123 Broadhurst Gardens, London, NW6 3BJ

Daylight and Sunlight Report

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13th September, 2016

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123 Broadhurst Gardens,

London

NW6 3BJ

Prepared for:-

Matthew Lenczner and Bryony Marshall

123 Broadhurst Gardens

London

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Prepared by	**Date**
James M A Crowley	13th September 2016

Contents

Appendices

This report is solely for the benefit of **Matthew Lenczner and Bryony Marshall** and the benefit cannot be transferred to any other party without the express written consent of 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 Matthew Lenczner and Bryony Marshall. It accompanies an application for full planning permission for the reconfiguration of the existing structure on the site and considers the implications the proposals will have on the daylight and sunlight enjoyed by the first floor accommodation within 121 Broadhurst Gardens.

1.2 To ensure that this assessment has correctly considered the daylight and sunlight 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 Guidelines**).

1.3 The standards and tests applied within this assessment are briefly described in Appendix A.

1.4 Our analysis has considered 4 windows within 121 Broadhurst Gardens and demonstrates that all windows and the rooms they serve will achieve the numerical values set out in the BRE Guidelines for daylight and sunlight.

1.5 The results of our analysis demonstrate that the aims of the Building Research Establishment publication "*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice*" (2011) and Camden Planning Guidance CPG2 are achieved and the proposals will not have an adverse effect on the daylight enjoyed by first floor accommodation within 121 Broadhurst Gardens.

2.0 Instruction

2.1 We have been instructed by Matthew Lenczner and Bryony Marshall to establish the implications the proposed reconfiguration to the property will have upon the daylight and sunlight to the first floor windows within 121 Broadhurst Gardens that serve habitable rooms.

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 Camden Planning Guidance, Housing CPG2 dated May 2016 states;

"*Residential developments should maximise sunlight and daylight, both within the new development and to neighbouring properties whilst minimising overshadowing or blocking light to adjoining properties.*"

3.2 To ensure that this assessment has been appropriately considered, daylight and sunlight, we have therefore undertaken the analysis in accordance with the BRE Guidelines.

4.0 Information

4.1 We have made reference to the following information:-

Ordnance Survey

Site Plan

Marek Wojciechowski Architects

Drawing numbers 16009_D_)1, D02, P_01, P_02, P_03, P_04, P_05, P_09, P_10 and P_11

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Online research

5.0 Proposals

5.1 The site is located on the south side of Broadhurst Gardens and the proposals are to undertake some reconfiguration of the existing property as indicated on drawing numbers 2145-00, 01, 02 and 03 attached at Appendix B.

5.2 The existing residential building adjacent the site which has windows serving habitable rooms overlooking the site and we have been requested to consider is 121 Broadhurst Gardens and in particular in relation to the first floor accommodation.

6.0 Limitations

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

6.2 We refer to you to the drawings set out in paragraph 4.1 above for a list of the third party information relied upon 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 property to the site as set out in the table above. This includes the window locations and internal configuration. We have not had access to the neighbouring properties and therefore the internal configuration and which windows serve habitable rooms has been based on onsite observations and other information we have been able to obtain. We have then produced a 3D computer model of the existing structures on the site and the proposals.

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 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.

7.4 The numerical values contained within the BRE Guidelines, to establish whether the proposals will have a significant effect on the daylight enjoyed by the neighbouring properties, are based initially on a Vertical Sky Component analysis (VSC). It seeks for each window to achieve a VSC of 27% or 0.8 times the existing. These values are for suburban rather than urban locations where it is considered a VSC of more than 20% is more appropriate.

7.5 In relation to daylight, the BRE Guidelines also set out numerical values for Daylight Distribution and seeks to ensure that a significant portion, which is considered to mean at least 80% or at least 0.8 times the exiting area of each habitable room lies in front of the NSL.

7.6 With regard to sunlight, the BRE Guidelines seek that all windows within 90^{o} of due south achieve 25% of the Annual 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 General

8.1.1 With regard to daylight enjoyed by the neighbouring residential properties, as the proposals will subtend a 25° line drawn from their lowest window, in accordance with the BRE Guidelines we have calculated the Vertical Sky Component (VSC) to all habitable rooms both in the existing and proposed situation. This establishes the amount of daylight currently enjoyed on the face of the window and as a result of the proposed extension.

8.1.2 The BRE Guidelines state that if the VSC calculated at the centre of each window is 27% or more, then enough skylight should be reaching the window. If with the implementation of the proposals the window does not achieve 27% VSC but is more than 0.8 times its former value, then the BRE Guidelines state that skylight is unlikely to be seriously affected. It should however be appreciated that these levels relate to a suburban rather than urban location and that therefore a VSC of 20% is considered more appropriate in this instance.

8.1.3 In addition to the above, to ensure that the room will achieve good daylight distribution the NSL is plotted. The BRE Guidelines state that for a room to enjoy good daylight distribution a significant area of the room, which is considered to be 80% or at least 0.8 times the existing area should be in front of the NSL.

8.2 121 Broadhurst Gardens

8.2.1 We have considered 4 windows serving this property at first floor level.

8.2.2 The results of our analysis as set out in the table attached at Appendix C, demonstrates that where the proposals result in no change or a minor increase the VSC enjoyed by each window.

8.2.3 In relation to daylight distribution, as demonstrated in the table attached at Appendix C, the rooms concerned will have a significant area of the room in front of the No Sky Line.

8.2.4 The results of our analysis demonstrate that the aims of the BRE Guidelines are met with regards to the first floor accommodation within 121 Broadhurst Gardens.

9.0 Sunlight

9.1 General

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

9.2 121 Broadhurst Gardens

9.2.1 As set out in the table attached at Appendix D, the results demonstrate that in all cases, the proposals will not result in any alteration in the level of sunlight the windows will enjoy.

9.2.2 Our analysis therefore demonstrates that the BRE Guidelines are achieved and this property will still enjoy a good level of sunlight.

10.0 Conclusion

10.1 Our analysis has considered the implications the proposals for 123 Broadhurst Gardens will have on the daylight and sunlight enjoyed by the first floor accommodation within 121 Broadhurst Gardens will achieve the numerical values set out in the BRE Guidelines and the proposals will not result in an adverse effect on the daylight it enjoys.

10.2 The analysis demonstrates that all windows and the rooms they serve will achieve the numerical values in the BRE Guidelines for daylight.

10.3 A sunlight analysis of those windows facing within 90° of due south demonstrates that all windows will see no alteration from that currently enjoyed.

10.4 The results of our analysis demonstrate that the aims of the Building Research Establishments publication "*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice.*" (2011) and Camden Planning Guidance CPG2 will be met and will not have an adverse effect on the daylight and sunlight enjoyed by the first floor accommodation within 121 Broadhurst Gardens.

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 25° 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 25º to the horizontal from the subject window. It is for this reason that this 25º 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 90º 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 90º of due south and overlooking any part of the proposals subtends an angle of more than 25º 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.

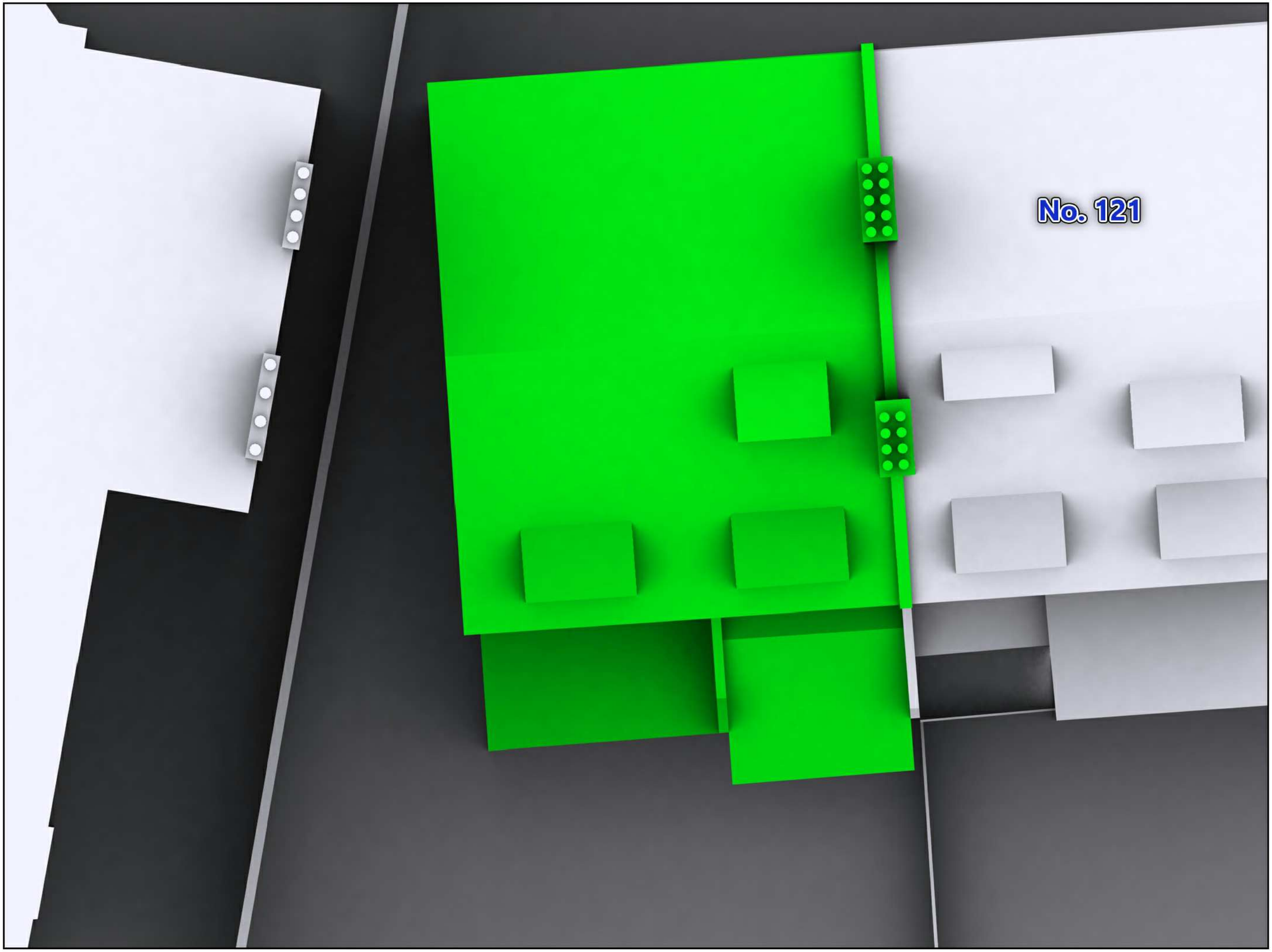
  The APSH assessment is undertaken to the main window of residential buildings, where the window faces 90º of due south. Within the BRE Guidelines it sets out the criteria for this assessment:-

  "*If a living room of an existing dwelling has a main window facing within 90º of due south, and any part of a new development subtends an angle of more than 25º 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
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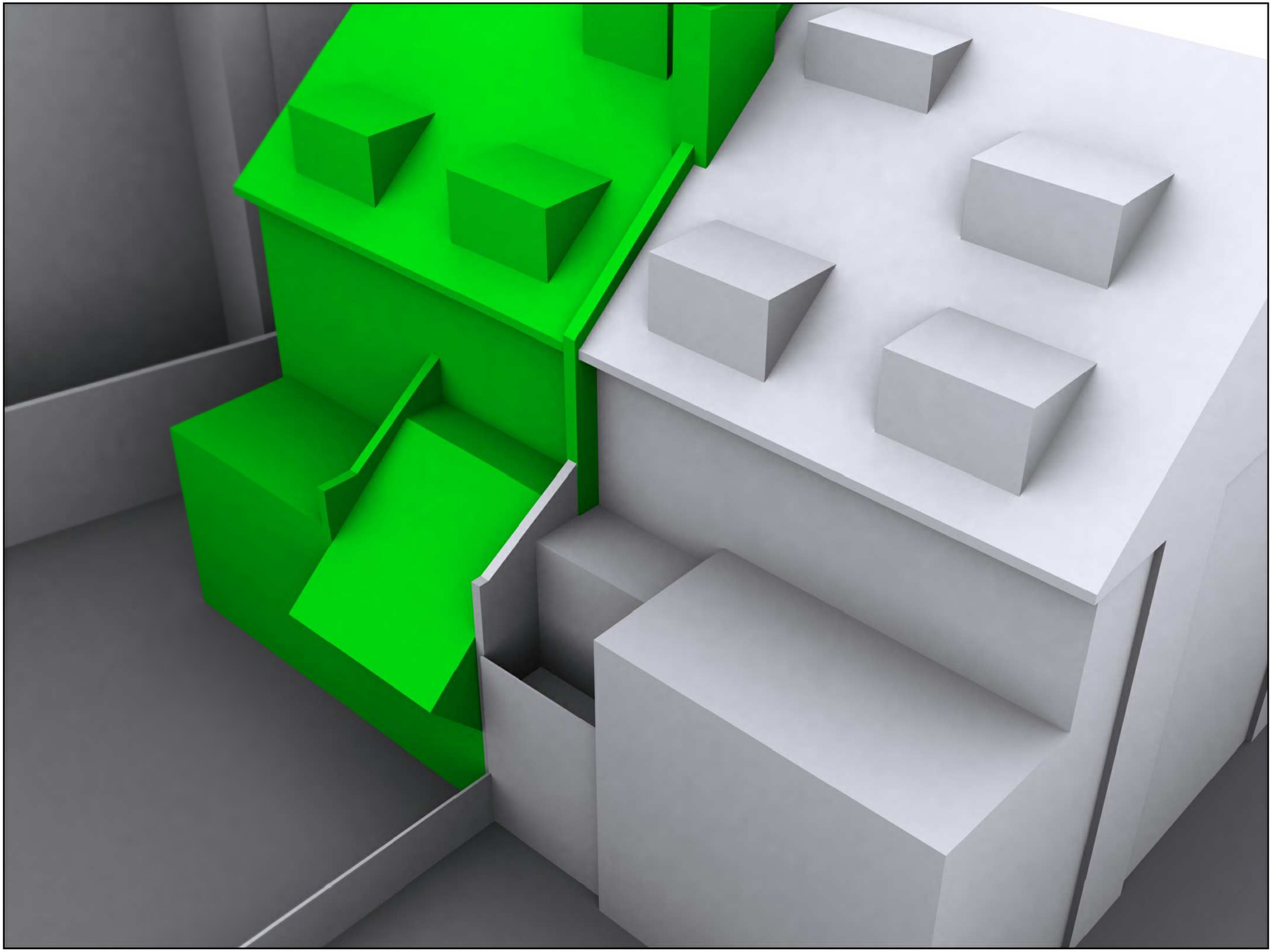
PROJECT TITLE
Broadhurst Gardens

DRAWING TITLE
Existing Plan View

SCALE	DATE	ISSUE
NTS	13-09-2016	-

DWG NO	REV
2145_00	-

Sources



KEY

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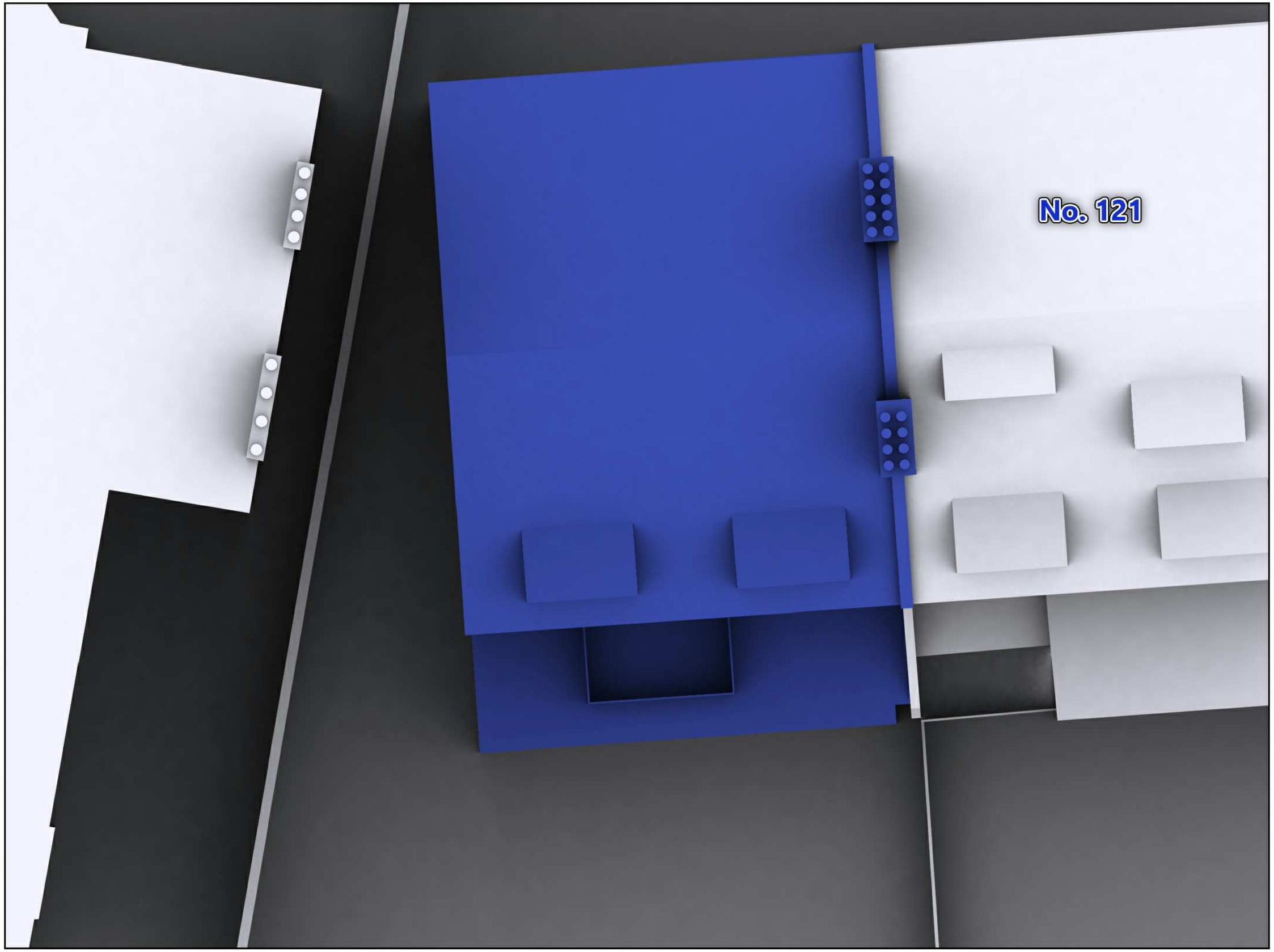
PROJECT TITLE
Broadhurst Gardens

DRAWING TITLE
Existing 3d View

SCALE	DATE	ISSUE
NTS	13-09-2016	-

DWG NO	REV
2145_01	-

Sources



KEY

CHP Surveyors Ltd
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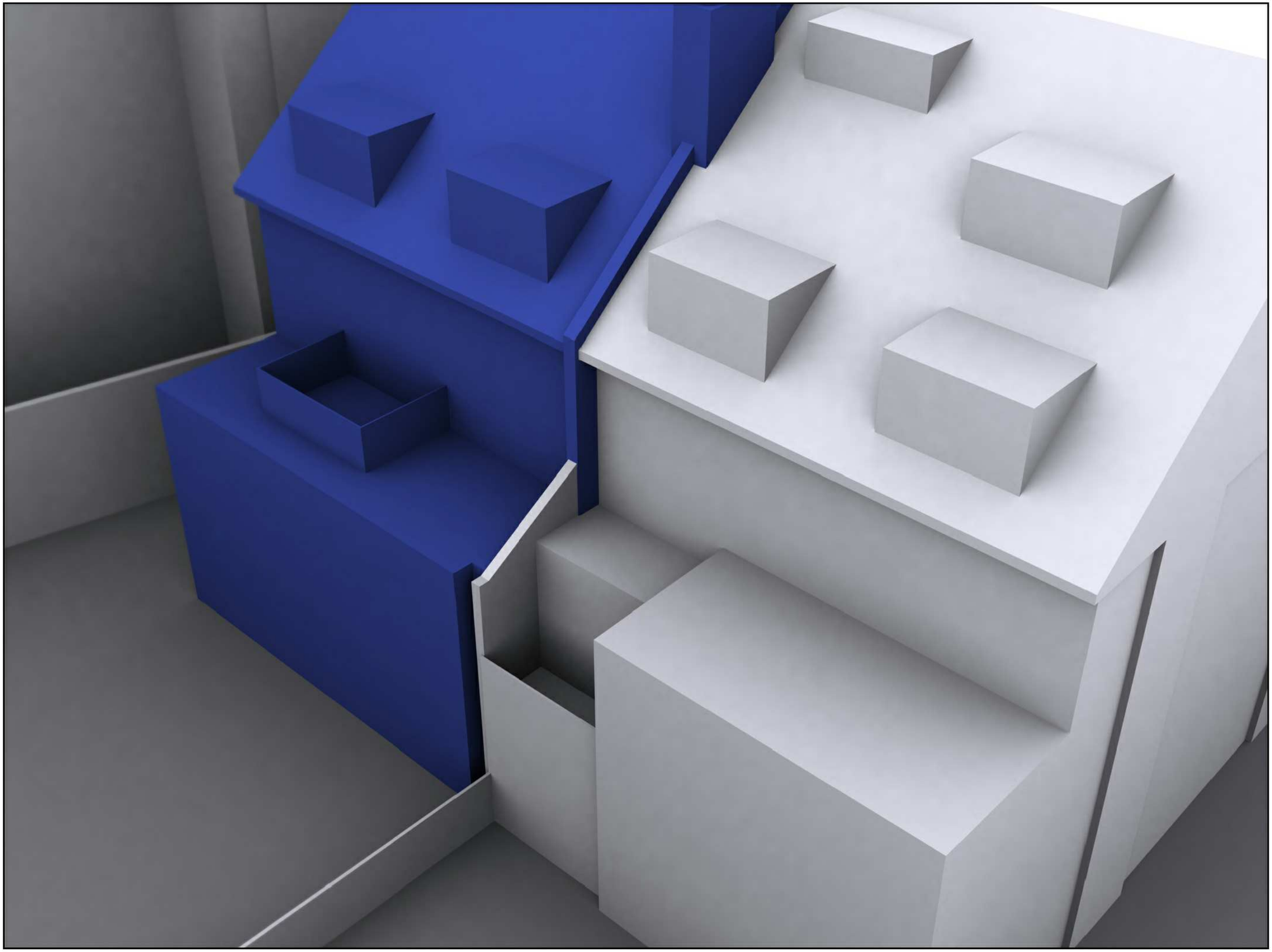
PROJECT TITLE
Broadhurst Gardens

DRAWING TITLE
Proposed Plan View

SCALE	DATE	ISSUE
NTS	13-09-2016	-

DWG NO	REV
2145_02	-

Sources



KEY

CHP Surveyors Ltd
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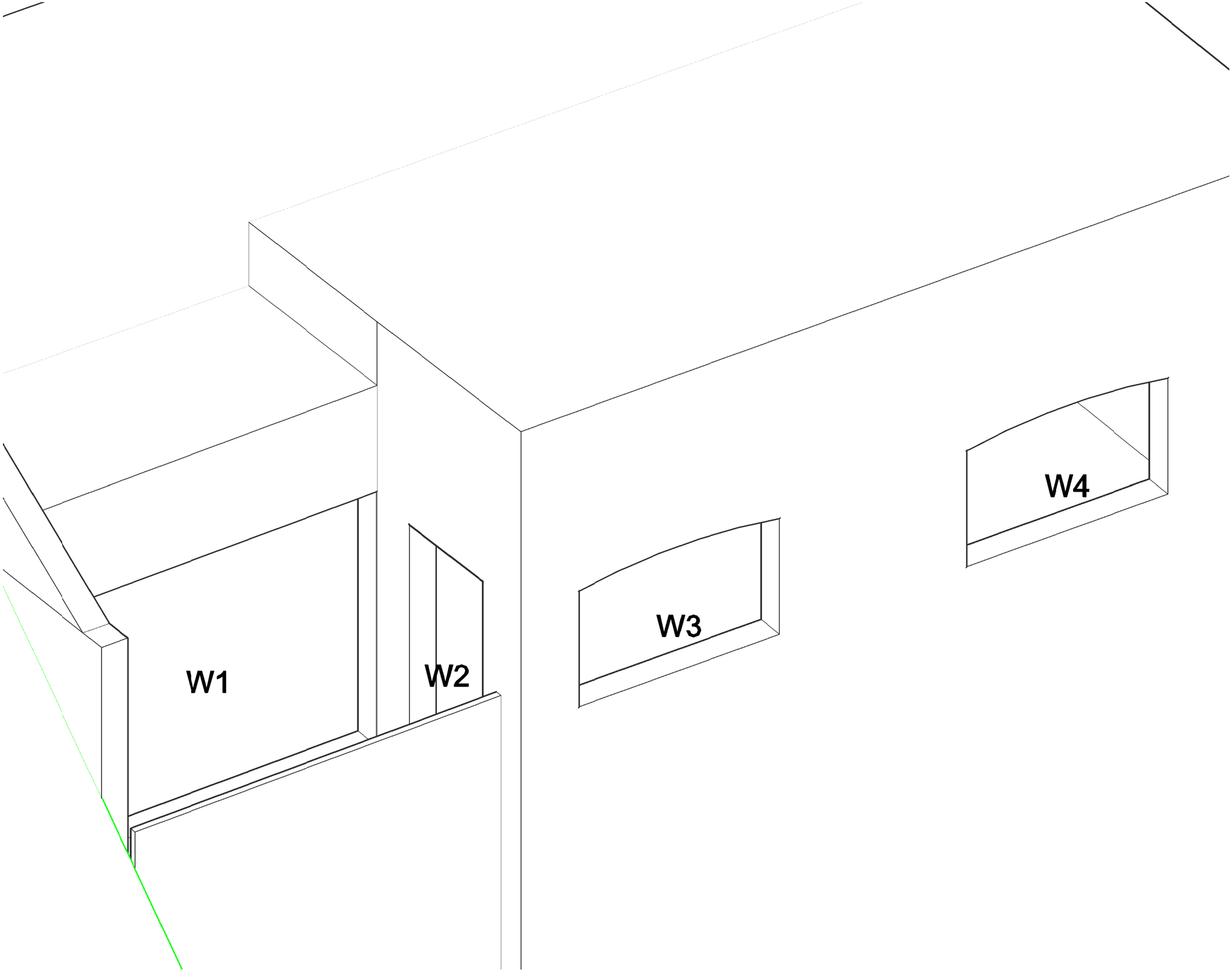
PROJECT TITLE
Broadhurst Gardens

DRAWING TITLE
Proposed 3d View

SCALE	DATE	ISSUE
NTS	13-09-2016	-

DWG NO	REV
2145_03	-

Sources



KEY

CHP Surveyors Ltd
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PROJECT TITLE
Broadhurst Gardens

DRAWING TITLE
Window Map
No. 121 Broadhurst Gardens

SCALE	DATE	ISSUE
NTS	13-09-2016	-

DWG NO	REV
2145_04	-

Appendix C

123 Broadhurst Gardens,
London NW6 3BJ
Daylight Results

LEVEL	WINDOW	ROOM	VSC				ADF	NOSKY	
			EXISTING	PROPOSED	LOSS	% LOSS		EXISTING	PROPOSED
121 Broadhurst Gardens									
First	W1	R1	28.7	28.7	0.0	-0.1	3.4	100%	100%
	W2	R2	19.8	19.8	0.0	-0.1	2.1	100%	100%
	W3		39.5	39.5	0.0	0.0			
	W4		39.5	39.5	0.0	0.0			

Appendix D

123 Broadhurst Gardens,
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Sunlight Results

		EXISTING			PROPOSED			% LOSS	
LEVEL	WINDOW	SUMMER	WINTER	TOTAL	SUMMER	WINTER	TOTAL	WINTER	TOTAL
121 Broadhurst Gardens									
First	W1	28%	22%	50%	28%	22%	50%	0.00	0.00
	W2	24%	13%	37%	24%	13%	37%	0.00	0.00
	W3	56%	28%	84%	56%	28%	84%	0.00	0.00
	W4	57%	28%	85%	57%	28%	85%	0.00	0.00