

## Proposed Development at Fox Court, 14 Gray's Inn Road, London WC1

### Daylight, Sunlight & Overshadowing Report



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# 1 Introduction

- 1.1 Deloitte has been appointed by The Trustees of Rockspring Hanover Property Unit Trust (Rockspring) to undertake a daylight and sunlight study with regard to the proposed development at Fox Court, 14 Gray's Inn Road, London WC1.
- 1.2 This report will assess the potential daylight and sunlight effects to the surrounding residential properties as a result of the proposal.
- 1.3 The assessment has been based on the following plans and elevations supplied by GMA Architecture.

Table 1 – Plans & elevation drawings supplied by GMA Architecture

Drawing Type	Drawing Number	Revision	Date
Ground Floor – 7th Floor	P202-209		Jan 2013
Section A-A	P217		Jan 2013
Section B-B	P219		Jan 2013
Section C-C	P220		Jan 2013
North Elevation	P214		Jan 2013
West Elevation	P212		Jan 2013

- 1.4 The location and size of the surrounding windows has been based on land survey information for the surrounding properties supplied by Omega Geomatics.

## 2 Executive Summary

- 2.1 The proposed site is located within the London Borough of Camden and the potential effects have therefore been assessed in accordance with Camden's current planning policies and the recommendations set out in the BRE guidelines.
- 2.2 The daylight results show that all of the windows tested meet the BRE guidelines criteria achieving either a Vertical Sky Component (VSC) above 27% in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value. As we do not have any internal layouts for the surrounding properties, we have not carried out the daylight distribution test.
- 2.3 The sunlight results show that all windows tested meet the BRE guidelines criteria achieving either an Annual Probable Sunlight Hours (APSH) above 25% with 5% being in the winter months, a ratio reduction of at least 0.8 times its former value or has a reduction in sunlight received over the whole year less than 4% of Annual Probable Sunlight Hours.
- 2.1 With regards to overshadowing, the gardens at 29-32 Brookes Court are already completely in shadow for the majority of the day in the existing situation. The proposed development does not make the overshadowing impact any worse.
- 2.2 Overall it is considered that the proposed development will have a minimal effect on the daylight and sunlight currently enjoyed by the surrounding residential properties.

# 3 Planning Policy & Guidance

- 3.1 The proposed site is located within the London Borough of Camden (Camden) and the proposals have therefore been considered against Camden's 2010 replacement Local Development Framework (LDF). In particular the proposals have been considered against Development Policies section DP26 which states:

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## Visual privacy, overlooking, overshadowing, outlook, sunlight and Daylight

- 26.3 a development's impact on visual privacy, overlooking, overshadowing, outlook, access to daylight and sunlight and disturbance from artificial light can be influenced by its design and layout, the distance between properties, the vertical levels of onlookers or occupiers and the angle of views. These issues will also affect the amenity of the new occupiers. We will expect that these elements are considered at the design stage of a scheme to prevent potential negative impacts of the development on occupiers and neighbours. 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 Building Research Establishment's Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2011).
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- 3.2 The above policy has been considered utilising the standards and recommendations set out in the Building Research Establishment (BRE) report:
- P J Littlefair (2011) "Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice", Building Research Establishment Report 209. (Referred to in this report as the "BRE guidelines").

# 4 Daylight, Sunlight and Overshadowing Methodology

- 4.1 When assessing any potential effects on the surrounding properties, the BRE guidelines suggest that only those windows that have a reasonable expectation of daylight or sunlight need be assessed. In particular the BRE guidelines at paragraph 2.2.2 state:

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

- 4.2 Further to the above statement, it is considered that the vast majority of commercial properties do not have a reasonable expectation of daylight or sunlight. This is because they are generally designed to rely on electric lighting rather than natural daylight or sunlight.
- 4.3 If a property is considered to have a reasonable expectation of daylight or sunlight the following methodology to assess the impacts has been used.

## Daylighting

- 4.4 Where the internal arrangements are not known, the BRE guidelines set out three methods for assessing the daylight impacts on neighbouring properties. These methods are summarised below.
- 4.5 The first of these methods is to strike a line at an angle of 25° from the centre of the lowest existing windows. If the profile of the proposed development sits beneath the 25° angle line then the development is unlikely to have a substantial effect on the daylight enjoyed by the existing building. This test is known as the 25° angle test.
- 4.6 If the proposed development protrudes past the 25° angle line then the second test needs to be applied. For this assessment, the first method has not been used as it does not always reflect the differing heights and layouts of the buildings in the local area.
- 4.7 The second method calculates the Vertical Sky Component (VSC) at the centre point of each affected window on the outside face of the wall. The VSC is an external daylighting calculation that measures the amount of direct daylight to a specific window point on the outside of a property. The calculations fundamentally assess the amount of blue sky that you will see, converting results into a percentage. A window looking into an empty field will achieve a maximum value of 40%. However, the BRE suggests that 27% VSC is a good level of daylight. If a window does not achieve 27% VSC in the proposed scenario, then the third test is used.
- 4.8 The third method involves calculating the VSC at the window in the existing situation, i.e. before redevelopment. If the reduction of VSC is less than 0.8 times its former value, then the occupants of the adjoining building are likely to notice the reduction in daylight.

- 4.9 In conjunction with the VSC tests, the BRE guidelines and British Standard 8206-2:2008 suggest that the distribution of daylight is assessed using the No Sky Line (NSL) test. This test separates those areas of the working plane that can receive direct skylight and those that cannot.
- 4.10 The BRE guidelines suggest that the daylight distribution test is undertaken to existing surrounding properties when the internal arrangements are known. To assess the impact of any reduction the BRE guidelines suggest:

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If, following construction of a new development, the no sky line moves so that the area of the existing room, which does receive direct skylight, is reduced to less than 0.8 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit.

## Sunlighting

- 4.11 The amount of direct sunlight a window can enjoy is dependent on its orientation and the extent of any external obstructions. For example a window that faces directly north, no matter what external obstructions are present, will not be able to enjoy good levels of sunlight throughout the year. However, a window that faces directly south with no obstructions will enjoy very high levels of sunlight throughout the year. As the potential to receive sunlight is dependent on a window's orientation, the BRE guidelines state:

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To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

- 4.12 To assess the potential effect on existing windows the BRE guidelines set out three methods. These methods are summarised below.
- 4.13 The first test is to apply the 25° angle test as detailed above. If the profile of the proposed development sits beneath the 25° angle line then the development is unlikely to have a substantial effect on the sunlight enjoyed by the existing building. If the proposed development protrudes past the 25° angle line then the second test needs to be applied.
- 4.14 As for the daylight assessments, the 25° angle test has not been used for this assessment as it does not always reflect the differing heights and layouts of the buildings in the local area.
- 4.15 For the second sunlighting test the BRE guidelines suggest calculating the Annual Probable Sunlight Hours (APSH) at the centre of each window on the outside face of the window wall. The BRE guidelines suggest that:

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"If this window point can receive more than one quarter of APSH (see section 3.1), including at least 5% of APSH in the winter months between 21st September and 21st March, then the room should still receive enough sunlight".

- 4.16 The third method involves calculating the APSH at the window in the existing situation, i.e. before redevelopment. If the reduction of APSH between the existing and proposed situations is less than 0.8 times its former value for either the total APSH or in the winter months; and greater than 4% for the total APSH, then the occupants of the adjoining building are likely to notice the reduction in sunlight.

## Overshadowing

- 4.17 Part 3.3 of the BRE guidelines provides guidance for assessing the effect of overshadowing of gardens and amenity areas for both existing and new spaces.
- 4.18 The BRE guidelines suggest that the availability of sunlight should be checked for all open spaces where it is required. These include:

- *'gardens, usually the main back garden of a house*
- *parks and playing fields*
- *children's playgrounds*
- *outdoor swimming pools and paddling pools*
- *sitting out areas such as those between non-domestic buildings and in public squares*
- *focal points for views such as groups of monuments or fountains'.*

4.19 Where there is an expectation of sunlight the BRE guidelines suggest:

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"It is suggested that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of a new development an existing garden or amenity area does not meet the above, and the area that can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March."

- 4.20 For the assessments undertaken in this report, computer software has been used to plot the shadows in the existing and proposed condition at hourly intervals on 21 March.
- 4.21 A visual assessment has first been undertaken of the hourly images to establish whether each amenity area receives at least two hours of sunlight on 21 March. This is considered to be the case if:
- Three consecutive hourly images clearly show that the amenity space will receive sunlight to over half of its area, e.g. the images for 11am, 12pm, 1pm and 2pm show more than half of the area is in direct sunlight; or
  - Two sets of two consecutive hourly images show the amenity space will receive sunlight to over half of its area, e.g. the images for 10am, 11am and 2pm, 3pm show more than half of the area is in direct sunlight.
- 4.22 If an amenity area will not meet the criteria a second visual assessment is undertaken comparing the existing and proposed overshadowing images. If it is clear that any additional overshadowing effects will meet the above criteria no further assessments are considered necessary.
- 4.23 If it is not clear from the visual assessments that the suggested criteria will be met detailed assessments calculating the areas of shade throughout the day will need to be carried out.



# 5 Surrounding Residential Properties

- 5.1 Using the Valuation Office Agency website we have identified which properties are registered as paying Council Tax and therefore in residential occupation. The following properties have been identified and assessed for daylight and sunlight impacts;
- 1 Brookes Court
  - 19-28 Brookes Court
  - 29-32 Brookes Court
  - 24-28 Gray's Inn Court – A planning approval has been granted for a refurbishment of this property with residential use, we have reviewed these drawings and these have been used to assess the daylight and sunlight to this property.
- 5.2 A site plan is provided at Appendix A.
- 5.3 As we do not have any internal layouts for the surrounding properties, we have not carried out the daylight distribution test as described in 4.10.
- 5.4 With regard to overshadowing, there are gardens to the rear of 29-32 Brookes Court. Most of these gardens have shrubs and trees. However for the purpose of the overshadowing assessment, we have removed these tree and shrubs from the analysis.
- 5.5 All other surrounding properties are currently in retail or commercial use and as such are not considered to have a reasonable expectation of daylight and sunlight to require detailed assessment.

# 6 Assessment Results

## **Surrounding Properties**

### **1 Brookes Court**

- 6.1 The detailed daylight results at Appendix B show that all of the windows tested meet the BRE guidelines criteria by either exceeding a VSC of 27% in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value.
- 6.2 The sunlight results show that all windows tested meet the BRE guidelines criteria achieving either an APSH above 25% with 5% in the winter months, a ratio reduction of at least 0.8 times its former value or has a reduction in sunlight received over the whole year less than 4% of Annual Probable Sunlight Hours.
- 6.3 Overall the potential daylight and sunlight effects on 1 Brookes Court as a result of the proposal are considered small and unlikely to be noticeable by the occupiers.

### **19-28 Brookes Court**

- 6.4 The detailed daylight results at Appendix B show that all of the windows tested meet the BRE guidelines criteria by either exceeding a VSC of 27% in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value.
- 6.5 The sunlight results show that all windows tested meet the BRE guidelines criteria achieving either an APSH above 25% with 5% in the winter months, a ratio reduction of at least 0.8 times its former value or has a reduction in sunlight received over the whole year less than 4% of annual probable sunlight hours.
- 6.6 Overall the potential daylight and sunlight effects on 19-28 Brookes Court as a result of the proposal are considered small and unlikely to be noticeable by the occupiers.

### **29-32 Brookes Court**

- 6.7 The detailed daylight results at Appendix B show that all of the windows tested meet the BRE guidelines criteria by either exceeding a VSC of 27% in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value.
- 6.8 The sunlight results show that all windows tested meet the BRE guidelines criteria achieving either an APSH above 25% with 5% in the winter months, a ratio reduction of at least 0.8 times its former value or has a reduction in sunlight received over the whole year less than 4% of annual probable sunlight hours.
- 6.9 Overall the potential daylight and sunlight effects on 29-32 Brookes Court as a result of the proposal are considered small and unlikely to be noticeable by the occupiers.

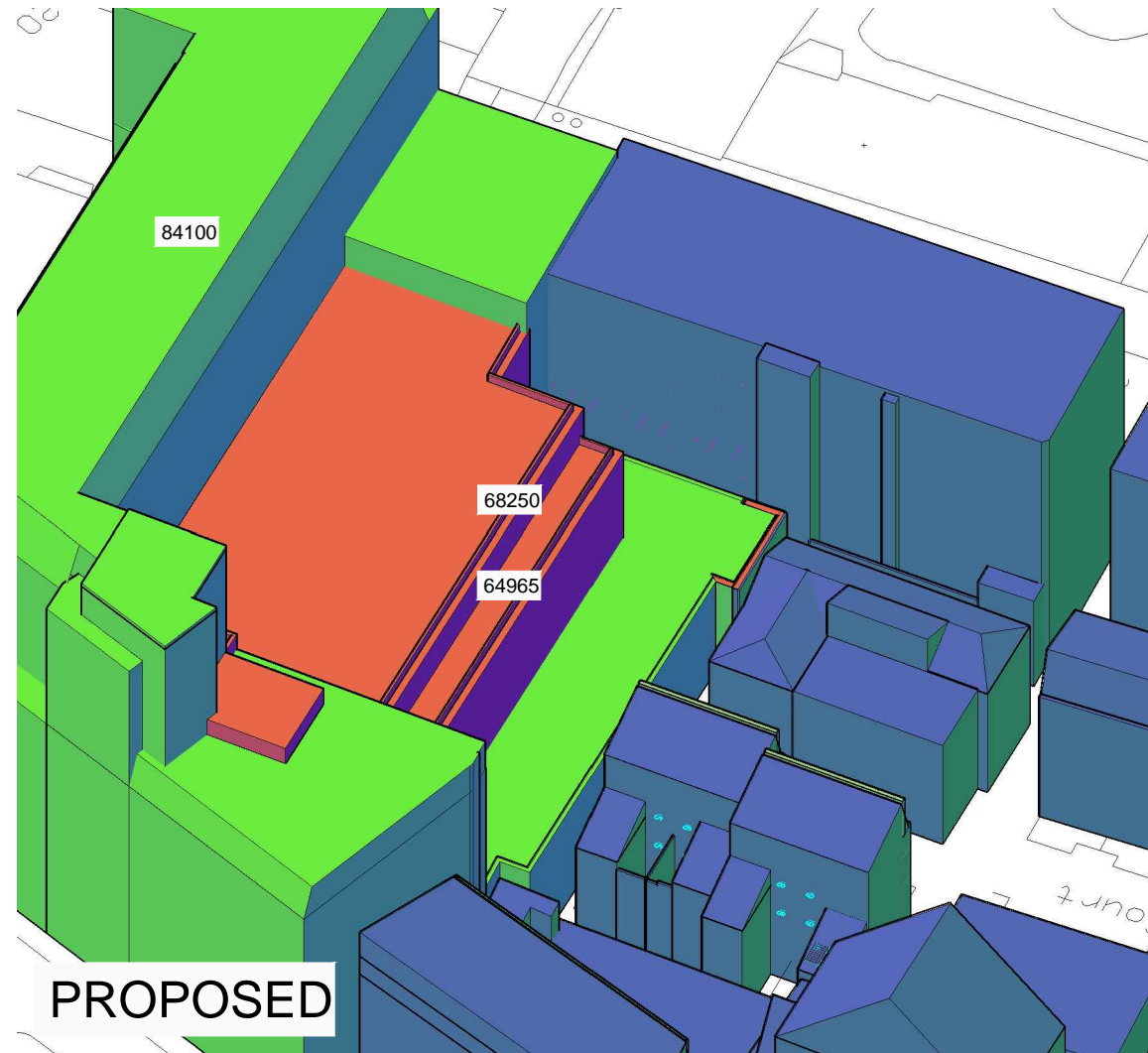
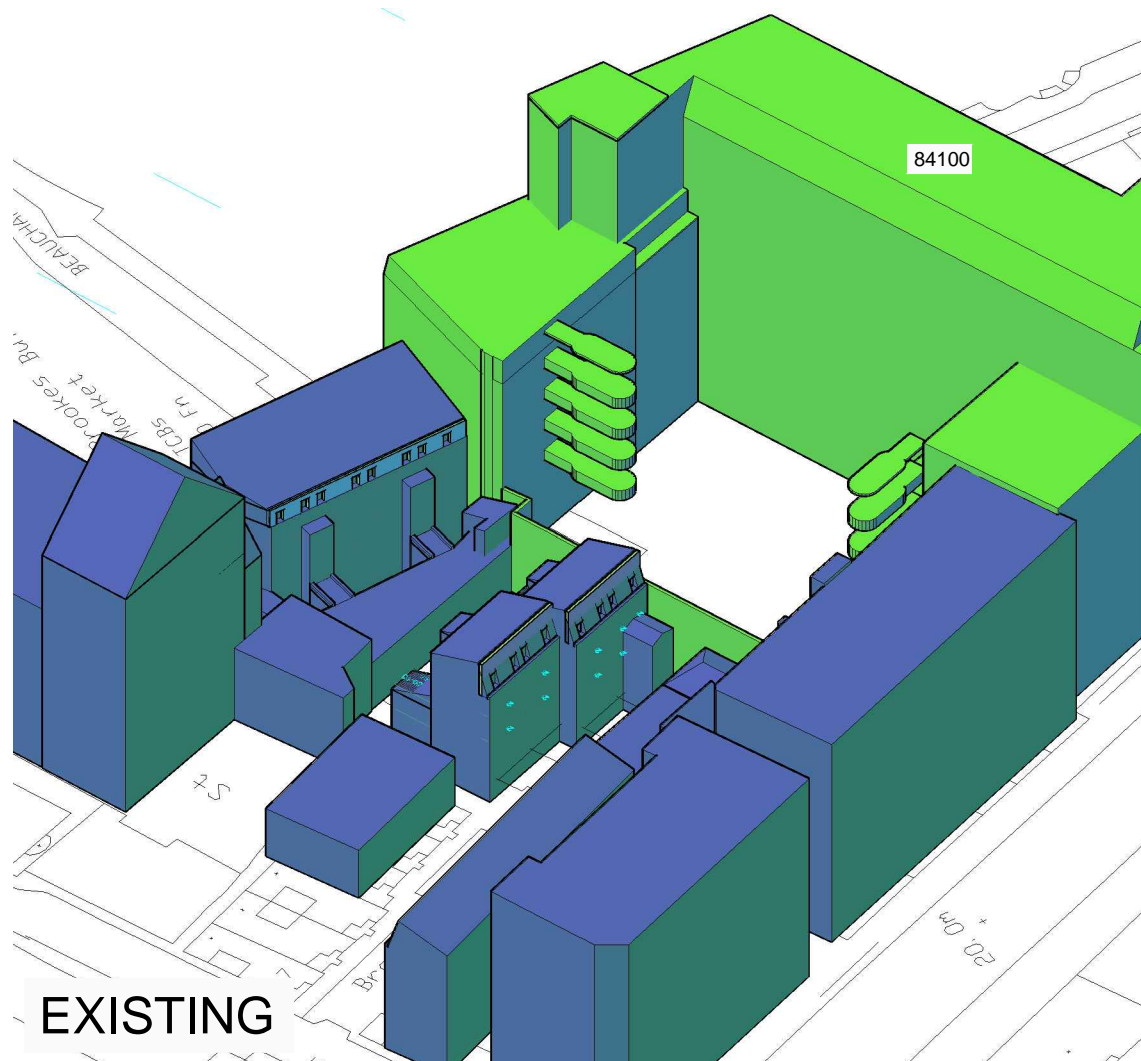
### **24-28 Gray's Inn Road**

- 6.10 The detailed daylight results at Appendix B show that all of the windows tested meet the BRE guidelines criteria by either exceeding a VSC of 27% in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value.
- 6.11 The sunlight results show that all windows tested meet the BRE guidelines criteria achieving either an APSH above 25% with 5% in the winter months, a ratio reduction of at least 0.8 times its former value or has a reduction in sunlight received over the whole year less than 4% of annual probable sunlight hours.
- 6.12 Overall the potential daylight and sunlight effects on 23-36 Gray's Inn Road as a result of the proposal are considered small and unlikely to be noticeable by the occupiers.

### **Overshadowing**

- 6.13 With regard to the gardens at 29-32 Brookes Court, we have run images in the existing and proposed situations between 0900 and 1700. The results are down at Appendix C. The images show that the gardens are already completely in shadow for the majority of the day in the existing situation. The proposed development does not make the existing situation any worse.

# Appendix A-Site Plan



For identification purposes only. All dimensions to be checked on site and used in preference to those given or scaled from the drawing, and must be brought to the attention of the Surveyor.

## Notes

-  Site
-  Existing
-  Proposed
-  Surrounds

<i>Date</i>	<i>Revision</i>
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Drawing No. 0207283/IA/01	Revision
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**Address.**  
Fox Court,  
14 Gray's Inn Road  
WC1

**Title.**  
3D Views Daylight And Sunlight

<p><i>Client</i>  Rockspring, Hanover Property Unit  Trust</p>
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Date	Drawn by IKA	Scale A3 @
03/01/13	File No. 0207283	NTS



## Real Estate

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London EC4A 3BQ  
Telephone 020-7007 9000 Fax 020-7583 1198

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# Appendix B-Surrounding Results

Vertical Sky Component Results Table					
Window			Existing	Proposed	Ratio Reduction
Name	Level	Number			
13-28 Brookes Court	-01	1	16.07%	16.07%	1.00
13-28 Brookes Court	-01	2	22.00%	22.00%	1.00
13-28 Brookes Court	-01	3	23.07%	23.07%	1.00
13-28 Brookes Court	-01	4	12.33%	12.33%	1.00
13-28 Brookes Court	00	5	23.74%	23.75%	1.00
13-28 Brookes Court	00	6	28.43%	28.48%	1.00
13-28 Brookes Court	00	7	28.49%	28.47%	1.00
13-28 Brookes Court	00	8	22.87%	22.75%	0.99
13-28 Brookes Court	01	9	27.64%	27.66%	1.00
13-28 Brookes Court	01	10	30.85%	30.92%	1.00
13-28 Brookes Court	01	11	30.65%	30.72%	1.00
13-28 Brookes Court	01	12	24.73%	24.65%	1.00
13-28 Brookes Court	02	13	30.46%	30.48%	1.00
13-28 Brookes Court	02	14	32.23%	32.30%	1.00
13-28 Brookes Court	02	15	31.80%	31.87%	1.00
13-28 Brookes Court	02	16	28.08%	28.00%	1.00
13-28 Brookes Court	03	17	28.83%	28.84%	1.00
13-28 Brookes Court	03	18	30.30%	30.32%	1.00
13-28 Brookes Court	03	19	30.76%	30.78%	1.00
13-28 Brookes Court	03	20	30.97%	31.02%	1.00
13-28 Brookes Court	03	21	30.81%	30.88%	1.00
13-28 Brookes Court	03	22	29.96%	29.99%	1.00
13-28 Brookes Court	03	23	29.06%	29.01%	1.00
13-28 Brookes Court	03	24	25.92%	25.95%	1.00

Vertical Sky Component Results Table					
Window			Existing	Proposed	Ratio Reduction
Name	Level	Number			
29-32 Brookes Court	00	1	18.45%	18.45%	1.00
29-32 Brookes Court	00	2	16.29%	16.48%	1.01
29-32 Brookes Court	00	3	10.38%	10.82%	1.04
29-32 Brookes Court	00	4	19.25%	19.25%	1.00
29-32 Brookes Court	00	5	21.83%	21.83%	1.00
29-32 Brookes Court	00	6	11.76%	11.76%	1.00
29-32 Brookes Court	00	7	21.59%	21.61%	1.00
29-32 Brookes Court	00	8	20.71%	20.75%	1.00
29-32 Brookes Court	00	9	19.36%	19.45%	1.00
29-32 Brookes Court	00	10	13.82%	13.82%	1.00
29-32 Brookes Court	00	11	18.02%	18.16%	1.01
29-32 Brookes Court	00	12	17.64%	17.70%	1.00
29-32 Brookes Court	00	13	14.73%	14.73%	1.00
29-32 Brookes Court	01	14	13.69%	11.70%	0.85
29-32 Brookes Court	01	15	22.84%	23.06%	1.01
29-32 Brookes Court	01	16	23.15%	23.30%	1.01
29-32 Brookes Court	01	17	25.11%	25.14%	1.00
29-32 Brookes Court	01	18	25.22%	25.23%	1.00
29-32 Brookes Court	01	19	26.80%	26.80%	1.00
29-32 Brookes Court	01	20	26.19%	26.21%	1.00
29-32 Brookes Court	01	21	24.13%	24.14%	1.00
29-32 Brookes Court	01	21	25.70%	25.73%	1.00
29-32 Brookes Court	01	22	22.31%	22.31%	1.00
29-32 Brookes Court	01	22	23.40%	23.43%	1.00
29-32 Brookes Court	01	23	22.93%	22.97%	1.00
29-32 Brookes Court	01	24	19.07%	19.07%	1.00
29-32 Brookes Court	01	25	20.78%	20.92%	1.01
29-32 Brookes Court	01	26	20.32%	20.49%	1.01
29-32 Brookes Court	01	27	20.03%	20.10%	1.00
29-32 Brookes Court	01	28	19.47%	19.20%	0.99
29-32 Brookes Court	02	23	23.30%	23.41%	1.00
29-32 Brookes Court	02	24	22.78%	22.96%	1.01
29-32 Brookes Court	02	25	22.39%	22.62%	1.01
29-32 Brookes Court	02	26	21.98%	21.93%	1.00
29-32 Brookes Court	02	29	25.41%	25.61%	1.01
29-32 Brookes Court	02	30	26.02%	26.16%	1.01
29-32 Brookes Court	02	31	26.45%	26.55%	1.00
29-32 Brookes Court	02	32	26.49%	26.58%	1.00
29-32 Brookes Court	02	33	25.57%	25.62%	1.00
29-32 Brookes Court	02	34	27.56%	27.57%	1.00
29-32 Brookes Court	02	35	27.73%	27.73%	1.00
29-32 Brookes Court	02	36	27.68%	27.68%	1.00
29-32 Brookes Court	02	37	27.47%	27.47%	1.00

Vertical Sky Component Results Table					
Window			Existing	Proposed	Ratio Reduction
Name	Level	Number			
24-36 Grays Road	-01	1	1.54%	3.57%	2.32
24-36 Grays Road	-01	2	1.91%	4.14%	2.17
24-36 Grays Road	-01	3	2.41%	4.66%	1.93
24-36 Grays Road	00	10	5.10%	8.59%	1.68
24-36 Grays Road	00	11	6.48%	10.56%	1.63
24-36 Grays Road	00	12	8.03%	12.77%	1.59
24-36 Grays Road	00	13	12.02%	14.86%	1.24
24-36 Grays Road	00	14	16.21%	19.24%	1.19
24-36 Grays Road	00	15	20.54%	21.77%	1.06
24-36 Grays Road	00	16	22.46%	22.14%	0.99
24-36 Grays Road	00	17	24.31%	24.22%	1.00
24-36 Grays Road	00	18	21.28%	21.30%	1.00
24-36 Grays Road	01	26	6.95%	11.21%	1.61
24-36 Grays Road	01	27	8.48%	14.00%	1.65
24-36 Grays Road	01	28	10.09%	16.75%	1.66
24-36 Grays Road	01	29	13.74%	19.09%	1.39
24-36 Grays Road	01	30	17.91%	23.36%	1.30
24-36 Grays Road	01	31	22.21%	25.52%	1.15
24-36 Grays Road	01	32	25.09%	26.63%	1.06
24-36 Grays Road	01	33	26.52%	27.59%	1.04
24-36 Grays Road	01	34	23.29%	24.03%	1.03
24-36 Grays Road	02	42	10.27%	15.48%	1.51
24-36 Grays Road	02	43	12.14%	20.00%	1.65
24-36 Grays Road	02	44	13.99%	23.12%	1.65
24-36 Grays Road	02	45	16.81%	26.12%	1.55
24-36 Grays Road	02	46	21.04%	28.49%	1.35
24-36 Grays Road	02	47	24.74%	29.84%	1.21
24-36 Grays Road	02	48	27.62%	30.37%	1.10
24-36 Grays Road	02	49	28.78%	30.10%	1.05
24-36 Grays Road	02	50	25.31%	25.93%	1.02
24-36 Grays Road	03	58	15.12%	20.58%	1.36
24-36 Grays Road	03	59	18.88%	26.41%	1.40
24-36 Grays Road	03	60	20.71%	29.28%	1.41
24-36 Grays Road	03	61	23.02%	30.93%	1.34
24-36 Grays Road	03	62	26.47%	31.82%	1.20
24-36 Grays Road	03	63	29.28%	32.30%	1.10
24-36 Grays Road	03	64	30.99%	32.44%	1.05
24-36 Grays Road	03	65	31.32%	31.94%	1.02
24-36 Grays Road	03	66	27.43%	27.61%	1.01

Vertical Sky Component Results Table					
Window			Existing	Proposed	Ratio Reduction
Name	Level	Number			
1 Brookes Court	01	1	21.97%	21.97%	1.00
1 Brookes Court	02	2	25.08%	25.08%	1.00

Notes

Date Revision

Drawing No. 0207283/1A/02 Revision

Address.  
Fox Court,  
14 Gray's Inn Road  
WC1  
Title.  
VSC (Daylight) Results  
1, 19-28, 29-32 Brookes Court  
23-36 Gray's Inn Court

Client  
Rockspring, Hanover Property Unit  
Trust

Date	Drawn by IKA	Scale A3 @
03/01/13	File No. 0207283	NTS

Deloitte.

Real Estate

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London EC4A 3BQ  
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For identification purposes only. All dimensions to be checked on site and used in preference to those given or scaled from the drawing, and must be brought to the attention of the Surveyor.



Annual Probable Sunlight Hours Results Table								
Window			Existing		Proposed		Ratio Reduction	
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter
13-28 Brookes Court	-01	1	10.00%	0.00%	10.00%	0.00%	1.00	1.00
13-28 Brookes Court	-01	2	19.00%	0.00%	19.00%	0.00%	1.00	1.00
13-28 Brookes Court	-01	3	10.00%	0.00%	10.00%	0.00%	1.00	1.00
13-28 Brookes Court	-01	4	0.00%	0.00%	0.00%	0.00%	1.00	1.00
13-28 Brookes Court	00	5	17.00%	1.00%	17.00%	1.00%	1.00	1.00
13-28 Brookes Court	00	6	20.00%	0.00%	21.00%	0.00%	1.05	1.00
13-28 Brookes Court	00	7	21.00%	0.00%	21.00%	0.00%	1.00	1.00
13-28 Brookes Court	00	8	8.00%	0.00%	7.00%	0.00%	0.88	1.00
13-28 Brookes Court	01	9	24.00%	1.00%	24.00%	1.00%	1.00	1.00
13-28 Brookes Court	01	10	24.00%	1.00%	24.00%	1.00%	1.00	1.00
13-28 Brookes Court	01	11	23.00%	1.00%	24.00%	1.00%	1.04	1.00
13-28 Brookes Court	01	12	9.00%	0.00%	9.00%	0.00%	1.00	1.00
13-28 Brookes Court	02	13	32.00%	4.00%	32.00%	4.00%	1.00	1.00
13-28 Brookes Court	02	14	28.00%	1.00%	28.00%	1.00%	1.00	1.00
13-28 Brookes Court	02	15	0.00%	0.00%	0.00%	0.00%	1.00	1.00
13-28 Brookes Court	02	16	12.00%	0.00%	12.00%	0.00%	1.00	1.00
13-28 Brookes Court	03	17	19.00%	1.00%	19.00%	1.00%	1.00	1.00
13-28 Brookes Court	03	18	18.00%	1.00%	18.00%	1.00%	1.00	1.00
13-28 Brookes Court	03	19	18.00%	1.00%	18.00%	1.00%	1.00	1.00
13-28 Brookes Court	03	20	18.00%	1.00%	18.00%	1.00%	1.00	1.00
13-28 Brookes Court	03	21	18.00%	1.00%	18.00%	1.00%	1.00	1.00
13-28 Brookes Court	03	22	17.00%	0.00%	18.00%	1.00%	1.06	1.00
13-28 Brookes Court	03	23	17.00%	0.00%	18.00%	1.00%	1.06	1.00
13-28 Brookes Court	03	24	10.00%	0.00%	10.00%	0.00%	1.00	1.00

Annual Probable Sunlight Hours Results Table								
Window			Existing		Proposed		Ratio Reduction	
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter
29-32 Brookes Court	00	1	12.00%	0.00%	12.00%	0.00%	1.00	1.00
29-32 Brookes Court	00	2	18.00%	0.00%	20.00%	0.00%	1.11	1.00
29-32 Brookes Court	00	3	26.00%	0.00%	27.00%	0.00%	1.04	1.00
29-32 Brookes Court	00	4	18.00%	0.00%	18.00%	0.00%	1.00	1.00
29-32 Brookes Court	00	5	31.00%	1.00%	31.00%	1.00%	1.00	1.00
29-32 Brookes Court	00	6	30.00%	0.00%	30.00%	0.00%	1.00	1.00
29-32 Brookes Court	00	7	28.00%	3.00%	28.00%	3.00%	1.00	1.00
29-32 Brookes Court	00	8	24.00%	1.00%	24.00%	1.00%	1.00	1.00
29-32 Brookes Court	00	9	18.00%	1.00%	18.00%	1.00%	1.00	1.00
29-32 Brookes Court	00	10	2.00%	0.00%	2.00%	0.00%	1.00	1.00
29-32 Brookes Court	00	11	19.00%	0.00%	20.00%	0.00%	1.05	1.00
29-32 Brookes Court	00	12	19.00%	0.00%	20.00%	0.00%	1.05	1.00
29-32 Brookes Court	00	13	4.00%	0.00%	4.00%	0.00%	1.00	1.00
29-32 Brookes Court	01	14	39.00%	0.00%	34.00%	0.00%	0.87	1.00
29-32 Brookes Court	01	15	21.00%	0.00%	22.00%	0.00%	1.05	1.00
29-32 Brookes Court	01	16	25.00%	0.00%	26.00%	0.00%	1.04	1.00
29-32 Brookes Court	01	17	35.00%	2.00%	35.00%	2.00%	1.00	1.00
29-32 Brookes Court	01	18	35.00%	2.00%	36.00%	3.00%	1.03	1.50
29-32 Brookes Court	01	19	29.00%	3.00%	29.00%	3.00%	1.00	1.00
29-32 Brookes Court	01	20	28.00%	3.00%	28.00%	3.00%	1.00	1.00
29-32 Brookes Court	01	21	31.00%	4.00%	31.00%	4.00%	1.00	1.00
29-32 Brookes Court	01	21	27.00%	3.00%	27.00%	3.00%	1.00	1.00
29-32 Brookes Court	01	22	12.00%	0.00%	12.00%	0.00%	1.00	1.00
29-32 Brookes Court	01	22	25.00%	3.00%	25.00%	3.00%	1.00	1.00
29-32 Brookes Court	01	23	23.00%	2.00%	23.00%	2.00%	1.00	1.00
29-32 Brookes Court	01	24	10.00%	1.00%	10.00%	1.00%	1.00	1.00
29-32 Brookes Court	01	25	24.00%	2.00%	24.00%	2.00%	1.00	1.00
29-32 Brookes Court	01	26	22.00%	0.00%	22.00%	0.00%	1.00	1.00
29-32 Brookes Court	01	27	21.00%	0.00%	22.00%	0.00%	1.05	1.00
29-32 Brookes Court	01	28	21.00%	0.00%	18.00%	0.00%	0.86	1.00
29-32 Brookes Court	02	23	21.00%	1.00%	21.00%	1.00%	1.00	1.00
29-32 Brookes Court	02	24	22.00%	2.00%	22.00%	2.00%	1.00	1.00
29-32 Brookes Court	02	25	21.00%	2.00%	21.00%	2.00%	1.00	1.00
29-32 Brookes Court	02	26	19.00%	0.00%	19.00%	0.00%	1.00	1.00
29-32 Brookes Court	02	29	28.00%	0.00%	28.00%	0.00%	1.00	1.00
29-32 Brookes Court	02	30	31.00%	2.00%	31.00%	2.00%	1.00	1.00
29-32 Brookes Court	02	31	32.00%	2.00%	32.00%	2.00%	1.00	1.00
29-32 Brookes Court	02	32	33.00%	2.00%	33.00%	2.00%	1.00	1.00
29-32 Brookes Court	02	33	34.00%	2.00%	34.00%	2.00%	1.00	1.00
29-32 Brookes Court	02	34	38.00%	4.00%	38.00%	4.00%	1.00	1.00
29-32 Brookes Court	02	35	38.00%	4.00%	38.00%	4.00%	1.00	1.00
29-32 Brookes Court	02	36	39.00%	5.00%	39.00%	5.00%	1.00	1.00
29-32 Brookes Court	02	37	39.00%	5.00%	39.00%	5.00%	1.00	1.00

Annual Probable Sunlight Hours Results Table								
Window			Existing		Proposed		Ratio Reduction	
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter
24-36 Grays Road	-01	1	0.00%	0.00%	0.00%	0.00%	1.00	1.00
24-36 Grays Road	-01	2	0.00%	0.00%	0.00%	0.00%	1.00	1.00
24-36 Grays Road	-01	3	0.00%	0.00%	0.00%	0.00%	1.00	1.00
24-36 Grays Road	00	10	0.00%	0.00%	0.00%	0.00%	1.00	1.00
24-36 Grays Road	00	11	2.00%	0.00%	0.00%	0.00%	0.00	1.00
24-36 Grays Road	00	12	2.00%	0.00%	0.00%	0.00%	0.00	1.00
24-36 Grays Road	00	13	4.00%	0.00%	0.00%	0.00%	0.00	1.00
24-36 Grays Road	00	14	3.00%	0.00%	6.00%	0.00%	2.00	1.00
24-36 Grays Road	00	15	13.00%	0.00%	11.00%	0.00%	0.85	1.00
24-36 Grays Road	00	16	16.00%	0.00%	15.00%	0.00%	0.94	1.00
24-36 Grays Road	00	17	22.00%	0.00%	23.00%	0.00%	1.05	1.00
24-36 Grays Road	00	18	26.00%	0.00%	26.00%	0.00%	1.00	1.00
24-36 Grays Road	01	26	3.00%	0.00%	0.00%	0.00%	0.00	1.00
24-36 Grays Road	01	27	5.00%	0.00%	0.00%	0.00%	0.00	1.00
24-36 Grays Road	01	28	5.00%	0.00%	2.00%	0.00%	0.40	1.00
24-36 Grays Road	01	29	6.00%	0.00%	5.00%	0.00%	0.83	1.00
24-36 Grays Road	01	30	8.00%	0.00%	14.00%	0.00%	1.75	1.00
24-36 Grays Road	01	31	16.00%	0.00%	23.00%	0.00%	1.44	1.00
24-36 Grays Road	01	32	21.00%	0.00%	26.00%	0.00%	1.24	1.00
24-36 Grays Road	01	33	26.00%	0.00%	31.00%	0.00%	1.19	1.00
24-36 Grays Road	01	34	30.00%	0.00%	33.00%	0.00%	1.10	1.00
24-36 Grays Road	02	42	5.00%	0.00%	0.00%	0.00%	0.00	1.00
24-36 Grays Road	02	43	7.00%	0.00%	6.00%	0.00%	0.86	1.00
24-36 Grays Road	02	44	7.00%	0.00%	13.00%	0.00%	1.86	1.00
24-36 Grays Road	02	45	12.00%	0.00%	24.00%	0.00%	2.00	1.00
24-36 Grays Road	02	46	13.00%	0.00%	31.00%	0.00%	2.38	1.00
24-36 Grays Road	02	47	18.00%	0.00%	34.00%	0.00%	1.89	1.00
24-36 Grays Road	02	48	25.00%	0.00%	34.00%	0.00%	1.36	1.00
24-36 Grays Road	02	49	30.00%	0.00%	36.00%	2.00%	1.20	1.00
24-36 Grays Road	02	50	35.00%	2.00%	37.00%	3.00%	1.06	1.50
24-36 Grays Road	03	58	7.00%	0.00%	8.00%	0.00%	1.14	1.00
24-36 Grays Road	03	59	12.00%	0.00%	18.00%	0.00%	1.50	1.00
24-36 Grays Road	03	60	21.00%	0.00%	29.00%	0.00%	1.38	1.00
24-36 Grays Road	03	61	24.00%	0.00%	34.00%	0.00%	1.42	1.00
24-36 Grays Road	03	62	24.00%	0.00%	34.00%	0.00%	1.42	1.00
24-36 Grays Road	03	63	26.00%	1.00%	36.00%	2.00%	1.38	2.00
24-36 Grays Road	03	64	35.00%	3.00%	38.00%	3.00%	1.09	1.00
24-36 Grays Road	03	65	36.00%	3.00%	38.00%	4.00%	1.06	1.33
24-36 Grays Road	03	66	39.00%	5.00%	39.00%	5.00%	1.00	1.00

Annual Probable Sunlight Hours Results Table								
Window			Existing		Proposed		Ratio Reduction	
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter
1 Brookes Court	01	1	54.00%	8.00%	54.00%	8.00%	1.00	1.00
1 Brookes Court	02	2	63.00%	13.00%	63.00%	13.00%	1.00	1.00

Notes

Date Revision

Drawing No. 0207283/1A/03

Revision

Address.

Fox Court,  
14 Gray's Inn Road  
WC1

Title.

VSC (Daylight) Results  
1, 19-28, 29-32 Brookes Court  
23-36 Gray's Inn Court

Client

Rockspring, Hanover Property Unit  
Trust

Date

03/01/13

Drawn by

File No. 0207283

Scale A3 @

NTS

**Deloitte.**

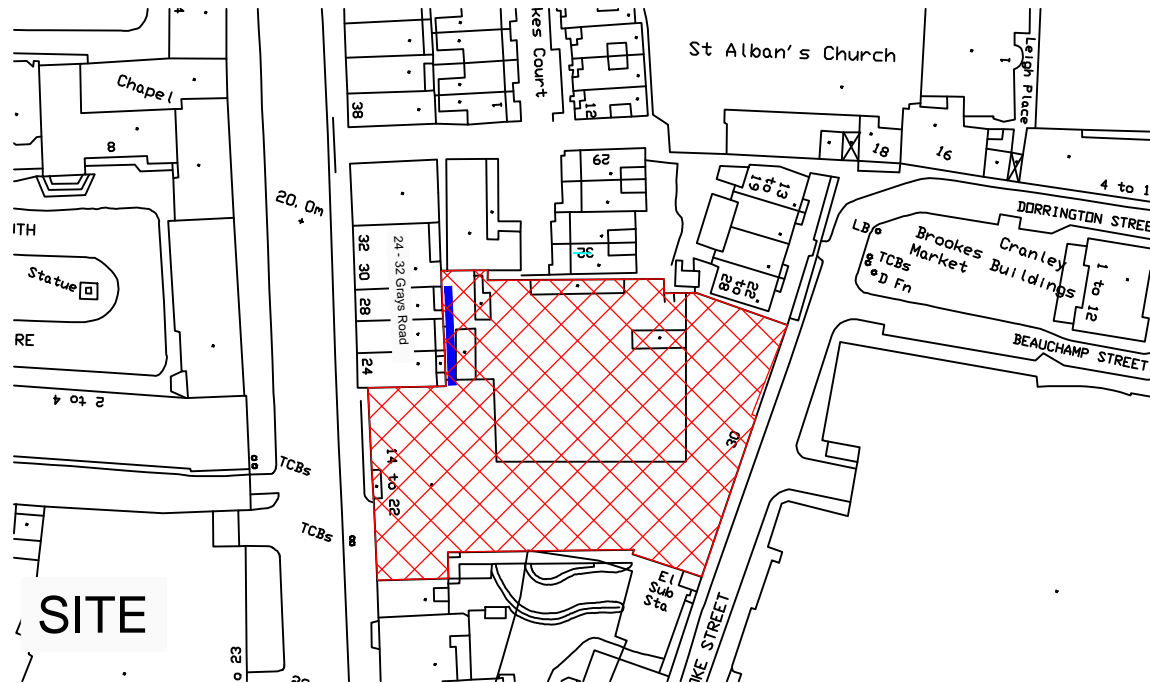
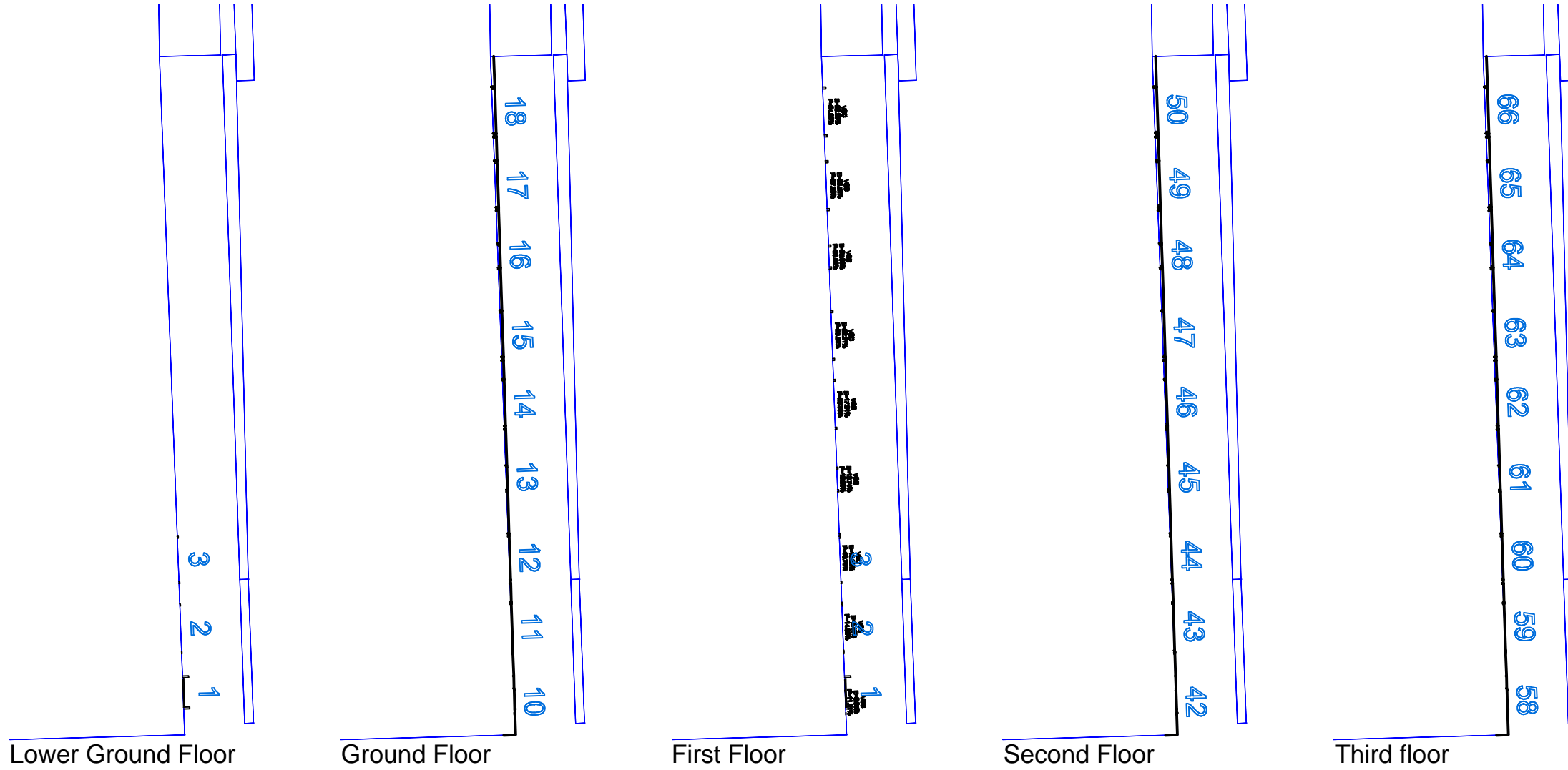
**Real Estate**

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London EC4A 3BQ  
Telephone 020-7007 9000 Fax 020-7063 1198

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**Notes**

- Site
- Elevation of building analyzed

Date Revision

Drawing No. 0207283/1A/04 Revision

**Address.**  
Fox Court,  
14 Gray's Inn Road  
WC1

**Title.**

**Window Map**  
24 - 28 Grays Inn Road

**Client**  
Rockspring, Hanover Property Unit  
Trust

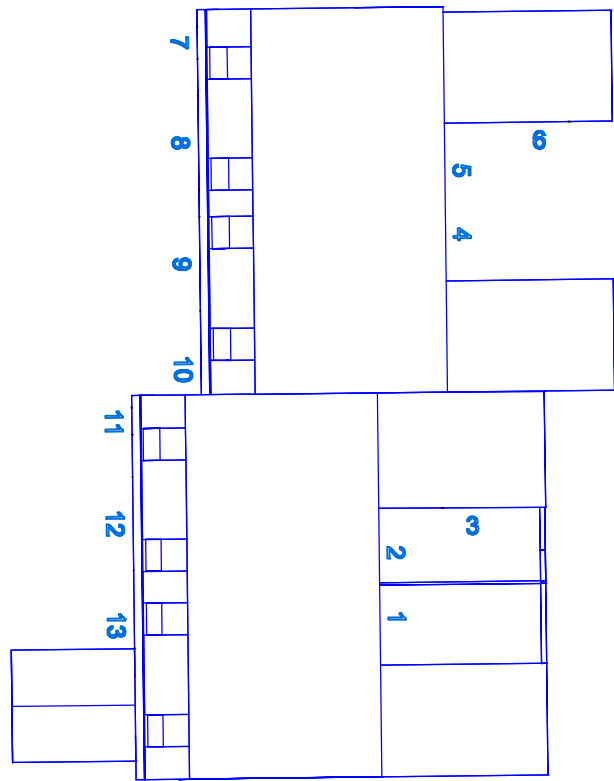
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03/01/13	File No.	0207283	NTS	

**Deloitte.**

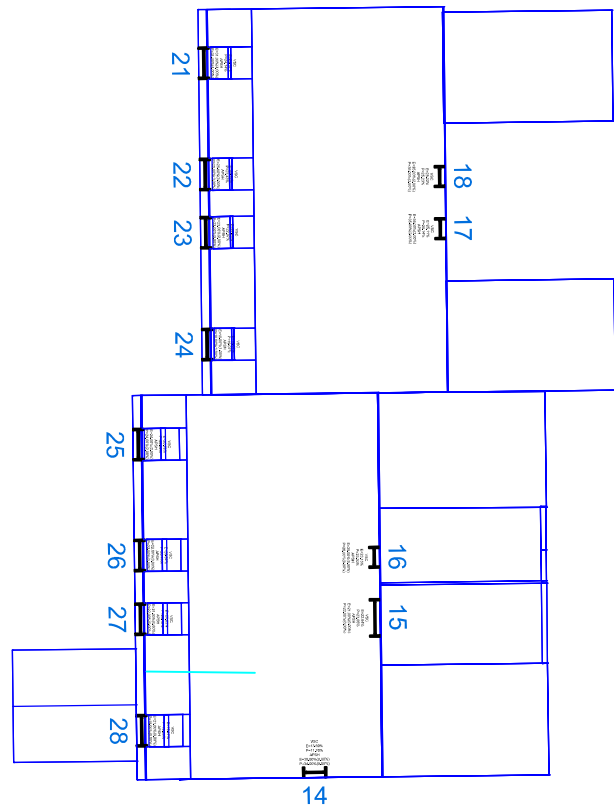
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London EC4A 3BQ  
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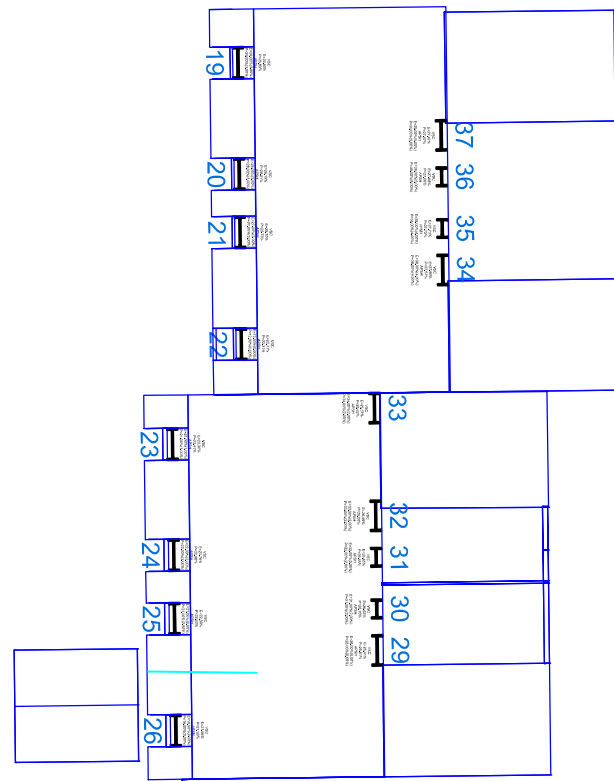
Copyright Reserved



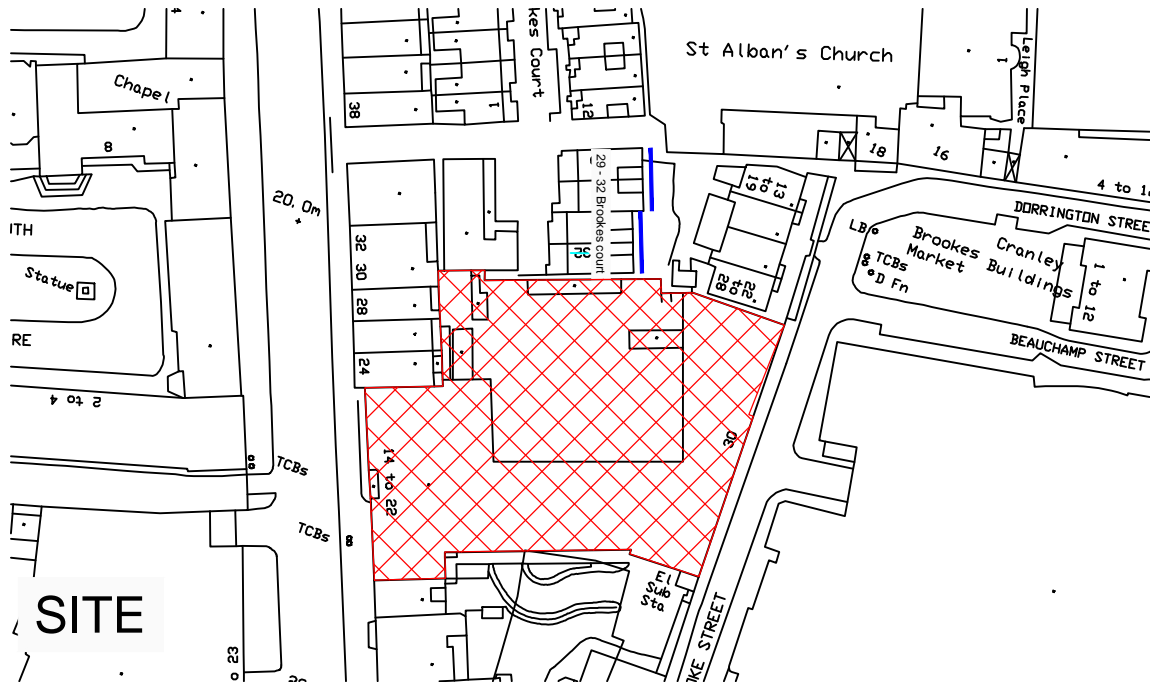
Ground



First





Second



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**Notes**

-  Site
-  Elevation of building analyzed

Date	Revision
------	----------

Drawing No. 0207283/1A/05 Revision

**Address.**  
Fox Court,  
14 Gray's Inn Road  
WC1  
**Title.**

**Window Map**  
29 - 32 Brookses Court

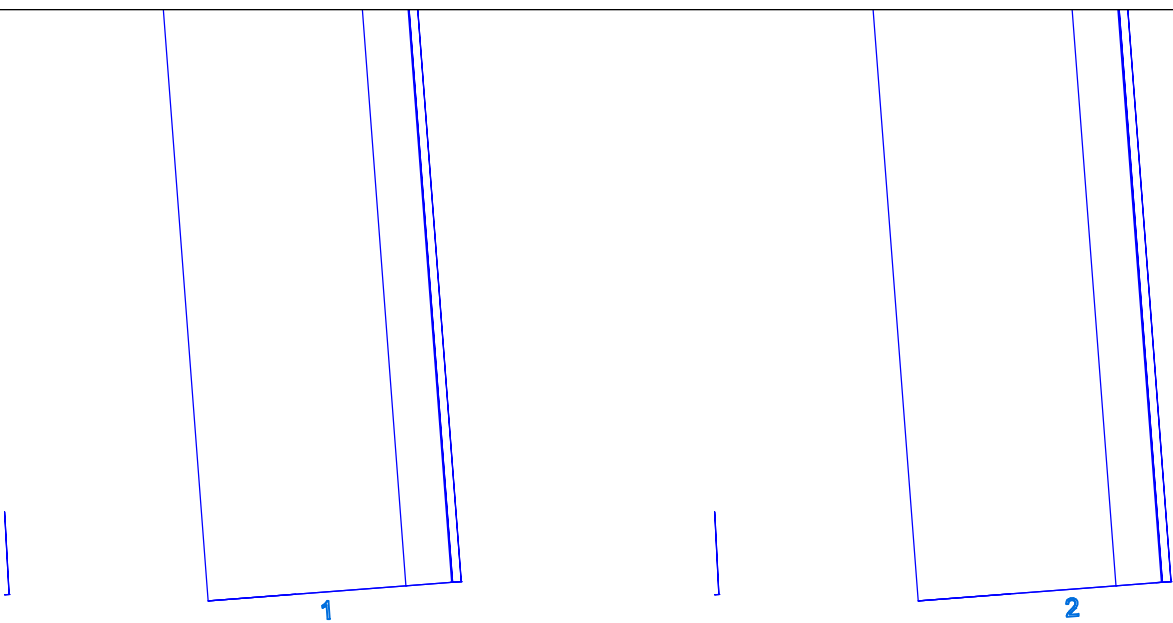
**Client**  
Rockspring, Hanover Property Unit  
Trust

Date	Drawn by	ICA	Scale	A3 @
03/01/13	File No.	0207283	NTS	

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London EC4A 3BQ  
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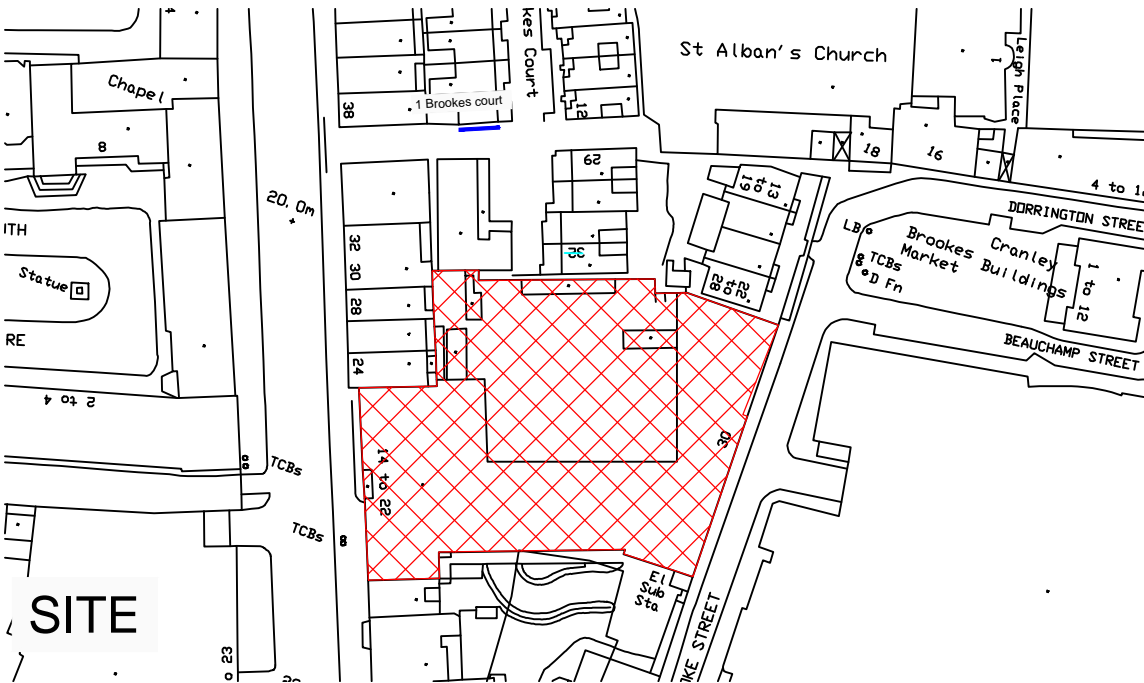
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First Floor



Second Floor



Third Floor

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Notes

-  Site
-  Elevation of building analyzed

Date	Revision
------	----------

Drawing No. 0207283/1A/04 Revision

Address.  
Fox Court,  
14 Gray's Inn Road  
WC1

Title.

Window Map  
1 Brookes Court

Client  
Rockspring, Hanover Property Unit  
Trust

Date	Drawn by	ICA	Scale	A3 @
03/01/13	File No.	0207283	NTS	

**Deloitte.**

Real Estate

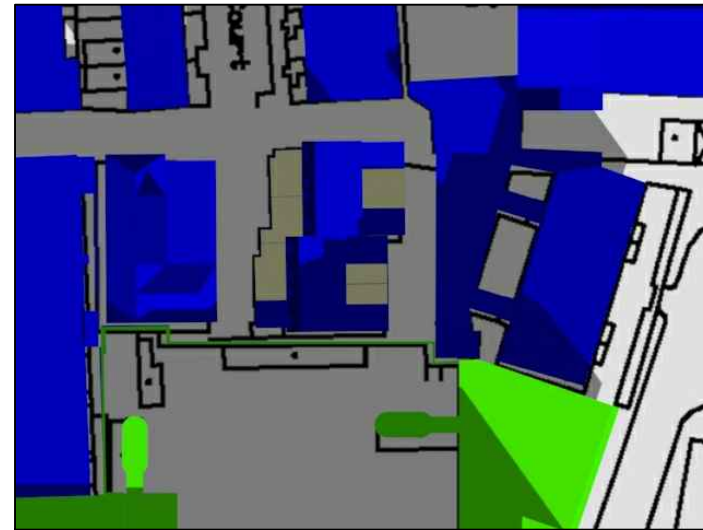
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# Appendix C-Overshadowing Results



0900



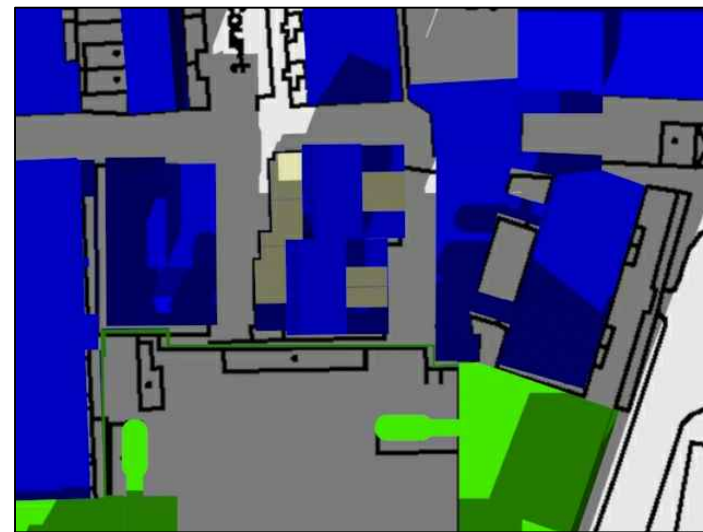
1000



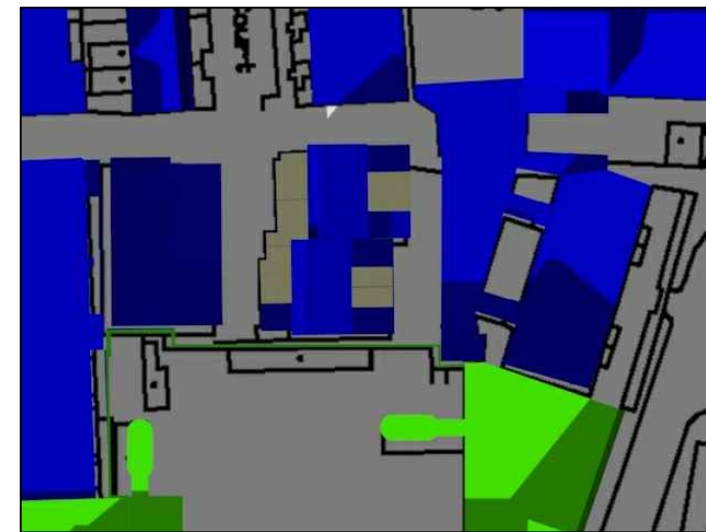
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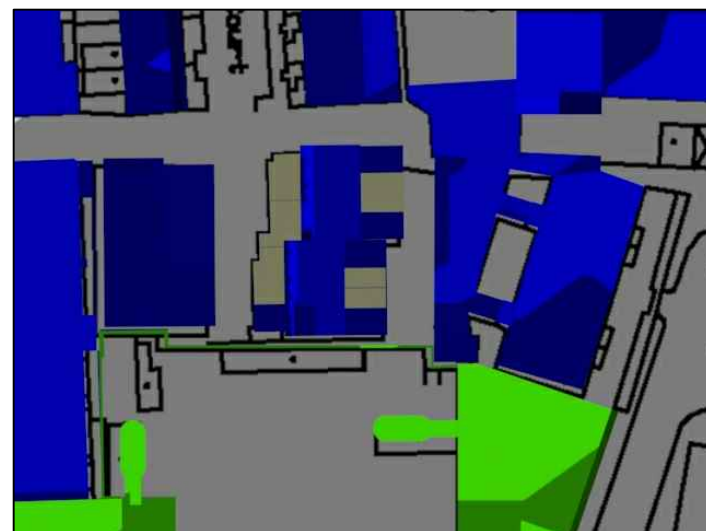
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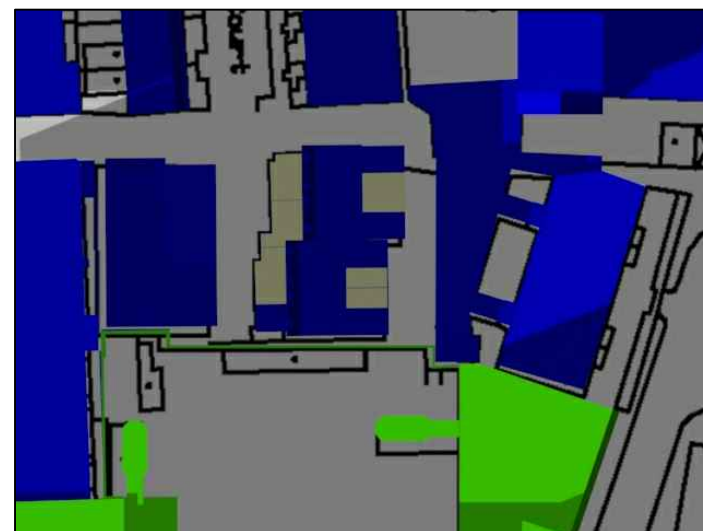
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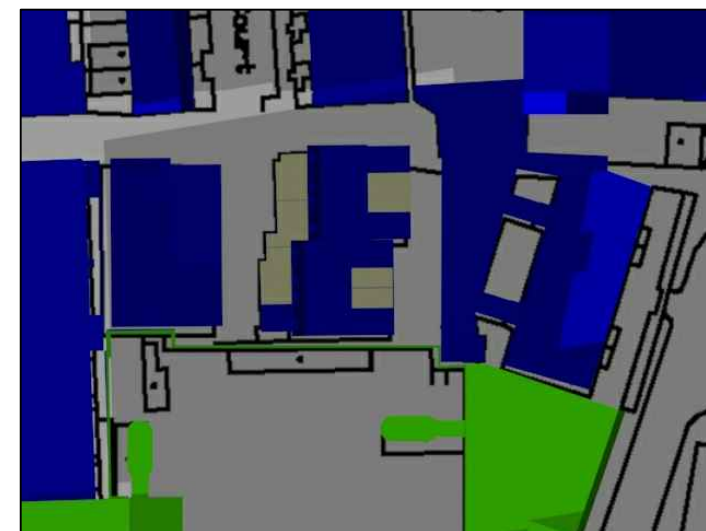
1400



1500





1600



1700

Notes

-  Site
-  Elevation of building analyzed

Date	Revision

Drawing No. 0207283/1A/08

Address.  
Fox Court,  
14 Gray's Inn Road  
WC1

Title.  
Existing Overshadowing  
March 21st

Client  
Rockspring, Hanover Property Unit  
Trust

Date	Drawn by	Scale
03/01/13	IKA	A3 @
	File No. 0207283	NTS

**Deloitte.**

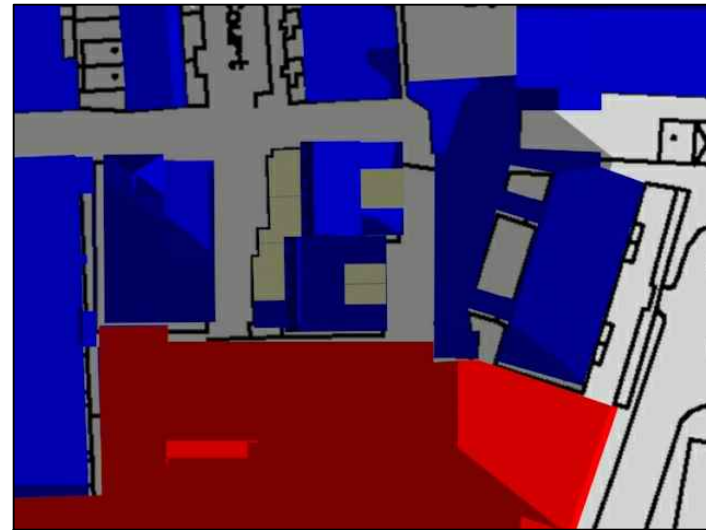
**Real Estate**

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London EC4A 3BQ  
Telephone 020-7007 9000 Fax 020-7083 1198

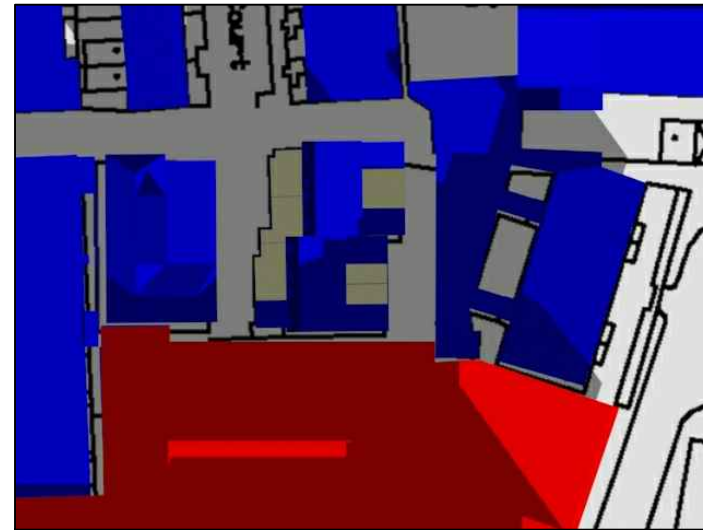
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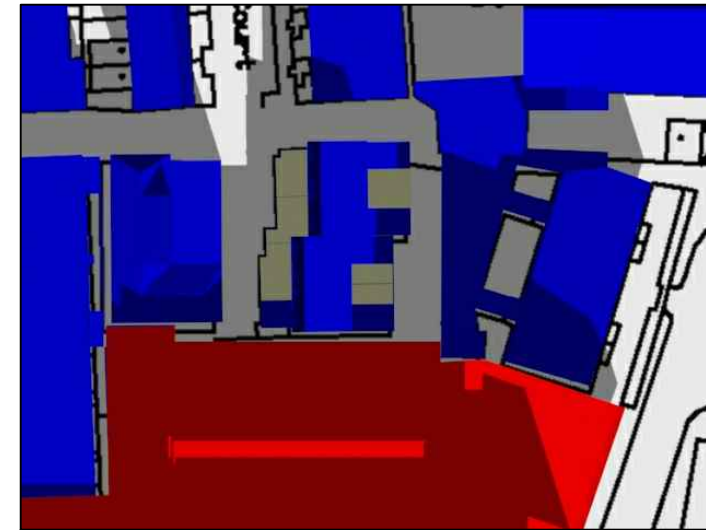




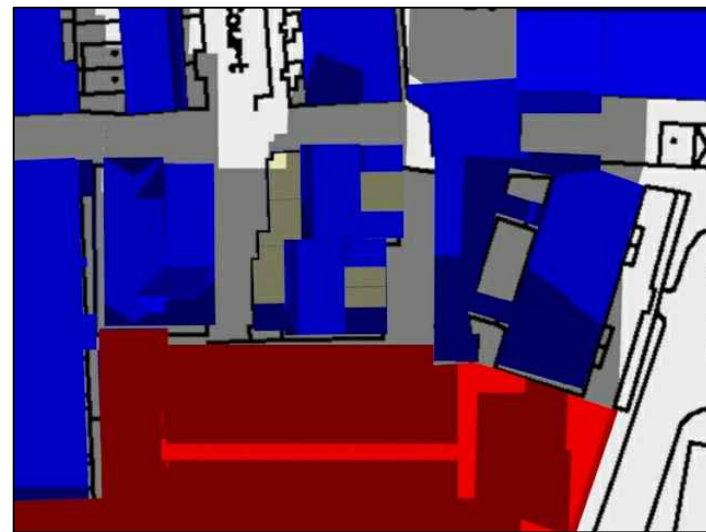
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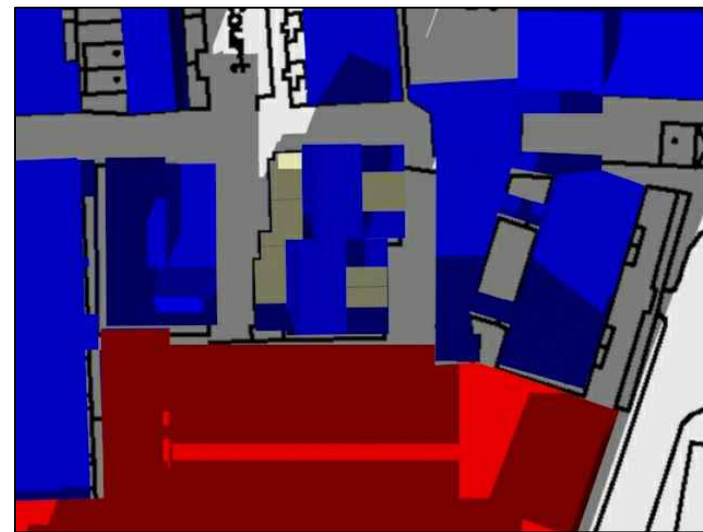
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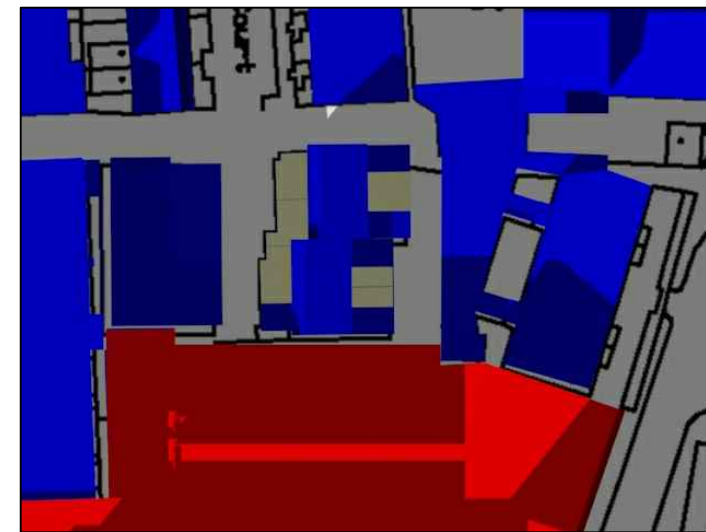
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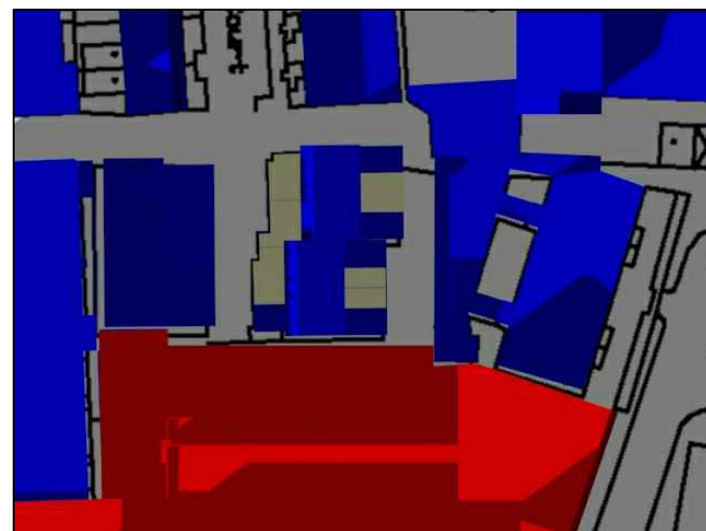
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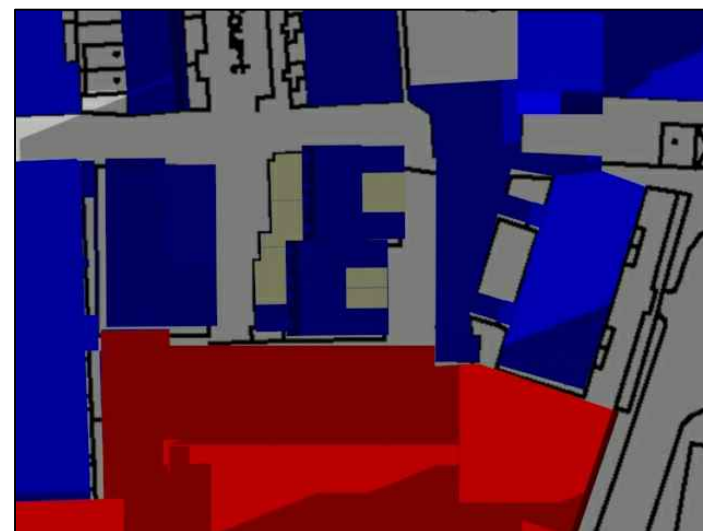
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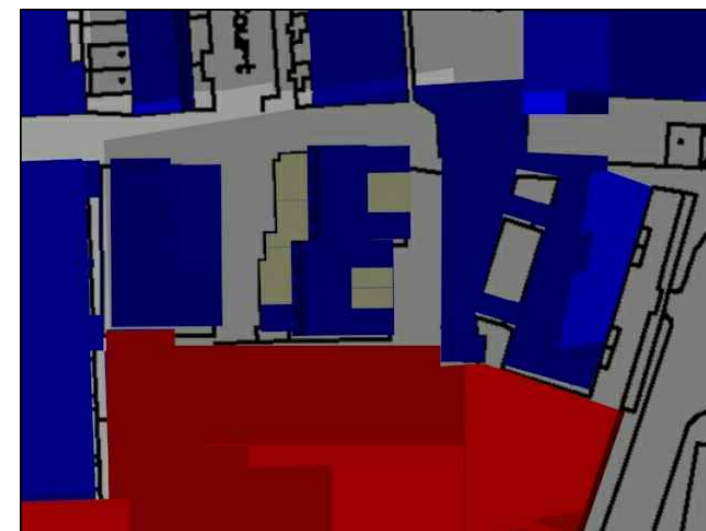
1400



1500





1600



1700

**Notes**

-  Site
-  Elevation of building analyzed

Date	Revision

Drawing No. 0207283/1A/08

**Address.**  
Fox Court,  
14 Gray's Inn Road  
WC1

**Title.**  
Proposed Overshadowing  
March 21st

**Client**  
Rockspring, Hanover Property Unit  
Trust

Date	Drawn by	Scale
03/01/13	IKA	A3 @
	File No. 0207283	NTS

**Deloitte.**

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