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3 - 6 Spring Place  
Spring Place Ltd

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Daylight & Sunlight  
Report

Lumina London

September 2016



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# 1 INTRODUCTION AND SCOPE OF REPORT

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- 1.1 Lumina London Limited are retained by Spring Place Limited to assess the performance and impact of the proposed redevelopment of 3-6 Spring Place in respect of Daylight and Sunlight to determine whether the proposed development will satisfy London Borough of Camden's policy standards.
- 1.2 We have been part of the Design Team from the outset of the Feasibility Study to provide technical guidance to Piercy & Company by preparing and testing numerous Building Envelopes and Massing Studies to ensure that the final scheme will not result in any material impact on the amenity enjoyed by any existing neighbouring residential dwellings.
- 1.3 The proposed development comprises the demolition of existing buildings and structures and redevelopment to provide an office building of up to 6 storeys (plus basement) with ground floor flexible restaurant / café / event space.
- 1.4 The purpose of this Report is to assess the impact of the proposed development on the daylight and sunlight enjoyed by existing neighbouring residential buildings in accordance with the standards in the Building Research Establishment (BRE) Guidelines "*Site Layout for Daylight and Sunlight – a Guide to Good Practice*" 2011, to ensure that the proposed development will not result in any material impact on the amenity enjoyed by existing and future neighbouring residents.

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## 2 SOURCES OF INFORMATION AND LIMITATIONS

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- 2.1 The existing and surrounding buildings have been modelled from an accurate 3D scanned survey commissioned from MBS Survey Software Solutions Limited Reference: MBS16\_545 3-6 Spring Place.dwg.
- 2.2 The Proposed Scheme has been based on the Piercy & Company 3D model reference 160527 which represents the same massing as the planning application drawings. Although the massing model does not show the Photovoltaic cells on the roof, this is of no consequence as the siting of those PVs is such that they have been set back from edge of the parapet for the purpose of Health & Safety Maintenance access so as not to be visible from street level and they are low-profile. The combination of setting these cells back from the parapet and their low profile means that they do not present any obstruction to daylight or sunlight when viewed from any of the windows in the neighbouring properties.
- 2.3 The site has been inspected on a number of occasions and the survey information has been supplemented by measurements taken on site together with general site photography.
- 2.4 A review of the Council's planning and valuation records has been undertaken, which has been used to ascertain the location and uses of the habitable rooms within neighbouring residential dwellings in close proximity of the Site.

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### 3 DAYLIGHT AND SUNLIGHT STANDARDS

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3.1 The BRE Guidelines: “*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice*” are well established and are adopted by most Local Authorities, including the London Borough of Camden as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data on which to apply their planning policies. The guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.

3.2 The Introduction of the Guidelines states that: -

*“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 developer. Although it gives numerical guidelines, these should be interpreted flexibly because natural light is only one of many factors in site layout design.”*

3.3 The “flexibility” recommended in the Guidelines should reflect the specific circumstances of each case being considered. For example, as the numerical standards within the Guidelines have been derived on the basis of a low density suburban housing model, it would be entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser inner city urban environment where the height and scale of buildings is generally greater. In addition, where existing and proposed buildings have specific design features such as projecting balconies, deep recesses, bay windows etc., it is equally valid to apply a degree of flexibility to take account of the effect of these particular design features. This does not mean that the recommendations and targets within the Guidelines can be disregarded, but instead, the “flexibility” that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional value judgement and experience, but general guidance on setting alternative numerical targets in such circumstances, is set out in Appendix F of the Guidelines.

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## Daylighting

- 3.4 The primary method for measuring the adequacy of daylight received by existing neighbouring buildings is the use of Vertical Sky Components (VSC).
- 3.5 VSC is a “spot” measurement of daylight taken on the face of the window and is a measure of the availability of direct light from the sky received from over and around the “existing” and “proposed” obstruction caused by the buildings or structures in front of the window. As it is measured on the outside face of the window, one of the inevitable shortcomings is that it does not take account of the size of the window or the size of the room served by the window. For this reason, the BRE Guidelines recommend that where the internal room layouts and dimensions are known, the internal Daylight Distribution can be measured in addition to VSC to determine the extent of daylight penetration and direct sky visibility from within the room.
- 3.6 The maximum VSC value that can be achieved for a totally unobstructed vertical window is 40% VSC. The target VSC value for good daylighting conditions is 27% VSC and this represents a typical VSC value that would be achieved on the face of a window on the main elevation of a well-spaced 2 storey suburban housing development.
- 3.7 In simple terms, 27% VSC equates to being able to see 27% of the Sky Dome, i.e. the hemisphere of sky above a given reference point. A VSC value of 27% will be achieved where the obstruction in front of a vertical window is continuous and parallel to the plane of that window, and where it subtends a vertical angle of 25 degrees when measured from the midpoint of that window. It therefore follows that if a proposed new development is below a vertical angle of 25 degrees, the resultant VSC value will remain above 27%. This is the scientific basis for the initial “screening” test in the BRE Guidelines where it is unnecessary for any further daylight (or sunlight) tests to be undertaken where a proposed development will remain below a vertical angle of 25 degrees. It is clear that in an inner city urban environment, the relationship with the vast majority of existing buildings already exceeds a vertical angle of 25 degrees and that the VSC values that prevail will therefore be below 27% VSC as a norm. In such circumstances, VSC values in the mid-teens are typical and therefore represent the reasonable expectation of daylight in an urban environment, and values in excess of 20% of VSC will be considered to be good. It is only where VSC values fall in single figures that it becomes difficult

to achieve good interior lighting conditions without the need to provide supplementary artificial lighting for longer periods during the day.

- 3.8 VSC is measured at the mid-point on the external face of a window serving a habitable room. For the purpose of the Guidelines, a “*habitable*” room is defined as a Kitchen, Living Room or Bedroom. Bathrooms, hallways and corridors are excluded from this definition. In addition, there is often a further distinction in respect of small kitchens. Where the internal area of a small kitchen limits the use of the kitchen to food preparation only and is not of sufficient size to accommodate some other form of “*habitable*” use such as dining, the kitchen need not be classed as a “*habitable*” room in its own right. This can also apply to relatively small internalised or galley-type kitchens and can also apply to relatively small kitchen areas which form part of a larger Living / Kitchen / Diner.

- 3.9 For VSC, the Guidelines state that:

*“If this Vertical Sky Component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the Vertical Sky Component with the new development in place is both less than 27% and less than 0.8 times its former value, then the occupants of the existing building will notice the reduction in the amount of skylight”.*

We have emphasised the word “notice” as just because a change in lighting conditions is noticeable does not necessarily equate to the loss of light being a material reduction to the level of amenity enjoyed by the neighbouring property.

- 3.10 In context, as mentioned above, the maximum VSC value that can be achieved for a totally unobstructed vertical window is 40% VSC. It is therefore permissible for an obstruction to reduce the amount of visible sky seen from that window by 13% of the Sky Dome to 27% VSC, or 32.5% of the present value, before the level of daylight received by the window could be below standard. There are however many circumstances where the VSC value is already below 27%. In such circumstances, it is permissible to reduce existing VSC values by a factor of 0.2 (i.e. 20%) so that the VSC value under “proposed” conditions remains more than 0.8 times its former value. The scientific foundation for this permissible margin is that through the research

undertaken at the Building Research Establishment, they have found that existing daylight (and sunlight) levels can be reduced by a factor of 20% before the loss becomes materially noticeable. This factor of reduction applies to VSC, Daylight Distribution, Sunlight and Overshadowing. Where existing windows enjoy very high levels of daylight under existing conditions, the percentage reduction can be higher provided that the residual VSC value remains adequate.

### **Sunlighting**

- 3.11 The requirements for protecting sunlight to existing residential buildings are set out in Section 3.2 of the BRE Guidelines. As with daylight, it is unnecessary for detailed sunlight tests to be undertaken if a proposed development will be below a vertical angle of 25 degrees drawn from the midpoint of the lowest window serving a habitable room, as in such circumstances, the availability of sunlight will remain adequate.
- 3.12 The availability of sunlight varies throughout the year, with the maximum amount of sunlight being available on the summer solstice and the minimum on the winter solstice. In view of this, the internationally accepted test date for measuring sunlight is the median between the two, the Spring Equinox (21<sup>st</sup> March), on which day the United Kingdom has equal periods of daylight and darkness and sunlight is available from approximately 0830 to 1730. In addition, on that date, sunlight received perpendicular to the face of a window will only be received where that window faces within 90 degrees of due south. The BRE Guidelines therefore limits the extent of testing for sunlight where a window faces within 90 degrees of due south.
- 3.13 The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.
- 3.14 The recommendation for sunlight is: -

*“If this window reference point can receive more than one quarter of annual probably sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21<sup>st</sup> September and 21<sup>st</sup> March, then the room should receive enough sunlight... .. any reduction in sunlight access below this level should be kept to a minimum. If the availability of sunlight hours are both less than the amounts given and less than 0.8 times their former value, either*



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*over the whole year or just during the winter months, then the occupants of the existing building will notice the loss of sunlight”.*

- 3.15 A good level of sunlight will therefore be achieved where a window receives more than 25% APSH, of which 5% APSH should be received in the winter months. Where sunlight levels fall below this suggested recommendation, a comparison with the existing condition should be undertaken and if the reduction ratio is less than 0.2, i.e. the window continues to receive more than 0.8 times its existing sunlight levels, the impact on sunlight will be acceptable.
- 3.16 It should however be noted that during the winter months, the angle of the sun is much lower, and sunlight is much more only available at relatively low vertical angles. The consequence of this is that even relatively small and modest increases in the height or “massing” of a new development can have a disproportionate impact on the availability of winter sunlight. This is a further example of where greater flexibility may be appropriate.

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## 4 SCHEME ASSESSMENT

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- 4.1 For the purpose of Planning, the tests within the BRE Guidelines are usually limited to habitable rooms within existing neighbouring residential buildings. Non-domestic and commercial buildings are usually excluded as it is generally accepted that these uses normally rely primarily on supplementary artificial lighting throughout the day and are therefore not dependent on natural light for their main source of amenity. We have not had access to the interior of any of the existing neighbouring buildings and have therefore relied upon an external inspection and review of any publically available records to establish the extent and location of existing neighbouring residential premises, and have assumed that all of the windows identified within those premises serve habitable rooms. The main, and most reliable, source of establishing the extent of existing neighbouring residential premises is through a review of the Valuation Office records which document those properties that are registered for the payment of Council Tax. From our review, the extent of existing neighbouring residential premises in close proximity of the Site and which could be affected by the proposed development comprise:-

- ) 110-114 Grafton Road
- ) 7 Spring Place

Although there are a number of residential flats in the Council Depot Building on the west side of Spring Place and in 116-124 Grafton Road, those flats are remote from the Site and will not be affected as their windows do not have a direct outlook onto the Site.

- 4.2 VSC is the most important measure of daylight as it represents the amount of direct daylight received by a window expressed at the percentage of “*visible sky*”. Whilst the BRE Guidelines permit a percentage reduction of 20% of the current VSC value before the change in lighting conditions will be noticeable, this does not mean that the availability of daylight will be inadequate if the loss is more than 20%, especially where existing VSC values are unusually high. It does however provide a useful guide to establish whether the occupants of a room will notice a material change in natural lighting conditions.

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- 4.3 As we have an accurate 3D scanned survey, the VSC values calculated for the existing neighbouring buildings will be accurate and more reliable than the results of the internal Daylight Distribution analysis as for the latter, we have had to base our no skyline Daylight Distribution analyses on estimated and assumed room layouts and dimensions.
- 4.4 Annexed at Appendix 1 are Drawing Nos. SP2016-001-08-1001, 1002, 1003 and 1004 which are images of the Site Plan and 3D computer model of the “existing” and “proposed” massing set in context with the neighbouring properties. They are followed in Appendix 2 by Drawing Nos. SP2016-001-08-3001, 3002 and 3003 which show the room and window location plans for 110-114 Grafton Road and 7 Spring Place. The room and window references on those drawings should be cross-referenced with the room and window references in the Vertical Sky Component (VSC), Daylight Distribution and Sunlight Tables annexed at Appendices 3, 4 and 5.
- 4.5 The results of the VSC analysis show that out of 76 rooms / windows tested, 71 will fully satisfy the BRE VSC standards and only 5 will experience a loss of VSC that is marginally in excess of the 20% permissible margin of reduction in the BRE Guidelines. They are the windows that we have labelled W8/72, W9/72 and W10/72 at second floor level in 110-114 Grafton Road and windows W10/73 and W11/73 at third floor level in 110-114 Grafton Road. The location of those rooms is illustrated on Drawing No. SP2016-001-08-3001 annexed at Appendix 2.
- 4.6 Although our analysis has had to be based on the limited record drawings lodged in Camden’s Planning records and assumed and estimated room layouts, it is clear that windows W8/72, W9/72 and W10/73 serve dual-aspect rooms that are sited in a corner location with each room benefiting from additional windows in the south east facing elevations, all of which will comfortably satisfy the BRE Guidelines. These additional windows should be taken into account, and where they are, it is clear that the room will remain well lit. In addition, the results of the no skyline internal Daylight Distribution analysis (Appendix 4) show that all of the rooms tested will fully satisfy the BRE Daylight Distribution standards. The rooms served by those windows will therefore fully satisfy the BRE recommendations.
- 4.7 The remaining results demonstrate that the only rooms that may not fully satisfy the BRE standards are the rooms served by windows W10/72 and W11/73 where the percentage
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reductions recorded were 22.83% and 23.71%. Both of these percentage losses are only marginally above the 20% permissible margin of reduction set out in the BRE Guidelines and given that both rooms will not experience any loss of internal Daylight Distribution at all, the quality of daylight and amenity will clearly remain good and notably better than many comparable dwellings in an urban environment.

- 4.8 The results for the flats within 7 Spring Place show that there will be full compliance of the BRE Guidelines both in terms of VSC and internal Daylight Distribution and even where a small change in lighting conditions was recorded, those changes are so small as to be imperceptible.
- 4.9 For sunlight, the BRE Guidelines only apply to windows that face within 90 degrees of due south. The results of the sunlight analysis annexed at Appendix 5 show there will be practically full compliance with the BRE sunlight standards for both 110-114 Grafton Road and 7 Spring Place in that virtually all windows in question will either continue to receive more than 25% APSH and 5% winter APSH or will not experience a change in excess of 20%.

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## 5 SUMMARY AND CONCLUSION

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- 5.1 The results of the daylight and sunlight analyses show that none of the existing neighbouring residential buildings will experience a material or noticeable loss of daylight or sunlight and there will be no material impact on daylight and sunlight amenity.
- 5.2 The results of the analyses therefore clearly demonstrate that not only will the performance of the proposed development satisfy the BRE Guidelines, none of the occupants of the existing neighbouring dwellings will experience any noticeable change in natural lighting conditions. It therefore follows that the Council's policy objectives have been satisfied.

## APPENDIX 1

Drawing Nos: SP2016-001-08-1001, 1002, 1003 and 1004

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## VIEWS

### Legend

- Existing Site
- Proposed Scheme
- Analytical Buildings
- Surrounding Buildings
- Existing Contour
- Room Layout
- Proposed Contour
- 1ft Grid Loss Hatching

### Source of Information

Existing And Surrounding Buildings  
MBS Survey Software Ltd  
MBS16\_545 3-4 Spring Place.dwg

### Proposed Scheme

Percy & Company  
3d Model sent 27 May 2016  
160527 Spring Place massing update.dwg

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All dimensions to be checked on site. Drawing to be read in  
conjunction with any specifications, drawings and details.

### Project Title

3-4 Spring Place  
London  
NW5

### Client

Brookton Capital

### Drawing Title

Existing 3d View

### Drawn By

MB

### Scale @A3

1/500

### Project No

SP2016-001

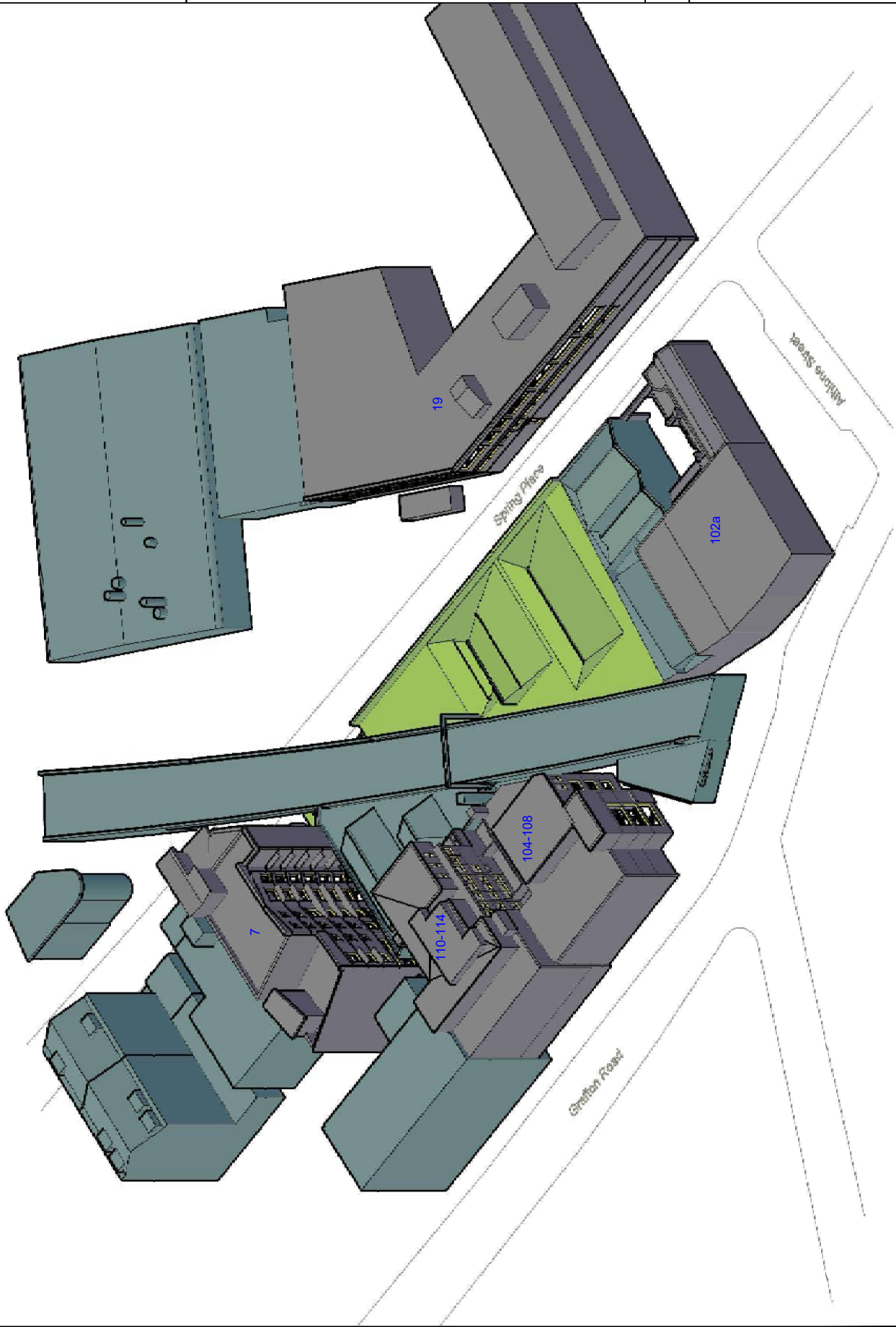
### Date

01/06/2016

### Drawing No

08-1002

### Rev







Building Plan  
Drawing No. 08-1003  
01/06/2016

## VIEWS

### Legend

- Existing Site
- Proposed Scheme
- Analysed Buildings
- Surrounding Buildings



## Source of Information

Existing And Surrounding Buildings  
MBS Survey Software Ltd  
MBS 16\_545 3-4 Spring Place.dwg

### Proposed Scheme

3-4 Model sent 27 May 2016  
160527 Spring Place missing updating.dwg

### Party & Company

Percy & Company

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All dimensions to be checked on site. Drawing to be read in  
conjunction with any specifications, drawings and details.

### Project Title

3-4 Spring Place  
London  
NW5

### Client

Brookton Capital

### Drawing Title

Proposed Site Plan

### Drawn By

MB

### Scale @A3

1/500

### Project No

SP2016-001

### Date

01/06/2016

### Drawing No

08-1003

### Rev

## VIEWS

### Legend

- Existing Site
- Proposed Scheme
- Analytical Buildings
- Surrounding Buildings
- Existing Contour
- Room Layout
- Proposed Contour
- 1ft Grid Loss Hatching

### Source of Information

Existing And Surrounding Buildings  
MBS Survey Software Ltd  
MBS16\_545 3-4 Spring Place.dwg

### Proposed Scheme

3-4 Model sent 27 May 2016  
160527 Spring Place massing update.dwg

### Party & Company

160527 Spring Place massing update.dwg

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### Project Title

3-4 Spring Place  
London  
NW5

### Client

Brookton Capital

### Drawing Title

Proposed 3d View

### Drawn By

MB

### Scale @A3

1/500

### Project No

SP2016-001

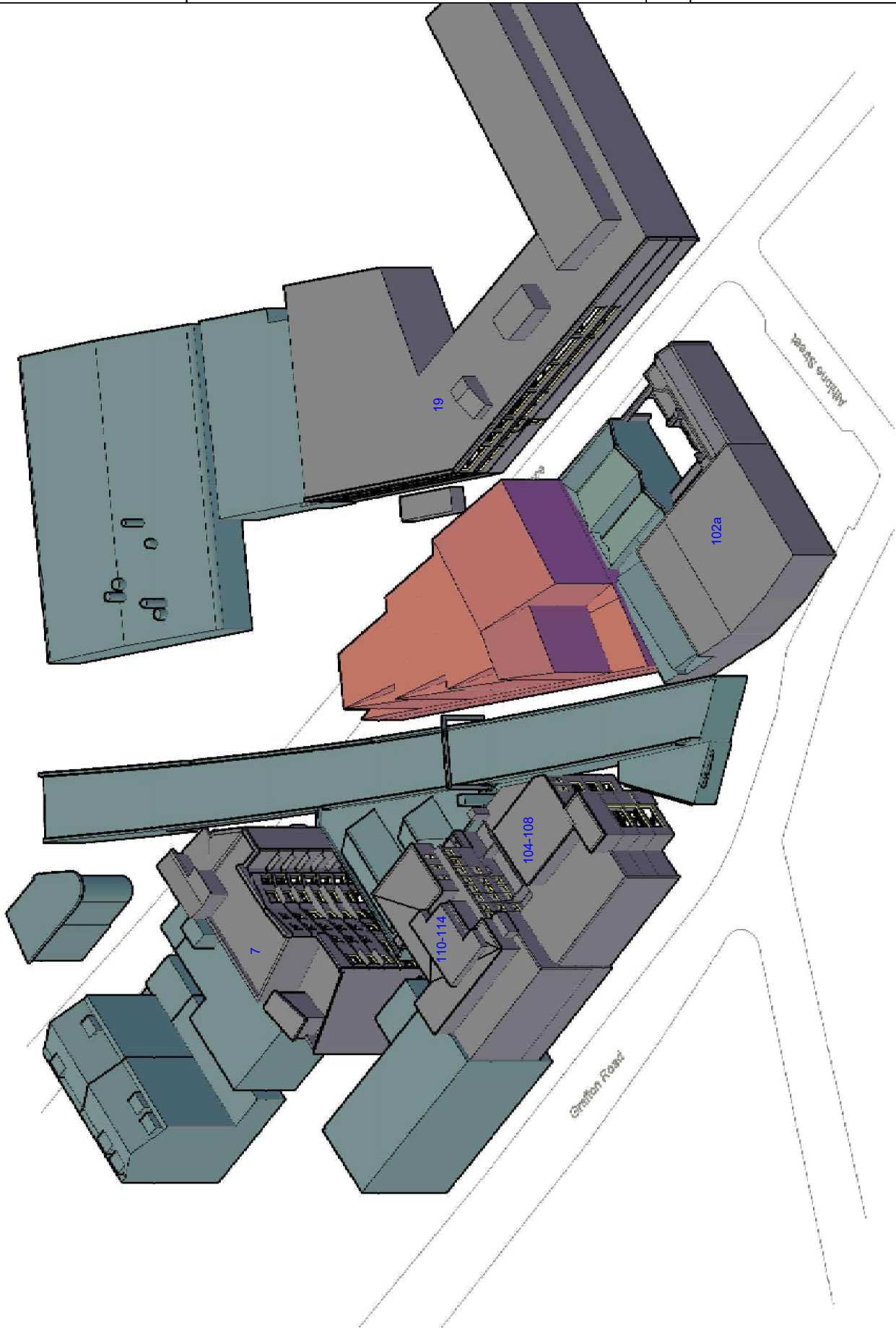
### Date

01/06/2016

### Drawing No

08-1004

### Rev



## APPENDIX 2

Drawing Nos: SP2016-001-08-3001, 3002 and 3003







APPENDIX 3

Vertical Sky Component (VSC) Table



Proj: SP2016-001  
 Rel: 08  
 Date: 01/06/2016

**VSC Analysis**  
**3-6 Spring Place**



Room Ref	Window Ref	Room Use	Existing VSC	Proposed VSC	VSC Loss	% Loss
<b>110-114 Grafton Road</b>						
<b>1st Floor</b>						
R1/61	W1/61		14.16	12.94	1.22	8.62
R1/71	W1/71		11.55	10.89	0.66	5.71
R1/71	W2/71		14.41	13.71	0.70	4.86
R1/71	W3/71		16.41	15.75	0.66	4.02
R2/71	W4/71		18.54	17.27	1.27	6.85
R2/71	W5/71		19.49	17.86	1.63	8.36
R2/71	W6/71		20.15	18.05	2.10	10.42
<b>2nd Floor</b>						
R1/72	W1/72		17.70	16.34	1.36	7.68
R1/72	W2/72		23.01	21.40	1.61	7.00
R1/72	W3/72		26.06	23.97	2.09	8.02
R2/72	W4/72		27.91	25.31	2.60	9.32
R2/72	W5/72		29.00	25.91	3.09	10.66
R2/72	W6/72		29.85	26.45	3.40	11.39
R3/72	W7/72		30.76	26.73	4.03	13.10
R3/72	W8/72		20.05	14.75	5.30	26.43
R3/72	W9/72		21.91	16.53	5.38	24.55
R4/72	W10/72		13.27	10.24	3.03	22.83
R5/72	W11/72		16.91	14.28	2.63	15.55
R5/72	W12/72		17.54	15.10	2.44	13.91
<b>3rd Floor</b>						
R1/63	W1/63		24.63	22.00	2.63	10.68
R1/73	W1/73		23.07	21.22	1.85	8.02
R1/73	W2/73		30.13	28.03	2.10	6.97
R1/73	W3/73		33.38	30.88	2.50	7.49
R2/73	W4/73		34.88	31.86	3.02	8.66
R2/73	W5/73		35.53	31.95	3.58	10.08
R2/73	W6/73		35.97	32.08	3.89	10.81
R3/73	W7/73		36.35	32.05	4.30	11.83
R3/73	W8/73		36.50	31.83	4.67	12.79
R3/73	W9/73		36.77	31.47	5.30	14.41
R3/73	W10/73		22.26	17.40	4.86	21.83
R4/73	W11/73		9.11	6.95	2.16	23.71
R5/73	W12/73		19.18	17.07	2.11	11.00
<b>4th Floor</b>						
R1/64	W1/64		30.94	28.71	2.23	7.21
R1/74	W1/74		39.50	36.63	2.87	7.27
R2/74	W2/74		39.55	36.33	3.22	8.14
R3/74	W4/74		38.09	35.07	3.02	7.93
R3/74	W5/74		37.55	35.36	2.19	5.83
R3/74	W6/74		36.67	35.04	1.63	4.45
<b>7 Spring Place</b>						
<b>Gnd Floor</b>						
R1/80	W1/80		4.84	4.84	0.00	0.00
R2/80	W2/80		5.91	5.91	0.00	0.00
R3/80	W3/80		6.89	6.89	0.00	0.00
R4/80	W4/80		7.93	7.93	0.00	0.00
R5/80	W5/80		8.04	8.04	0.00	0.00
R6/80	W6/80		4.60	4.60	0.00	0.00
<b>1st Floor</b>						
R1/81	W1/81		4.42	4.42	0.00	0.00
R2/81	W2/81		12.15	12.15	0.00	0.00
R3/81	W3/81		17.73	17.73	0.00	0.00
R4/81	W4/81		13.65	13.65	0.00	0.00
R5/81	W5/81		11.43	11.43	0.00	0.00
R6/81	W6/81		15.78	15.78	0.00	0.00



Proj: SP2016-001  
 Rel: 08  
 Date: 01/06/2016

**VSC Analysis**  
**3-6 Spring Place**



Room Ref	Window Ref	Room Use	Existing VSC	Proposed VSC	VSC Loss	% Loss
<b>2nd Floor</b>						
R1/82	W1/82		19.50	16.90	2.60	13.33
R2/82	W2/82		29.98	27.15	2.83	9.44
R3/82	W3/82		30.84	28.07	2.77	8.98
R4/82	W4/82		23.63	21.21	2.42	10.24
R5/82	W5/82		20.80	18.46	2.34	11.25
R6/82	W6/82		25.03	22.83	2.20	8.79
<b>3rd Floor</b>						
R1/83	W1/83		23.71	21.14	2.57	10.84
R2/83	W2/83		33.40	30.70	2.70	8.08
R3/83	W3/83		33.95	31.18	2.77	8.16
R4/83	W4/83		26.63	23.81	2.82	10.59
R5/83	W5/83		23.79	21.09	2.70	11.35
R6/83	W6/83		28.13	25.67	2.46	8.75
<b>4th Floor</b>						
R1/84	W1/84		34.17	32.39	1.78	5.21
R2/84	W2/84		36.18	34.17	2.01	5.56
R3/84	W3/84		36.03	34.00	2.03	5.63
R4/84	W4/84		34.55	32.45	2.10	6.08
R5/84	W5/84		27.86	25.86	2.00	7.18
R6/84	W6/84		30.43	28.62	1.81	5.95
<b>5th Floor</b>						
R1/85	W1/85		38.02	36.75	1.27	3.34
R2/85	W2/85		37.13	35.88	1.25	3.37
R3/85	W3/85		29.33	28.04	1.29	4.40
R4/85	W4/85		32.66	31.48	1.18	3.61
<b>6th Floor</b>						
R1/86	W1/86		39.16	38.61	0.55	1.40
R2/86	W2/86		38.65	38.10	0.55	1.42
R3/86	W3/86		37.84	37.24	0.60	1.59
R4/86	W4/86		36.18	35.62	0.56	1.55

APPENDIX 4

Daylight Distribution Table

**Daylight Analysis**  
**3-6 Spring Place**



Room Ref	Room Use	Whole Room	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
<b>110-114 Grafton Road</b>						
<b>1st Floor</b>						
R1/61		116.9	76.5	76.5	0.0	0.0
R1/71		203.3	120.0	115.6	4.5	3.8
R2/71		214.1	156.8	127.4	29.4	18.8
<b>2nd Floor</b>						
R1/72		203.3	201.5	199.4	2.1	1.0
R2/72		200.2	198.4	198.4	0.0	0.0
R3/72		246.4	239.6	216.4	23.2	9.7
R4/72		111.6	101.2	101.2	0.0	0.0
R5/72		200.6	181.7	181.6	0.1	0.1
<b>3rd Floor</b>						
R1/63		117.6	115.6	115.6	0.0	0.0
R1/73		203.3	201.5	201.5	0.0	0.0
R2/73		205.2	203.3	203.3	0.0	0.0
R3/73		246.4	246.4	246.4	0.0	0.0
R4/73		111.6	101.5	101.5	0.0	0.0
R5/73		200.6	193.8	193.7	0.1	0.1
<b>4th Floor</b>						
R1/64		122.0	118.7	118.7	0.0	0.0
R1/74		124.9	116.4	116.4	0.0	0.0
R2/74		80.8	78.9	78.9	0.0	0.0
R3/74		296.0	296.0	296.0	0.0	0.0
<b>7 Spring Place</b>						
<b>Gnd Floor</b>						
R1/80		174.7	38.9	38.9	0.0	0.0
R2/80		145.5	32.6	32.6	0.0	0.0
R3/80		103.5	35.0	35.0	0.0	0.0
R4/80		137.9	48.3	48.3	0.0	0.0
R5/80		152.1	47.9	47.9	0.0	0.0
R6/80		128.8	36.4	36.4	0.0	0.0
<b>1st Floor</b>						
R1/81		174.7	68.1	67.4	0.7	1.0
R2/81		149.1	103.8	98.8	5.1	4.9
R3/81		103.5	98.0	92.1	5.9	6.0
R4/81		137.9	135.9	131.6	4.4	3.2
R5/81		152.1	149.4	149.0	0.4	0.3
R6/81		135.3	118.0	113.4	4.5	3.8
<b>2nd Floor</b>						
R1/82		176.5	143.0	142.5	0.5	0.3
R2/82		133.1	129.3	127.8	1.5	1.2
R3/82		107.8	105.5	104.5	1.0	0.9
R4/82		137.9	137.2	137.2	0.0	0.0
R5/82		152.1	149.4	149.4	0.0	0.0
R6/82		135.3	130.7	127.5	3.2	2.4
<b>3rd Floor</b>						
R1/83		176.5	162.1	162.1	0.0	0.0
R2/83		133.1	129.5	129.5	0.0	0.0
R3/83		108.1	105.9	105.9	0.0	0.0
R4/83		137.9	137.2	137.2	0.0	0.0
R5/83		152.1	149.4	149.4	0.0	0.0
R6/83		135.3	131.0	131.0	0.0	0.0
<b>4th Floor</b>						
R1/84		176.5	175.1	175.1	0.0	0.0
R2/84		133.1	129.8	129.8	0.0	0.0
R3/84		108.1	106.3	106.3	0.0	0.0
R4/84		137.9	137.3	137.3	0.0	0.0
R5/84		152.1	149.4	149.4	0.0	0.0
R6/84		135.3	131.0	131.0	0.0	0.0
<b>5th Floor</b>						
R1/85		117.3	115.4	115.4	0.0	0.0
R2/85		137.9	134.2	134.2	0.0	0.0
R3/85		152.1	149.4	149.4	0.0	0.0
R4/85		135.3	131.0	131.0	0.0	0.0
<b>6th Floor</b>						
R1/86		117.3	115.5	115.5	0.0	0.0
R2/86		137.9	134.0	134.0	0.0	0.0
R3/86		152.1	151.3	151.3	0.0	0.0
R4/86		135.3	132.0	132.0	0.0	0.0

APPENDIX 5

Sunlight Table

**APSH Analysis**  
**3-6 Spring Place**



Room Ref	Window Ref	Room Use	Summer	Existing Winter	Total	Summer	Proposed Winter	Total	% Loss	
									Winter	Total
110-114 Grafton Road										
1st Floor										
R1/71	W1/71		12	0	12	11	0	11	-	8.33
R1/71	W2/71		19	0	19	18	0	18	-	5.26
R1/71	W3/71		25	1	26	23	1	24	0.00	7.69
R2/71	W4/71		31	3	34	27	3	30	0.00	11.76
R2/71	W5/71		29	2	31	26	2	28	0.00	9.68
R2/71	W6/71		34	5	39	30	5	35	0.00	10.26
2nd Floor										
R1/72	W1/72		27	1	28	22	1	23	0.00	17.86
R1/72	W2/72		33	6	39	28	6	34	0.00	12.82
R1/72	W3/72		39	10	49	34	10	44	0.00	10.20
R2/72	W4/72		43	12	55	36	11	47	8.33	14.55
R2/72	W5/72		46	12	58	39	11	50	8.33	13.79
R2/72	W6/72		44	15	59	39	14	53	6.67	10.17
R3/72	W7/72		47	16	63	39	16	55	0.00	12.70
3rd Floor										
R1/73	W1/73		31	6	37	29	5	34	16.67	8.11
R1/73	W2/73		39	13	52	37	12	49	7.69	5.77
R1/73	W3/73		43	17	60	40	16	56	5.88	6.67
R2/73	W4/73		45	21	66	41	19	60	9.52	9.09
R2/73	W5/73		45	22	67	40	20	60	9.09	10.45
R2/73	W6/73		45	23	68	40	20	60	13.04	11.76
R3/73	W7/73		45	23	68	40	20	60	13.04	11.76
R3/73	W8/73		45	22	67	38	20	58	9.09	13.43
R3/73	W9/73		45	23	68	39	20	59	13.04	13.24
4th Floor										
R1/74	W1/74		50	26	76	49	24	73	7.69	3.95
R2/74	W2/74		50	26	76	49	24	73	7.69	3.95
7 Spring Place										
Gnd Floor										
R1/80	W1/80		5	0	5	5	0	5	-	0.00
R2/80	W2/80		5	0	5	5	0	5	-	0.00
R3/80	W3/80		10	0	10	10	0	10	-	0.00
R4/80	W4/80		13	1	14	13	1	14	0.00	0.00
R5/80	W5/80		16	2	18	16	2	18	0.00	0.00
R6/80	W6/80		14	2	16	14	2	16	0.00	0.00
1st Floor										
R1/81	W1/81		14	0	14	14	0	14	-	0.00
R2/81	W2/81		24	1	25	24	1	25	0.00	0.00
R3/81	W3/81		33	2	35	33	2	35	0.00	0.00
R4/81	W4/81		31	4	35	31	4	35	0.00	0.00
R5/81	W5/81		26	4	30	26	4	30	0.00	0.00
R6/81	W6/81		30	5	35	30	5	35	0.00	0.00
2nd Floor										
R1/82	W1/82		34	5	39	32	2	34	60.00	12.82
R2/82	W2/82		44	12	56	43	9	52	25.00	7.14
R3/82	W3/82		44	14	58	44	11	55	21.43	5.17
R4/82	W4/82		36	14	50	36	12	48	14.29	4.00
R5/82	W5/82		28	16	44	28	16	44	0.00	0.00
R6/82	W6/82		32	19	51	32	17	49	10.53	3.92
3rd Floor										
R1/83	W1/83		38	11	49	37	8	45	27.27	8.16
R2/83	W2/83		47	16	63	46	13	59	18.75	6.35
R3/83	W3/83		44	16	60	44	13	57	18.75	5.00
R4/83	W4/83		36	18	54	36	15	51	16.67	5.56
R5/83	W5/83		27	19	46	27	18	45	5.26	2.17
R6/83	W6/83		32	23	55	32	22	54	4.35	1.82

Proj: SP2016-001  
 Rel: 08  
 Date: 01/06/2016

**APSH Analysis**  
**3-6 Spring Place**



Room Ref	Window Ref	Room Use	Existing			Proposed			% Loss	
			Summer	Winter	Total	Summer	Winter	Total	Winter	Total
4th Floor										
R1/84	W1/84		47	21	68	47	19	66	9.52	2.94
R2/84	W2/84		47	24	71	47	22	69	8.33	2.82
R3/84	W3/84		44	23	67	44	21	65	8.70	2.99
R4/84	W4/84		44	23	67	44	21	65	8.70	2.99
R5/84	W5/84		32	24	56	32	23	55	4.17	1.79
R6/84	W6/84		32	25	57	32	24	56	4.00	1.75
5th Floor										
R1/85	W1/85		44	23	67	44	21	65	8.70	2.99
R2/85	W2/85		44	23	67	44	21	65	8.70	2.99
R3/85	W3/85		32	24	56	32	23	55	4.17	1.79
R4/85	W4/85		33	25	58	33	24	57	4.00	1.72
6th Floor										
R1/86	W1/86		44	23	67	44	23	67	0.00	0.00
R2/86	W2/86		44	23	67	44	23	67	0.00	0.00
R3/86	W3/86		45	24	69	45	24	69	0.00	0.00
R4/86	W4/86		42	27	69	42	27	69	0.00	