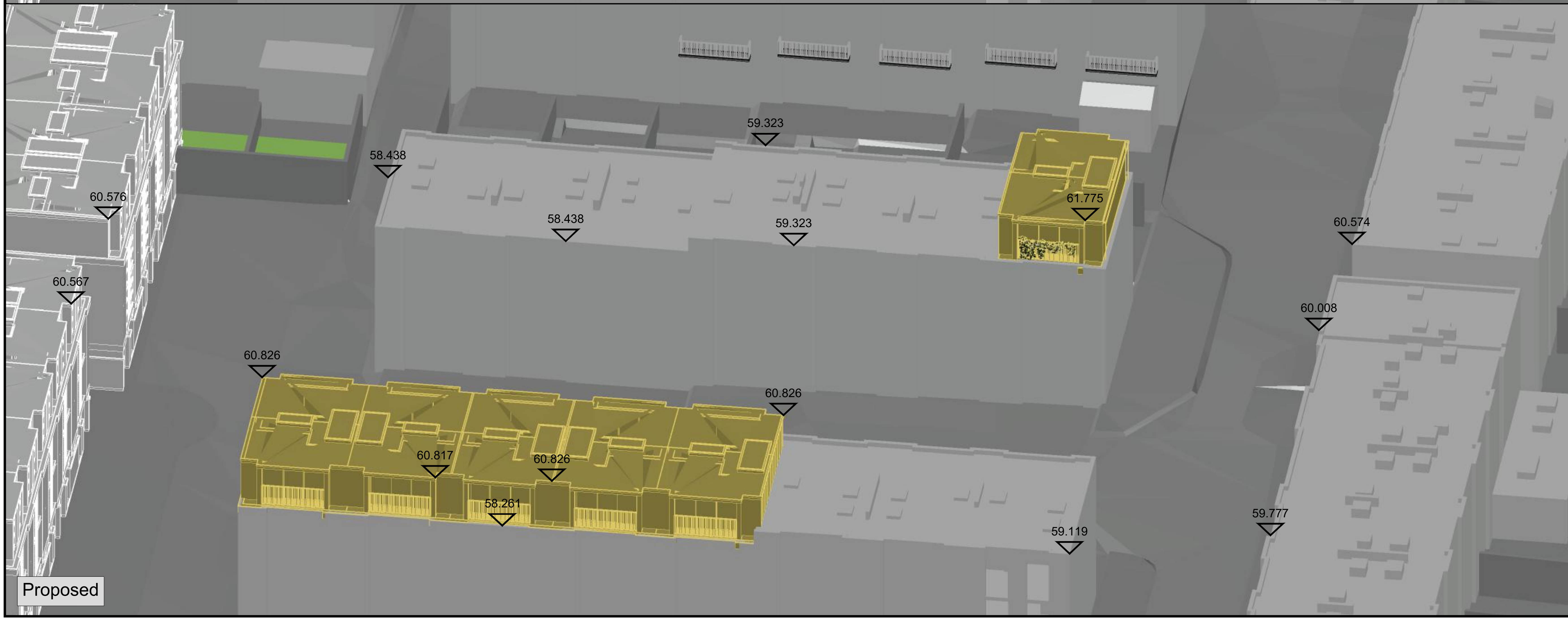
Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:
22-39 ELLIOT SQUARE
LONDON, NW3

DRAWING:
LOCATION PLAN
Daylight and Sunlight

DRAWN: RM	JOB NBR: 22292
SCALE: NTS	
DATE: 30.06.2022	
DWG NO: LOC_DS_001	REV: -



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Proposed

SOURCE DATA:

Drawings Used:

Existing & Surrounding Buildings:

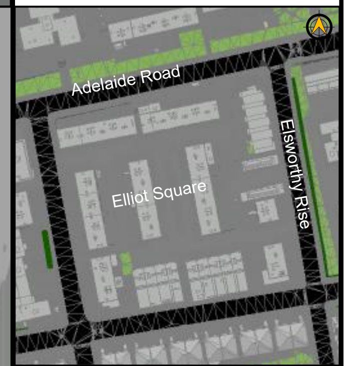
- ZMapping 3D Model.

- Burd Haward Architects:
-3D model received on 08.06.2022 - 2217_3D model V2020.dwg

Proposed:
Burd Haward Architects:
-3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:

All heights given in metres AOD



REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

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3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:
22-39 ELLIOT SQUARE
LONDON, NW3

DRAWING:
EXISTING & PROPOSED SCENARIOS
Plan and 3D Views

DRAWN: RM	JOB NBR: 22292
SCALE: NTS	
DATE: 11.07.2022	
DWG NO: SPT_002	REV: -

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:

Drawings Used:

Existing & Surrounding Buildings:

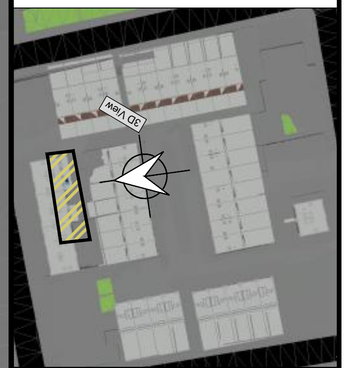
- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:

Burd Haward Architects:

Layouts gathered from architectural 3D models.



REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:

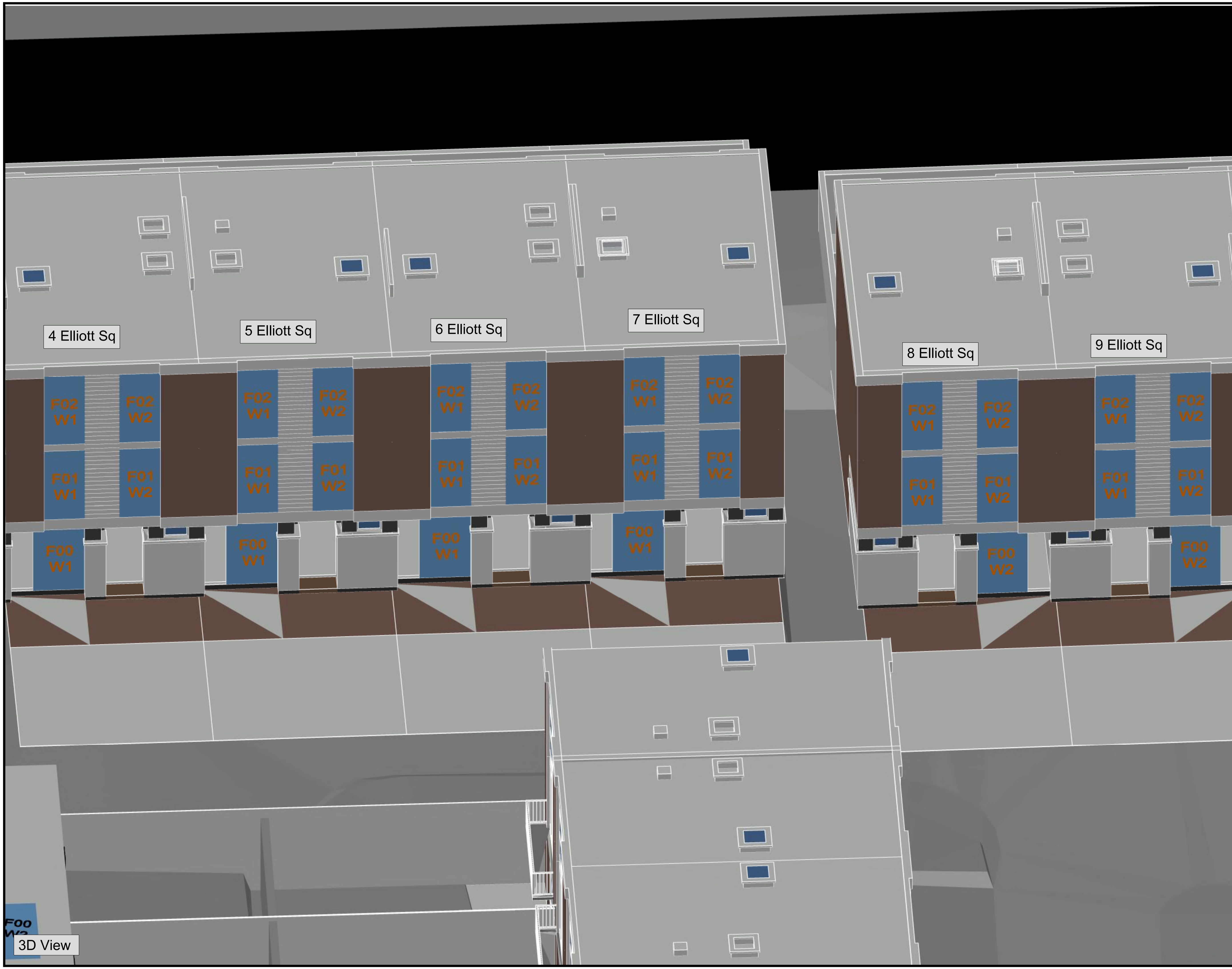
22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:

KEY WINDOW LOCATIONS
Plan and 3D Views

20-28 Lower Merton Rise

DRAWN: RM	JOB NBR: 22292
SCALE: NTS	
DATE: 30.06.2022	
DWG NO: LOC_001	REV: -



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

	Existing	W1	Windows tested Daylight only
	Surrounding	W1	Windows tested Daylight & Sunlight
	Neighboring Property		
	Notional Partition		

SOURCE DATA:
Drawings Used:

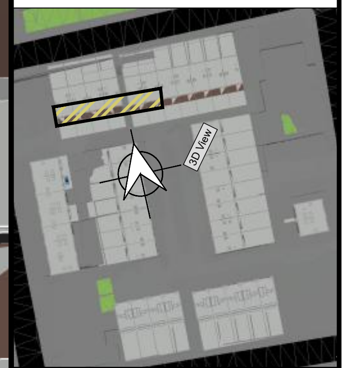
Existing & Surrounding Buildings:

- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:
Burd Haward Architects:

Layouts gathered from architectural 3D models.



REV	Description	Drawn	Date

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Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:
22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:
KEY WINDOW LOCATIONS
Plan and 3D Views

4-9 Adelaide Road

DRAWN:	RM	JOB NBR:	22292
SCALE:	NTS		
DATE:	30.06.2022		
DWG NO:	LOC_002	REV:	-

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:
Drawings Used:

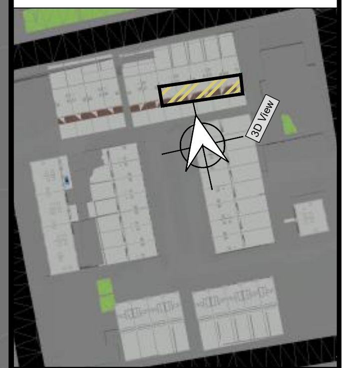
Existing & Surrounding Buildings:

- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:
Burd Haward Architects:

Layouts gathered from architectural 3D models.



REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:
22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:
KEY WINDOW LOCATIONS
Plan and 3D Views

10-14 Adelaide Road

DRAWN: RM
SCALE: NTS
DATE: 30.06.2022
JOB NBR: 22292
DWG NO: LOC_003
REV: -

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:

Drawings Used:

Existing & Surrounding Buildings:

- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:

Burd Haward Architects:

Layouts gathered from architectural 3D models.

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:

22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:

KEY WINDOW LOCATIONS
Plan and 3D Views

14 & 16 Elsworthy Rise

DRAWN: RM
SCALE: NTS
DATE: 30.06.2022
JOB NBR: 22292
DWG NO: LOC_004
REV: -

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:

Drawings Used:

Existing & Surrounding Buildings:

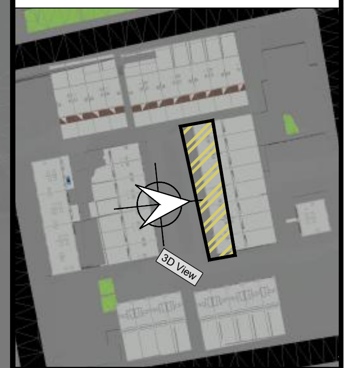
- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:

Burd Haward Architects:

Layouts gathered from architectural 3D models.



REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

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The Plaza
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TITLE:

22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:

KEY WINDOW LOCATIONS
Plan and 3D Views

16-23 Elliot Square

DRAWN:	RM	JOB NBR:	22292
SCALE:	NTS		
DATE:	30.06.2022		
DWG NO:	LOC_005	REV:	-

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:
Drawings Used:

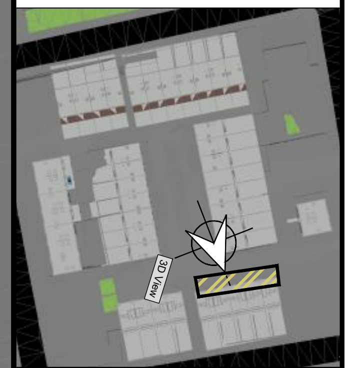
Existing & Surrounding Buildings:

- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:
Burd Haward Architects:

Layouts gathered from architectural 3D models.



REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:
22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:
KEY WINDOW LOCATIONS
Plan and 3D Views

24-28 Elliott Square

DRAWN: RM
SCALE: NTS
DATE: 30.06.2022
JOB NBR: 22292
DWG NO: LOC_006
REV: -

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:
Drawings Used:

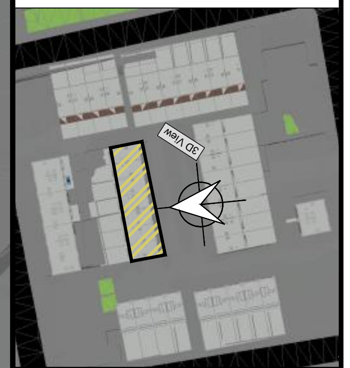
Existing & Surrounding Buildings:

- ZMapping 3D Model.

-Burd Haward Architects:
3D model received on 08.06.2022 - 2217_3D model V2020.dwg

NOTES:
Burd Haward Architects:

Layouts gathered from architectural 3D models.



REV	Description	Drawn	Date

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TITLE:
22-39 ELLIOT SQUARE
LONDON, NW3 3SU

DRAWING:
KEY WINDOW LOCATIONS
Plan and 3D Views

33-39 Elliot Square

DRAWN: RM	JOB NBR: 22292
SCALE: NTS	
DATE: 30.06.2022	
DWG NO: LOC_007	REV: -

Appendix 3

Daylight and sunlight results for neighbouring buildings

Property, room & window attributes					VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation		Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Prop.	Loss	Pro./Ex	Winter (%APSH) Exis.	Prop.	Pro./Ex
20 Lower Merton Rise																			
F00	R1	Kitchen	W1	→	21.9	21.9	0.0	1.00	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1	→	34.1	34.0	N/A	N/A											
		Bedroom	W2	→	34.1	34.0	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	37.5	37.2	N/A	N/A											
		Bedroom	W2	→	37.6	37.2	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
22 Lower Merton Rise																			
F00	R1	Kitchen	W1	→	29.0	28.8	N/A	N/A	96%	96%	0.02	1.00	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1	→	34.4	34.1	N/A	N/A											
		Bedroom	W2	→	34.4	34.0	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	37.6	37.1	N/A	N/A											
		Bedroom	W2	→	37.7	37.2	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
24 Lower Merton Rise																			
F00	R1	Kitchen	W1	→	21.0	20.5	0.5	0.98	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1	→	34.1	33.6	N/A	N/A											
		Bedroom	W2	→	34.2	33.6	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	37.5	36.8	N/A	N/A											
		Bedroom	W2	→	37.5	36.9	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
26 Lower Merton Rise																			
F00	R1	Kitchen	W1	→	29.6	28.7	N/A	N/A											
		Kitchen	W2	Hz	62.1	61.9	N/A	N/A	100%	100%	0.00	1.00	48	48	N/A	N/A	12	12	N/A
F01	R1	Bedroom	W1	→	34.7	34.0	N/A	N/A											
		Bedroom	W2	→	34.7	34.0	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	37.7	37.0	N/A	N/A											

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes					VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation		Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Prop.	Loss	Pro./Ex	Winter (%APSH) Exis.	Prop.	Pro./Ex
		Bedroom	W2	→	37.7	37.0	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
28 Lower Merton Rise																			
F00	R1	Kitchen	W1	→	30.1	29.1	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1	→	34.6	33.8	N/A	N/A											
		Bedroom	W2	→	34.7	33.9	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	37.5	36.8	N/A	N/A											
		Bedroom	W2	→	37.6	36.9	N/A	N/A	100%	100%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
4 Elliott Square																			
F00	R1	Living Room	W1	↓	28.1	27.6	N/A	N/A	85%	84%	0.09	0.99	2	2	0	1.00	2	2	1.00
F01	R1	Bedroom	W1	↓	34.6	34.1	N/A	N/A											
		Bedroom	W2	↓	34.9	34.2	N/A	N/A	99%	99%	0.00	1.00	82	81	N/A	N/A	26	25	N/A
F02	R1	Bedroom	W1	↓	37.7	37.2	N/A	N/A											
		Bedroom	W2	↓	37.9	37.3	N/A	N/A	99%	99%	0.00	1.00	85	84	N/A	N/A	29	28	N/A
5 Elliott Square																			
F00	R1	Living Room	W1	↓	28.7	27.8	N/A	N/A	94%	94%	0.09	1.00	3	3	0	1.00	3	3	1.00
F01	R1	Bedroom	W1	↓	35.2	34.2	N/A	N/A											
		Bedroom	W2	↓	35.3	34.0	N/A	N/A	99%	99%	0.00	1.00	83	83	N/A	N/A	27	27	N/A
F02	R1	Bedroom	W1	↓	38.1	37.2	N/A	N/A											
		Bedroom	W2	↓	38.2	37.2	N/A	N/A	99%	99%	0.00	1.00	85	84	N/A	N/A	29	28	N/A
6 Elliott Square																			
F00	R1	Living Room	W1	↓	28.7	27.2	N/A	N/A	96%	94%	0.38	0.98	3	3	0	1.00	3	3	1.00
F01	R1	Bedroom	W1	↓	35.3	33.6	N/A	N/A											
		Bedroom	W2	↓	35.3	33.4	N/A	N/A	99%	99%	0.00	1.00	83	80	N/A	N/A	27	24	N/A
F02	R1	Bedroom	W1	↓	38.4	36.9	N/A	N/A											

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes				VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation	Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Annual Prop.	Annual Loss	Annual Pro./Ex	Winter (%APSH) Exis.	Winter Prop.	Winter Pro./Ex
		Bedroom	W2 ↓	38.5	36.8	N/A	N/A	99%	99%	0.00	1.00	85	85	N/A	N/A	29	29	N/A
7 Elliott Square																		
F00	R1	Living Room	W1 ↓	28.2	26.2	2.0	0.93	90%	84%	1.04	0.94	1	1	0	1.00	1	1	1.00
F01	R1	Bedroom	W1 ↓	35.1	32.8	N/A	N/A											
		Bedroom	W2 ↓	35.1	32.8	N/A	N/A	99%	99%	0.00	1.00	84	79	N/A	N/A	28	23	N/A
F02	R1	Bedroom	W1 ↓	38.5	36.6	N/A	N/A											
		Bedroom	W2 ↓	38.6	36.6	N/A	N/A	99%	99%	0.00	1.00	85	85	N/A	N/A	29	29	N/A
8 Elliott Square																		
F00	R1	Living Room	W2 ↓	28.3	26.8	1.5	0.95	96%	96%	0.10	0.99	2	2	0	1.00	2	2	1.00
F01	R1	Bedroom	W1 ↓	34.6	32.7	N/A	N/A											
		Bedroom	W2 ↓	34.9	33.2	N/A	N/A	99%	99%	0.00	1.00	82	80	N/A	N/A	26	24	N/A
F02	R1	Bedroom	W1 ↓	37.9	36.1	N/A	N/A											
		Bedroom	W2 ↓	38.0	36.5	N/A	N/A	99%	99%	0.00	1.00	85	85	N/A	N/A	29	29	N/A
9 Elliott Square																		
F00	R1	Living Room	W2 ↓	28.5	27.5	N/A	N/A	96%	96%	0.10	0.99	2	2	0	1.00	2	2	1.00
F01	R1	Bedroom	W1 ↓	35.0	33.7	N/A	N/A											
		Bedroom	W2 ↓	35.1	34.0	N/A	N/A	99%	99%	0.00	1.00	81	79	N/A	N/A	25	23	N/A
F02	R1	Bedroom	W1 ↓	38.1	36.9	N/A	N/A											
		Bedroom	W2 ↓	38.1	37.1	N/A	N/A	99%	99%	0.00	1.00	86	85	N/A	N/A	30	29	N/A
10 Elliott Square																		
F00	R1	Living Room	W2 ↓	27.6	27.1	N/A	N/A	85%	85%	0.11	0.99	4	4	0	1.00	4	4	1.00
F01	R1	Bedroom	W1 ↓	34.8	34.1	N/A	N/A											
		Bedroom	W2 ↓	34.6	34.0	N/A	N/A	99%	99%	0.00	1.00	83	81	N/A	N/A	27	25	N/A
F02	R1	Bedroom	W1 ↓	38.1	37.3	N/A	N/A											

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes				VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation	Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Annual Prop.	Annual Loss	Annual Pro./Ex	Winter (%APSH) Exis.	Winter Prop.	Winter Pro./Ex
		Bedroom	W2 ↓	38.1	37.5	N/A	N/A	99%	99%	0.00	1.00	86	86	N/A	N/A	30	30	N/A
11 Elliott Square																		
F00	R1	Living Room	W2 ↓	25.9	25.7	0.2	0.99	78%	77%	0.10	0.99	2	2	0	1.00	2	2	1.00
F01	R1	Bedroom	W1 ↓	33.9	33.6	N/A	N/A											
		Bedroom	W2 ↓	33.4	33.2	N/A	N/A	99%	99%	0.00	1.00	82	82	N/A	N/A	26	26	N/A
F02	R1	Bedroom	W1 ↓	37.9	37.5	N/A	N/A											
		Bedroom	W2 ↓	37.9	37.5	N/A	N/A	99%	99%	0.00	1.00	86	85	N/A	N/A	30	29	N/A
12 Elliott Square																		
F00	R1	Living Room	W2 ↓	25.7	25.6	0.1	1.00	81%	81%	0.12	0.99	0	0	0	N/A	0	0	N/A
F01	R1	Bedroom	W1 ↓	32.9	32.8	N/A	N/A											
		Bedroom	W2 ↓	33.2	33.1	N/A	N/A	99%	99%	0.00	1.00	80	80	N/A	N/A	24	24	N/A
F02	R1	Bedroom	W1 ↓	37.7	37.6	N/A	N/A											
		Bedroom	W2 ↓	37.8	37.7	N/A	N/A	99%	99%	0.00	1.00	86	85	N/A	N/A	30	29	N/A
13 Elliott Square																		
F00	R1	Living Room	W2 ↓	27.5	27.4	N/A	N/A	96%	95%	0.10	0.99	2	2	0	1.00	2	2	1.00
F01	R1	Bedroom	W1 ↓	34.0	33.8	N/A	N/A											
		Bedroom	W2 ↓	34.3	34.2	N/A	N/A	99%	99%	0.00	1.00	83	82	N/A	N/A	27	26	N/A
F02	R1	Bedroom	W1 ↓	37.8	37.6	N/A	N/A											
		Bedroom	W2 ↓	37.9	37.7	N/A	N/A	99%	99%	0.00	1.00	86	86	N/A	N/A	30	30	N/A
14 Elliott Square																		
F00	R1	Living Room	W2 ↓	27.9	27.7	N/A	N/A	94%	94%	0.07	1.00	2	2	0	1.00	2	2	1.00
F01	R1	Bedroom	W1 ↓	34.5	34.3	N/A	N/A											
		Bedroom	W2 ↓	34.5	34.3	N/A	N/A	99%	99%	0.00	1.00	82	82	N/A	N/A	26	26	N/A
F02	R1	Bedroom	W1 ↓	37.8	37.5	N/A	N/A											

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes				VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation	Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Annual Prop.	Annual Loss	Annual Pro./Ex	Winter (%APSH) Exis.	Winter Prop.	Winter Pro./Ex
		Bedroom	W2 ↓	37.7	37.4	N/A	N/A	99%	99%	0.00	1.00	85	85	N/A	N/A	29	29	N/A
14 Elsworthy Rise																		
F00	R1	Kitchen	W1 ←	17.0	15.5	1.6	0.91	89%	78%	2.72	0.88	25	22	3	0.88	5	5	N/A
F01	R1	Bedroom	W1 ←	28.4	26.2	2.2	0.92											
		Bedroom	W2 ←	29.9	27.8	N/A	N/A	99%	99%	0.00	1.00	45	42	N/A	N/A	12	12	N/A
F02	R1	Bedroom	W1 ←	33.7	31.5	N/A	N/A											
		Bedroom	W2 ←	34.2	32.1	N/A	N/A	99%	99%	0.00	1.00	54	51	N/A	N/A	17	16	N/A
16 Elsworthy Rise																		
F00	R1	Bedroom	W1 ←	19.2	18.1	1.1	0.95	99%	94%	1.23	0.95	29	27	N/A	N/A	9	9	N/A
F01	R1	Bedroom	W1 ←	30.7	28.9	N/A	N/A											
		Bedroom	W2 ←	31.0	29.4	N/A	N/A	99%	99%	0.00	1.00	47	45	N/A	N/A	14	14	N/A
F02	R1	Bedroom	W1 ←	34.3	32.5	N/A	N/A											
		Bedroom	W2 ←	34.5	32.9	N/A	N/A	100%	100%	0.00	1.00	53	51	N/A	N/A	16	16	N/A
16 Elliott Square																		
F00	R1	Living Room	W1 ←	25.3	24.8	0.6	0.98	87%	87%	0.13	0.99	1	1	0	1.00	0	0	N/A
F01	R1	Bedroom	W1 ←	31.4	30.8	N/A	N/A											
		Bedroom	W2 ←	31.7	31.1	N/A	N/A	98%	98%	0.00	1.00	50	48	N/A	N/A	15	14	N/A
F02	R1	Bedroom	W1 ←	34.4	33.8	N/A	N/A											
		Bedroom	W2 ←	34.7	34.1	N/A	N/A	99%	99%	0.00	1.00	53	52	N/A	N/A	17	16	N/A
17 Elliott Square																		
F01	R1	Bedroom	W1 ←	31.9	31.3	N/A	N/A											
		Bedroom	W2 ←	32.0	31.4	N/A	N/A	99%	99%	0.00	1.00	49	49	N/A	N/A	15	15	N/A
F02	R1	Bedroom	W1 ←	34.9	34.4	N/A	N/A											
		Bedroom	W2 ←	35.1	34.6	N/A	N/A	99%	99%	0.00	1.00	53	52	N/A	N/A	17	17	N/A

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes					VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation		Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Prop.	Loss	Pro./Ex	Winter (%APSH) Exis.	Prop.	Pro./Ex
18 Elliott Square																			
F01	R1	Bedroom	W1	←	32.1	31.5	N/A	N/A											
		Bedroom	W2	←	32.2	31.7	N/A	N/A	98%	98%	0.00	1.00	50	49	N/A	N/A	15	15	N/A
F02	R1	Bedroom	W1	←	35.3	34.8	N/A	N/A											
		Bedroom	W2	←	35.5	35.0	N/A	N/A	99%	99%	0.00	1.00	53	53	N/A	N/A	17	17	N/A
19 Elliott Square																			
F00	R1	Living Room	W2	←	25.2	24.9	0.3	0.99	82%	81%	0.18	0.99	0	0	0	N/A	0	0	N/A
F01	R1	Bedroom	W1	←	31.4	30.9	N/A	N/A											
		Bedroom	W2	←	31.5	31.1	N/A	N/A	99%	99%	0.00	1.00	47	46	N/A	N/A	14	14	N/A
F02	R1	Bedroom	W1	←	34.8	34.4	N/A	N/A											
		Bedroom	W2	←	34.9	34.5	N/A	N/A	99%	99%	0.00	1.00	52	51	N/A	N/A	16	16	N/A
20 Elliott Square																			
F01	R1	Bedroom	W1	←	31.6	31.3	N/A	N/A											
		Bedroom	W2	←	31.7	31.5	N/A	N/A	98%	98%	0.00	1.00	48	48	N/A	N/A	15	15	N/A
F02	R1	Bedroom	W1	←	35.1	34.7	N/A	N/A											
		Bedroom	W2	←	35.2	34.9	N/A	N/A	99%	99%	0.00	1.00	53	52	N/A	N/A	17	17	N/A
21 Elliott Square																			
F01	R1	Bedroom	W1	←	31.9	31.7	N/A	N/A											
		Bedroom	W2	←	32.0	31.9	N/A	N/A	99%	99%	0.00	1.00	49	49	N/A	N/A	15	15	N/A
F02	R1	Bedroom	W1	←	35.3	35.1	N/A	N/A											
		Bedroom	W2	←	35.3	35.2	N/A	N/A	99%	99%	0.00	1.00	53	53	N/A	N/A	17	17	N/A
22 Elliott Square																			
F00	R1	Living Room	W1	←	25.9	25.8	0.1	1.00	84%	84%	0.11	0.99	0	0	0	N/A	0	0	N/A

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes				VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation	Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Prop.	Loss	Pro./Ex	Winter (%APSH) Exis.	Prop.	Pro./Ex
F01	R1	Bedroom	W1 ←	32.0	31.9	N/A	N/A											
		Bedroom	W2 ←	32.1	32.0	N/A	N/A	98%	98%	0.00	1.00	48	48	N/A	N/A	14	14	N/A
F02	R1	Bedroom	W1 ←	35.4	35.3	N/A	N/A											
		Bedroom	W2 ←	35.4	35.3	N/A	N/A	99%	99%	0.00	1.00	53	53	N/A	N/A	17	17	N/A
23 Elliott Square																		
F00	R1	Living Room	W2 ←	25.6	25.6	0.0	1.00	87%	86%	0.12	0.99	1	1	0	1.00	1	1	1.00
F01	R1	Bedroom	W1 ←	31.9	31.9	N/A	N/A											
		Bedroom	W2 ←	31.7	31.7	N/A	N/A	99%	99%	0.00	1.00	44	44	N/A	N/A	10	10	N/A
F02	R1	Bedroom	W1 ←	35.2	35.1	N/A	N/A											
		Bedroom	W2 ←	35.0	35.0	N/A	N/A	99%	99%	0.00	1.00	51	51	N/A	N/A	15	15	N/A
24 Elliott Square																		
F00	R1	Living Room	W1 ↑	26.5	25.2	1.3	0.95	96%	96%	0.08	1.00	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1 ↑	32.6	31.5	N/A	N/A											
		Bedroom	W2 ↑	32.4	30.9	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 ↑	35.1	34.1	N/A	N/A											
		Bedroom	W2 ↑	35.0	33.8	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
25 Elliott Square																		
F00	R1	Living Room	W1 ↑	25.2	23.7	1.6	0.94	89%	88%	0.32	0.98	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1 ↑	31.7	30.0	N/A	N/A											
		Bedroom	W2 ↑	31.0	29.0	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 ↑	34.6	33.1	N/A	N/A											
		Bedroom	W2 ↑	34.4	32.5	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
26 Elliott Square																		
F00	R1	Living Room	W2 ↑	23.6	21.8	1.8	0.92	84%	82%	0.37	0.98	North	North	N/A	N/A	North	North	N/A

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes				VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation	Exis. *(% VSC)*	Prop. *(% VSC)*	Loss *(% VSC)*	Pro./Ex. ratio	Exis. *(% rm)*	Prop. *(% rm)*	Loss (m^2)	Pro./Ex. ratio	Annual *(%APSH)* Exis.	Annual Prop.	Annual Loss	Annual Pro./Ex	Winter *(%APSH)* Exis.	Winter Prop.	Winter Pro./Ex
F01	R1	Bedroom	W1 ↑	30.5	27.9	N/A	N/A											
		Bedroom	W2 ↑	30.7	28.2	N/A	N/A	99%	90%	1.76	0.91	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 ↑	34.2	31.7	N/A	N/A											
		Bedroom	W2 ↑	34.3	32.2	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
27 Elliott Square																		
F00	R1	Living Room	W1 ↑	24.8	23.2	1.5	0.94	79%	78%	0.23	0.99	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1 ↑	31.4	29.4	N/A	N/A											
		Bedroom	W2 ↑	31.8	30.0	N/A	N/A	99%	98%	0.19	0.99	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 ↑	34.5	32.9	N/A	N/A											
		Bedroom	W2 ↑	34.7	33.3	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
28 Elliott Square																		
F00	R1	Living Room	W2 ↑	26.3	25.1	1.2	0.96	93%	92%	0.13	0.99	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1 ↑	32.0	30.7	N/A	N/A											
		Bedroom	W2 ↑	32.0	31.0	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 ↑	34.7	33.6	N/A	N/A											
		Bedroom	W2 ↑	34.7	33.7	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
33 Elliott Square																		
F01	R1	Bedroom	W1 →	32.8	30.8	N/A	N/A											
		Bedroom	W2 →	32.9	30.8	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 →	36.1	34.3	N/A	N/A											
		Bedroom	W2 →	36.2	34.3	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
34 Elliott Square																		
F01	R1	Bedroom	W1 →	32.9	30.7	N/A	N/A											
		Bedroom	W2 →	33.0	30.7	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes					VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation		Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Prop.	Loss	Pro./Ex	Winter (%APSH) Exis.	Prop.	Pro./Ex
F02	R1	Bedroom	W1	→	36.3	34.2	N/A	N/A											
		Bedroom	W2	→	36.3	34.2	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
35 Elliott Square																			
F01	R1	Bedroom	W1	→	33.0	30.7	N/A	N/A											
		Bedroom	W2	→	33.0	30.8	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	36.3	34.2	N/A	N/A											
		Bedroom	W2	→	36.3	34.3	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
36 Elliott Square																			
F01	R1	Bedroom	W1	→	33.9	31.9	N/A	N/A											
		Bedroom	W2	→	33.8	32.0	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	37.1	35.3	N/A	N/A											
		Bedroom	W2	→	37.0	35.4	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
37 Elliott Square																			
F00	R1	Living Room	W1	→	27.2	25.6	1.6	0.94	96%	79%	3.26	0.83	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1	→	33.7	32.1	N/A	N/A											
		Bedroom	W2	→	33.6	32.2	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	36.9	35.5	N/A	N/A											
		Bedroom	W2	→	36.8	35.6	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
38 Elliott Square																			
F00	R1	Living Room	W2	→	26.7	25.8	0.9	0.97	96%	95%	0.12	0.99	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1	→	33.4	32.3	N/A	N/A											
		Bedroom	W2	→	33.3	32.4	N/A	N/A	97%	97%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1	→	36.6	35.7	N/A	N/A											
		Bedroom	W2	→	36.6	35.7	N/A	N/A	96%	96%	0.00	1.00	North	North	N/A	N/A	North	North	N/A

Ratio: N/A or ≥0.8 = inside BRE (N/A* satisfies 4% APSH criterion); N/R = not required

Property, room & window attributes				VSC				NSL				APSH (room)						
Floor	Room	Room use	Window Ref./Orientation	Exis. (% VSC)	Prop. (% VSC)	Loss (% VSC)	Pro./Ex. ratio	Exis. (% rm)	Prop. (% rm)	Loss (m^2)	Pro./Ex. ratio	Annual (%APSH) Exis.	Prop.	Loss	Pro./Ex	Winter (%APSH) Exis.	Prop.	Pro./Ex
39 Elliott Square																		
F00	R1	Living Room	W1 →	27.0	26.3	0.7	0.97	94%	89%	0.99	0.95	North	North	N/A	N/A	North	North	N/A
F01	R1	Bedroom	W1 →	33.1	32.4	N/A	N/A											
		Bedroom	W2 →	33.0	32.4	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A
F02	R1	Bedroom	W1 →	36.4	35.7	N/A	N/A											
		Bedroom	W2 →	36.3	35.7	N/A	N/A	99%	99%	0.00	1.00	North	North	N/A	N/A	North	North	N/A