39-49 Neal Street, London, WC2H 9PJ

Daylight & Sunlight Report

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29th September, 2017

Daylight and Sunlight Report

39-49 Neal Street,

London

WC2H 9PJ

Prepared for:-

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Prepared by	**Date**
James M A Crowley	29th September, 2017

CONTENTS

APPENDICES

This report is solely for the benefit of **Shaftesbury Covent Garden Limited** and the benefit cannot be transferred to any other party without the express written consent of CHP Surveyors Limited.

CHP Surveyors Limited

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1.0 Executive Summary

1.1 This report has been prepared by CHP Surveyors Limited on behalf of Shaftesbury Covent Garden Limited. It accompanies an application for full planning permission for the refurbishment and extension of the existing structure and considers the implications the proposals for the site will have on the daylight and sunlight enjoyed by the neighbouring residential properties.

1.2 To ensure that this assessment has correctly considered the daylight enjoyed by the neighbouring residential properties, it has been undertaken in accordance with the Building Research Establishment's publication "*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice*" (2011) (the "**BRE Guideline**").

1.3 The standards and tests applied within this assessment are briefly described in the "*Principles of Daylight and Sunlight*" which are attached at **Appendix A**.

1.4 Our analysis has considered those windows within the neighbouring residential properties, that it is considered serve habitable rooms. The results of our daylight analysis are set out in the table attached at Appendix C and demonstrates that based on our assumptions, the majority of windows will achieve the numerical values set out in the guidelines based on a VSC analysis and all will achieve at least 0.75 times the existing value. With regards to daylight distribution, all except 10 rooms achieve the numerical values, with all achieving at least 0.62 times the existing area.

1.5 For those properties facing within 90° of due south, the results of our analysis demonstrate that all windows will achieve the numerical values within the BRE Guidelines as set out in the table attached at Appendix D.

1.6 Taking into account the urban setting of the site it is considered that the results of our analysis demonstrate that the proposals will not have a significant effect on the daylight and sunlight enjoyed by the neighbouring properties and that therefore the aims of the Building Research Establishment's publication "*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice*" (2011) are met.

2.0 Instruction

2.1 We have been instructed by Shaftesbury Covent Garden Ltd to establish the implications the proposals will have upon the daylight and sunlight amenity to the neighbouring residential properties.

2.2 This report considers the results of the analysis with reference to the criteria set out in the BRE Guidelines.

3.0 Assessment

3.1 To ensure that this assessment has been appropriately considered, daylight and sunlight assessments have been undertaken in accordance with the BRE Guidelines and to reflect the aims of the London Borough of Camden's Development Policy DP26, which states "*To assess whether acceptable levels of daylight and sunlight are available to habitable spaces, the Council will take into account the standards recommended in the British Research Establishment's Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (1991).*"

3.2 To assist in the understanding of the analysis that has been undertaken as part of this report, a summary of the relevant BRE Guidelines, entitled the "Principles of Daylight and Sunlight" is included at Appendix A.

3.3 Within the BRE Guidelines it is acknowledged that within inner city locations, alternative numerical values may be appropriate.

"*The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy;*"
"For example, in a historical city centre, or in an area of modern high rise buildings, a high degree of obstruction may be unavoidable"

4.0 Information

4.1 We have made reference to the following information:-

Ordnance Survey

Site Plan

Trehearne Architects

Drawing numbers L1815 E(-)00, 01, 02, 03, 04, B1, 10, 11, 12, 13, 14 P(-)00, 01, 02, 03, 04, 05, 06, B1, 10, 11, 12, 13 and 14

CHP Surveyors Limited

Site visit and online research

5.0 Proposals

5.1 The proposed development to be submitted as a Planning Application is to refurbish the existing buildings and extend them at roof level as indicated on drawing numbers 2178-100 to 2178-108 attached at Appendix B.

5.2 From our site visit and research, the neighbouring properties that have windows overlooking the site and would therefore need to be considered are:-

Adjacent Buildings Summary Table		
Name/Address	**Assumed Use**	**Position to Site**
48 Neal Street	Residential to first floor and above	North East
50 Neal Street	Residential to first floor and above	North East
52 Neal Street	Residential to first floor and above	North East
54-56 Neal Street	Residential to first floor and above	north East
58 Neal Street	Residential to first floor and above	north East
62 Neal Street	Residential to first floor and above	North East
19 Shorts Gardens	Residential to first floor and above	South West
15 Neal's Yard	Residential at third and fourth floor	West

6.0 Limitations

6.1 Our assessment is based on the proposed development drawings by Trehearne Architects.

6.2 A site inspection was undertaken to record the location of windows within the neighbouring properties. Our site inspection included and external inspection of the existing site and surrounding buildings. Access was not available to the surrounding properties, so we have made reasonable assumptions as to the internal room sizes, layouts and uses.

6.3 We refer you to the drawings set out in point 4.1 above for a list of the third-party information we have relied upon and which our 3D computer model and resultant analyses are based.

7.0 Methodology

7.1 Based on online research and online observations, we have produced a 3D computer model of the neighbouring residential properties listed above in point 5.2 above. This includes the window locations and internal configuration.

7.2 Using a specialist computer programme, we have undertaken the analysis set out in the BRE Guidelines, both in the existing situation to provide a base line and following the implementation of the proposals. There is no requirement to consider the implications during the development process as these will be only short term.

7.3 As clearly stated within the BRE Guidelines, the aims are to help designers not constrain them and the numerical values contained within this document should be interpreted flexibly since natural light is only one of many factors in site layout design. It also states that different target levels may be used in such an urban location, as we are considering. The Guidelines state:-

"*The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and 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 guides, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design."

7.4 Daylight

7.4.1 Daylight assessments are undertaken to habitable rooms where occupants can expect to receive a reasonable amount of daylight.

7.4.2 The first assessment is to establish whether the proposals will subtend an angle of 25° from the centre of the window. If it does not, then it is considered that the proposals will not have an adverse effect on the neighbouring properties daylight or sunlight,

7.4.3 Where the proposals bisect the 25° line a more detailed analysis is required, these being:-

- Daylight - Vertical Sky Component
- Daylight Distribution - No Sky Line
- Daylight – Average Daylight Factor
- Sunlight - Average Daylight Factor

7.4.4 Vertical Sky Component

VSC is a measurement of the amount of skylight that falls on the outside of a window, measured at the window's midpoint. It is calculated by dividing the illuminance on the outside of a window, by the illuminance of an unobstructed flat roof, under overcast sky conditions. 40% VSC is the maximum value for a completely unobstructed vertical wall.

The BRE guidance states that for a room to be adequately lit, a window should receive a VSC of 27% or if this is not the suffer a significant infringement to its light if the VSC is 0.8 times the original value, following the implementation of a new development.

7.4.5 No Sky Line

The NSL divides points in a room which can and cannot see the sky. This is measured on a horizontal plan 0.8m above floor level. The guidance states that a significant portion of a room should lie in front of the NSL. If this is not achieved and the area of a room falling in front of the no sky line is reduced to less than 0.8 times its former value, then there is likely to be a noticeable loss. It also states that whilst bedrooms should be analysed they are less important.

7.4.6 Average Daylight Factor

Where VSC and NSL is not achieved, in accordance with the analysis as set out in the BRE Guidelines, the ADF can be calculated. This is a more accurate reflection on the level of daylight each room will enjoy as it takes into account the size of the room, the size of the window and internal reflection. Within the BRE Guidelines they set out the following recommended minimum ADF levels dependent on the room usage:-

- 2% for kitchens
- 1.5% for living rooms
- 1% for bedrooms

7.5 Sunlight

7.5.1 Average Probable Sunlight Hours

With regards to sunlight, the BRE Guidelines seek that all main windows within 90^0 of due south achieve 25% of the Average Probable Sunlight Hours (APSH) with at least 5% during the winter months. Where this is not achieved and the difference between the existing and proposed APSH is more than 4%, the BRE Guidelines state that the proposals will not have a noticeable effect on sunlight provided the total APSH, as well as during the winter months, are within 0.8 times the existing.

8.0 Daylight Assessment

8.1 Daylight is not normally considered during the planning process for commercial properties. Our analysis therefore considered the neighbouring residential accommodation as set out in the table under paragraph 5.2 above. properties that surrounded the site:-

8.2 Our analysis of each of these neighbouring residential properties calculated the Vertical Sky Component, No Sky Line and where applicable the Average Daylight Factor. In accordance with the BRE Guidelines, our analysis did not include circulation space, hallways, storerooms, toilets and bathrooms.

8.3 48 Neal Street

8.3.1 This property is located to the north east of the site, on the corner of Neal Street and Shorts Gardens and provides residential accommodation at first floor and above.

8.3.2 The results of our VSC analysis are set out in the table attached at Appendix C and demonstrate that all windows believed to serve habitable rooms will achieve a VSC of at least 27% or 0.8 times the existing.

8.3.3 We have also considered daylight distribution and the results set out in the table attached at Appendix C will all still have a significant portion of their area.

8.3.4 The results of our analysis therefore demonstrate that the proposals will not have a significant implication on the daylight enjoyed by this property.

8.4 50 Neal Street

8.4.1 This property is located to the north east of the site, on the corner of Neal Street and provides residential accommodation at first floor and above.

8.4.2 The results of the VSC analysis are set out on the table attached at Appendix C and demonstrate that in all instances the numerical values set out in the BRE guidelines are achieved.

8.4.4 We have also considered daylight distribution, with the results set out in the table attached at Appendix C. These demonstrate that based on our assumptions, all rooms will have a significant portion of their area, or at least 0.8 times the existing, in front of the No Sky Line.

8.4.5 The results of our analysis demonstrate that the proposals will not have a significant implication on the daylight enjoyed by this property.

8.5 52 Neal Street

8.5.1 This property is located to the north east of the site, on the corner of Neal Street and provides residential accommodation at first floor and above.

8.5.2 The results of the VSC analysis are set out on the table attached at Appendix C and demonstrate that in all instances the numerical values set out in the BRE guidelines are achieved.

8.5.3 We have also considered daylight distribution, with the results set out in the table attached at Appendix C. These are based on assumptions as to the internal configuration of this property and demonstrate that whilst the room at second and third floors will not have a significant portion of their area in front of the No Sky Line, they will have 0.74 and 0.77 times the existing area, which it is considered is appropriate for a location such as this.

8.5.4 Taking into account the urban location, it is considered that the results of our analysis demonstrate that the aims of the BRE Guidelines are achieved.

8.6 54-56 Neal Street

8.6.1 This property is located to the north east of the site, on the opposite side of Neal Street and provides residential accommodation at first floor level and above.

8.6.2 Our analysis has been based on assumptions as to the internal configuration of this property.

8.6.3 The results of our VSC analysis are set out on the table attached at Appendix C and demonstrate that for the six windows that will not achieve a VSC of at least 27% or 0.8 times the existing, they will achieve at least 0.75 times the existing. Taking into account the urban location and that for the windows concerned, generally the existing VSC is below 20% it is considered that the difference will not be noticeable.

8.6.4 We have also considered daylight distribution with the results of this analysis set out on the table attached at Appendix C. This demonstrates that the rooms at first and second floor level do not in the existing situation do not have significant portion of their area in front of the No Sky Line. With the implementation of the proposals, these will achieve at least 0.6 times the existing area. For those rooms that that currently have a significant portion of their area in front of the No Sky Line, being at third and fourth floor level, those at third will achieve greater than 0.7 times the existing area and there will be no change at fourth floor level. It is considered that due to the width of Neal Street, these reductions are unavoidable and that therefore as stated within the BRE Guidelines the numerical values need to be applied flexibly.

8.6.5 It is considered that taking into account that the numerical values associated with the VSC analysis are achieved and the urban setting, that the results of the analysis demonstrate that the aims of the BRE Guidelines are achieved.

8.7 58 Neal Street

8.7.1 This property is located to the north east of the site, on the opposite side of Neal Street and is assumed to provide residential accommodation at its upper floors.

8.7.2 Attached at Appendix C are the results of the VSC analysis that indicate that all in except 3 windows will enjoy a VSC of greater than 27% or at least 0.8 times the existing, following the implementation of the proposals. For the three that do not these will achieve at least 0.76

times the existing value and taking into account that the existing VSC is below 27%, it is considered that this difference will not be noticeable.

8.7.3 We have also considered daylight distribution and as set out in the table attached at Appendix C, all except room will have at least 0.8 times the existing area in front of the NSL, with the one exception having 0.78 times the existing area.

8.7.4 Whilst the results of our analysis demonstrate that the numerical values set out in BRE guidelines are not achieved in all instances, it is considered that taking into account that the values are very close, that for such an urban location the analysis shows that the proposals will achieve the aims of the BRE Guidelines.

8.8 62 Neal Street

8.8.1 This property is located to the north west on the site on the opposite side of Neal Street and provides residential accommodation to the upper floors.

8.8.2 Attached at Appendix C are the results of the VSC analysis that indicate that in all instances the windows will enjoy a VSC of greater than 27% or at least 0.8 times the existing, following the implementation of the proposals.

8.8.3 We have also considered daylight distribution and as set out in the table attached at Appendix C, all rooms will have at least 0.8 times the existing area in front of the NSL.

8.8.4 The results of our analysis therefore demonstrate that the BRE guidelines are achieved and the proposals will not have a significant effect on the daylight enjoyed by this property.

8.9 19 Shorts Gardens

8.9.1 This property is located to the south west of the site on the corner of Shorts Garden and Neal's Yard.

8.9.2 It is assumed that this property provides residential accommodation from first floor level.

8.9.3 Attached at Appendix C are the results of the VSC analysis that indicate that in all instances the windows will enjoy a VSC of greater than 27% or at least 0.8 times the existing, following the implementation of the proposals.

8.9.4 We have also considered daylight distribution and as set out in the table attached at Appendix C, all rooms will have at least 0.8 times the existing area in front of the NSL.

8.9.5 The results of our analysis therefore demonstrate that the BRE guidelines are achieved and the proposals will not have a significant effect on the daylight enjoyed by this property.

8.10 15 Neal's Yard

8.10.1 This property is located to the west of the site and would appear to provide residential accommodation at second and third floor level.

8.10.2 This property is located in very close proximity to the site and therefore the proposals will have a disproportionate effect of the daylight enjoyed by any windows it is assumed serve habitable rooms.

8.10.3 The results set out in the table attached at Appendix C demonstrate that all except one window will achieve either a VSC of at least 27%. The one window that does not achieve this, achieves a VSC of greater than 20%, which for such an urban location and being so close to the site boundary is considered appropriate. In addition this window would appear to serve a room served by another window. We have therefore calculated the ADF for this room, which achieves an ADF of 1.13% greater than the recommended minimum for a bedroom which is the assumed use of this room.

8.10.4 We have also calculated the daylight distribution of each room, based on our assumptions, with the results set out in the table attached at Appendix C. These demonstrate that in all instances a significant portion or at least 0.8 times the existing area lies in front of the no sky line.

8.10.5 The results of our analysis, it is considered demonstrate that the aims of the BRE Guidelines are achieved.

9.0 Sunlight

9.1 The BRE Guidelines require that all windows within 90° of due south should be considered.

9.2 The recommended numerical values set out within the BRE Guidelines are for a window to achieve Annual Probable Sunlight House (APSH) of 25%, including at least 5% during the winter months or where the difference in the APSH is more than 4% between the existing and proposed both the total APSH and those enjoyed within the winter months are more than 0.8 times the existing values. The guidelines however also state that bedrooms are less important than living rooms.

9.3 Due to the orientation of the neighbouring properties, only those onto Neal Street fall within 90^0 of due south and therefore need to be analysed.

9.4 48 Neal Street

9.4.1 The results of our analysis, as set out on the table attached at Appendix D demonstrate that all windows currently serving habitable rooms will enjoy a greater than 25% APSH with at least 5% during the winter months following the implementation of the proposals.

9.4.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and will not have a significant implication on sunlight enjoyed by this property.

9.5 50 Neal Street

9.5.1 The results of our analysis, as set out on the table attached at Appendix D demonstrate that all windows currently serving habitable rooms will enjoy a greater than 25% APSH with at least 5% during the winter months following the implementation of the proposals.

9.5.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and will not have a significant implication on sunlight enjoyed by this property.

9.6 52 Neal Street

9.6.1 The results of our analysis, as set out on the table attached at Appendix D demonstrate that all windows currently serving habitable rooms will enjoy a greater than 25% APSH with at least 5% during the winter months following the implementation of the proposals.

9.6.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and will not have a significant implication on sunlight enjoyed by this property.

9.7 54-56 Neal Street

9.7.1 The results of our analysis, as set out on the table attached at Appendix D demonstrate that all windows currently serving habitable rooms will enjoy a greater than 25% APSH with at least 5% during the winter months following the implementation of the proposals.

9.7.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and will not have a significant implication on sunlight enjoyed by this property.

9.8 58 Neal Street

9.8.1 The results of our analysis, as set out on the table attached at Appendix D demonstrate that all windows currently serving habitable rooms will enjoy a greater than 25% APSH with at least 5% during the winter months following the implementation of the proposals.

9.8.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and will not have a significant implication on sunlight enjoyed by this property.

9.9 62 Neal Street

9.9.1 The results of our analysis, as set out on the table attached at Appendix D demonstrate that all windows currently serving habitable rooms will enjoy a greater than 25% APSH with at least 5% during the winter months following the implementation of the proposals.

9.9.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and will not have a significant implication on sunlight enjoyed by this property.

10.0 Conclusion

10.1 The analysis has considered those windows that serve habitable rooms within the neighbouring residential properties, in accordance with the BRE Guidelines.

10.2 The results of our analysis demonstrate that, despite the site being located in an urban location, the majority of windows will achieve the recommended VSC. For those windows that do not achieve the above, these being six to 54-56 Neal Street and three to 58 Neal Street, all will achieve a VSC of at least 0.75 times the existing. Taking into account that in the existing situation these windows generally achieve a VSC of below 27%, it is considered that the difference between the VSC and 0.8 times the existing would not be noticeable. With regards to daylight distribution 77% of the rooms these serve, will achieve the numerical values for daylight distribution. For the 10 rooms that do not achieve this, three within No52, six within No54-56 and one within No58 the, majority will achieve at least 0.7 times the existing area and all of them will achieving at least 0.62 times the existing, which is considered appropriate for such an urban location.

10.3 The result of our sunlight analysis demonstrates that in all instances the numerical values set out in the BRE Guidelines.

10.4 Our analysis therefore demonstrates that the aims of the Building Research Establishments publication "*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice.*" (2011) are met and the implementation of the proposals will not have an adverse effect on the daylight and sunlight enjoyed by the neighbouring residential properties.

Appendix A

Principles of Daylight and Sunlight

In 2011 the Building Research Establishment (BRE) published a handbook titled "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice" to provide advice to building designers on site layout planning in order to achieve good daylight and sunlight amenity to the proposed development, the open spaces between the proposed blocks and the existing surrounding properties.

As stated within the Introduction of this document, the aim of these guidelines 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 application of the BRE Guidelines are suited more to low density suburban development sites where there is a greater flexibility for site layout planning. In dense urban development sites, these are usually constrained often by adjacent buildings and the guidelines state that these should be applied more flexibly in these instances, as contained within the introduction of the BRE Guidelines:- "*The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and 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 guides, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design…*"

It must therefore be appreciated and as can be seen from the above extracts and which is reiterated throughout, the handbook is for guidance only.

Daylight

Daylight assessments should be undertaken to habitable rooms where the occupants can expect to receive a reasonable amount of daylight.

The first assessment is to establish whether the proposals will subtend an angle of 25° from the centre of the window. If it does not, then it is considered there will be good daylight. The BRE Guidelines advise:- "*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 a lowest window, subtends an angle of more than 25º to the horizontal may be affected.*"

This assessment is most appropriate for well spaced, low density or low rise, uniform proposed developments. It is not an appropriate assessment for dense urban environments where the existing building on the development site already subtends at an angle greater than 25° to the horizontal from the subject window. It is for this reason that this 25° assessment is generally dispensed with and the more detailed analysis outlined below is undertaken.

- **Vertical Sky Component (VSC)**

  The Vertical Sky Component (VSC) analysis establishes the amount of available daylight received directly from the sky for each individual window. The reference point for the analysis being the centre of the window, on the plane of the outer window wall.

  The VSC is the amount of direct sky a window enjoys, expressed as a percentage of the amount of direct sky a horizontal, unobstructed rooflight would receive.

  The maximum percentage of direct skylight a vertical window can receive is 40%. The BRE have determined that where a VSC of 27% is achieved, then daylight should reach the window of an existing building.

  Where a VSC of less than 27%, is either before the implementation of the proposals enjoyed, or it is enjoyed following the implementation, then the BRE Guidelines state that provided the new value is greater than 0.8 times the existing value, daylight will not be significantly affected.

- **Daylight Distribution**

  The Daylight Distribution analysis is undertaken at working plane level, with this set at 0.85m above floor level of a dwelling.

  The BRE Guidelines state that provided a significant area of the room, which is considered to be 80% is in front of the No Sky Line (the point behind which at desk top level no sky is visible) or at least 0.8 times the existing area, then the room will enjoy good daylight distribution.

  If in the existing situation this is not the case, the BRE Guidelines state that provided that the area following the implementation of the proposals is at least 0.8 times the existing area, there will not be a significant affect.

Sunlight

This analysis is undertaken in a similar method to calculating VSC. Within residential accommodation the analysis for a sunlight analysis relates to the main windows that are within 90° of due south. It is considered that sunlight to kitchens and bedrooms is less important, although care should be taken not to block out too much.

Within commercial or non-domestic buildings, the use of the building will determine whether a sunlight assessment is required.

In relation to neighbouring residential buildings, if a window is facing within 90° of due south and overlooking any part of the proposals subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlight of the existing dwelling may be affected.

- **Annual Probable Sunlight Hours (APSH)**

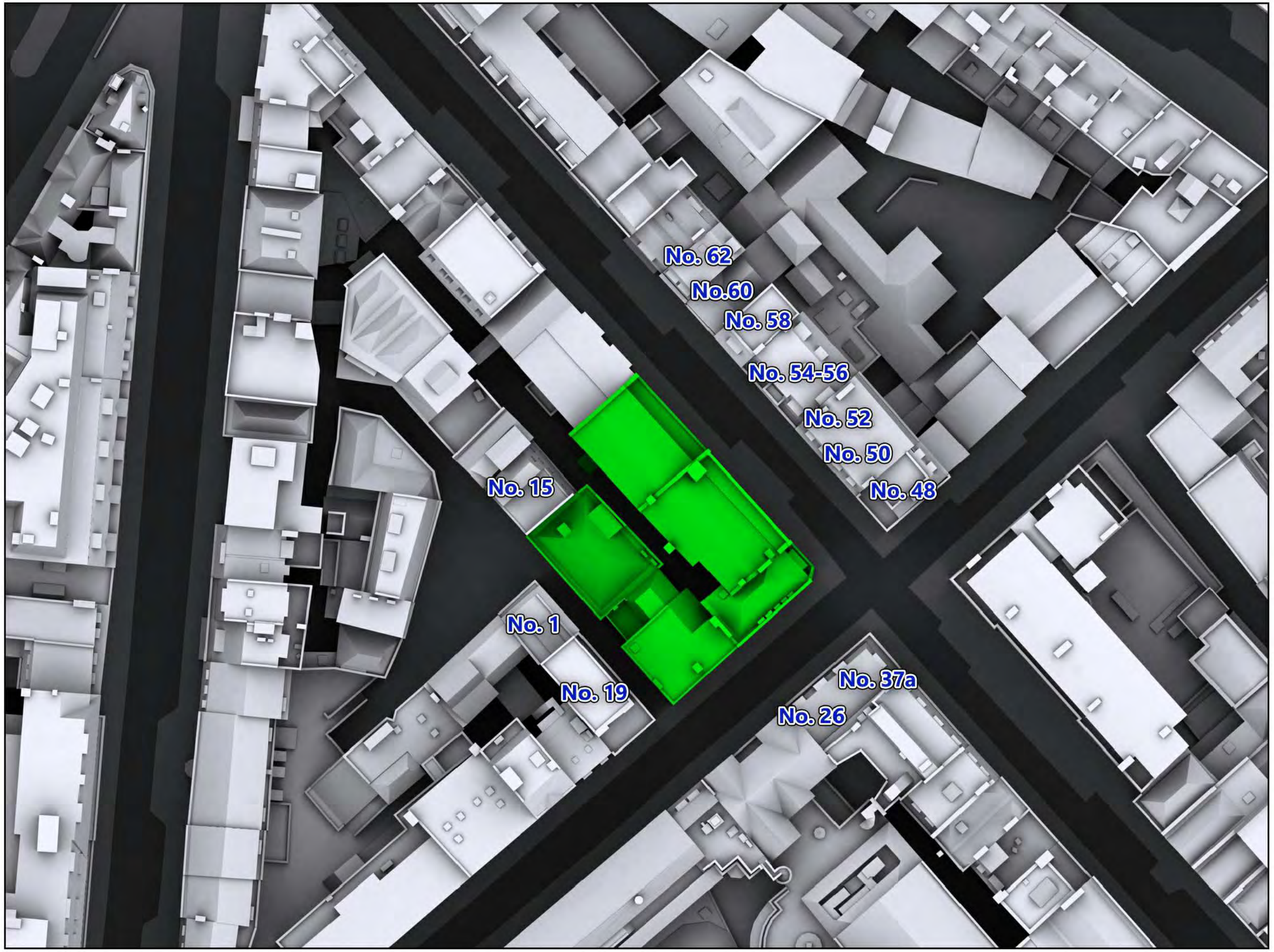
  The 'Probable Sunlight Hours' can be defined as the total number of hours in the year that sun is expected to shine.

  The APSH assessment is undertaken to the main window of residential buildings, where the window faces 90° of due south. Within the BRE Guidelines it sets out the criteria for this assessment:-

  "*If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely effected. This will be the case if a point at the centre of the window, in the plane of the inner window wall, received in the year less than one quarter (25%) of annual probable sunlight hours including at least 5% of annual probable sunlight hours between 21 September and 21 March, and less than 0.8 times its former sunlight hours during either period.*"

  In summary, if it does not achieve the specific numerical values, the sunlight to an existing building may be reduced by 20% in either the annual or winter periods before that loss becomes noticeable as a result of a proposed development.

Appendix B



Sources

KEY

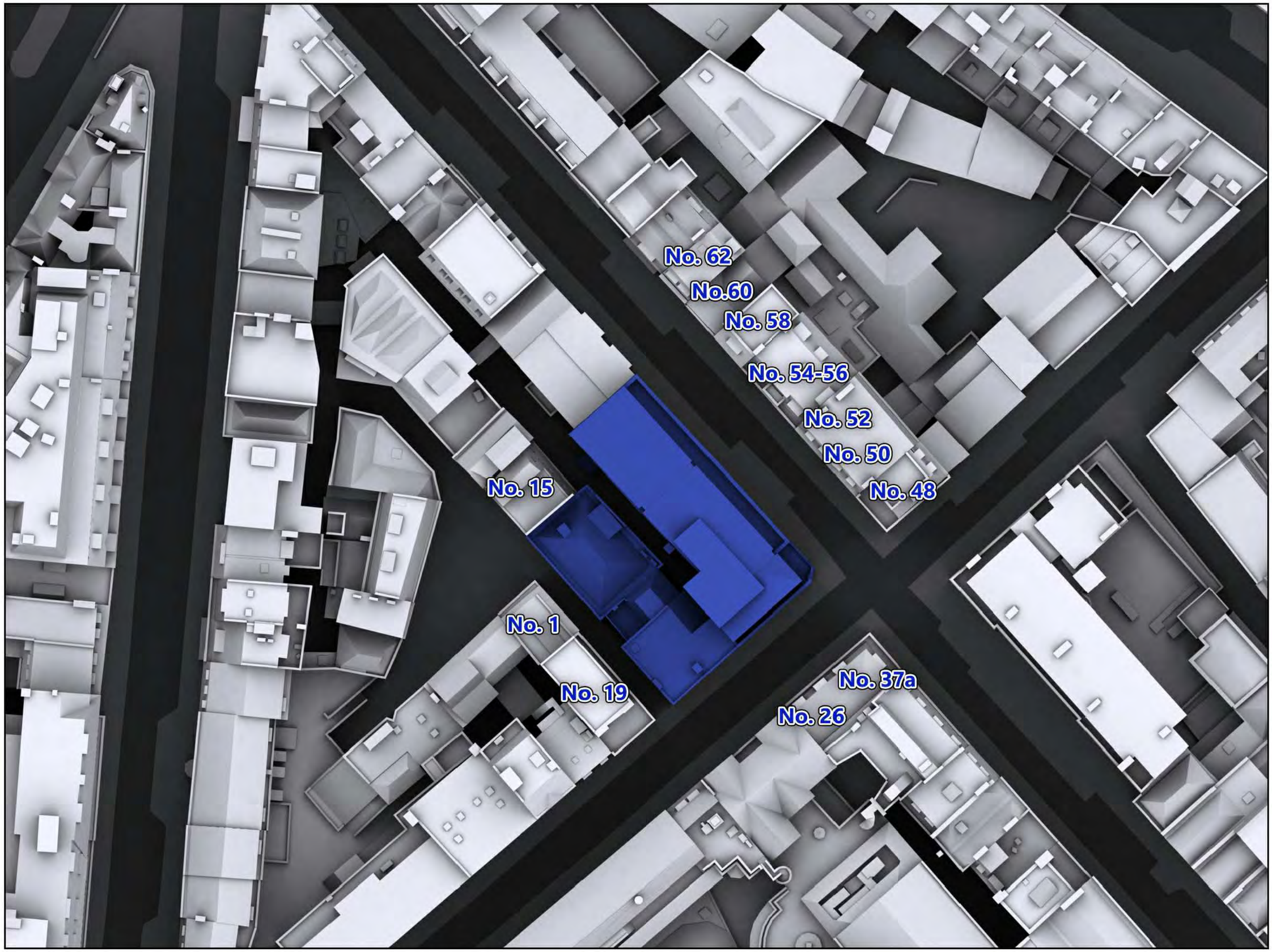
CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Existing Plan View

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
2178_100	



Sources

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CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

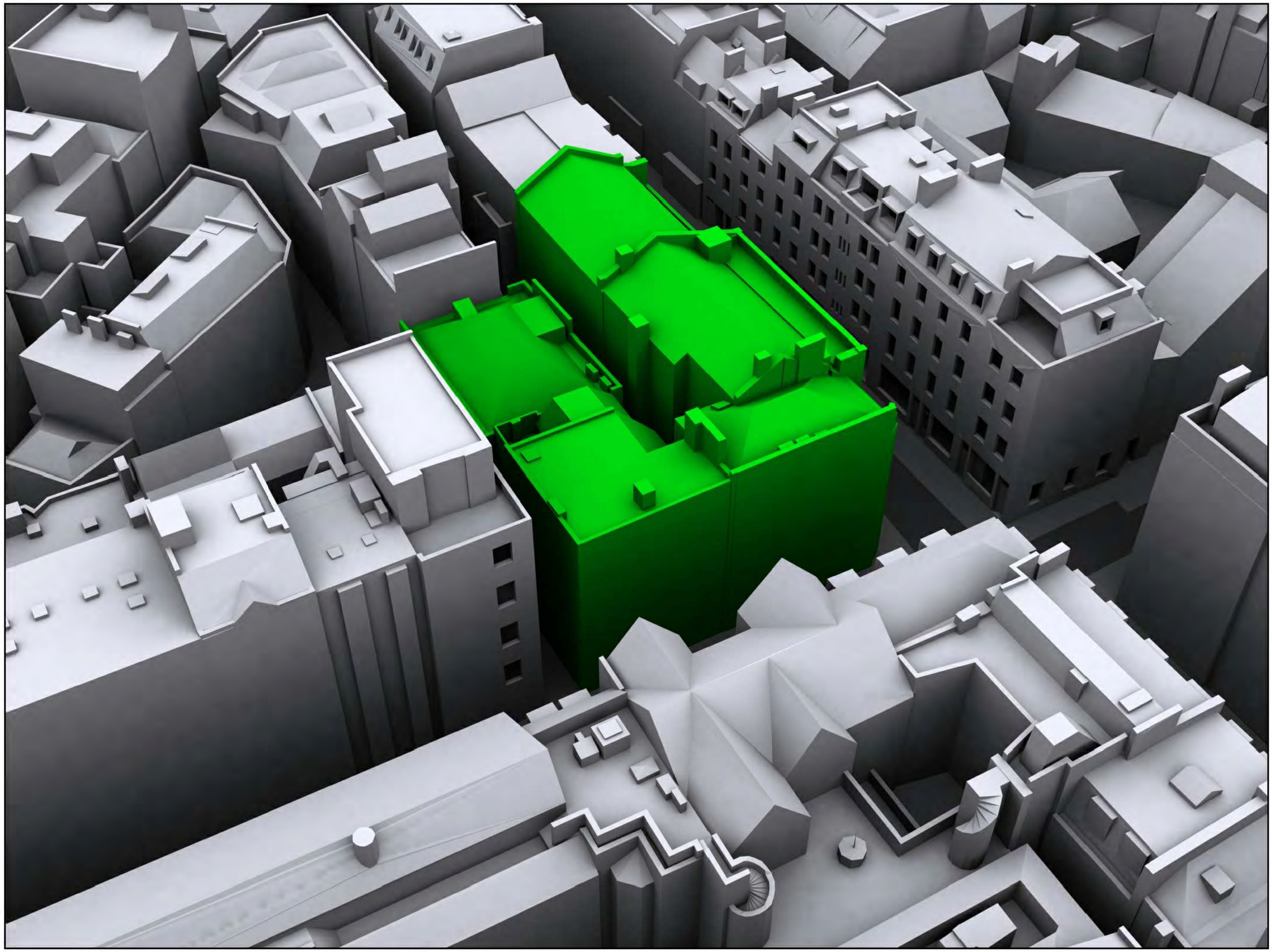
PROJECT TITLE
Neals Yard

DRAWING TITLE
Proposed Plan View

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO
2178_101

REV



Sources

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CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Existing 3d View

SCALE	DATE	ISSUE
NTS	06-07-2017	-

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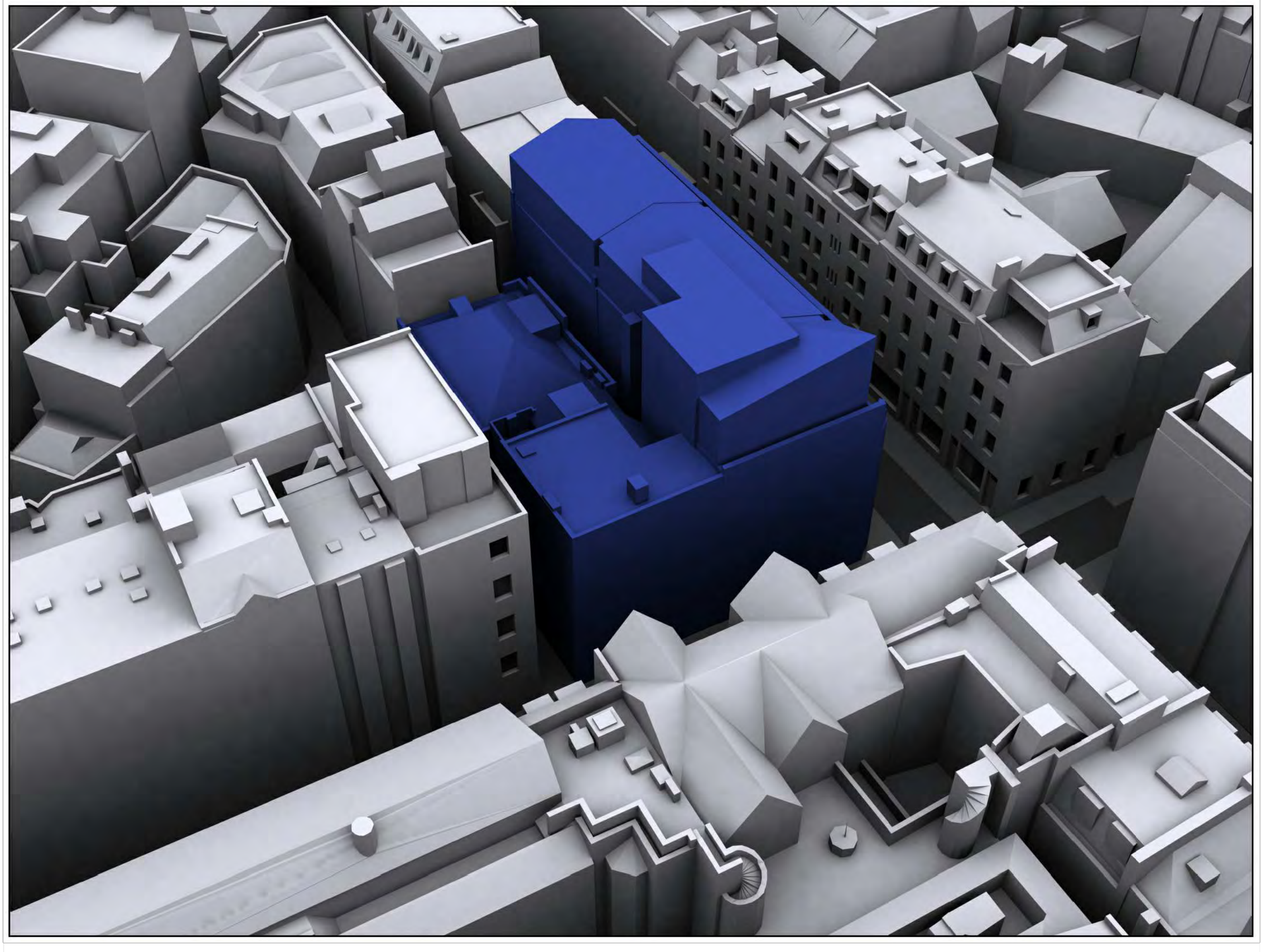

Sources

KEY

CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Proposed 3d View

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
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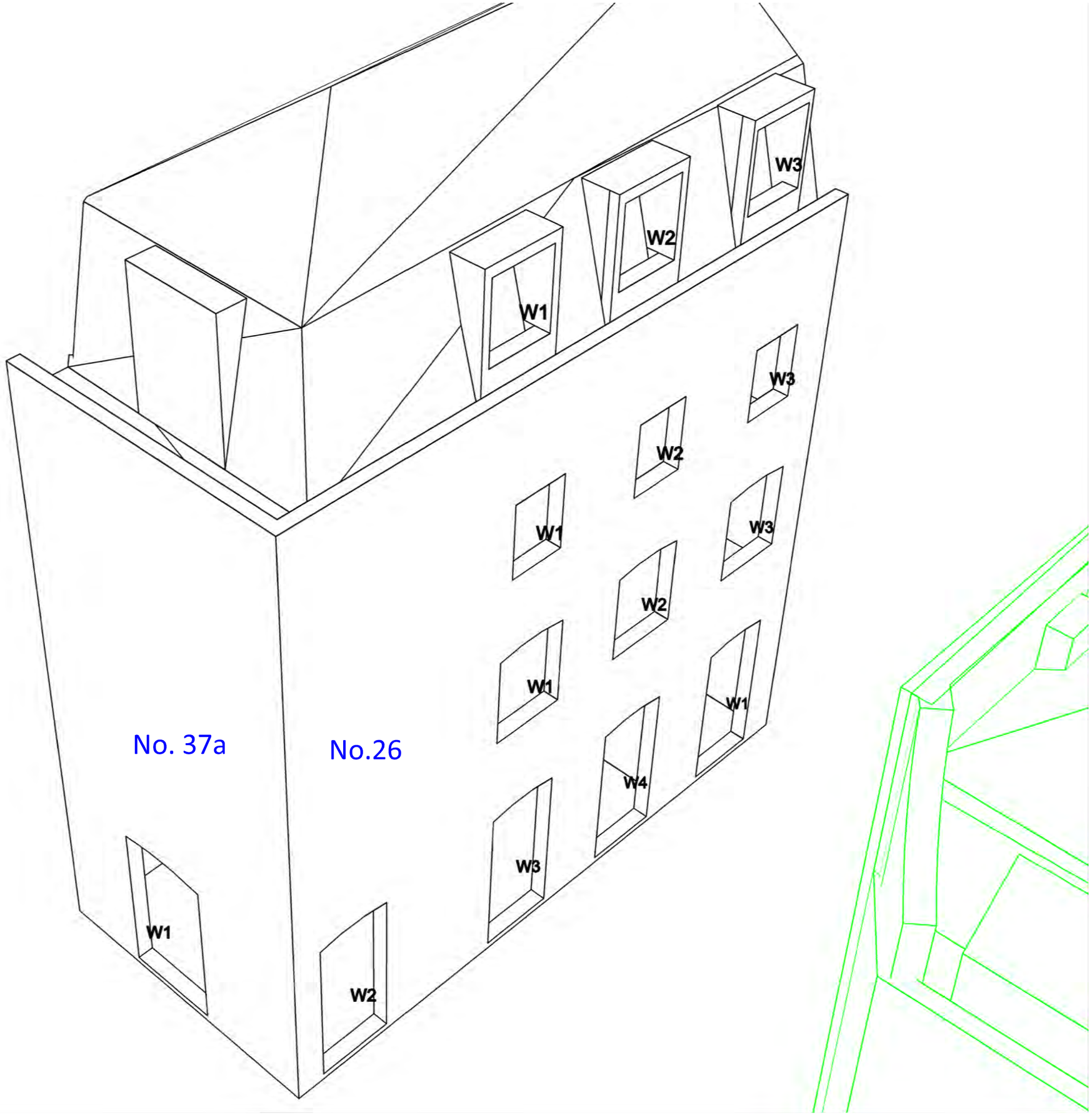

Sources

KEY

CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Window Maps - Shorts Gardens & Neal Street

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
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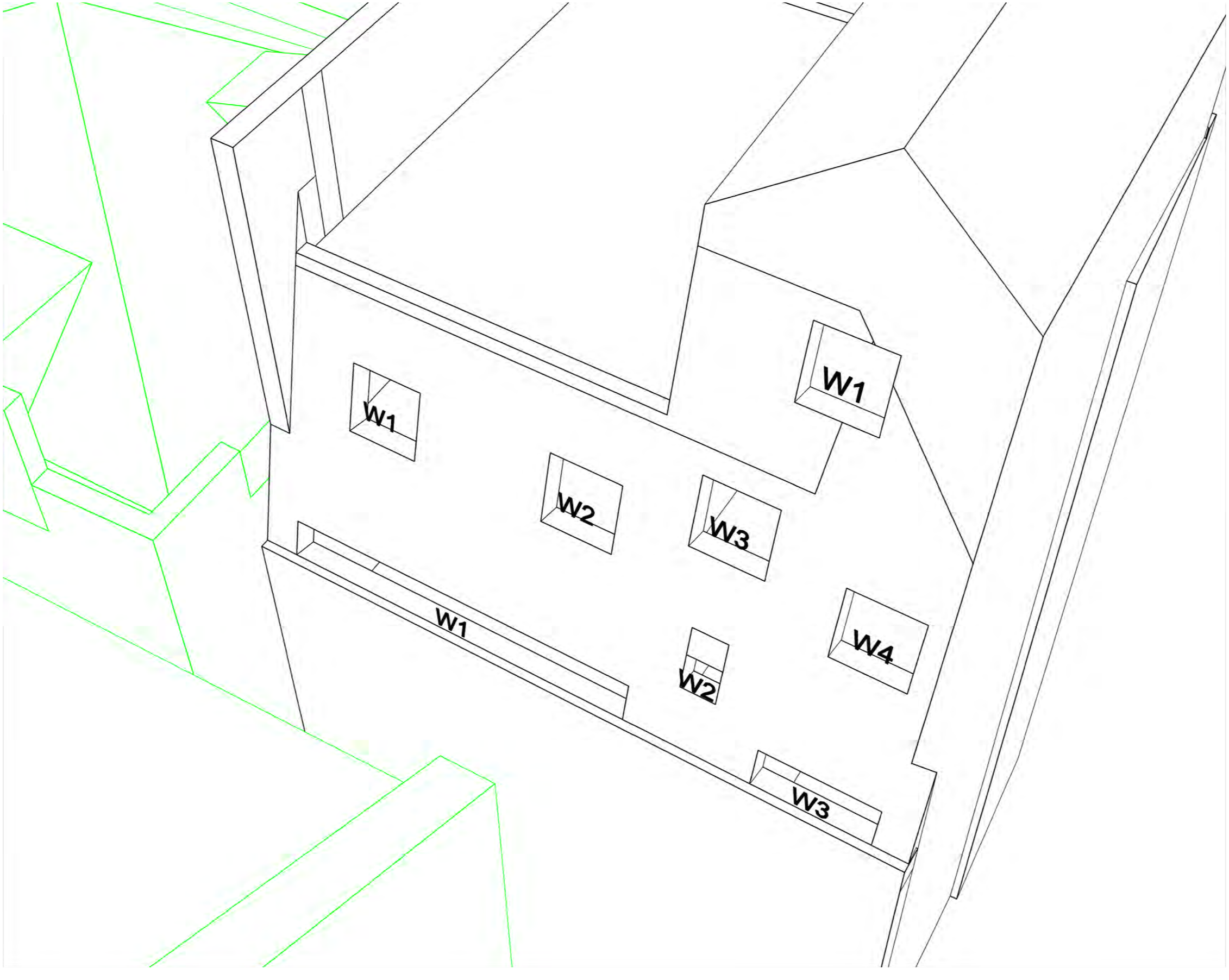


Sources

KEY

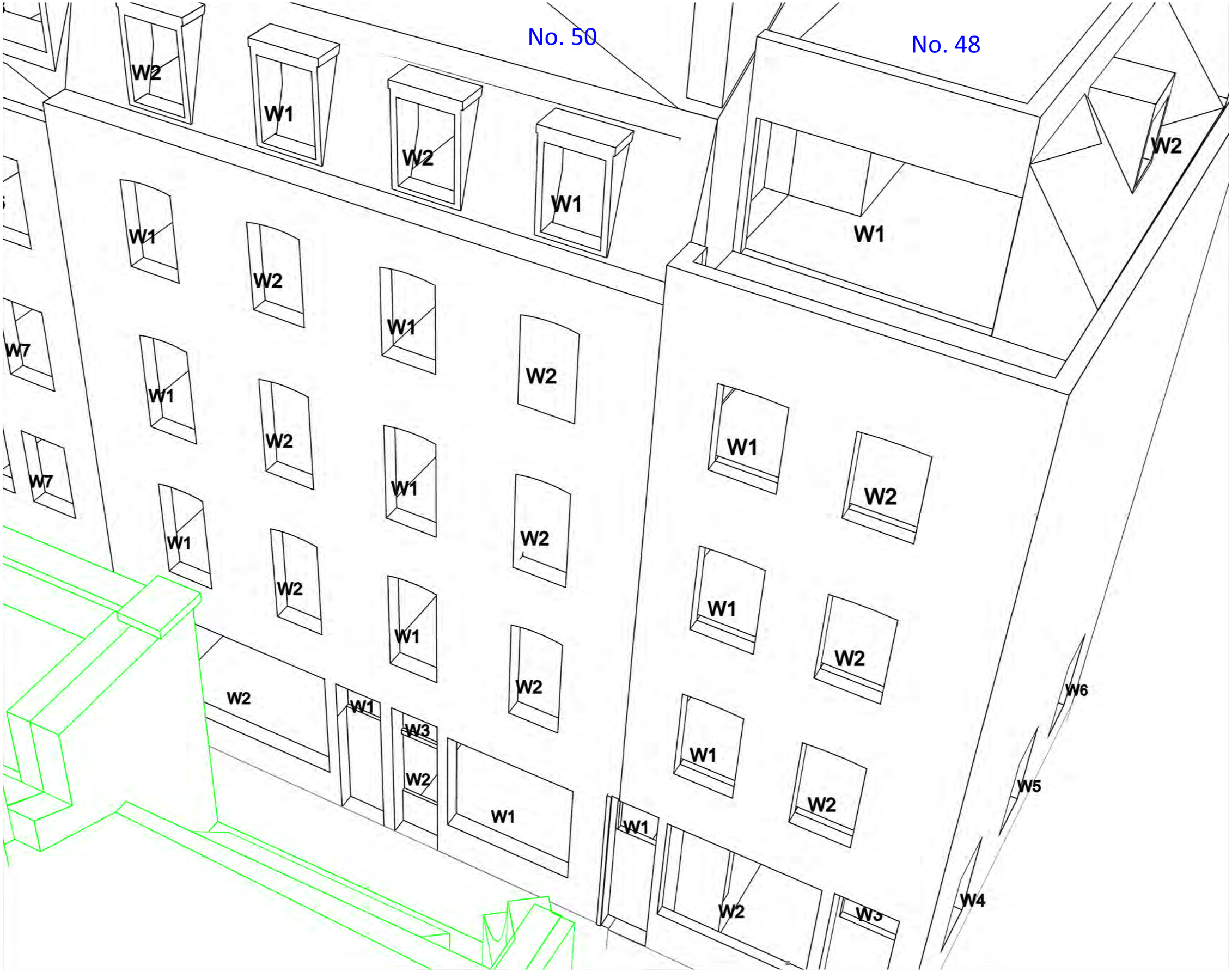
CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neal's Yard

DRAWING TITLE
Window Maps - 15 Neal's Yard

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
2178_105	-



Sources

KEY

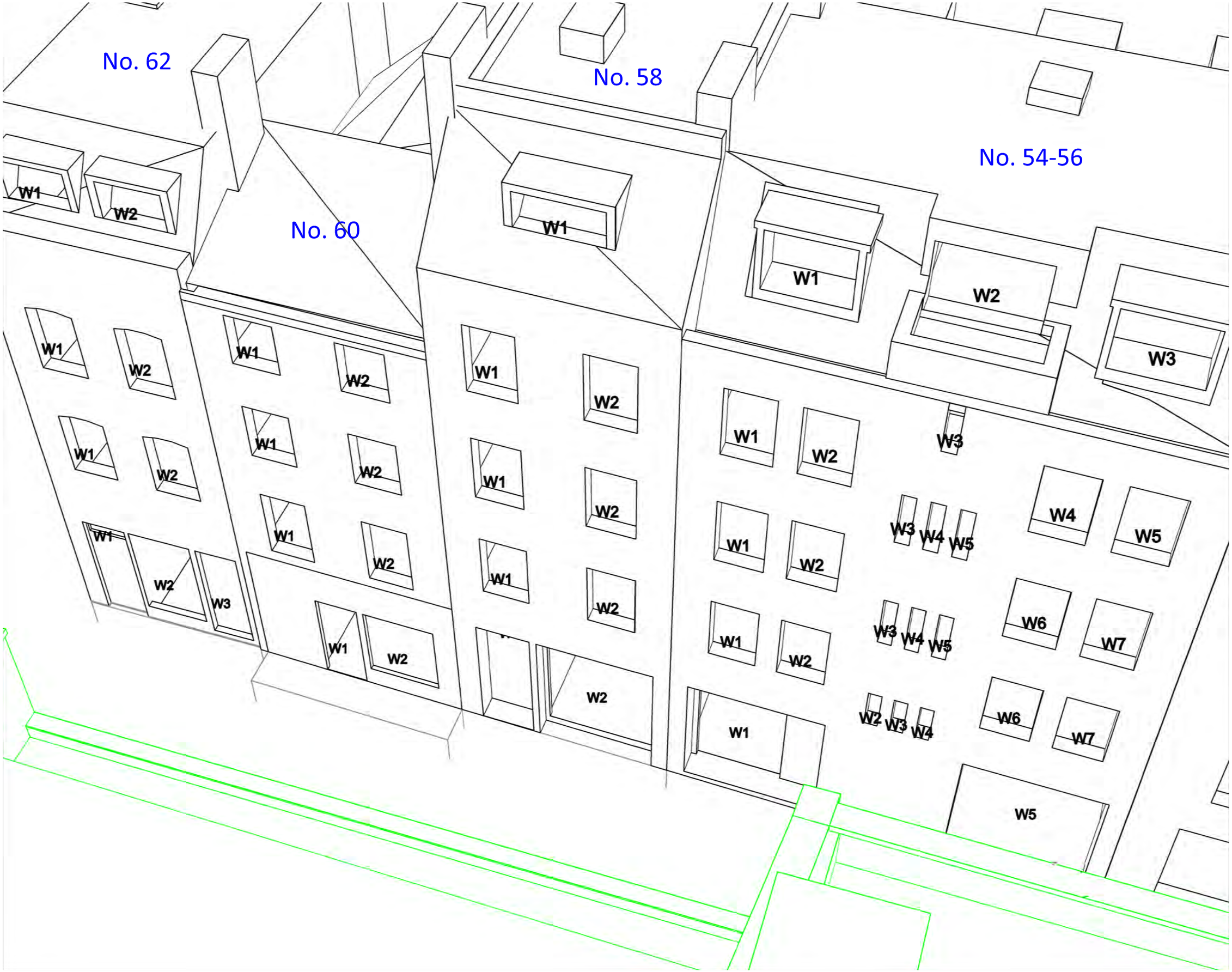
CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Window Maps - Neal Street

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
2178_106	-



Sources

KEY

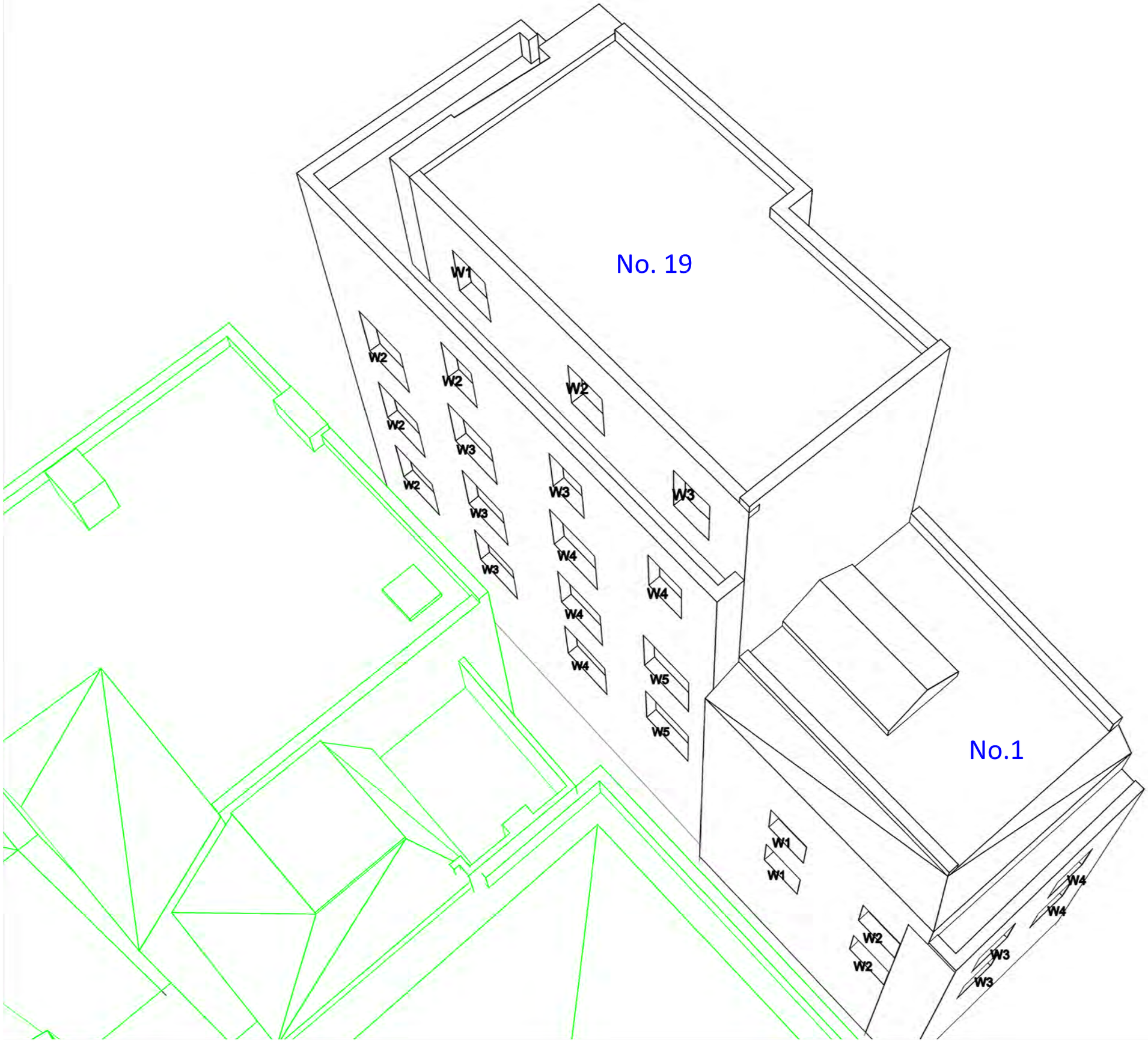
CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Window Maps - Neal Street

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
2178_107	-



Sources

KEY

CHP Surveyors Ltd
2-6 Boundary Row, London, SE1 8HP www.chp.gb.com

PROJECT TITLE
Neals Yard

DRAWING TITLE
Window Maps - Shorts Gardens & Neal's Yard

SCALE	DATE	ISSUE
NTS	06-07-2017	-

DWG NO	REV
2178_108	-

Appendix C

41-49 Neal Street, London WC1

Daylight Results

LEVEL	WINDOW	ROOM	VSC		LOSS	% LOSS	NOSKY	
			EXISTING	PROPOSED			EXISTING	PROPOSED
48 Neal Street								
First	W1	R1	19.8	17.9	1.9	9.7	>80%	>80%
	W2		21.4	19.7	1.7	7.9		
Second	W1	R1	25.9	22.8	3.1	12.0	>80%	>80%
	W2		27.1	24.4	2.7	9.9		
Third	W1	R1	32.4	28.4	4.0	12.3	>80%	>80%
	W2		32.7	29.5	3.2	9.9		
Fourth	W1	R1	34.1	31.9	2.2	6.5	>80%	>80%
	W2		32.7	32.7	0.0	0.0		
	W3		35.1	35.1	0.0	0.0		
	W4		35.1	35.1	0.0	0.0		
50 Neal Street								
First	W1	R1	17.2	15.2	2.0	11.5	71%	62%
	W2		18.0	16.0	2.1	11.4		
Second	W1	R1	23.8	20.5	3.3	13.7	>80%	72%
	W4		24.6	21.2	3.4	14.0		
Third	W1	R1	31.4	26.7	4.7	15.0	>80%	>80%
	W6		31.8	27.1	4.7	14.7		
Fourth	W1	R1	35.8	32.2	3.6	10.2	>80%	>80%
	W8		35.6	31.8	3.8	10.5		
52 Neal Street								
First	W1	R1	16.5	14.4	2.1	12.7	62%	50%
	W2		16.7	14.7	2.0	11.7		
Second	W1	R1	23.1	19.9	3.2	13.9	>80%	61%
	W2		23.3	20.1	3.2	13.5		
Third	W1	R1	30.9	26.2	4.7	15.2	>80%	76%
	W2		31.0	26.4	4.7	15.0		
Fourth	W1	R1	35.5	31.7	3.8	10.7	>80%	>80%
	W2		35.5	31.7	3.8	10.7		
	W3		35.5	31.7	3.8	10.7		
54-56 Neal Street								
First	W1	R1	18.4	14.8	3.7	20.0	52%	36%
	W2		18.2	14.6	3.6	19.6		
	W6	R3	17.3	14.5	2.8	16.4	48%	33%
	W7		17.0	14.5	2.5	15.0		
Second	W1	R1	24.5	19.9	4.6	18.9	76%	47%
	W2		24.2	19.7	4.5	18.7		
	W6	R3	23.2	19.4	3.8	16.3	67%	44%
	W7		22.9	19.4	3.5	15.2		
Third	W1	R1	30.8	25.9	5.0	16.1	>80%	72%
	W2		30.7	25.7	5.0	16.2		
	W4	R3	30.1	25.4	4.8	15.9	>80%	71%
	W5		30.0	25.3	4.7	15.6		
Fourth	W1	R1	36.1	33.8	2.3	6.4	>80%	>80%
	W2	R2	36.2	33.8	2.4	6.5	>80%	>80%
	W3	R3	36.1	33.5	2.6	7.2	>80%	>80%

41-49 Neal Street, London WC1

Daylight Results

58 Neal Street								
First	W1	R1	18.9	15.4	3.5	18.4	54%	43%
	W2		18.8	15.1	3.7	19.7		
Second	W1	R1	25.2	20.9	4.3	16.9	>80%	71%
	W2		24.9	20.3	4.6	18.4		
Third	W1	R1	31.5	27.2	4.3	13.6	>80%	>80%
	W2		31.1	26.4	4.7	15.2		
Fourth	W1	R1	35.8	33.0	2.8	7.8	>80%	>80%
62 Neal Street								
First	W1	R1	19.0	17.5	1.5	8.1	62%	58%
	W2		19.4	17.4	1.9	10.0		
Second	W1	R1	26.3	24.4	1.9	7.3	>80%	>80%
	W2		26.5	24.2	2.3	8.7		
Third	W1	R1	33.7	32.1	1.6	4.8	>80%	>80%
	W2		33.7	31.8	1.9	5.7		
19 Shorts Gardens								
First	W1	R1	14.3	14.3	0.0	0.0	>80%	>80%
	W2		4.8	4.8	0.0	0.0		
	W3	R2	3.3	3.3	0.0	0.0	23%	23%
	W4	R3	4.2	4.2	0.0	0.0	31%	31%
Second	W1	R1	21.1	21.1	0.0	0.0	>80%	>80%
	W2		8.4	8.4	0.0	0.0		
	W3	R2	6.9	6.9	0.0	0.0	33%	33%
	W4	R3	11.3	11.3	0.0	0.0	>80%	>80%
Third	W1	R1	28.7	28.7	0.0	0.0	>80%	>80%
	W2		22.1	22.1	0.0	0.0		
	W3	R2	21.6	21.5	0.1	0.2	>80%	>80%
	W4	R3	26.7	24.7	2.0	7.6	>80%	>80%
Fourth	W1	R1	35.1	35.1	0.0	0.0	>80%	>80%
	W2	R2	36.6	34.0	2.6	7.1	>80%	>80%
	W3	R3	36.6	33.7	2.9	8.0	>80%	>80%
	W4	R4	36.6	33.7	2.9	7.8	>80%	>80%
Fifth	W1	R1	37.6	37.4	0.2	0.4	>80%	>80%
	W2	R2	37.5	37.2	0.3	0.9	>80%	>80%
	W3	R3	37.5	37.0	0.4	1.2	>80%	>80%

Appendix D

41-49 Neal Street, London WC2

Sunlight Results

LEVEL	WINDOW	EXISTING			PROPOSED			% LOSS	
		SUMMER	WINTER	TOTAL	SUMMER	WINTER	TOTAL	WINTER	TOTAL
49 Neal Street									
First	W1	26%	11%	37%	22%	11%	33%	0.00	10.81
	W2	29%	10%	39%	25%	10%	35%	0.00	10.26
Second	W1	36%	16%	52%	29%	15%	44%	6.25	15.38
	W2	36%	16%	52%	31%	16%	47%	0.00	9.62
Third	W1	43%	21%	64%	36%	18%	54%	14.29	15.63
	W2	43%	22%	65%	37%	22%	59%	0.00	9.23
Fourth	W1	42%	23%	65%	41%	21%	62%	8.70	4.62
	W2	50%	22%	72%	50%	22%	72%	0.00	0.00
50 Neal Street									
First	W1	22%	9%	31%	20%	9%	29%	0.00	6.45
	W2	22%	9%	31%	20%	9%	29%	0.00	6.45
Second	W1	36%	15%	51%	28%	13%	41%	13.33	19.61
	W2	35%	15%	50%	28%	13%	41%	13.33	18.00
Third	W1	44%	20%	64%	39%	16%	55%	20.00	14.06
	W2	42%	20%	62%	37%	16%	53%	20.00	14.52
Fourth	W1	46%	23%	69%	45%	20%	65%	13.04	5.80
	W2	46%	22%	68%	45%	19%	64%	13.64	5.88
52 Neal Street									
First	W1	22%	7%	29%	20%	7%	27%	0.00	6.90
	W2	20%	9%	29%	19%	8%	27%	11.11	6.90
Second	W1	39%	12%	51%	31%	11%	42%	8.33	17.65
	W2	31%	11%	42%	30%	8%	38%	27.27	9.52
Third	W1	44%	19%	63%	41%	14%	55%	26.32	12.70
	W2	44%	20%	64%	40%	15%	55%	25.00	14.06
Fourth	W1	46%	23%	69%	45%	19%	64%	17.39	7.25
	W2	46%	23%	69%	45%	18%	63%	21.74	8.70
54-56 Neal Street									
First	W1	28%	4%	32%	20%	4%	24%	0.00	25.00
	W2	28%	4%	32%	19%	4%	23%	0.00	28.13
	W6	24%	6%	30%	19%	5%	24%	16.67	20.00
	W7	23%	6%	29%	19%	6%	25%	0.00	13.79
Second	W1	39%	9%	48%	31%	7%	38%	22.22	20.83
	W2	40%	9%	49%	32%	7%	39%	22.22	20.41
	W6	37%	9%	46%	30%	8%	38%	11.11	17.39
	W7	35%	11%	46%	29%	9%	38%	18.18	17.39
Third	W1	43%	18%	61%	41%	13%	54%	27.78	11.48

41-49 Neal Street, London WC2

Sunlight Results

	W2	43%	18%	61%	41%	13%	54%	27.78	11.48
	W4	43%	15%	58%	38%	12%	50%	20.00	13.79
	W5	41%	15%	56%	37%	12%	49%	20.00	12.50
Fourth	W1	45%	23%	68%	45%	22%	67%	4.35	1.47
	W2	46%	23%	69%	46%	22%	68%	4.35	1.45
	W3	45%	24%	69%	45%	22%	67%	8.33	2.90
58 Neal Street									
First	W1	30%	4%	34%	22%	4%	26%	0.00	23.53
	W2	31%	4%	35%	21%	4%	25%	0.00	28.57
Second	W1	38%	10%	48%	34%	7%	41%	30.00	14.58
	W2	39%	11%	50%	32%	8%	40%	27.27	20.00
Third	W1	43%	18%	61%	41%	12%	53%	33.33	13.11
	W2	43%	18%	61%	41%	13%	54%	27.78	11.48
Fourth	W1	44%	23%	67%	44%	21%	65%	8.70	2.99
62 Neal Street									
First	W1	28%	8%	36%	27%	5%	32%	37.50	11.11
	W2	28%	8%	36%	26%	5%	31%	37.50	13.89
Second	W1	38%	15%	53%	38%	10%	48%	33.33	9.43
	W2	37%	15%	52%	37%	9%	46%	40.00	11.54
Third	W1	44%	24%	68%	44%	21%	65%	12.50	4.41
	W2	44%	23%	67%	44%	20%	64%	13.04	4.48
19 Shorts Gardens									
First	W1	25%	5%	30%	25%	5%	30%	0.00	0.00
Second	W1	40%	11%	51%	40%	11%	51%	0.00	0.00
Third	W1	49%	19%	68%	49%	19%	68%	0.00	0.00
Fourth	W1	51%	26%	77%	51%	26%	77%	0.00	0.00