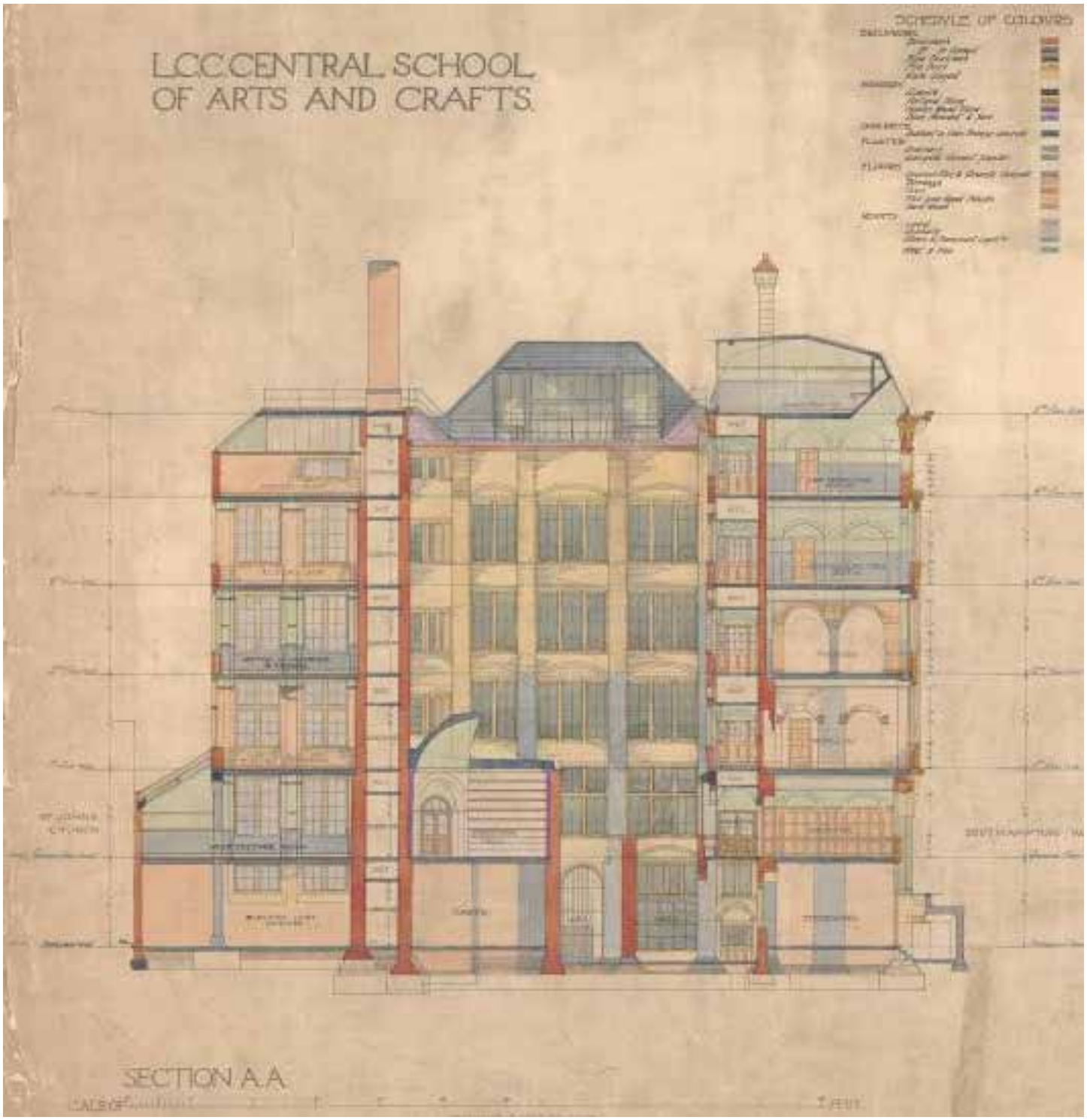
AnsteyHorne

Project

Former CSM Site, Holborn

Title

Daylight and Sunlight (Light Within Proposed Residential)



AnsteyHorne

REPORT

on

DAYLIGHT & SUNLIGHT WITHIN THE PROPOSED DWELLINGS

at

FORMER CENTRAL ST MARTINS COLLEGE, 12-42 SOUTHAMPTON ROW & 1-4 RED LION SQUARE WC1B 4AF

REF RC/SB/ROL6071
17 April 2020

expertise *applied*

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Figure 1: Oblique aerial photograph of the site looking north (Source: Google)

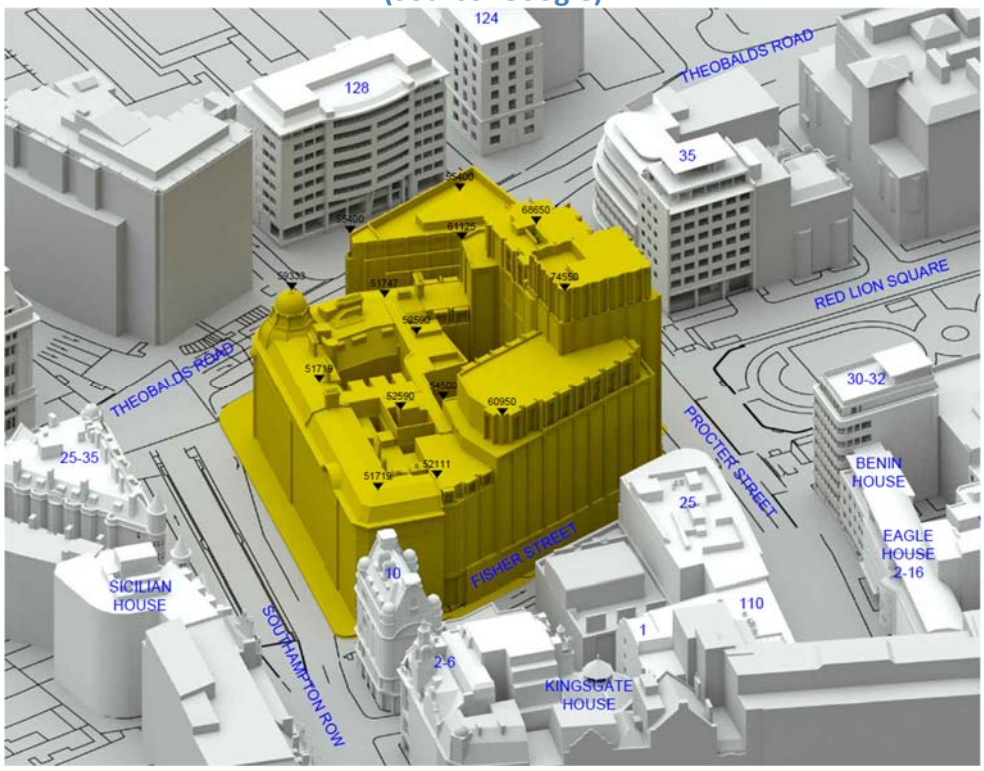

Figure 2: 3D view of computer model in the proposed condition

1. INTRODUCTION

1.1 Globalgrange Hotels Ltd is proposing a development at Former Central St Martins College, 12-42 Southampton Row & 1-4 Red Lion Square, WC1B 4AF. The application site is situated at the southern side of Theobalds Road and the junctions with Southampton Row to the west and Procter Street to the east and is bounded to the south by Fisher Street.

1.2 The proposed development is designed by Orms Designers and Architects Ltd and comprises various uses, including a designated building for residential apartments. Anstey Horne has been commissioned to undertake a formal technical assessment of the daylight and sunlight levels within the proposed. We have used 3D computer modelling and our specialist computer software to calculate the levels of daylight and sunlight that will be available in the proposed habitable rooms. Our 3D model of the proposed scheme is illustrated in figure 2 at page ii and in our drawings at Appendix A.

1.3 There are no mandatory standards for daylight or sunlight to dwellings, but the following publications offer guidance:

- BS8206-2: 2008, *Lighting for Buildings – Part 2: Code of practice for daylighting* (2008) (replaced by the below)
- BS EN 17037:2018 *Daylight in Buildings* (2018)
- BRE Report 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice* (second edition, 2011)
- CIBSE Lighting Guide 10, *Daylighting - A Guide for Designers: Lighting for the Built Environment* (SLL LG10, 2014)

1.4 Although the new British Standards EN 17037:2018 has been published and has superseded BS8206, the publication has not been fully implemented within the industry, and we are currently going through a consultation period with the BRE as to how these new methodologies will be combined with the current BRE guidelines. As such for now, the published BRE guidelines as set out in BRE Report 209 have been utilised for this report.

1.5 The above guides give advice on minimum recommended average daylight factors (ADF) in habitable rooms in dwellings. They also make recommendations for sunlight to interiors, based on the percentage of annual probable sunlight hours (APSH).

1.6 This report summarises the relevant planning policy, the basic principles of daylighting, the methods used to assess the potential levels that will be achieved in the new

accommodation, the information used in compiling our 3D computer model and the results of our technical assessment. Drawings and full tables of results of our assessment are attached in the appendices.

2. PLANNING POLICY AND GUIDANCE

National Planning Policy and Guidance

2.1 The Revised National Planning Policy Framework (February 2019) sets out the Government's planning policies and how these are expected to be applied. It provides a framework within which councils can produce their own local plans that reflect the needs and priorities of their communities.

2.2 Chapter 11 'Making effective use of land' states in paragraph 123(c) that:

"local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

2.3 The Building Research Establishment, whose aims include achieving a higher quality built environment, publish BRE guidelines 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice* (second edition, 2011) by PJ Littlefair. This guide gives advice on site layout planning to retain good daylighting and sunlighting in existing surrounding buildings and achieve to it in new buildings. The guide is intended for use by designers, consultants and planning officials and notes that:

"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."

Regional Planning Policy and Guidance

<u>Mayor's London Plan</u>

2.4 The Mayor of London's '*London Plan – The Spatial Strategy for London Consolidated with Alterations since 2011*' (March 2016) sets out the spatial development strategy for London. It forms part of the development plan for Greater London, along with local plans of the London boroughs. *'Minor Alterations to the London Plan'* were published in 2015 and 2016.

2.5 Policy 3.5 (Quality and design of housing developments) states, *"Housing developments should be of the highest quality internally, externally and in relation to their context and to the wider environment, taking account of strategic policies in this Plan to protect and enhance London's residential environment and attractiveness as a place to live."*

2.6 Policy 7.6 (Architecture) states that *"buildings and structures should … provide high quality indoor and outdoor spaces and integrate well with the surrounding streets and open spaces"*.

2.7 There is a new London Plan that is currently in draft form and is subject to examination before being implemented. The Draft London Plan – Consolidated Suggested Changes Version (July 2019).

2.8 Policy D4 Housing quality and standards states:

"Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Policy D1B Part B than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.

The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space"

<u>Mayor's Housing Supplementary Planning Guidance</u>

2.9 The Mayor of London's '*Housing Supplementary Planning Guidance*' (March 2016) provides guidance on how to implement the housing policies in the London Plan. It replaces the 2012 Housing Supplementary Planning Guidance.

2.10 Part 1 of the SPG covers housing supply and sets out the Plan's approach to optimising housing output. In relation to daylight and sunlight within new housing developments it advises:

"*An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight … within new developments. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time."*

"The daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced but which still achieve satisfactory levels of residential amenity."

2.11 Part 2 of the SPG covers quality and design of housing developments. It contains standards that set out the minimum level of quality and design that new homes should meet. The standards and corresponding guidance that relate to daylight and sunlight in new housing are as follows:

Communal and public open space

> *"Standard 4 - Where communal open space is provided, development proposals should demonstrate that the space … is designed to take advantage of direct sunlight."*

Home as a place of retreat

"… Natural light is also vital to a sense of wellbeing in the home, and this may be restricted in densely developed parts of the city. The Mayor seeks to encourage the kind of housing that provides comfortable and enjoyable places of retreat and privacy. Factors to be considered include privacy, the importance of dual aspect development, noise mitigation, floor to ceiling heights, daylight and sunlight."

Dual aspect

> *"Standard 29 - Developments should minimise the number of single aspect dwellings. Single aspect dwellings that are north facing, or exposed to noise levels above which significant adverse effects on health and quality of life occur, or which contain three or more bedrooms should be avoided."*

"Dual aspect dwellings with opening windows on at least two sides have many inherent benefits. These include better daylight, a greater chance of direct sunlight for longer periods, natural cross ventilation and a greater capacity to address overheating, mitigating pollution, offering a choice of views, access to a quiet side of the building, greater flexibility in the use of rooms, and more potential for future adaptability by altering the use of rooms. Where possible the provision of dual aspect dwellings should be maximised in a development proposal."

"The design of single aspect flats will need to demonstrate that all habitable rooms and the kitchen are provided with adequate ventilation, privacy and daylight and the orientation enhances amenity, including views. North facing single aspect dwellings should be avoided wherever possible. However, in applying this standard consideration should also be given to other planning and design objectives for a site, for example the aim to maximise active frontages and minimise inactive frontages."

"Good single aspect one and two bedroom homes are possible where limited numbers of rooms are required, the frontage is generous, the plan is shallow, the orientation and or outlook is favourable, and care is taken to mitigate the potential for overheating without

the need for mechanical cooling. Single aspect dwellings may also be appropriate when being used to wrap podium level car parks or large retail units with active frontages."

"In single aspect dwellings with more than two bedrooms it is difficult to achieve adequate natural ventilation and daylight to all rooms in an efficient plan layout which avoids long internal corridors. Single aspect dwellings containing three or more bedrooms should therefore be avoided. The design of single aspect ground floor dwellings will require particular consideration to maintain privacy and adequate levels of daylight."

Daylight and sunlight

"Standard 32 - All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight."

"Daylight enhances residents' enjoyment of an interior and reduces the energy needed to provide light for everyday activities, while controlled sunlight can help to meet part of the winter heating requirement. Sunlight is particularly desirable in living areas and kitchen dining spaces. The risk of overheating should be taken into account when designing for sunlight alongside the need to ensure appropriate levels of privacy. In addition to the above standards, BRE good practice guidelines and methodology can be used to assess the levels of daylight and sunlight achieved within new developments, taking into account guidance below and in Section 1.3."

"Where direct sunlight cannot be achieved in line with Standard 32, developers should demonstrate how the daylight standards proposed within a scheme and individual units will achieve good amenity for residents. They should also demonstrate how the design has sought to optimise the amount of daylight and amenity available to residents, for example, through the design, colour and landscaping of surrounding buildings and spaces within a development."

"BRE guidelines on assessing daylight and sunlight should be applied sensitively to higher density development in London, particularly in central and urban settings, recognising the London Plan's strategic approach to optimise housing output (Policy 3.4) and the need to accommodate additional housing supply in locations with good accessibility suitable for higher density development (Policy 3.3). Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London."

Local Planning Policy and Guidance

2.12 The development site is located within London Borough of Camden.

2.13 Camden refers to several planning documents forming the development plan and consequently the basis for planning decisions in the borough, the key strategic document being the Camden Local Plan containing policies for guiding planning decisions.

2.14 Camden Planning Guidance (CPG) advises on how the planning policies are applied and support delivery of Camden's Local Plan. Whilst these should be regarded as material for planning decisions, they have 'less weight' than the Local Plan or other development plan documents.

Camden's Local Plan (adopted 3 July 2017)

2.15 Policy A1 'Managing the impact of development' states the following in relation to daylight and sunlight amenity.

"The Council will seek to protect the quality of life of occupiers and neighbours. We will grant permission for development unless this causes unacceptable harm to amenity."

"The factors we will consider include: (f) sunlight, daylight and overshadowing."

2.16 The Local Plan goes on to state the following under the heading 'Sunlight, daylight and overshadowing'.

"Loss of daylight and sunlight can be caused if spaces are overshadowed by development. To assess whether acceptable levels of daylight and sunlight are available to habitable, outdoor amenity and open spaces, the Council will take into account the most recent guidance published by the Building Research Establishment (currently the Building Research Establishment's Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2011)."

2.17 Section 8.50 under 'Climate change mitigation' refers to daylight within new dwellings.

"The Home Quality Mark, launched 2015, is one way of demonstrating the standard of a new residential dwelling, which includes measures for low CO2, sustainable materials, good air quality and natural daylight…"

2.18 With regard to 'Housing choice and mix' the requirement for high quality and accessible homes also mentions access to daylight and sunlight.

"3.139 Many aspects of housing quality have a critical impact on the health and wellbeing of occupiers. These aspects of quality include the external environment, the condition of the property and its state of repair and decoration, accessibility, internal space and number

of bedrooms, separation between functions such as kitchens, living rooms and bedrooms, adequate noise insulation, and daylight and sunlight and all of which can affect physical and mental health and influence life chances. The Council will therefore seek to secure a variety of high-quality housing to meet the needs of different users, and will not sacrifice quality in order to maximise overall housing delivery."

3. METHOD OF ASSESSMENT AND NUMERICAL GUIDELINES

Daylight within new development

3.1 Section 2.1 of the BRE guide makes recommendations concerning daylight in new buildings. At the site layout stage of the design process, when window positions and sizes are unknown, the potential for daylight may be checked at a series of reference points on each main face of the building. At each of these reference points the amount of available skylight falling on the vertical wall can be quantified as the vertical sky component (VSC).

3.2 Where window positions and sizes are known, it is more informative to calculate the interior daylighting inside the building. The guidelines recommend calculating the average daylight factor (ADF), which is the mean daylight factor on the horizontal working plane inside the room and is a measure of the overall amount of daylight in a space.

3.3 BS8206 and BRE Report 209 recommend the following minimum values of ADF in housing:-

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

3.4 BS8206-2: 2008 notes that *"Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value. For example, in a space which combines a living room and a kitchen the minimum average daylight factor should be 2%"*.

3.5 There are a number of ways that the ADF can be calculated. We have followed the method described in Appendix C of the BRE guide, which uses the following equation:

$$ADF = \frac{TMA_W\theta}{A(1-R^2)}$$

Equation 1 - ADF formula

where,

T is the diffuse visible light transmittance of the glazing;

M is the maintenance factor allowing for the effects of dirt;

A_w is the net glazed area of the window;

θ is the angle of visible sky;

A is the total area of all the room surfaces (ceilings, floors, walls and windows); and

R is the area-weighted average reflectance for the room surfaces.

3.6 The angle of visible sky (θ) at each window, shown in Figure 3, can be directly related to the VSC as described in Appendix C of the BRE guide. The values used in our assessment for the other parameters in the ADF formula are explained later in this report.

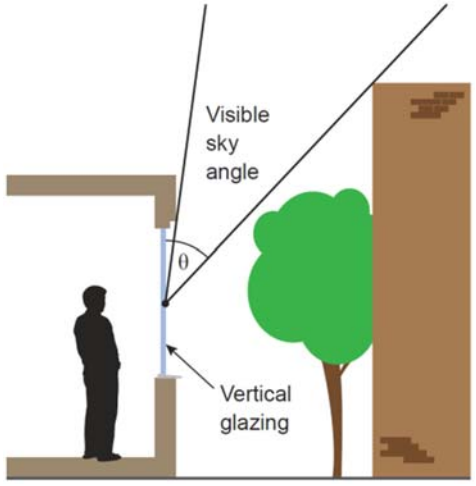

Figure 3 – Angle of visible sky, (Source: BRE209, 2011)

Sunlight within new development

3.7 Section 3.1 of the BRE guide makes recommendations concerning sunlight in new buildings. It advises that *"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the mornings rather than the afternoon."*

3.8 The BRE guidance advises that site layout can be used to affect the duration of sunlight in buildings. It notes that *"A dwelling with no main window wall within 90° of due south is likely to be perceived as insufficiently sunlit. This is usually an issue only for flats. Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight."*

3.9 The guide notes that *"The aim should be to minimise the number of dwellings whose living rooms face solely north, northeast or northwest, unless there is some corresponding factor such as an appealing view to the north."* It also acknowledges that *"for larger developments of flats, especially those with constraints, it may not be possible to have every living room facing within 90° of due south"*.

3.10 Access to sunlight can be quantified: *"BS8206 recommends that interiors where the occupants expect sunlight should receive at least one quarter (25%) of annual probable*

sunlight hours (APSH), including in the winter months between 21 September and 21 March at least 5% of APSH".

3.11 'Probable sunlight hours' means "*the total amount of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question"*. The calculation uses a sunlight probability model that is based on sunlight statistics. The sunlight probability diagram is shown in Figure A.3 of BS8206-2:2008. There are 100 dots on the diagram, with each dot representing 1% of probable sunlight hours. The density of dots on the diagram is proportional to the probability of the sun shining from a particular area of sky.

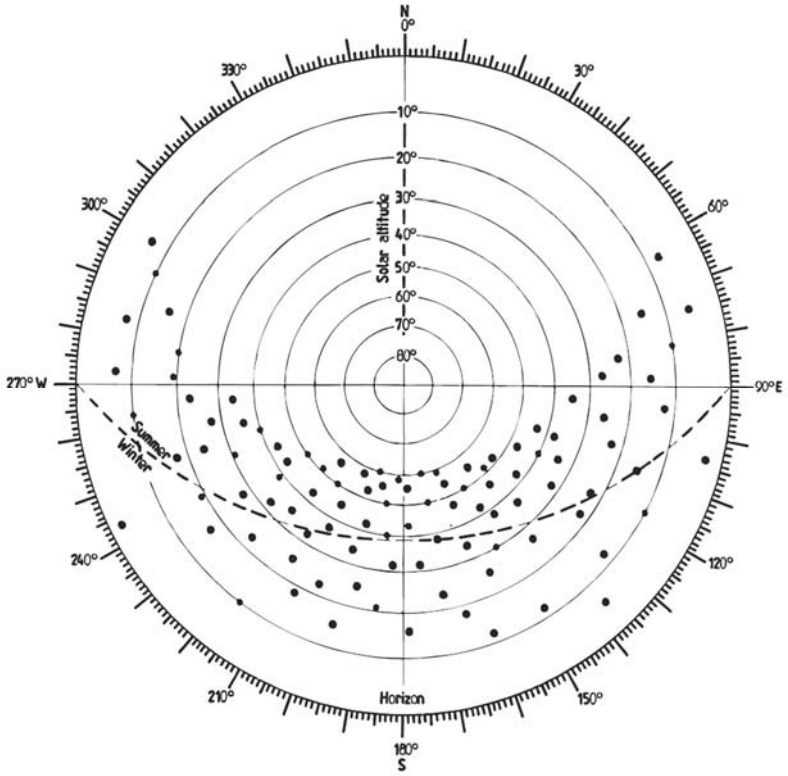

Figure 4 - Sunlight probability diagram (Source: BS8206-2:2008)

3.12 Where rooms are lit by more than one window it is sensible to consider the aggregate amount of sunlight reaching the room, though care should be taken to avoid double-counting. The BRE guide advises as follows: *"If a room has multiple windows on the same wall or adjacent walls, the highest value APSH should be taken. If a room has two windows on opposite walls, the APSH due to each can be added together."* Our computer software accurately calculates the room-based aggregate APSH, which is a better indicator than individual results for each window.

3.13 Whilst the BRE guidelines may, in theory, be applied anywhere, APSH values of 25% annually and 5% in the winter months are often not possible in modern, dense, city-centre sites where it is necessary to fully optimise housing potential. Furthermore, whilst the criteria can be applied to rooms of all orientations, the guide notes that *"if a room faces significantly north of due east or west it is unlikely to be met"*.

3.14 BS8206 notes that *"The degree of satisfaction is related to the expectation of sunlight. If a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when its exclusion seems arbitrary. It is the duration of sunlight in an interior, rather than its intensity or the size of the sunny patch, which correlates best with the occupants' satisfaction."*

3.15 Whilst BS8206 is intended to give good access to sunlight in a range of situations, the BRE guide notes that in some circumstances *"the designer or planning authority may wish to choose a different target value for hours of sunlight.*"

3.16 In the summary the BRE guide states that a dwelling will appear reasonably sunlit provided that at least one main window wall faces within 90° of due south and the centre of at least one window to a main living room can receive 25% APSH, including at least 5% APSH in the winter months between 21 September and 21 March. Where groups of dwellings are planned, *"site layout should aim to maximise the number of dwellings with a main living room that meets the above recommendations"*.

4. APPLICATION OF THE BRE GUIDE

4.1 In its introduction BRE Report 209 states its *"main aim is … to help ensure good conditions in the local environment considered broadly, with enough sunlight and daylight on or between the buildings for good interior and exterior conditions"*.

4.2 The guide notes that it *"is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."*

4.3 Clearly, the BRE guide is an advisory document, not a rigid set of rules. Care must therefore be taken when applying its recommendations.

4.4 In theory the BRE report's numerical guidelines may be applied to any setting, whether that is a city centre, suburban area or rural village. However, it notes, "*In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.*"

4.5 Furthermore, as noted at paragraph 2.10 above, the Mayor of London's *Housing Supplementary Planning Guidance* emphasises that fully optimising housing potential on large sites may necessitate departure from conventional guidelines and the adoption of alternative target values.

4.6 Clearly, rigid application of the BRE Report's standard numerical guidelines may be inappropriate in a built-up urban environment where higher density affordable development may be desirable and where there simply cannot be the same expectation of light as in a suburban or rural context.

5. INFORMATION USED IN THE TECHNICAL STUDY

5.1 We undertook our technical study using a 3D computer model of the proposed scheme and its surrounding buildings, which we built from the following information:

- Proposed scheme:
    - Orms Designers and Architects Ltd's drawings of the proposed scheme: Drawing dated 15 April 2020
- Surrounding buildings:
    - MBS Land Survey's measured survey drawings
    - OS map
    - Aerial photography from Microsoft Bing
    - Site visit, photographs and measurements

5.2 The computer model is illustrated on the drawings at Appendix A.

5.3 In calculating the daylight (ADF) levels the following values were applied in the BRE formula:

- T (diffuse glass transmission): 0.68 for clear double glazing with a low emissivity coating;
- M (maintenance factor for dirt on glass): 0.92 (i.e. 8% loss) for vertical glazing;
- A_w (window aperture area): measured from 3D computer model multiplied by 0.8 for the frame correction factor;
- A (total surface area of room): measured from the 3D computer model; and
- R (area-weighted surface reflectance of room) calculated for each room based on the following surface finishes and reflectance:
    - Ceilings: white 0.85
    - Walls: pale cream 0.81
    - Floors: light wood flooring 0.4

6. RESULTS OF TECHNICAL STUDY

6.1 We have tested all habitable rooms in the proposed Theobalds building from floors second to eighth.

6.2 In all 99 rooms were tested, of which 32 are living rooms, dining rooms and kitchens (or a combination thereof), two are studios and 65 are bedrooms. Where windows are set back beneath balconies serving the floor above, we have included the obstructing effect of the balcony within our model.

6.3 The rooms tested are shown outlined on our drawing nos. ROL6071_11_401- 01 to 07 at Appendix D. The drawings give the use of each room and the room and window references used in our detailed tables of results.

Daylight within new development

6.4 The average daylight factor (ADF) results for the proposed habitable rooms tested are shown in the table at Appendix B (along with the relevant target for the room use concerned) and on the room layout drawings at Appendix D.

6.5 Of the 99 rooms tested, 86 (87%) rooms achieve their respective BRE criteria for ADF analysis.

6.6 All 32 of the living kitchen dining rooms (LKDs) adhere to the 2% ADF guideline, as well as the two studio apartments achieving their respective 2% ADF guideline. In fact, even on the lower floors, where one might expect more constrained light level, the design is such that these LKDs achieve and, in many cases, far surpass the minimum ADF guidelines.

6.7 For the bedrooms, of the 65 rooms tested, 52 (80%) adhere to the 1% ADF guidelines. The 13 bedrooms that fall below the guidelines are located on the lowest three floors and are mainly on the south facing elevation. These bedrooms range from 0.60% ADF to 0.91% ADF; eight of these only narrowly missing the guidelines achieving above 0.8% ADF.

6.8 As noted by the BRE guidelines, bedrooms require less daylight than living, kitchen, dining rooms and this scheme shows that each of these bedrooms are linked to a very well-lit LKD, which is both dual aspect and has access to a private amenity space.

6.9 It is perhaps also worth noting that the bedroom R9 as shown on the appended drawings at second and third floor, which falls just below the guidelines, also has direct access onto a balcony. Balconies provide much-needed private amenity space, but there is always a trade-off with daylight because they can necessarily limit the available daylight. In the case of projecting balconies, they affect the rooms beneath and in the case of recessed balconies, they affect the windows to the flat served by the balconies that are recessed

back from the façade of the building. For these two bedrooms, we have a combined impact of recessed amenity space and the overhang of the balcony above, but of course the benefit of direct access onto the balcony from the bedroom.

6.10 High daylight levels have been achieved through careful and thoughtful design. The position of the LKDs, which have a higher expectation of daylight have been positioned on the corners of the building taking advantage of the dual aspect nature. Moreover, the design of the Theobalds building is such that two of the three elevations face away from the main site, enabling them to take advantage of the building to building separation across Theobalds Road and Procter Street, and thus less obstruction.

Sunlight within new development

6.11 The annual probable sunlight hours (APSH) results for the rooms tested are given in the table at Appendix C. As explained above, these are room-based aggregate APSH figures taking account of sunlight available to all windows, where they are served by more than one.

6.12 The focus of the BRE sunlight guidelines is on main living rooms, rather than bedrooms and kitchens, which the guide views as less important. The guide recommends that *"Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight ... Where possible, living rooms should face the southern or western parts of the sky and kitchens towards the north or east."*

6.13 The scheme follows these general design principles for the main living rooms with all but one of the LKDs on each of floor plate being located at the corners of the proposed building, such that they can take advantage of dual aspect, and in many cases, multi-aspect design.

6.14 However, the guidelines also acknowledge that *"if a room faces significantly north of due east or west [the sunlight criterion] is unlikely to be met"*.

6.15 In order to make best optimisation of the site footprint and to achieve the best daylight levels, the proposed residential building is triangular in shape on the north corner. However, for sunlight this means that due to the site orientation, two of the building elevations on this corner are facing within 90° of due north; one north west and the other north east and as such have a lower expectation of direct sunlight.

6.16 The remaining elevation faces south but, due to the site constraints, sits directly north of the rest of the proposed site. Due to this orientational relationship with the rest of the site, despite the south facing elevation, these south facing rooms still have constrained sunlight levels.

6.17 As noted above, despite including all rooms for analysis, we have focussed on the 56 rooms (rooms R1 to R8 on the appended drawings) with predominantly south facing aspects. Of those 56 rooms, 12 (21%) adhere to the annual sunlight guidelines and nine (16%) adhere to the winter sunlight guidelines. These rooms that adhere to the guidelines tend to be located on the south west corner of the building and are mainly of the upper floors of the building. Another seven rooms tested (13%), achieve more than 15% APSH, which we would still consider reasonable for such an urban area as this.

6.18 Despite these lower levels of direct sunlight, as established above, the majority of the rooms all adhere and surpass the daylight guidelines, and each apartment has a main habitable living space that both surpasses the ADF guidelines and has access to its own private amenity area.

6.19 Moreover, there is also a proposed communal external roof terrace for resident's use, which is located on the top of the Theobalds building. The position of this additional amenity space, with its exposure to direct sunlight, would also be of benefit to the residents.

7. SUMMARY AND CONCLUSION

7.1 There are no mandatory standards for daylight or sunlight provision within dwellings. Camden's planning policy seeks to provide good living conditions for residents of new housing developments, including the provision of adequate daylight and sunlight within dwellings.

7.2 BRE Report 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice* provides useful guidance on the subject.

7.3 We assessed daylight and sunlight to all of the habitable rooms from second to eighth floor levels in the proposed development. The tests were undertaken in accordance with the BRE methodology.

7.4 The ADF results show a high level of daylight adherence to the BRE guidelines, with all main habitable rooms (LKDs) and studios surpassing the 2% guidelines. There are a small number of bedrooms on the lower floors on the south elevation which fall just below their respective 1% ADF guidelines. However, as noted by the BRE guidelines, bedrooms require less daylight than the LKDs and each of these bedrooms are linked to a well daylit LKD benefiting from multi-aspect windows and private amenity areas.

7.5 The levels of direct sunlight to the proposed rooms are constrained on this site predominantly due to the urban site location and orientation. Of the south facing rooms, 21% adhere to the annual guidelines and 17% adhere to the winter guidelines. A further 13% of the rooms achieve levels of 15% APSH and above, which, for such an urban area, we would still consider a reasonably good level of direct sunlight to be achieved.

7.6 Although the BRE guide gives numerical guidelines, these are intended to be applied flexibly since natural lighting is only one of many factors in site layout design. Where higher density development is desirable there simply cannot be the same expectation of light, especially direct sunlight, as expected in a suburban or rural context. Furthermore, the Mayor of London's *Draft Interim Housing Supplementary Planning Guidance* emphasises that fully optimising housing potential may necessitate departure from conventional guidelines whilst still achieving satisfactory levels of residential amenity. As mentioned above, each of the proposed apartments, benefits from a large well daylight LKD with its own private amenity area. This is further supplemented by the external roof top amenity space which will receive direct sunlight and is accessible to all residents.

7.7 In conclusion, the layout of the proposed development follows the BRE guidelines and will provide good daylight conditions within the proposed accommodation. In our opinion Camden's planning policy on daylight to new dwellings will be satisfied and some flexibility relating to sunlight should be applied when taking into consider the urban location and site orientation and constraints.

ANSTEY HORNE

17 April 2020

APPENDIX A

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PLAN AND 3D VIEWS OF THE COMPUTER MODEL

DRAWING NOS. ROL6071_11_001 TO 006

AnsteyHorne
CHARTERED SURVEYORS
London 020 7065 2770
Birmingham 0121 667 9902
www.ansteyhorne.co.uk

LEGEND:

Existing
Consented
Proposed
Cutback
AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS
ORMS ARCHITECTS
Received on 22/03/2020

0m 10m 20m 30m 40m 50m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

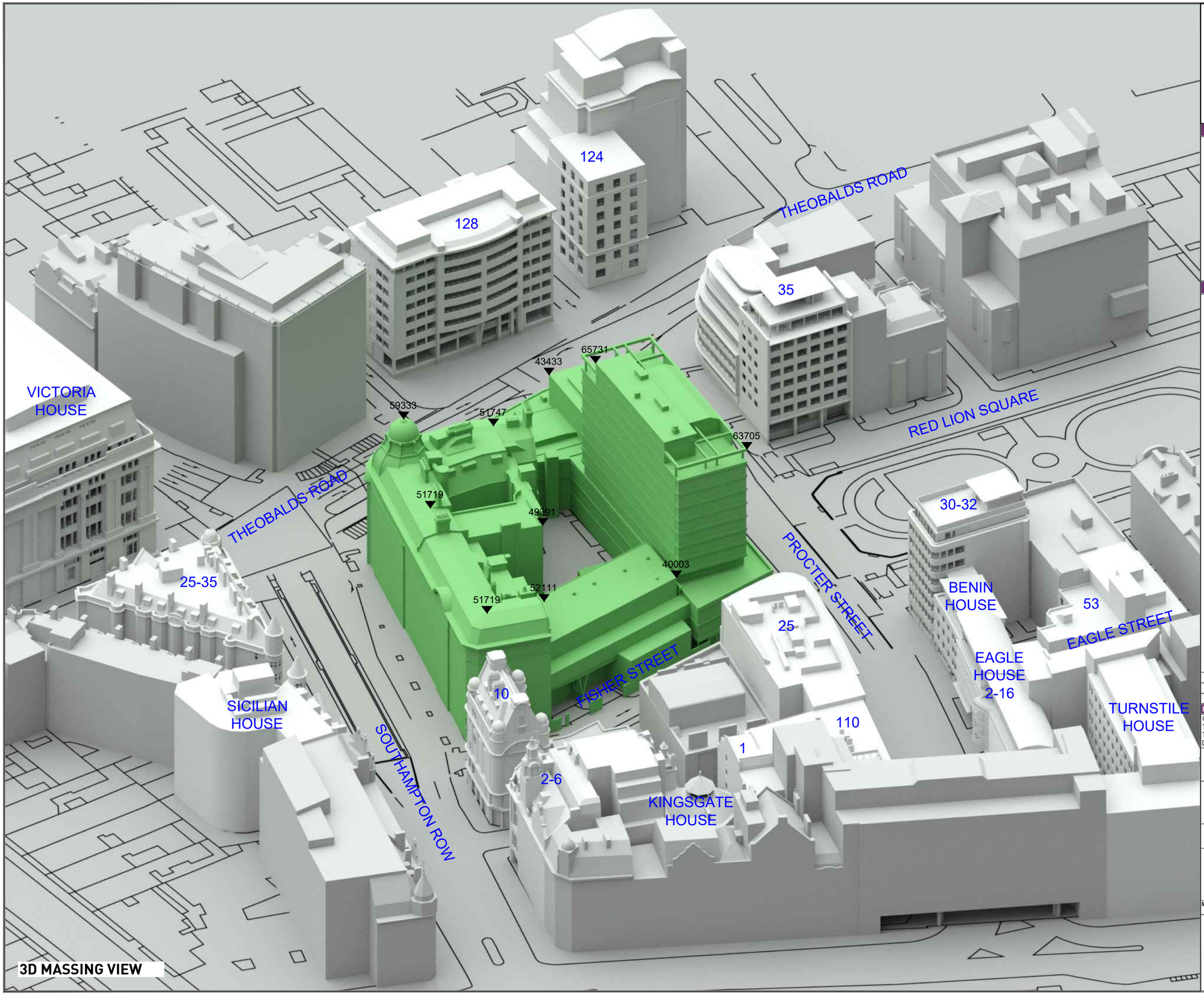
SCHEME REF: SCHEME RECEIVED: 22/03/2020

DRAWING TITLE: SITE PLAN VIEW EXISTING CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
MZ/BS	01/04/2020	1:1000	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	001

Site Plan



AnsteyHorne

CHARTERED SURVEYORS
London 020 7065 2770
Birmingham 0121 667 9902
www.ansteyhorne.co.uk

LEGEND:

Existing
Consented
Proposed
Cutback
AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS
ORMS ARCHITECTS
Received on 22/03/2020

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

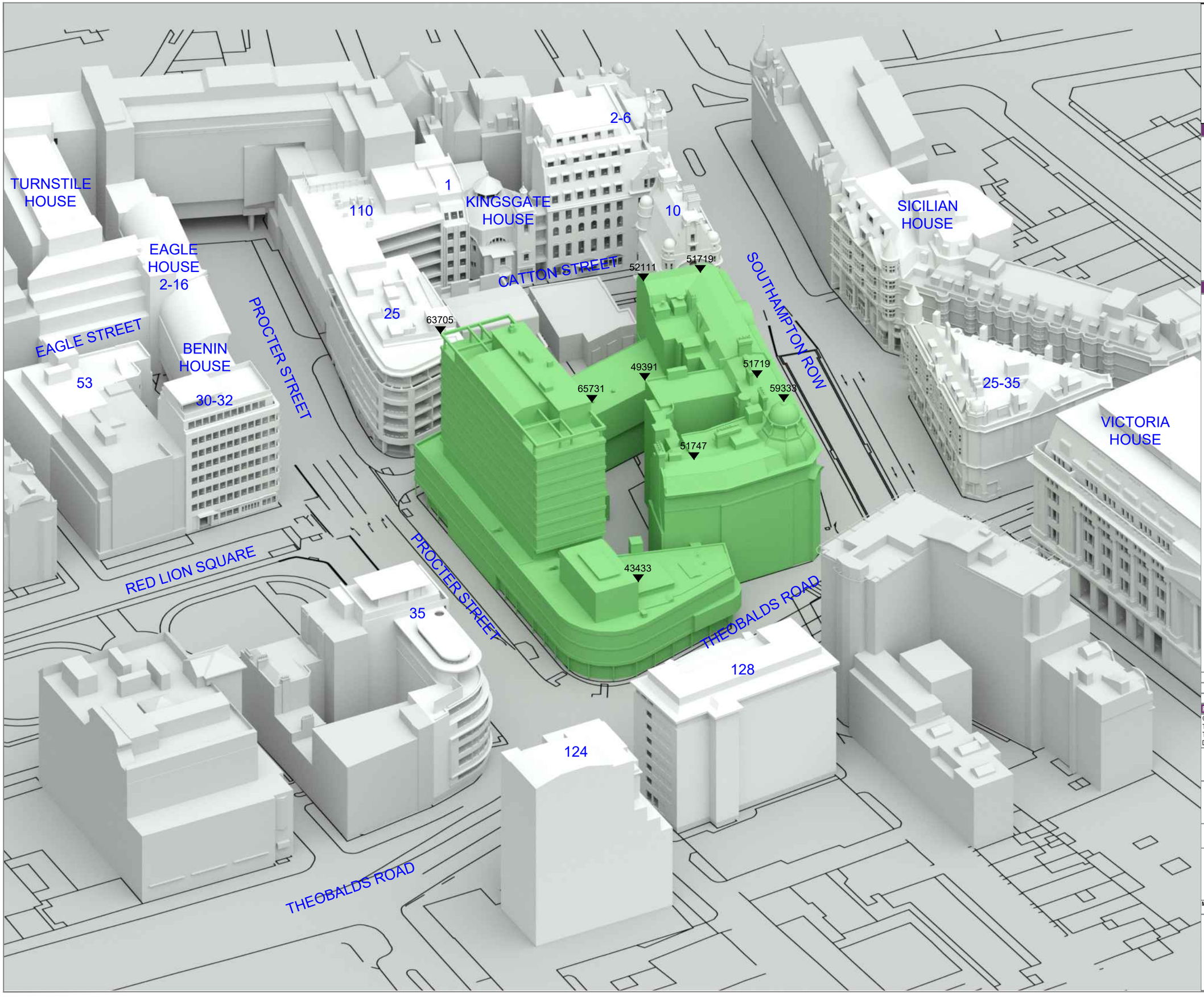
SCHEME REF: SCHEME RECEIVED: 22/03/2020

DRAWING TITLE: 3D MASSING MODEL VIEW EXISTING CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
MZ/BS	01/04/2020	N.T.S.	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	002

3D Massing Model



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Consented
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PROPOSED BUILDINGS
ORMS ARCHITECTS
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REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 22/03/2020

DRAWING TITLE: 3D MASSING MODEL VIEW EXISTING CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
MZ/BS	01/04/2020	N.T.S.	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	003

3D Massing Model

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LEGEND:

Existing
Consented
Proposed
Cutback
AOD Height (mm)

SOURCES OF INFORMATION:

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MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS
ORMS ARCHITECTS
Received on 22/03/2020

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

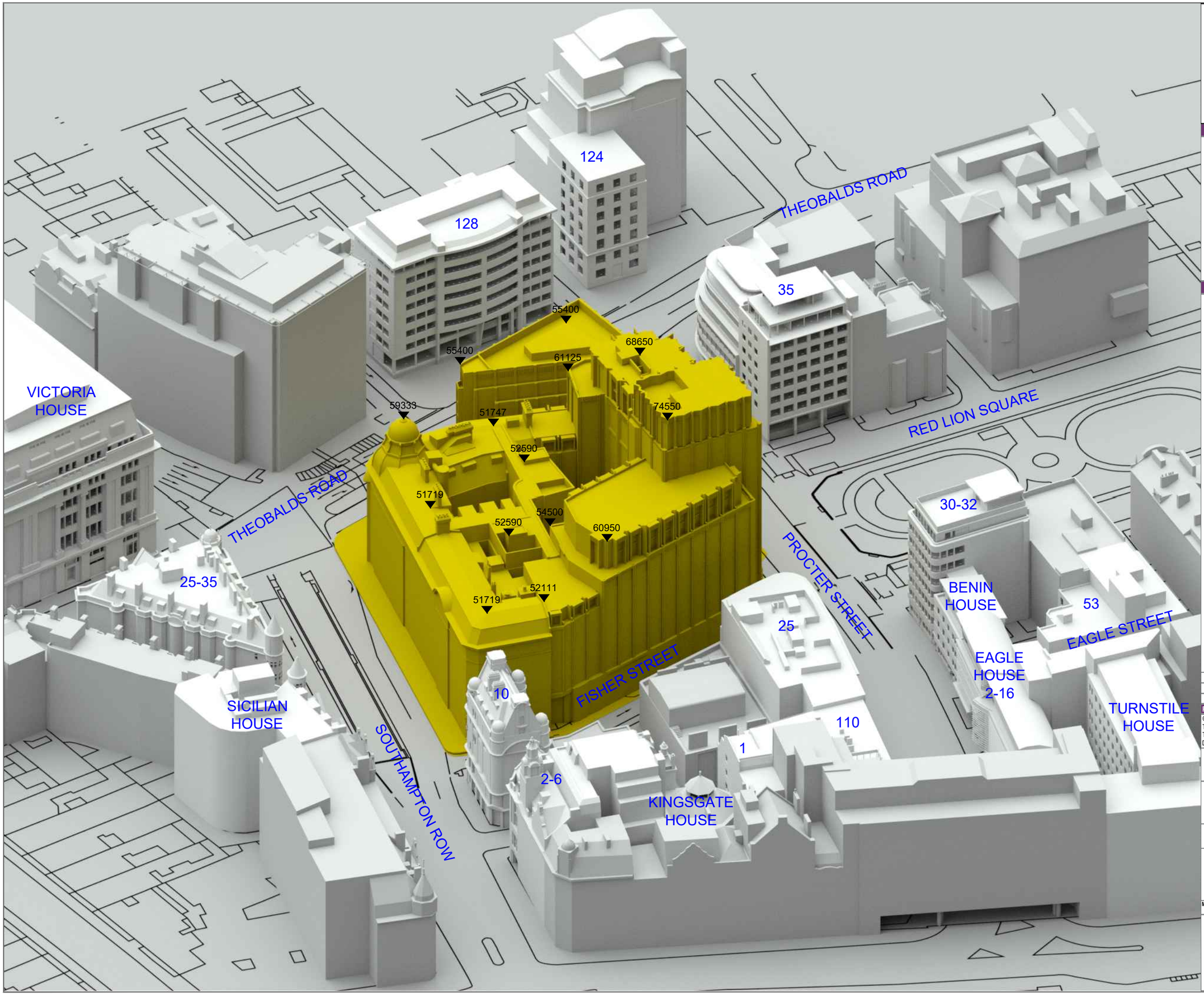
SCHEME REF: SCHEME RECEIVED: 22/03/2020

DRAWING TITLE: SITE PLAN VIEW PROPOSED CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
MZ/BS	01/04/2020	N.T.S.	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	004

Site Plan



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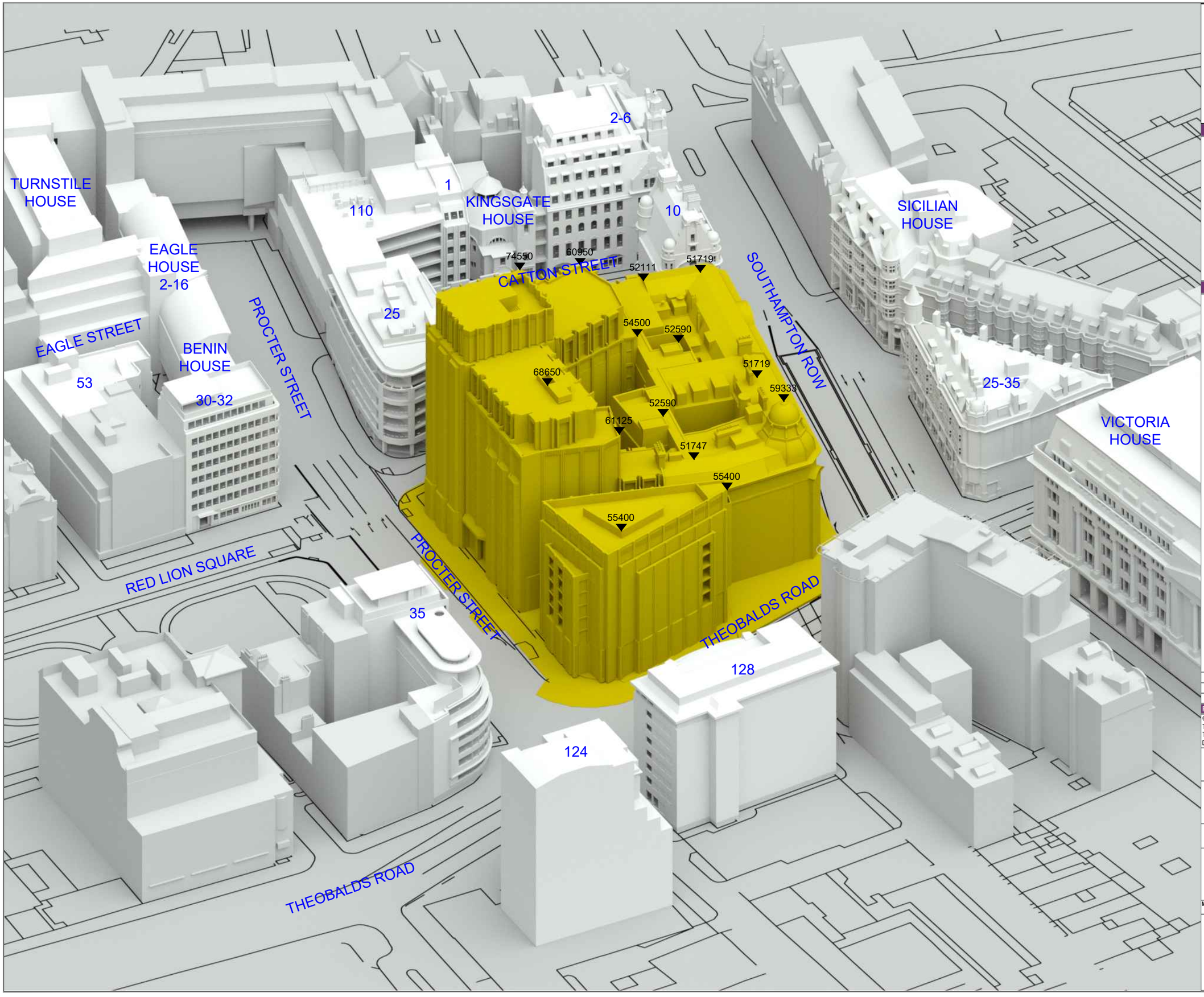
SCHEME REF: SCHEME RECEIVED: 22/03/2020

DRAWING TITLE: 3D MASSING MODEL VIEW PROPOSED CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
MZ/BS	01/04/2020	N.T.S.	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	005

3D Massing Model



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LEGEND:

Existing
Consented
Proposed
Cutback
AOD Height (mm)

SOURCES OF INFORMATION:

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MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS
ORMS ARCHITECTS
Received on 22/03/2020

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 22/03/2020

DRAWING TITLE: 3D MASSING MODEL VIEW PROPOSED CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
MZ/BS	01/04/2020	N.T.S.	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	006

3D Massing Model

APPENDIX B

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AVERAGE DAYLIGHT FACTOR ('ADF') TABLE

TABLE P7
AVERAGE DAYLIGHT FACTOR (ADF)
WITHIN PROPOSED ACCOMODATION

Parameters Used for ADF :

Glazing transmittance =	0.68	Wall Reflectance =	0.81
Maintenance Factor =	0.92	Floor Reflectance =	0.4
Glazing bar correction =	0.8	Ceiling Reflectance =	0.85

Property / room ref.	Property type	Flat no.	Room usage	Window ref.	ADF% Contrib.	Total
Theobalds Building						
2nd Floor						
R1	RESIDENTIAL		LKD	W1	0.83	
R1	RESIDENTIAL		LKD	W2	0.89	
R1	RESIDENTIAL		LKD	W3	0.27	
R1	RESIDENTIAL		LKD	W4	0.13	
R1	RESIDENTIAL		LKD	W5	0.31	
R1	RESIDENTIAL		LKD	W6	0.31	2.75
R2	RESIDENTIAL		BEDROOM	W7	0.43	
R2	RESIDENTIAL		BEDROOM	W8	0.46	0.89
R3	RESIDENTIAL		BEDROOM	W9	0.40	
R3	RESIDENTIAL		BEDROOM	W10	0.41	0.82
R4	RESIDENTIAL		BEDROOM	W11	0.42	
R4	RESIDENTIAL		BEDROOM	W12	0.43	0.85
R5	RESIDENTIAL		BEDROOM	W13	0.32	
R5	RESIDENTIAL		BEDROOM	W14	0.33	0.65
R6	RESIDENTIAL		BEDROOM	W15	0.29	
R6	RESIDENTIAL		BEDROOM	W16	0.31	0.60
R7	RESIDENTIAL		BEDROOM	W17	0.34	
R7	RESIDENTIAL		BEDROOM	W18	0.29	0.63
R8	RESIDENTIAL		LKD	W19	0.27	
R8	RESIDENTIAL		LKD	W20	0.29	
R8	RESIDENTIAL		LKD	W21	0.82	
R8	RESIDENTIAL		LKD	W22	0.72	
R8	RESIDENTIAL		LKD	W23	0.09	
R8	RESIDENTIAL		LKD	W24	0.13	2.32
R9	RESIDENTIAL		BEDROOM	W25	0.33	
R9	RESIDENTIAL		BEDROOM	W26	0.48	0.80
R10	RESIDENTIAL		LKD	W27	0.36	
R10	RESIDENTIAL		LKD	W28	1.02	
R10	RESIDENTIAL		LKD	W29	1.02	
R10	RESIDENTIAL		LKD	W30	0.64	
R10	RESIDENTIAL		LKD	W31	0.61	3.64
R11	RESIDENTIAL		LKD	W32	0.31	
R11	RESIDENTIAL		LKD	W33	0.09	
R11	RESIDENTIAL		LKD	W34	0.85	
R11	RESIDENTIAL		LKD	W35	0.81	2.06
R12	RESIDENTIAL		BEDROOM	W36	1.68	
R12	RESIDENTIAL		BEDROOM	W37	1.69	3.37
R13	RESIDENTIAL		BEDROOM	W38	1.86	
R13	RESIDENTIAL		BEDROOM	W39	1.87	3.73
R14	RESIDENTIAL		BEDROOM	W40	1.57	
R14	RESIDENTIAL		BEDROOM	W41	1.58	3.15
R15	RESIDENTIAL		LKD	W42	0.85	
R15	RESIDENTIAL		LKD	W43	0.85	
R15	RESIDENTIAL		LKD	W44	0.24	
R15	RESIDENTIAL		LKD	W45	0.35	2.29
3rd Floor						
R1	RESIDENTIAL		LKD	W1	0.87	

TABLE P7
AVERAGE DAYLIGHT FACTOR (ADF)
WITHIN PROPOSED ACCOMODATION

Property / room ref.	Property type	Flat no.	Room usage	Window ref.	ADF% Contrib.	Total
R1	RESIDENTIAL		LKD	W2	0.94	
R1	RESIDENTIAL		LKD	W3	0.29	
R1	RESIDENTIAL		LKD	W4	0.15	
R1	RESIDENTIAL		LKD	W5	0.40	
R1	RESIDENTIAL		LKD	W6	0.40	3.05
R2	RESIDENTIAL		BEDROOM	W7	0.60	
R2	RESIDENTIAL		BEDROOM	W8	0.63	1.22
R3	RESIDENTIAL		BEDROOM	W9	0.55	
R3	RESIDENTIAL		BEDROOM	W10	0.56	1.11
R4	RESIDENTIAL		BEDROOM	W11	0.57	
R4	RESIDENTIAL		BEDROOM	W12	0.58	1.15
R5	RESIDENTIAL		BEDROOM	W13	0.40	
R5	RESIDENTIAL		BEDROOM	W14	0.41	0.81
R6	RESIDENTIAL		BEDROOM	W15	0.35	
R6	RESIDENTIAL		BEDROOM	W16	0.36	0.71
R7	RESIDENTIAL		BEDROOM	W17	0.38	
R7	RESIDENTIAL		BEDROOM	W18	0.34	0.72
R8	RESIDENTIAL		LKD	W19	0.27	
R8	RESIDENTIAL		LKD	W20	0.29	
R8	RESIDENTIAL		LKD	W21	0.82	
R8	RESIDENTIAL		LKD	W22	0.72	
R8	RESIDENTIAL		LKD	W23	0.10	
R8	RESIDENTIAL		LKD	W24	0.13	2.33
R9	RESIDENTIAL		BEDROOM	W25	0.37	
R9	RESIDENTIAL		BEDROOM	W26	0.50	0.88
R10	RESIDENTIAL		LKD	W27	0.37	
R10	RESIDENTIAL		LKD	W28	1.07	
R10	RESIDENTIAL		LKD	W29	1.08	
R10	RESIDENTIAL		LKD	W30	0.66	
R10	RESIDENTIAL		LKD	W31	0.63	3.82
R11	RESIDENTIAL		LKD	W32	0.36	
R11	RESIDENTIAL		LKD	W33	0.13	
R11	RESIDENTIAL		LKD	W34	0.89	
R11	RESIDENTIAL		LKD	W35	0.85	2.23
R12	RESIDENTIAL		BEDROOM	W36	1.77	
R12	RESIDENTIAL		BEDROOM	W37	1.78	3.56
R13	RESIDENTIAL		BEDROOM	W38	2.05	
R13	RESIDENTIAL		BEDROOM	W39	2.06	4.12
R14	RESIDENTIAL		BEDROOM	W40	1.85	
R14	RESIDENTIAL		BEDROOM	W41	1.86	3.71
R15	RESIDENTIAL		LKD	W42	0.86	
R15	RESIDENTIAL		LKD	W43	0.86	
R15	RESIDENTIAL		LKD	W44	0.25	
R15	RESIDENTIAL		LKD	W45	0.35	2.33
4th Floor						
R1	RESIDENTIAL		LKD	W1	0.92	
R1	RESIDENTIAL		LKD	W2	0.99	
R1	RESIDENTIAL		LKD	W3	0.31	
R1	RESIDENTIAL		LKD	W4	0.17	
R1	RESIDENTIAL		LKD	W5	0.53	
R1	RESIDENTIAL		LKD	W6	0.52	3.44
R2	RESIDENTIAL		BEDROOM	W7	0.83	
R2	RESIDENTIAL		BEDROOM	W8	0.85	1.68
R3	RESIDENTIAL		BEDROOM	W9	0.75	
R3	RESIDENTIAL		BEDROOM	W10	0.76	1.51
R4	RESIDENTIAL		BEDROOM	W11	0.77	
R4	RESIDENTIAL		BEDROOM	W12	0.77	1.54
R5	RESIDENTIAL		BEDROOM	W13	0.53	
R5	RESIDENTIAL		BEDROOM	W14	0.53	1.07
R6	RESIDENTIAL		BEDROOM	W15	0.45	
R6	RESIDENTIAL		BEDROOM	W16	0.46	0.91

TABLE P7
AVERAGE DAYLIGHT FACTOR (ADF)
WITHIN PROPOSED ACCOMODATION

Property / room ref.	Property type	Flat no.	Room usage	Window ref.	ADF% Contrib.	Total
R7	RESIDENTIAL		BEDROOM	W17	0.45	
R7	RESIDENTIAL		BEDROOM	W18	0.42	0.86
R8	RESIDENTIAL		LKD	W19	0.29	
R8	RESIDENTIAL		LKD	W20	0.30	
R8	RESIDENTIAL		LKD	W21	0.86	
R8	RESIDENTIAL		LKD	W22	0.75	
R8	RESIDENTIAL		LKD	W23	0.11	
R8	RESIDENTIAL		LKD	W24	0.14	2.44
R9	RESIDENTIAL		BEDROOM	W25	0.55	
R9	RESIDENTIAL		BEDROOM	W26	0.54	1.09
R10	RESIDENTIAL		LKD	W27	0.38	
R10	RESIDENTIAL		LKD	W28	1.14	
R10	RESIDENTIAL		LKD	W29	1.14	
R10	RESIDENTIAL		LKD	W30	0.69	
R10	RESIDENTIAL		LKD	W31	0.66	4.00
R11	RESIDENTIAL		LKD	W32	0.43	
R11	RESIDENTIAL		LKD	W33	0.19	
R11	RESIDENTIAL		LKD	W34	0.95	
R11	RESIDENTIAL		LKD	W35	0.90	2.46
R12	RESIDENTIAL		BEDROOM	W36	1.89	
R12	RESIDENTIAL		BEDROOM	W37	1.89	3.78
R13	RESIDENTIAL		BEDROOM	W38	2.18	
R13	RESIDENTIAL		BEDROOM	W39	2.19	4.37
R14	RESIDENTIAL		BEDROOM	W40	1.96	
R14	RESIDENTIAL		BEDROOM	W41	1.96	3.93
R15	RESIDENTIAL		LKD	W42	0.91	
R15	RESIDENTIAL		LKD	W43	0.91	
R15	RESIDENTIAL		LKD	W44	0.27	
R15	RESIDENTIAL		LKD	W45	0.38	2.48
5th Floor						
R1	RESIDENTIAL		LKD	W1	0.96	
R1	RESIDENTIAL		LKD	W2	1.04	
R1	RESIDENTIAL		LKD	W3	0.32	
R1	RESIDENTIAL		LKD	W4	0.22	
R1	RESIDENTIAL		LKD	W5	0.70	
R1	RESIDENTIAL		LKD	W6	0.68	3.92
R2	RESIDENTIAL		BEDROOM	W7	1.17	
R2	RESIDENTIAL		BEDROOM	W8	1.17	2.34
R3	RESIDENTIAL		BEDROOM	W9	1.03	
R3	RESIDENTIAL		BEDROOM	W10	1.03	2.05
R4	RESIDENTIAL		BEDROOM	W11	1.02	
R4	RESIDENTIAL		BEDROOM	W12	1.01	2.03
R5	RESIDENTIAL		BEDROOM	W13	0.69	
R5	RESIDENTIAL		BEDROOM	W14	0.68	1.37
R6	RESIDENTIAL		BEDROOM	W15	0.58	
R6	RESIDENTIAL		BEDROOM	W16	0.58	1.15
R7	RESIDENTIAL		BEDROOM	W17	0.53	
R7	RESIDENTIAL		BEDROOM	W18	0.51	1.04
R8	RESIDENTIAL		LKD	W19	0.30	
R8	RESIDENTIAL		LKD	W20	0.32	
R8	RESIDENTIAL		LKD	W21	0.89	
R8	RESIDENTIAL		LKD	W22	0.78	
R8	RESIDENTIAL		LKD	W23	0.18	
R8	RESIDENTIAL		LKD	W24	0.15	2.62
R9	RESIDENTIAL		BEDROOM	W25	0.70	
R9	RESIDENTIAL		BEDROOM	W26	0.59	1.30
R10	RESIDENTIAL		LKD	W27	0.39	
R10	RESIDENTIAL		LKD	W28	1.20	
R10	RESIDENTIAL		LKD	W29	1.20	
R10	RESIDENTIAL		LKD	W30	0.71	
R10	RESIDENTIAL		LKD	W31	0.68	4.18

TABLE P7
AVERAGE DAYLIGHT FACTOR (ADF)
WITHIN PROPOSED ACCOMODATION

Property / room ref.	Property type	Flat no.	Room usage	Window ref.	ADF% Contrib.	Total
R11	RESIDENTIAL		LKD	W32	0.49	
R11	RESIDENTIAL		LKD	W33	0.25	
R11	RESIDENTIAL		LKD	W34	1.00	
R11	RESIDENTIAL		LKD	W35	0.95	2.70
R12	RESIDENTIAL		BEDROOM	W36	2.00	
R12	RESIDENTIAL		BEDROOM	W37	2.01	4.01
R13	RESIDENTIAL		BEDROOM	W38	2.31	
R13	RESIDENTIAL		BEDROOM	W39	2.31	4.62
R14	RESIDENTIAL		BEDROOM	W40	2.07	
R14	RESIDENTIAL		BEDROOM	W41	2.07	4.14
R15	RESIDENTIAL		LKD	W42	0.96	
R15	RESIDENTIAL		LKD	W43	0.96	
R15	RESIDENTIAL		LKD	W44	0.28	
R15	RESIDENTIAL		LKD	W45	0.42	2.62
6th Floor						
R1	RESIDENTIAL		LKD	W1	0.99	
R1	RESIDENTIAL		LKD	W2	1.07	
R1	RESIDENTIAL		LKD	W3	0.34	
R1	RESIDENTIAL		LKD	W4	0.28	
R1	RESIDENTIAL		LKD	W5	0.84	
R1	RESIDENTIAL		LKD	W6	0.81	4.34
R2	RESIDENTIAL		BEDROOM	W7	1.45	
R2	RESIDENTIAL		BEDROOM	W8	1.46	2.90
R3	RESIDENTIAL		BEDROOM	W9	1.28	
R3	RESIDENTIAL		BEDROOM	W10	1.26	2.54
R4	RESIDENTIAL		BEDROOM	W11	1.25	
R4	RESIDENTIAL		BEDROOM	W12	1.23	2.48
R5	RESIDENTIAL		BEDROOM	W13	0.83	
R5	RESIDENTIAL		BEDROOM	W14	0.79	1.62
R6	RESIDENTIAL		BEDROOM	W15	0.64	
R6	RESIDENTIAL		BEDROOM	W16	0.63	1.27
R7	RESIDENTIAL		BEDROOM	W17	0.54	
R7	RESIDENTIAL		BEDROOM	W18	0.51	1.05
R8	RESIDENTIAL		LKD	W19	0.30	
R8	RESIDENTIAL		LKD	W20	0.33	
R8	RESIDENTIAL		LKD	W21	0.90	
R8	RESIDENTIAL		LKD	W22	0.79	
R8	RESIDENTIAL		LKD	W23	0.20	
R8	RESIDENTIAL		LKD	W24	0.16	2.67
R9	RESIDENTIAL		BEDROOM	W25	0.71	
R9	RESIDENTIAL		BEDROOM	W26	0.58	1.29
R10	RESIDENTIAL		LKD	W27	0.35	
R10	RESIDENTIAL		LKD	W28	1.20	
R10	RESIDENTIAL		LKD	W29	1.20	
R10	RESIDENTIAL		LKD	W30	0.74	
R10	RESIDENTIAL		LKD	W31	0.70	4.20
R11	RESIDENTIAL		LKD	W32	0.47	
R11	RESIDENTIAL		LKD	W33	0.25	
R11	RESIDENTIAL		LKD	W34	1.03	
R11	RESIDENTIAL		LKD	W35	0.97	2.73
R12	RESIDENTIAL		BEDROOM	W36	2.05	
R12	RESIDENTIAL		BEDROOM	W37	2.05	4.10
R13	RESIDENTIAL		BEDROOM	W38	2.36	
R13	RESIDENTIAL		BEDROOM	W39	2.36	4.72
R14	RESIDENTIAL		BEDROOM	W40	2.12	
R14	RESIDENTIAL		BEDROOM	W41	2.12	4.23
R15	RESIDENTIAL		LKD	W42	0.98	
R15	RESIDENTIAL		LKD	W43	0.98	
R15	RESIDENTIAL		LKD	W44	0.26	
R15	RESIDENTIAL		LKD	W45	0.39	2.61

TABLE P7
AVERAGE DAYLIGHT FACTOR (ADF)
WITHIN PROPOSED ACCOMODATION

Property / room ref.	Property type	Flat no.	Room usage	Window ref.	ADF% Contrib.	Total
7th Floor						
R1	RESIDENTIAL		LKD	W1	0.94	
R1	RESIDENTIAL		LKD	W2	0.94	
R1	RESIDENTIAL		LKD	W3	0.28	
R1	RESIDENTIAL		LKD	W4	0.26	
R1	RESIDENTIAL		LKD	W5	0.82	
R1	RESIDENTIAL		LKD	W6	0.82	
R1	RESIDENTIAL		LKD	W7	0.75	
R1	RESIDENTIAL		LKD	W8	0.76	5.58
R2	RESIDENTIAL		BEDROOM	W9	1.82	
R2	RESIDENTIAL		BEDROOM	W10	1.80	3.62
R3	RESIDENTIAL		BEDROOM	W11	1.61	
R3	RESIDENTIAL		BEDROOM	W12	1.59	3.20
R4	RESIDENTIAL		BEDROOM	W13	1.32	
R4	RESIDENTIAL		BEDROOM	W14	1.26	2.59
R5	RESIDENTIAL		BEDROOM	W15	1.11	
R5	RESIDENTIAL		BEDROOM	W16	1.06	2.17
R6	RESIDENTIAL		BEDROOM	W17	1.13	
R6	RESIDENTIAL		BEDROOM	W18	1.11	2.23
R7	RESIDENTIAL		LKD	W19	0.42	
R7	RESIDENTIAL		LKD	W20	0.43	
R7	RESIDENTIAL		LKD	W21	1.05	
R7	RESIDENTIAL		LKD	W22	1.03	
R7	RESIDENTIAL		LKD	W23	0.54	
R7	RESIDENTIAL		LKD	W24	0.53	4.00
R8	RESIDENTIAL		STUDIO	W25	1.00	
R8	RESIDENTIAL		STUDIO	W26	1.00	
R8	RESIDENTIAL		STUDIO	W27	1.01	
R8	RESIDENTIAL		STUDIO	W28	1.00	4.01
R9	RESIDENTIAL		LKD	W29	0.58	
R9	RESIDENTIAL		LKD	W30	0.39	
R9	RESIDENTIAL		LKD	W31	1.15	
R9	RESIDENTIAL		LKD	W32	1.15	3.27
R10	RESIDENTIAL		BEDROOM	W33	2.73	
R10	RESIDENTIAL		BEDROOM	W34	2.73	5.46
R11	RESIDENTIAL		BEDROOM	W35	2.48	
R11	RESIDENTIAL		BEDROOM	W36	2.49	4.97
R12	RESIDENTIAL		LKD	W37	1.23	
R12	RESIDENTIAL		LKD	W38	1.23	
R12	RESIDENTIAL		LKD	W39	1.22	
R12	RESIDENTIAL		LKD	W40	1.22	4.88
R13	RESIDENTIAL		BEDROOM	W41	0.86	
R13	RESIDENTIAL		BEDROOM	W42	0.97	1.84
8th Floor						
R1	RESIDENTIAL		LKD	W1	1.10	
R1	RESIDENTIAL		LKD	W2	1.10	
R1	RESIDENTIAL		LKD	W3	1.41	
R1	RESIDENTIAL		LKD	W4	1.41	
R1	RESIDENTIAL		LKD	W5	1.03	
R1	RESIDENTIAL		LKD	W6	1.03	
R1	RESIDENTIAL		LKD	W7	1.00	
R1	RESIDENTIAL		LKD	W8	1.01	9.09
R2	RESIDENTIAL		BEDROOM	W9	2.22	
R2	RESIDENTIAL		BEDROOM	W10	2.21	4.43
R3	RESIDENTIAL		BEDROOM	W11	2.61	
R3	RESIDENTIAL		BEDROOM	W12	2.57	5.17
R4	RESIDENTIAL		BEDROOM	W13	1.69	
R4	RESIDENTIAL		BEDROOM	W14	1.63	3.32
R5	RESIDENTIAL		BEDROOM	W15	1.35	
R5	RESIDENTIAL		BEDROOM	W16	1.30	2.64

TABLE P7
AVERAGE DAYLIGHT FACTOR (ADF)
WITHIN PROPOSED ACCOMODATION

Property / room ref.	Property type	Flat no.	Room usage	Window ref.	ADF% Contrib.	Total
R6	RESIDENTIAL		LKD	W17	0.52	
R6	RESIDENTIAL		LKD	W18	0.51	
R6	RESIDENTIAL		LKD	W19	0.52	
R6	RESIDENTIAL		LKD	W20	0.53	
R6	RESIDENTIAL		LKD	W21	0.99	
R6	RESIDENTIAL		LKD	W22	0.99	
R6	RESIDENTIAL		LKD	W23	0.51	
R6	RESIDENTIAL		LKD	W24	0.51	5.06
R7	RESIDENTIAL		LKD	W25	0.44	
R7	RESIDENTIAL		LKD	W26	0.55	
R7	RESIDENTIAL		LKD	W27	1.20	
R7	RESIDENTIAL		LKD	W28	1.20	3.39
R8	RESIDENTIAL		BEDROOM	W29	1.70	
R8	RESIDENTIAL		BEDROOM	W30	1.70	
R8	RESIDENTIAL		BEDROOM	W31	1.63	
R8	RESIDENTIAL		BEDROOM	W32	1.63	6.65
R9	RESIDENTIAL		BEDROOM	W33	2.38	
R9	RESIDENTIAL		BEDROOM	W34	2.38	4.75
R10	RESIDENTIAL		BEDROOM	W35	2.08	
R10	RESIDENTIAL		BEDROOM	W36	2.08	4.16
R11	RESIDENTIAL		STUDIO	W37	0.98	
R11	RESIDENTIAL		STUDIO	W38	0.98	
R11	RESIDENTIAL		STUDIO	W39	0.98	
R11	RESIDENTIAL		STUDIO	W40	0.98	
R11	RESIDENTIAL		STUDIO	W41	0.33	
R11	RESIDENTIAL		STUDIO	W42	0.20	4.46

APPENDIX C

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ANNUAL PROBABLE SUNLIGHT HOURS ('APSH') TABLE

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
Theobalds Building									
2nd Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	2	0		
R1	RESIDENTIAL		W2	LKD	Northerly	0	0		
R1	RESIDENTIAL		W3	LKD	Southerly	0	0		
R1	RESIDENTIAL		W4	LKD	Southerly	1	0		
R1	RESIDENTIAL		W5	LKD	Southerly	0	0		
R1	RESIDENTIAL		W6	LKD	Southerly	0	0	3	0
R2	RESIDENTIAL		W7	BEDROOM	Southerly	0	0		
R2	RESIDENTIAL		W8	BEDROOM	Southerly	0	0	0	0
R3	RESIDENTIAL		W9	BEDROOM	Southerly	0	0		
R3	RESIDENTIAL		W10	BEDROOM	Southerly	0	0	0	0
R4	RESIDENTIAL		W11	BEDROOM	Southerly	0	0		
R4	RESIDENTIAL		W12	BEDROOM	Southerly	0	0	0	0
R5	RESIDENTIAL		W13	BEDROOM	Southerly	0	0		
R5	RESIDENTIAL		W14	BEDROOM	Southerly	0	0	0	0
R6	RESIDENTIAL		W15	BEDROOM	Southerly	0	0		
R6	RESIDENTIAL		W16	BEDROOM	Southerly	0	0	0	0
R7	RESIDENTIAL		W17	BEDROOM	Southerly	0	0		
R7	RESIDENTIAL		W18	BEDROOM	Southerly	0	0	0	0
R8	RESIDENTIAL		W19	LKD	Southerly	1	0		
R8	RESIDENTIAL		W20	LKD	Southerly	0	0		
R8	RESIDENTIAL		W21	LKD	Northerly	9	0		
R8	RESIDENTIAL		W22	LKD	Northerly	10	0		
R8	RESIDENTIAL		W23	LKD	Northerly	0	0		
R8	RESIDENTIAL		W24	LKD	Northerly	0	0	11	0
R9	RESIDENTIAL		W25	BEDROOM	Northerly	1	0		
R9	RESIDENTIAL		W26	BEDROOM	Northerly	0	0	1	0

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R10	RESIDENTIAL		W27	LKD	Southerly	3	2		
R10	RESIDENTIAL		W28	LKD	Northerly	8	0		
R10	RESIDENTIAL		W29	LKD	Northerly	12	1		
R10	RESIDENTIAL		W30	LKD	Northerly	0	0		
R10	RESIDENTIAL		W31	LKD	Northerly	0	0	13	2
R11	RESIDENTIAL		W32	LKD	Northerly	0	0		
R11	RESIDENTIAL		W33	LKD	Northerly	0	0		
R11	RESIDENTIAL		W34	LKD	Northerly	1	0		
R11	RESIDENTIAL		W35	LKD	Northerly	0	0	1	0
R12	RESIDENTIAL		W36	BEDROOM	Northerly	1	0		
R12	RESIDENTIAL		W37	BEDROOM	Northerly	0	0	1	0
R13	RESIDENTIAL		W38	BEDROOM	Northerly	1	0		
R13	RESIDENTIAL		W39	BEDROOM	Northerly	0	0	1	0
R14	RESIDENTIAL		W40	BEDROOM	Northerly	0	0		
R14	RESIDENTIAL		W41	BEDROOM	Northerly	0	0	0	0
R15	RESIDENTIAL		W42	LKD	Northerly	0	0		
R15	RESIDENTIAL		W43	LKD	Northerly	0	0		
R15	RESIDENTIAL		W44	LKD	Northerly	0	0		
R15	RESIDENTIAL		W45	LKD	Northerly	0	0	0	0
3rd Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	2	0		
R1	RESIDENTIAL		W2	LKD	Northerly	1	0		
R1	RESIDENTIAL		W3	LKD	Southerly	0	0		
R1	RESIDENTIAL		W4	LKD	Southerly	2	1		
R1	RESIDENTIAL		W5	LKD	Southerly	1	0		
R1	RESIDENTIAL		W6	LKD	Southerly	2	0	7	1
R2	RESIDENTIAL		W7	BEDROOM	Southerly	0	0		
R2	RESIDENTIAL		W8	BEDROOM	Southerly	0	0	0	0
R3	RESIDENTIAL		W9	BEDROOM	Southerly	0	0		
R3	RESIDENTIAL		W10	BEDROOM	Southerly	0	0	0	0
R4	RESIDENTIAL		W11	BEDROOM	Southerly	1	0		
R4	RESIDENTIAL		W12	BEDROOM	Southerly	1	0	1	0

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R5	RESIDENTIAL		W13	BEDROOM	Southerly	1	0		
R5	RESIDENTIAL		W14	BEDROOM	Southerly	1	0	1	0
R6	RESIDENTIAL		W15	BEDROOM	Southerly	1	0		
R6	RESIDENTIAL		W16	BEDROOM	Southerly	0	0	1	0
R7	RESIDENTIAL		W17	BEDROOM	Southerly	0	0		
R7	RESIDENTIAL		W18	BEDROOM	Southerly	0	0	0	0
R8	RESIDENTIAL		W19	LKD	Southerly	1	0		
R8	RESIDENTIAL		W20	LKD	Southerly	0	0		
R8	RESIDENTIAL		W21	LKD	Northerly	9	0		
R8	RESIDENTIAL		W22	LKD	Northerly	10	0		
R8	RESIDENTIAL		W23	LKD	Northerly	0	0		
R8	RESIDENTIAL		W24	LKD	Northerly	0	0	11	0
R9	RESIDENTIAL		W25	BEDROOM	Northerly	1	0		
R9	RESIDENTIAL		W26	BEDROOM	Northerly	0	0	1	0
R10	RESIDENTIAL		W27	LKD	Southerly	3	2		
R10	RESIDENTIAL		W28	LKD	Northerly	8	0		
R10	RESIDENTIAL		W29	LKD	Northerly	12	1		
R10	RESIDENTIAL		W30	LKD	Northerly	0	0		
R10	RESIDENTIAL		W31	LKD	Northerly	0	0	13	2
R11	RESIDENTIAL		W32	LKD	Northerly	0	0		
R11	RESIDENTIAL		W33	LKD	Northerly	0	0		
R11	RESIDENTIAL		W34	LKD	Northerly	2	0		
R11	RESIDENTIAL		W35	LKD	Northerly	1	0	2	0
R12	RESIDENTIAL		W36	BEDROOM	Northerly	2	0		
R12	RESIDENTIAL		W37	BEDROOM	Northerly	0	0	2	0
R13	RESIDENTIAL		W38	BEDROOM	Northerly	1	0		
R13	RESIDENTIAL		W39	BEDROOM	Northerly	0	0	1	0
R14	RESIDENTIAL		W40	BEDROOM	Northerly	1	0		
R14	RESIDENTIAL		W41	BEDROOM	Northerly	0	0	1	0
R15	RESIDENTIAL		W42	LKD	Northerly	1	0		
R15	RESIDENTIAL		W43	LKD	Northerly	0	0		
R15	RESIDENTIAL		W44	LKD	Northerly	0	0		
R15	RESIDENTIAL		W45	LKD	Northerly	0	0	1	0

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
4th Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	2	0		
R1	RESIDENTIAL		W2	LKD	Northerly	1	0		
R1	RESIDENTIAL		W3	LKD	Southerly	1	1		
R1	RESIDENTIAL		W4	LKD	Southerly	2	1		
R1	RESIDENTIAL		W5	LKD	Southerly	11	0		
R1	RESIDENTIAL		W6	LKD	Southerly	11	0	19	2
R2	RESIDENTIAL		W7	BEDROOM	Southerly	7	0		
R2	RESIDENTIAL		W8	BEDROOM	Southerly	7	0	8	0
R3	RESIDENTIAL		W9	BEDROOM	Southerly	6	0		
R3	RESIDENTIAL		W10	BEDROOM	Southerly	7	0	7	0
R4	RESIDENTIAL		W11	BEDROOM	Southerly	4	0		
R4	RESIDENTIAL		W12	BEDROOM	Southerly	6	0	6	0
R5	RESIDENTIAL		W13	BEDROOM	Southerly	2	0		
R5	RESIDENTIAL		W14	BEDROOM	Southerly	4	0	4	0
R6	RESIDENTIAL		W15	BEDROOM	Southerly	1	0		
R6	RESIDENTIAL		W16	BEDROOM	Southerly	1	0	2	0
R7	RESIDENTIAL		W17	BEDROOM	Southerly	0	0		
R7	RESIDENTIAL		W18	BEDROOM	Southerly	0	0	0	0
R8	RESIDENTIAL		W19	LKD	Southerly	1	0		
R8	RESIDENTIAL		W20	LKD	Southerly	0	0		
R8	RESIDENTIAL		W21	LKD	Northerly	9	0		
R8	RESIDENTIAL		W22	LKD	Northerly	10	0		
R8	RESIDENTIAL		W23	LKD	Northerly	0	0		
R8	RESIDENTIAL		W24	LKD	Northerly	0	0	11	0
R9	RESIDENTIAL		W25	BEDROOM	Northerly	1	0		
R9	RESIDENTIAL		W26	BEDROOM	Northerly	0	0	1	0
R10	RESIDENTIAL		W27	LKD	Southerly	3	2		
R10	RESIDENTIAL		W28	LKD	Northerly	8	0		
R10	RESIDENTIAL		W29	LKD	Northerly	12	1		
R10	RESIDENTIAL		W30	LKD	Northerly	0	0		
R10	RESIDENTIAL		W31	LKD	Northerly	0	0	13	2

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R11	RESIDENTIAL		W32	LKD	Northerly	0	0		
R11	RESIDENTIAL		W33	LKD	Northerly	0	0		
R11	RESIDENTIAL		W34	LKD	Northerly	3	0		
R11	RESIDENTIAL		W35	LKD	Northerly	1	0	3	0
R12	RESIDENTIAL		W36	BEDROOM	Northerly	3	0		
R12	RESIDENTIAL		W37	BEDROOM	Northerly	0	0	3	0
R13	RESIDENTIAL		W38	BEDROOM	Northerly	2	0		
R13	RESIDENTIAL		W39	BEDROOM	Northerly	0	0	2	0
R14	RESIDENTIAL		W40	BEDROOM	Northerly	2	0		
R14	RESIDENTIAL		W41	BEDROOM	Northerly	0	0	2	0
R15	RESIDENTIAL		W42	LKD	Northerly	2	0		
R15	RESIDENTIAL		W43	LKD	Northerly	0	0		
R15	RESIDENTIAL		W44	LKD	Northerly	0	0		
R15	RESIDENTIAL		W45	LKD	Northerly	0	0	2	0
5th Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	2	0		
R1	RESIDENTIAL		W2	LKD	Northerly	1	0		
R1	RESIDENTIAL		W3	LKD	Southerly	1	1		
R1	RESIDENTIAL		W4	LKD	Southerly	2	1		
R1	RESIDENTIAL		W5	LKD	Southerly	21	0		
R1	RESIDENTIAL		W6	LKD	Southerly	18	0	28	2
R2	RESIDENTIAL		W7	BEDROOM	Southerly	16	0		
R2	RESIDENTIAL		W8	BEDROOM	Southerly	17	0	18	0
R3	RESIDENTIAL		W9	BEDROOM	Southerly	14	0		
R3	RESIDENTIAL		W10	BEDROOM	Southerly	14	0	15	0
R4	RESIDENTIAL		W11	BEDROOM	Southerly	12	0		
R4	RESIDENTIAL		W12	BEDROOM	Southerly	11	0	13	0
R5	RESIDENTIAL		W13	BEDROOM	Southerly	7	0		
R5	RESIDENTIAL		W14	BEDROOM	Southerly	8	0	8	0
R6	RESIDENTIAL		W15	BEDROOM	Southerly	4	0		
R6	RESIDENTIAL		W16	BEDROOM	Southerly	2	0	5	0
R7	RESIDENTIAL		W17	BEDROOM	Southerly	0	0		

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R7	RESIDENTIAL		W18	BEDROOM	Southerly	0	0	0	0
R8	RESIDENTIAL		W19	LKD	Southerly	1	0		
R8	RESIDENTIAL		W20	LKD	Southerly	0	0		
R8	RESIDENTIAL		W21	LKD	Northerly	9	0		
R8	RESIDENTIAL		W22	LKD	Northerly	10	0		
R8	RESIDENTIAL		W23	LKD	Northerly	0	0		
R8	RESIDENTIAL		W24	LKD	Northerly	1	0	11	0
R9	RESIDENTIAL		W25	BEDROOM	Northerly	1	0		
R9	RESIDENTIAL		W26	BEDROOM	Northerly	3	0	4	0
R10	RESIDENTIAL		W27	LKD	Southerly	3	2		
R10	RESIDENTIAL		W28	LKD	Northerly	9	0		
R10	RESIDENTIAL		W29	LKD	Northerly	13	1		
R10	RESIDENTIAL		W30	LKD	Northerly	0	0		
R10	RESIDENTIAL		W31	LKD	Northerly	0	0	14	2
R11	RESIDENTIAL		W32	LKD	Northerly	0	0		
R11	RESIDENTIAL		W33	LKD	Northerly	2	0		
R11	RESIDENTIAL		W34	LKD	Northerly	3	0		
R11	RESIDENTIAL		W35	LKD	Northerly	1	0	5	0
R12	RESIDENTIAL		W36	BEDROOM	Northerly	3	0		
R12	RESIDENTIAL		W37	BEDROOM	Northerly	0	0	3	0
R13	RESIDENTIAL		W38	BEDROOM	Northerly	2	0		
R13	RESIDENTIAL		W39	BEDROOM	Northerly	0	0	2	0
R14	RESIDENTIAL		W40	BEDROOM	Northerly	2	0		
R14	RESIDENTIAL		W41	BEDROOM	Northerly	0	0	2	0
R15	RESIDENTIAL		W42	LKD	Northerly	2	0		
R15	RESIDENTIAL		W43	LKD	Northerly	0	0		
R15	RESIDENTIAL		W44	LKD	Northerly	0	0		
R15	RESIDENTIAL		W45	LKD	Northerly	0	0	2	0
6th Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	3	0		
R1	RESIDENTIAL		W2	LKD	Northerly	2	0		
R1	RESIDENTIAL		W3	LKD	Southerly	1	1		

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R1	RESIDENTIAL		W4	LKD	Southerly	2	1		
R1	RESIDENTIAL		W5	LKD	Southerly	32	6		
R1	RESIDENTIAL		W6	LKD	Southerly	29	7	41	9
R2	RESIDENTIAL		W7	BEDROOM	Southerly	28	4		
R2	RESIDENTIAL		W8	BEDROOM	Southerly	26	4	29	4
R3	RESIDENTIAL		W9	BEDROOM	Southerly	24	4		
R3	RESIDENTIAL		W10	BEDROOM	Southerly	21	3	25	4
R4	RESIDENTIAL		W11	BEDROOM	Southerly	18	3		
R4	RESIDENTIAL		W12	BEDROOM	Southerly	17	2	19	3
R5	RESIDENTIAL		W13	BEDROOM	Southerly	10	0		
R5	RESIDENTIAL		W14	BEDROOM	Southerly	12	1	12	1
R6	RESIDENTIAL		W15	BEDROOM	Southerly	6	1		
R6	RESIDENTIAL		W16	BEDROOM	Southerly	5	1	7	1
R7	RESIDENTIAL		W17	BEDROOM	Southerly	0	0		
R7	RESIDENTIAL		W18	BEDROOM	Southerly	0	0	0	0
R8	RESIDENTIAL		W19	LKD	Southerly	1	0		
R8	RESIDENTIAL		W20	LKD	Southerly	1	1		
R8	RESIDENTIAL		W21	LKD	Northerly	9	0		
R8	RESIDENTIAL		W22	LKD	Northerly	10	0		
R8	RESIDENTIAL		W23	LKD	Northerly	0	0		
R8	RESIDENTIAL		W24	LKD	Northerly	0	0	12	1
R9	RESIDENTIAL		W25	BEDROOM	Northerly	1	0		
R9	RESIDENTIAL		W26	BEDROOM	Northerly	3	0	4	0
R10	RESIDENTIAL		W27	LKD	Southerly	3	2		
R10	RESIDENTIAL		W28	LKD	Northerly	12	0		
R10	RESIDENTIAL		W29	LKD	Northerly	15	1		
R10	RESIDENTIAL		W30	LKD	Northerly	0	0		
R10	RESIDENTIAL		W31	LKD	Northerly	0	0	17	2
R11	RESIDENTIAL		W32	LKD	Northerly	1	0		
R11	RESIDENTIAL		W33	LKD	Northerly	4	0		
R11	RESIDENTIAL		W34	LKD	Northerly	4	0		
R11	RESIDENTIAL		W35	LKD	Northerly	1	0	9	0
R12	RESIDENTIAL		W36	BEDROOM	Northerly	3	0		

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R12	RESIDENTIAL		W37	BEDROOM	Northerly	0	0	3	0
R13	RESIDENTIAL		W38	BEDROOM	Northerly	2	0		
R13	RESIDENTIAL		W39	BEDROOM	Northerly	0	0	2	0
R14	RESIDENTIAL		W40	BEDROOM	Northerly	2	0		
R14	RESIDENTIAL		W41	BEDROOM	Northerly	0	0	2	0
R15	RESIDENTIAL		W42	LKD	Northerly	2	0		
R15	RESIDENTIAL		W43	LKD	Northerly	0	0		
R15	RESIDENTIAL		W44	LKD	Northerly	0	0		
R15	RESIDENTIAL		W45	LKD	Northerly	0	0	2	0
7th Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	5	0		
R1	RESIDENTIAL		W2	LKD	Northerly	3	0		
R1	RESIDENTIAL		W3	LKD	Southerly	1	1		
R1	RESIDENTIAL		W4	LKD	Southerly	2	1		
R1	RESIDENTIAL		W5	LKD	Southerly	41	14		
R1	RESIDENTIAL		W6	LKD	Southerly	40	14		
R1	RESIDENTIAL		W7	LKD	Southerly	39	13		
R1	RESIDENTIAL		W8	LKD	Southerly	38	14	53	19
R2	RESIDENTIAL		W9	BEDROOM	Southerly	35	14		
R2	RESIDENTIAL		W10	BEDROOM	Southerly	34	12	37	15
R3	RESIDENTIAL		W11	BEDROOM	Southerly	27	10		
R3	RESIDENTIAL		W12	BEDROOM	Southerly	27	10	28	10
R4	RESIDENTIAL		W13	BEDROOM	Southerly	19	7		
R4	RESIDENTIAL		W14	BEDROOM	Southerly	19	7	21	8
R5	RESIDENTIAL		W15	BEDROOM	Southerly	10	3		
R5	RESIDENTIAL		W16	BEDROOM	Southerly	11	3	11	3
R6	RESIDENTIAL		W17	BEDROOM	Southerly	3	0		
R6	RESIDENTIAL		W18	BEDROOM	Southerly	3	0	4	0
R7	RESIDENTIAL		W19	LKD	Southerly	2	0		
R7	RESIDENTIAL		W20	LKD	Southerly	3	1		
R7	RESIDENTIAL		W21	LKD	Northerly	9	0		
R7	RESIDENTIAL		W22	LKD	Northerly	10	0		

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R7	RESIDENTIAL		W23	LKD	Northerly	0	0		
R7	RESIDENTIAL		W24	LKD	Northerly	1	0	14	1
R8	RESIDENTIAL		W25	STUDIO	Northerly	10	0		
R8	RESIDENTIAL		W26	STUDIO	Northerly	11	0		
R8	RESIDENTIAL		W27	STUDIO	Northerly	10	0		
R8	RESIDENTIAL		W28	STUDIO	Northerly	11	0	11	0
R9	RESIDENTIAL		W29	LKD	Northerly	1	0		
R9	RESIDENTIAL		W30	LKD	Northerly	4	0		
R9	RESIDENTIAL		W31	LKD	Northerly	5	0		
R9	RESIDENTIAL		W32	LKD	Northerly	3	0	10	0
R10	RESIDENTIAL		W33	BEDROOM	Northerly	5	0		
R10	RESIDENTIAL		W34	BEDROOM	Northerly	2	0	5	0
R11	RESIDENTIAL		W35	BEDROOM	Northerly	4	0		
R11	RESIDENTIAL		W36	BEDROOM	Northerly	2	0	4	0
R12	RESIDENTIAL		W37	LKD	Northerly	4	0		
R12	RESIDENTIAL		W38	LKD	Northerly	2	0		
R12	RESIDENTIAL		W39	LKD	Northerly	4	0		
R12	RESIDENTIAL		W40	LKD	Northerly	2	0	4	0
R13	RESIDENTIAL		W41	BEDROOM	Northerly	3	0		
R13	RESIDENTIAL		W42	BEDROOM	Northerly	0	0	3	0
8th Floor									
R1	RESIDENTIAL		W1	LKD	Northerly	5	0		
R1	RESIDENTIAL		W2	LKD	Northerly	3	0		
R1	RESIDENTIAL		W3	LKD	Southerly	31	8		
R1	RESIDENTIAL		W4	LKD	Southerly	16	2		
R1	RESIDENTIAL		W5	LKD	Southerly	45	18		
R1	RESIDENTIAL		W6	LKD	Southerly	43	17		
R1	RESIDENTIAL		W7	LKD	Southerly	44	17		
R1	RESIDENTIAL		W8	LKD	Southerly	43	17	75	25
R2	RESIDENTIAL		W9	BEDROOM	Southerly	42	17		
R2	RESIDENTIAL		W10	BEDROOM	Southerly	41	18	44	18
R3	RESIDENTIAL		W11	BEDROOM	Southerly	34	13		

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

TABLE P9
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
WITHIN PROPOSED ACCOMMODATION

PROPERTY						WINDOW		ROOM	
						ANNUAL SUNLIGHT	WINTER SUNLIGHT	ANNUAL SUNLIGHT	WINTER SUNLIGHT
Room ref.	Property type	Flat no.	Window ref.	Room use	Orientation	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)	Proposed (% APSH)
R3	RESIDENTIAL		W12	BEDROOM	Southerly	33	13	36	14
R4	RESIDENTIAL		W13	BEDROOM	Southerly	26	9		
R4	RESIDENTIAL		W14	BEDROOM	Southerly	26	9	28	10
R5	RESIDENTIAL		W15	BEDROOM	Southerly	17	4		
R5	RESIDENTIAL		W16	BEDROOM	Southerly	16	3	18	4
R6	RESIDENTIAL		W17	LKD	Southerly	14	0		
R6	RESIDENTIAL		W18	LKD	Southerly	12	1		
R6	RESIDENTIAL		W19	LKD	Southerly	13	0		
R6	RESIDENTIAL		W20	LKD	Southerly	12	1		
R6	RESIDENTIAL		W21	LKD	Northerly	10	0		
R6	RESIDENTIAL		W22	LKD	Northerly	11	0		
R6	RESIDENTIAL		W23	LKD	Northerly	1	0		
R6	RESIDENTIAL		W24	LKD	Northerly	3	0	31	2
R7	RESIDENTIAL		W25	LKD	Northerly	1	0		
R7	RESIDENTIAL		W26	LKD	Northerly	3	0		
R7	RESIDENTIAL		W27	LKD	Northerly	10	0		
R7	RESIDENTIAL		W28	LKD	Northerly	11	0	11	0
R8	RESIDENTIAL		W29	BEDROOM	Northerly	10	0		
R8	RESIDENTIAL		W30	BEDROOM	Northerly	11	0		
R8	RESIDENTIAL		W31	BEDROOM	Northerly	7	0		
R8	RESIDENTIAL		W32	BEDROOM	Northerly	5	0	18	0
R9	RESIDENTIAL		W33	BEDROOM	Northerly	7	0		
R9	RESIDENTIAL		W34	BEDROOM	Northerly	4	0	7	0
R10	RESIDENTIAL		W35	BEDROOM	Northerly	6	0		
R10	RESIDENTIAL		W36	BEDROOM	Northerly	4	0	6	0
R11	RESIDENTIAL		W37	STUDIO	Northerly	6	0		
R11	RESIDENTIAL		W38	STUDIO	Northerly	3	0		
R11	RESIDENTIAL		W39	STUDIO	Northerly	5	0		
R11	RESIDENTIAL		W40	STUDIO	Northerly	3	0		
R11	RESIDENTIAL		W41	STUDIO	Southerly	2	0		
R11	RESIDENTIAL		W42	STUDIO	Southerly	1	0	6	0

*NOTES: 'APSH' = annual probable sunlight hours, which means the long term average of the total number of hours during the year in which direct sunlight reaches the unobstructed ground.

APPENDIX D

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LAYOUT PLANS WITH ADF RESULTS

DRAWING NOS. ROL6071_11_401 – 01 TO 07

2ND FLOOR

AnsteyHorne

CHARTERED SURVEYORS

London 020 7065 2770 | Bristol 0117 911 3061 | Birmingham 0121 667 9902

www.ansteyhorne.co.uk

LEGEND:

Room Layout from Plan/ Inspection

Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS

MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS

ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY:/ DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:	RELEASE No:	VERSION No:	DRAWING No:
ROL6071_R11_V01_			401-01

Daylight & Sunlight

3RD FLOOR

AnsteyHorne

CHARTERED SURVEYORS

London 020 7065 2770
Bristol 0117 911 3061
Birmingham 0121 667 9902

www.ansteyhorne.co.uk

LEGEND:

Room Layout from Plan/ Inspection

Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS

MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS

ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY:/ DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:	RELEASE No:	VERSION No:	DRAWING No:
ROL6071_R11_V01_			401-02

Daylight & Sunlight

4TH FLOOR

AnsteyHorne

CHARTERED SURVEYORS

London 020 7065 2770
Bristol 0117 911 3061
Birmingham 0121 667 9902

www.ansteyhorne.co.uk

LEGEND:

Room Layout from Plan/ Inspection

Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS

MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS

ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY:/ DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL6071_R11_V01_	401-03

Daylight & Sunlight

5TH FLOOR

AnsteyHorne

CHARTERED SURVEYORS

London 020 7065 2770
Bristol 0117 911 3061
Birmingham 0121 667 9902

www.ansteyhorne.co.uk

LEGEND:

Room Layout from Plan/ Inspection

Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS

MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS

ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY:/ DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:	RELEASE No:	VERSION No:	DRAWING No:
ROL6071_R11_V01_			401-04

Daylight & Sunlight

6TH FLOOR

AnsteyHorne
CHARTERED SURVEYORS
London 020 7065 2770
Bristol 0117 911 3061
Birmingham 0121 667 9902
www.ansteyhorne.co.uk

LEGEND:

Room Layout from Plan/ Inspection

Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS
ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

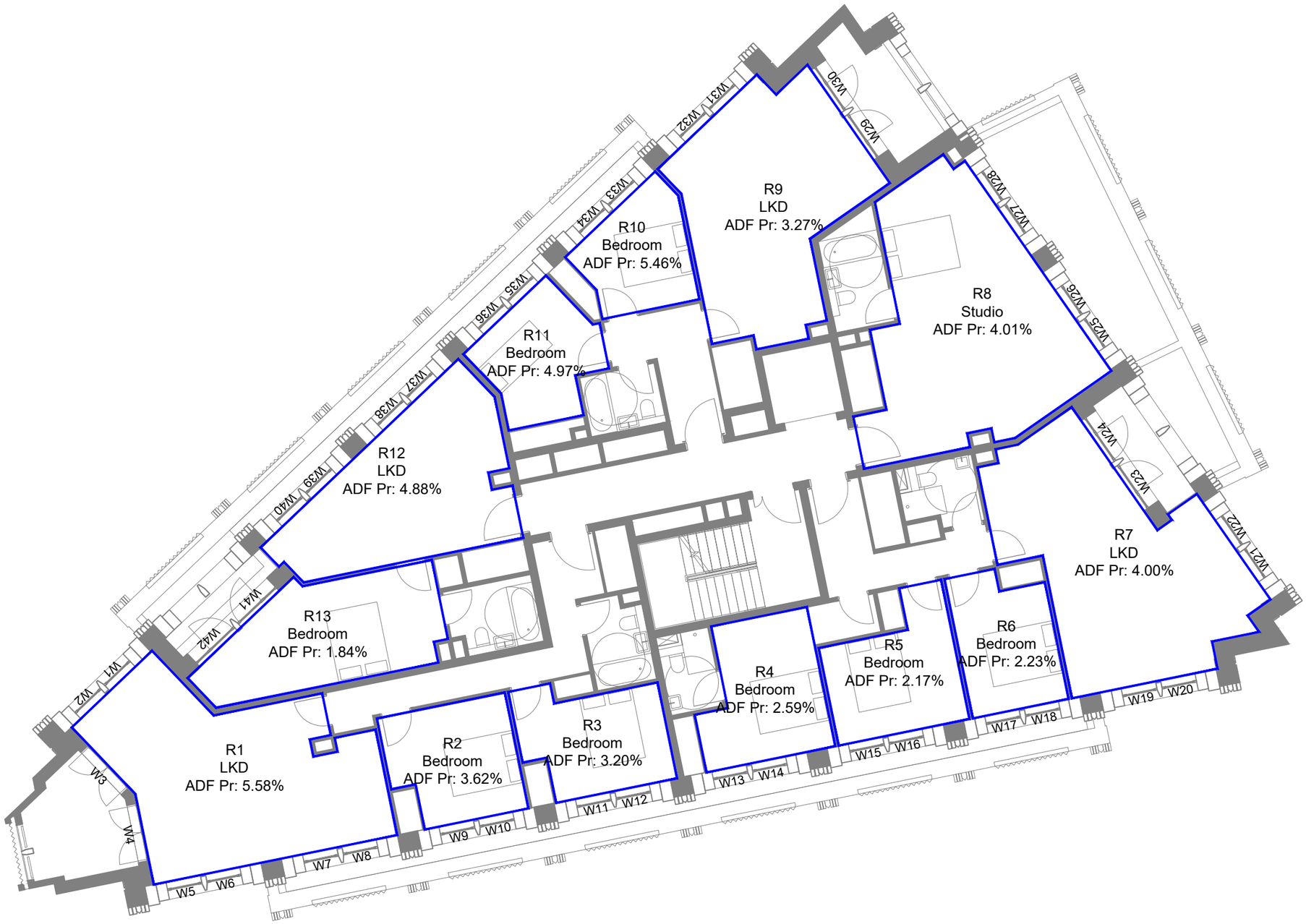
SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY:/ DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:	RELEASE No:	VERSION No:	DRAWING No:
ROL6071_R11_V01_			401-05

Daylight & Sunlight



7TH FLOOR

AnsteyHorne

CHARTERED SURVEYORS

London 020 7065 2770 | Bristol 0117 911 3061 | Birmingham 0121 667 9902

www.ansteyhorne.co.uk

LEGEND:

Room Layout from Plan/ Inspection

Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS

MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS

ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY: / DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:	RELEASE No:	VERSION No:	DRAWING No:
ROL6071	R11	V01	401-06

Daylight & Sunlight

8TH FLOOR

AnsteyHorne

CHARTERED SURVEYORS
London 020 7065 2770
Bristol 0117 911 3061
Birmingham 0121 667 9902
www.ansteyhorne.co.uk

LEGEND:

- Room Layout from Plan/ Inspection
- Room Layout - Notional

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
MBS LAND SURVEYS
Received on 17/07/18

Site and aerial photos.

PROPOSED BUILDINGS
ORMS ARCHITECTS
Received on 15/04/2020

0m 1m 2m 3m 4m 5m

REV	DESCRIPTION	DATE

CLIENT: GRANGE HOTELS

PROJECT TITLE: SOUTHAMPTON ROW/ CENTRAL ST. MARTINS

SCHEME REF: SCHEME RECEIVED: 15/04/2020

DRAWING TITLE: AVERAGE DAYLIGHT FACTOR INTERNAL FLOOR LAYOUTS THEOBALDS BUILDING

MODELLED BY:/ DRAWN BY	DATE:	SCALE:	
MZ/BS	16/04/2020	1:100	A3

PROJECT No:	RELEASE No:	VERSION No:	DRAWING No:
ROL6071_R11_V01_			401-07

Daylight & Sunlight