DAYLIGHT & SUNLIGHT REPORT

for

PROPOSED DEVELOPMENT

at

ELIZABETH HOUSE, 4-7 FULWOOD PLACE

REF: MC/SH/KW/ROL7671
REV: -
20 October 2017

TABLE OF CONTENTS

SECTION **PAGE NO.**

1. INTRODUCTION 1

2. PLANNING POLICY AND GUIDANCE 2

3. BRE METHOD OF ASSESSMENT AND NUMERICAL GUIDELINES 6

4. APPLICATION OF BRE GUIDELINES 10

5. INFORMATION USED IN THE TECHNICAL STUDY 13

6. SCOPE OF TECHNICAL STUDY 15

7. IMPACT UPON SURROUNDING PROPERTIES 16

8. SUMMARY AND CONCLUSION 18

APPENDICES

APPENDIX A - PLAN AND 3D VIEWS OF THE COMPUTER MODEL

APPENDIX B - VERTICAL SKY COMPONENT (‘VSC’) TABLE

APPENDIX C - DAYLIGHT DISTRIBUTION TABLE

APPENDIX D - ANNUAL PROBABLE SUNLIGHT HOURS (‘APSH’) TABLE

APPENDIX E - DAYLIGHT DISTRIBUTION CONTOUR PLANS

APPENDIX F - AVERAGE DAYLIGHT FACTOR TABLE (‘ADF’)

Figure 1: Oblique aerial photograph of the site looking west
(Source: Microsoft Bing)

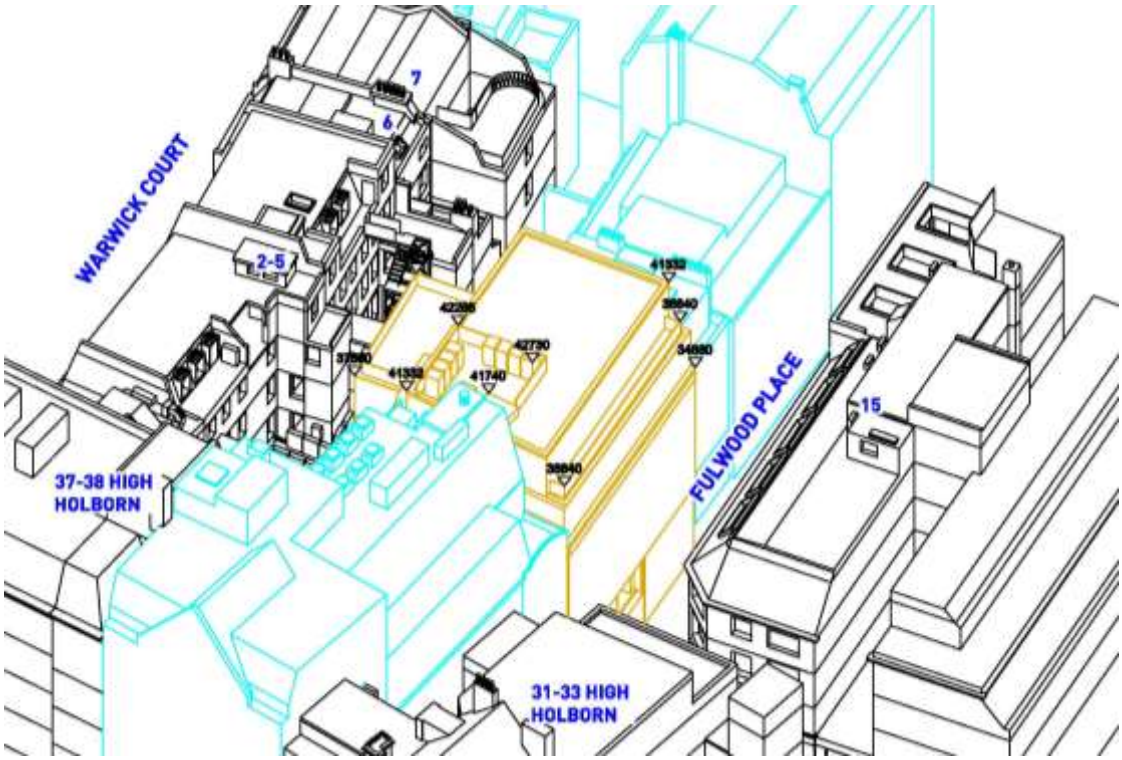


Figure 2: 3D view of computer model in the proposed condition

1. INTRODUCTION

1.1 Courtenay Investments Limited is proposing a development at Elizabeth House, 4-7 Fulwood Place, London.

1.2 The application site is situated on the west side of Fulwood Place and is bounded by properties on Warwick Court, Grey's Inn Gardens to the north and High Holborn to the south.

1.3 Courtenay Investments Limited is conscious of the need to minimise impact on the light to neighbouring residential properties and therefore instructed Anstey Horne to work with the project architect, GCP Architects, so that the effects of the proposed development could be properly understood and, wherever possible, minimised.

1.4 Anstey Horne has been commissioned to undertake a formal technical assessment of the effect of the proposed development upon the existing surrounding properties, having regard to the recommendations in BRE Report 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice* (second edition, 2011).

1.5 Our study has been carried out using 3D computer modelling and our specialist computer simulation software. Our 3D model is shown in Figure 2 on page ii.

1.6 This report summarises the relevant planning policy, the basic principles of daylighting and sunlighting, the methods used to assess the potential impact of the development, the information used in compiling our 3D computer model and the results of our technical assessment. Drawings and full tables of results of our technical assessment are attached in the appendices.

2. PLANNING POLICY AND GUIDANCE

National Planning Policy and Guidance

2.1 The National Planning Policy Framework (NPPF) (March 2012, Department for Communities and Local Government) 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 The NPPF contains a set of 12 core land-use planning principles that should underpin councils' plan-making and decision-taking. One such principle is that planning should *"always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings"*.

2.3 The Building Research Establishment, whose aims include achieving a higher quality built environment, publish BRE Report 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

Mayor's London Plan

2.4 The Mayor of London's '*London Plan – The Spatial Strategy for London Consolidated with Alterations since 2011*' (March 2015) 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 7.6 (Architecture) states that:

"buildings and structures should … not cause unacceptable harm to the amenity of surrounding land and buildings, particularly residential buildings, in relation to privacy, overshadowing, wind and microclimate".

2.6 Policy 7.7 (Location and design of tall and large buildings) states that:

"Tall and large buildings should not have an unacceptably harmful impact on their surroundings… Tall buildings: a) Should not affect their surroundings adversely in terms of microclimate, wind turbulence, overshadowing, noise, reflected glare, aviation, navigation and telecommunication interference…b) should not impact on local or strategic views adversely".

Mayor's Housing Supplementary Planning Guidance

2.7 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 edition.

Local Planning Policy and Guidance

2.8 The development site is located within the London Borough of Camden.

Camden Core Strategy 2010 – 2025 – Local Development Framework

2.9 The Camden Core Strategy provides no specific mention of light within a daylight and sunlight context. This core document was adopted on 8 November 2010.

Camden Development Policies 2010 – 2025 – Local Development Framework

2.10 At paragraph 24.9, it states:

"Many historical buildings display qualities that are environmentally sustainable and have directly contributed to their survival, for example……..natural light and ventilation for ease of alteration. The retention and adaption of existing buildings will be encouraged".

2.11 Policy DP26 – Managing the impact of development on occupiers and neighbours states:

"The Council will protect the quality of life of occupiers and neighbours by only granting permission for development that does not cause harm to amenity. The factors we will include consider:……..b) overshadowing and outlook……c) sunlight, daylight and artificial light levels"

2.12 Paragraph 26.3 states:

"……the council will take into account the standards recommended in the British (Building)Research Establishment's Site Layout Planning for Daylight and Sunlight – A guide to Good Practise (1991)" – We have used the updated version of this, BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice (second edition, 2011) in our assessments.

Camden Planning Guidance – Supplementary Planning Guidance – CPG1 Design

2.13 Paragraph 2.9 states:

"Good design should…….respect…….sunlight and shade"

2.14 Rear Extensions (page 33) should:

"not cause a loss of amenity to adjacent properties with regard to sunlight, daylight, outlook, overshadowing, light pollution/spillage, privacy/overlooking, and sense of enclosure"

Camden Planning Guidance – Supplementary Planning Guidance – CPG2 Housing

2.15 Paragraph 4.7 on Layout states:

2.16 Rooms should *"……have an adequate size, shape, door arrangement, height, insulation, for noise and vibration and natural lighting and ventilation"*

2.17 Paragraph 4.20 on Daylight, sunlight and privacy states:

"Residential developments should maximise sunlight and daylight, both within the new development and to neighbouring properties whilst minimising overshadowing or blocking of light to adjoining properties. Maximising sunlight and daylight also helps to make a building energy efficient by reducing the need for electric light and meeting some of the heating requirements through solar gain. The orientation of buildings can maximise passive solar gain to keep buildings warm in winter and cool in summer".

2.18 Paragraph 4.21 on Daylight, sunlight and privacy states:

"All habitable rooms should have access to natural daylight. Windows in rooms should be designed to take advantage of natural sunlight, safety and security, visual interest and ventilation. Developments should meet site layout requirements set out in the Building Research Establishment (BRE) Site Layout for Daylight and Sunlight – A Guide to Good Practice (1991)".

"Overall the internal layout design should seek to ensure the main living room and other frequently used rooms are on the south side and rooms that benefit less from sunlight (bathrooms, utility rooms) on the north side. Kitchens are better positioned on the north side to avoid excessive heat gain".

2.19 Paragraph 4.21 on Daylight, sunlight and privacy states:

"In particular the following minimum requirements need to be met to avoid the unacceptable loss of daylight and/or sunlight resulting from a development, including new build, extensions and conversions. For example:

- *Each dwelling in a development should have at least one habitable room with a window facing within 30 degrees of south in order to make the most of solar gain through passive solar energy;*

- *Rooms on south facing walls should always have windows, south facing windows and walls should be designed, sized and/or shaded in summer to prevent overheating…"*

2.20 We confirm that we have undertaken our daylight and sunlight study in accordance with BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice (second edition, 2011).

3. BRE METHOD OF ASSESSMENT AND NUMERICAL GUIDELINES

Daylight to existing surrounding buildings

3.1 Section 2.2 of the BRE Report makes recommendations concerning the impact on daylight to existing buildings. In summary, the BRE report states that:

"If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

- *the VSC [vertical sky component] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; [or]*
- *the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

3.2 So, where the angle to the horizontal subtended by the new development measured at the centre of the lowest window in an existing surrounding building (the angle of obstruction) is less than 25° (see Figure 3 below), the diffuse daylight to that building is unlikely to be significantly affected and need not be tested.

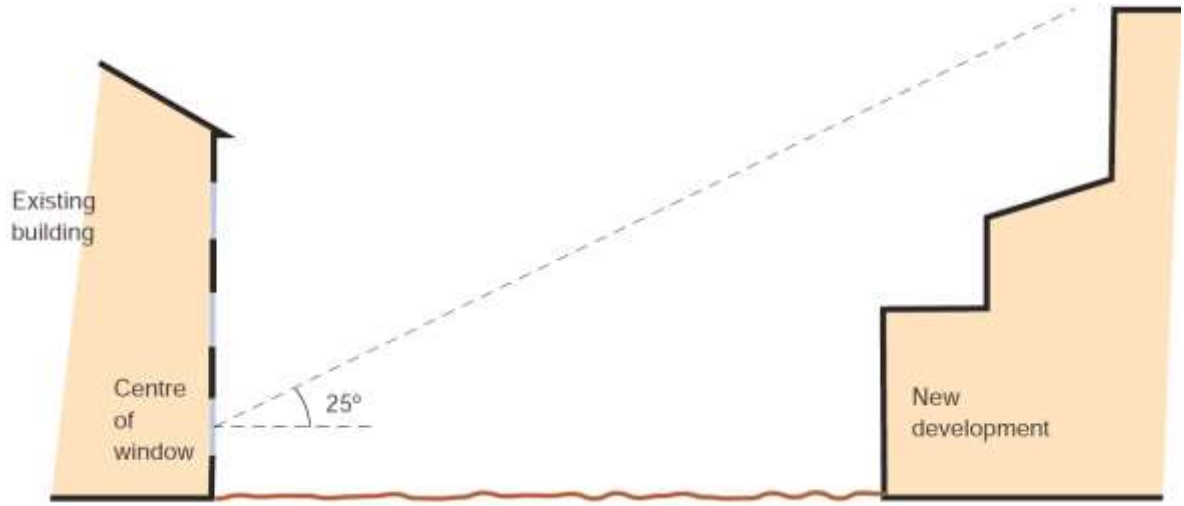


Figure 3 - Section perpendicular to a main window wall of an existing building showing a new development subtending an angle of less than 25° to the horizontal from the centre of the lowest window. (© BRE Report 209)

3.3 Where the obstruction angle is greater than 25°, both of the more detailed daylight tests should be undertaken, namely vertical sky component ('VSC') at the window and daylight distribution on the working plane. For each test the guidelines operate on the general principle that if the amount of daylight is reduced to less than 0.8 times its former value (i.e. there will be more than a 20% loss) the reduction will be noticeable to the building's occupants.

3.4 'Noticeable' does not necessarily equate to 'unacceptable' and the BRE's standard target values should not be considered as pass/fail criteria. Ultimately the local planning authority will need to make a judgement as to whether any impacts are acceptable when weighed against the many other planning considerations.

3.5 The VSC test measures the amount of skylight available at the centre of a window on the external plane of the window wall. It has a maximum value of almost 40% for a completely unobstructed vertical window wall. If a room has two or more windows of equal size, the mean of their VSCs may be taken. As the VSC calculation takes no account of the size of the window being tested, the size of the room it lights or multiple windows of unequal size, it does not measure light inside the room. It merely measures the potential conditions in the room. The VSC results can therefore be potentially misleading if considered in isolation and should be read in conjunction with those of the second test - daylight distribution.

3.6 The daylight distribution test calculates the area of the working plane inside a room that will have a direct view of the sky. This is done by plotting the no-sky line, i.e. the line on the working plane that divides those areas that receive direct skylight from those that do not, as shown in Figure 4 below.

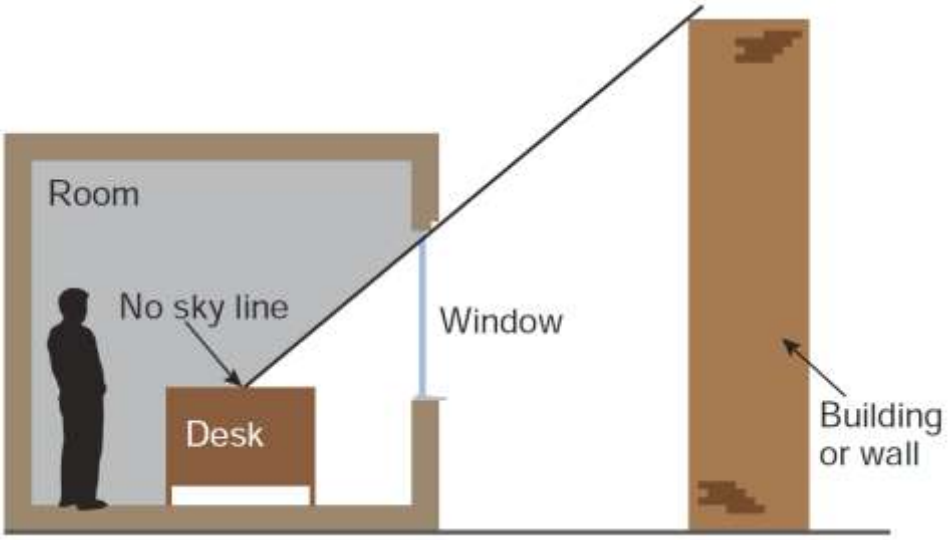


Figure 4 - The no-sky line divides areas of the working plan which can and cannot receive direct skylight. (© BRE Report 209)

3.7 One benefit of the daylight distribution test is that the resulting contour plans show where the light falls within a room, both in the existing and proposed conditions, and a judgement may be made as to whether the room will retain light to a reasonable depth.

3.8 The BRE guidelines are intended for use for rooms in adjoining dwellings. They may also be applied to any existing non-domestic buildings where the occupants have a reasonable expectation of daylight, which could include schools, hospitals, hotels and offices. For dwellings it states that living rooms, dining rooms and kitchens should be assessed. Bedrooms should also be checked, although it states that they are less important. Other rooms, such as bathrooms, toilets, storerooms, circulation areas and garages need not be assessed.

3.9 Where rooms will not satisfy the standard numerical guidelines for VSC and/or daylight distribution it can be helpful to calculate the average daylight factor (ADF) for the room with the proposed development in place, so that a comparison may be made with the recommendations in BS8206-2:2008 *Lighting for buildings - Part 2: Code of practice for daylighting*. Appendix C of the BRE Report summarises BS8206, which recommends the following minimum ADFs in dwellings: 1% in bedrooms, 1.5% in living rooms and 2% in kitchens. The ADF test is intended for use in designing new buildings for satisfactory daylight, not for impact assessments. Nevertheless, the results can be of assistance to a local planning authority when judging whether an impact on daylight that is noticeable is nonetheless acceptable when considered in the broader town planning context.

Sunlight to existing surrounding buildings

3.10 Section 3.2 of the BRE Report makes recommendations concerning the impact on sunlight to existing dwellings or non-domestic buildings where there is a particular requirement for sunlight. The guide notes at paragraph 3.2.1 that:

"obstruction to sunlight may become an issue if:

- *some part of a new development is situated within 90° of due south of a main window wall of an existing building; and*
- *in the section drawn perpendicular to the existing window wall, the new development subtends an angle greater than 25° to the horizontal measured from the centre of the lowest window to a main living room."*

3.11 If these angle criteria are not met, the guide recommends a more detailed check to calculate the impact of the proposed development on the available sunlight.

3.12 The guide suggests:

"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. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within 90° of due south anyway." (BRE paragraph 3.2.3)

3.13 The available sunlight is measured in terms of the percentage of annual probable sunlight hours ('APSH') at the centre point of the window. 'Probable sunlight hours' is defined as:

"the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account)."

3.14 Paragraph 3.2.11 of the BRE Report summarises its sunlight guidance as follows:

"If a living room of an existing dwelling has a main window facing within 90º of due south, and any part of a new development subtends an angle of more than 25º to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- *receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and*
- *receives less than 0.8 times its former sunlight hours during either period and*
- *has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours".*

Computer simulation

3.15 Appendix A of the BRE guide describes a method for calculating VSC and APSH using various indicator templates and Appendix D shows how the no-sky line may be plotted inside a room. Where the obstructions on the skyline are complex these manual methods can be difficult to apply and the results can be crude. We therefore prefer to use computer simulation and our specialist software, which is based on the more accurate Waldram method, which is described in Appendix B of the BRE guide.

3.16 The information upon which our computer model was based is explained in the section 5 of this report.

4. APPLICATION OF BRE GUIDELINES

Flexible application of the guidelines

4.1 In its introduction the BRE Report 209 (second edition, 2011) states:

- *(Its) "main aim is … to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions."* (BRE paragraph 1.5)

- *"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer."* (BRE paragraph 1.6)

- *"Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."* (BRE paragraph 1.6)

4.2 Clearly, the BRE guide is an advisory document, not a rigid set of rules. Care must therefore be taken to apply its recommendations in a manner fitting to the location of the proposed development.

Alternative target values

4.3 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… The calculation methods … are entirely flexible in this respect." (BRE paragraph 1.6)

4.4 At paragraph 2.2.3 the guide states:

"Note that numerical values given here are purely advisory. Different criteria may be used, based upon the requirements for daylighting in an area viewed against other site layout constraints."

4.5 Appendix F of the BRE Guide gives advice on setting alternative target values for skylight access. At page 62 it states:

"different targets may be used, based on the special requirements of the proposed development or its location".

4.6 Clearly, rigid application of the numerical guidelines could well give rise to an inappropriate answer and form of development for city centre sites, in which case it may be appropriate to adopt lower target values that are more appropriate to the location concerned.

Proximity of neighbouring building to the boundary

4.7 The BRE guide permits the reasonableness or otherwise of the distance of the neighbouring building from the boundary to be taken into account. At paragraph 2.2.3 it states:

"Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light".

Interpretation of relative impacts

4.8 Except where the BRE guide's specified minimum values will be retained in the proposed condition (see paragraphs 3.1, 3.14), the guide advises that a loss of light will be noticeable if the amount retained will be less than 0.8 times its former value. (We refer to this as the 'BRE 0.8 guideline'.) Care must be taken when interpreting the 'relative impact' figures (in the columns marked "factor of former value" in the tables of results), because where an existing value is low even a small reduction in real terms can manifest itself as a large relative impact. For example a reduction from 6% VSC to 3% VSC will appear as a reduction to 0.5 times its former value, and is therefore a transgression of the guidelines in theory, but in reality a loss of 3% VSC is very small and would be barely perceptible.

4.9 When the BRE launched the second edition of their guidelines in 2011, they cited the above logic as the reason for introducing the third tier to their sunlight criteria, as referred to in paragraph 3.14 above, namely that sunlight will be adversely affected where it is reduced below 25% APSH annually or 5% APSH in winter and to less than 0.8 times its former value and where the reduction annually is greater than 4% APSH.

Balconies, projecting wings and other self-obstructing projections

4.10 The BRE guide acknowledges that balconies and projecting wings to existing neighbouring buildings artificially limit the available daylight and sunlight and, as a consequence, larger relative reductions in light may be unavoidable. More specifically it states:

"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction opposite may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without

the balcony in place. For example, if the proposed VSC with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light." (BRE paragraph 2.2.11)

"A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above." (BRE paragraph 2.2.12)

"Balconies and overhangs above an existing window tend to block sunlight, especially in summer. Even a modest obstruction opposite may result in a large relative impact on the sunlight received. One way to demonstrate this would be to carry out an additional calculation of the APSH, for both the existing and proposed situations, without the balcony in place. For example, if the proposed APSH with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of sunlight." (BRE paragraph 3.2.9)

4.11 Clearly, where windows are inset or self-obstructed by balconies or other projections they will be unusually sensitive to changes in massing opposite and transgressions of the BRE's default numerical guidelines are more likely to arise. In such circumstances flexible application of the guidelines is very important.

Deep rooms

4.12 The BRE guide advises that light penetration into deep rooms lit from one side only may be unavoidably affected. At paragraph 2.2.10 it states

"The guidelines ... need to be applied sensibly and flexibly. There is little point in designing tiny gaps in the roof lines of new development in order to safeguard no sky lines in existing buildings. If an existing building contains rooms lit from one side only and greater than 5 m deep, then a greater movement of the no sky line may be unavoidable."

5. INFORMATION USED IN THE TECHNICAL STUDY

5.1 In order to carry out the tests recommended in the BRE Report, we commenced by building a 3D computer model of the existing buildings on the site, the existing surrounding buildings to be studied, other relevant background massing and the proposed scheme. The computer model is illustrated on the drawings at Appendix A and is based on the information listed below.

Proposed scheme:

GCP Architect's 2D drawings of the proposed scheme received 11 October 2017:

Drawing no's:

- 17008_203D-Proposed LG-G-First-Second Plans
- 17008_204D-Proposed Third-Fourth-Fifth-Roof Plans
- 17008_205C-Proposed Elevations
- 17008_211B – Proposed Typical Section

Existing building on the site and existing surrounding buildings:

- MBS 3D Survey's 3D measured survey received 17.10.2017
- OS map
- Aerial photography from Microsoft Bing
- Site photographs

Internal arrangements within existing surrounding buildings:

Property	Drawings with planning application ref.
31-33 High Holborn	2008/2588/P
7 Warwick Court	2016/3848/P

5.2 Where plans of the existing surrounding buildings were not available we estimated the internal arrangements and room uses based on an external inspection. Where we have had to estimate internal arrangements and room uses, this has no bearing upon the tests for VSC or APSH because the reference point is at the centre of the window. It is relevant to the daylight distribution assessment, but in the absence of suitable plans, estimation is a conventional approach.

6. SCOPE OF TECHNICAL STUDY

6.1 In our experience local planning authorities are usually only concerned with the impact on dwellings and, perhaps, schools, hospitals and nursing homes. This is the basis on which we have scoped our technical study.

6.2 We have reviewed the planning officers pre-application report dated 4 September 2017 which highlights the nearest residential properties as being Fairfax House (15 Fulwood Place) and 7 & 8 Warwick Court. Our review of recent planning applications and council tax records have not shown Fairfax House as having residential content. In relation to 8 Warwick Court, we consider this property is of sufficient distance away from the proposed Elizabeth House scheme so as not to be affected.

6.3 Having regard to the preliminary 25°-line test and orientation test recommended in the BRE Report, as explained above in paragraphs 3.1 to 3.3 and 3.10, we have calculated the impact of the proposed development on the daylight and sunlight levels to relevant rooms in the following existing surrounding buildings:

Table 1 - Scope of assessments

Properties	Daylight	Sunlight
31-33 High Holborn	Yes	Yes
7 Warwick Court	Yes	No

6.4 We have only tested the impact on the main rooms in each property, as advised in the BRE guidelines. It is not necessary to test staircases, hallways, bathrooms, toilets etc.

6.5 Each of the existing surrounding buildings tested is shown labelled on the plan views of the computer model on our drawings at Appendix A of this report.

6.6 The daylight distribution contour plans at Appendix E show the window positions and room layouts that have been tested in each of the buildings concerned.

7. IMPACT UPON SURROUNDING PROPERTIES

7.1 In this section of the report we set out our analysis of the results of our impact study under the headings of daylight and sunlight. For each element we will provide commentary on the results taking each property, or groups of properties, in turn.

7.2 To re-cap briefly on the assessment criteria explained in section 3, each of the tests is run in the existing and proposed condition so that the daylight and sunlight levels before and after development are quantified and the relative change is determined. Except where the BRE guide's specified minimum values will be retained in the proposed condition, it advises that a loss of light will be noticeable if the amount retained will be less than 0.8 times its former value (the "BRE 0.8 guideline").

Daylight & Sunlight to existing surrounding buildings

7.3 The numerical results of the vertical sky component ('VSC') test are tabulated at Appendix B. For the daylight distribution test, numerical results are tabulated at Appendix C and no-sky contour plans are shown on our drawings at Appendix E. On the plans, the area of the room with a view of sky in the proposed condition is enclosed by the red contour and in the existing condition by the green contour. Where there will be no effect on the no-sky contour the red contour sits on top of the green one and only the red contour is visible. Where there will be a change, the areas of the room that will either lose or gain a view of sky are cross-hatched black. At Appendix F the ADF assessment results are provided.

7.4 The numerical results of the percentage of annual probable sunlight hours ('APSH') test are tabulated at Appendix D. Only those buildings identified by application of the BRE guide's preliminary 25° line test and orientation test, as explained above, have been tested.

31-33 High Holborn – Drawing no: ROL7671_05_104

7.5 This is a six storey mixed use property to the south-east of the site. The building consists of commercial office space on the ground, first and second floors and residential properties on the third to fifth floors above. The internal layouts for this building were obtained from local authority records and have been based on planning application 2008/2588/P.

7.6 We have tested the windows and rooms on the third, fourth and fifth floors, of which are made up of 6 bedrooms, a living room, a living/diner (LD) and a living/kitchen/diner (LKD).

7.7 Our assessments show that all of the windows and rooms tested for this property will satisfy the BRE guidelines for both Vertical Sky Component (VSC) and Daylight Distribution (DD).

7.8 We also tested the same habitable rooms for ADF in the existing and proposed condition. The results show that in the proposed condition all the bedrooms tested on the third, fourth and fifth floors exceed the BRE guideline target of 1%. The living rooms tested on the third and fourth floors will also exceed the BRE guideline target of 1.5%. The results for the fifth floor living kitchen diner achieve 1.64%, which is below the 2% BRE guideline target. However, the results for the same room tested in the existing condition achieve 1.64%. Therefore, the inclusion of the proposed scheme does not reduce the light conditions in this room.

7.9 The results of the sunlight test show that the windows which face 90° of due south will satisfy the BRE guidelines.

7 Warwick Court – Drawing no: ROL7671_05_117

7.10 This is a residential property located to the north-west of the proposed development. The proposed internal layouts of 7 Warwick Court have been based on planning application 2016/3848/P. From site observation it is understood that the proposed 7 Warwick Court scheme is in the process, or has already been implemented. We tested the windows on the first and second floors facing the proposed scheme as the windows on the floor above will not be affected by the scheme.

7.11 Our assessments shows that the two windows and rooms tested for this property will satisfy the BRE guidelines for both Vertical Sky Component (VSC) and Daylight Distribution (DD).

7.12 We also tested the two bedrooms for ADF in the existing and proposed condition. The results show that in the proposed condition the room on the first floor will obtain an ADF value of 0.73% and the window on the second floor 0.92%. These figures are below the BRE guideline target of 1%. However, the same first and second floor bedrooms tested in the existing condition show light levels of 0.74% and 0.93%. These are also below the 1% guideline target and have an ADF difference of only 0.01 percentile point higher than the results for the proposed condition. Therefore the implementation of the proposed scheme will not cause a noticeable difference to the light conditions in these rooms.

8. SUMMARY AND CONCLUSION

8.1 Camden's planning policy seeks to safeguard daylight and sunlight to existing buildings and points to the guidance published in BRE Report 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice*. We have undertaken a study of the impact of the proposed development on the relevant habitable rooms in 31-33 High Holborn and 7 Warwick Court. The tests were undertaken in accordance with the BRE Report 209.

8.2 The results show that there will be no noticeable reduction in daylight or sunlight with the proposed development in place. The layout of the proposed development adheres to the BRE guidelines and will satisfy Camden's planning policies.

……..

ANSTEY HORNE

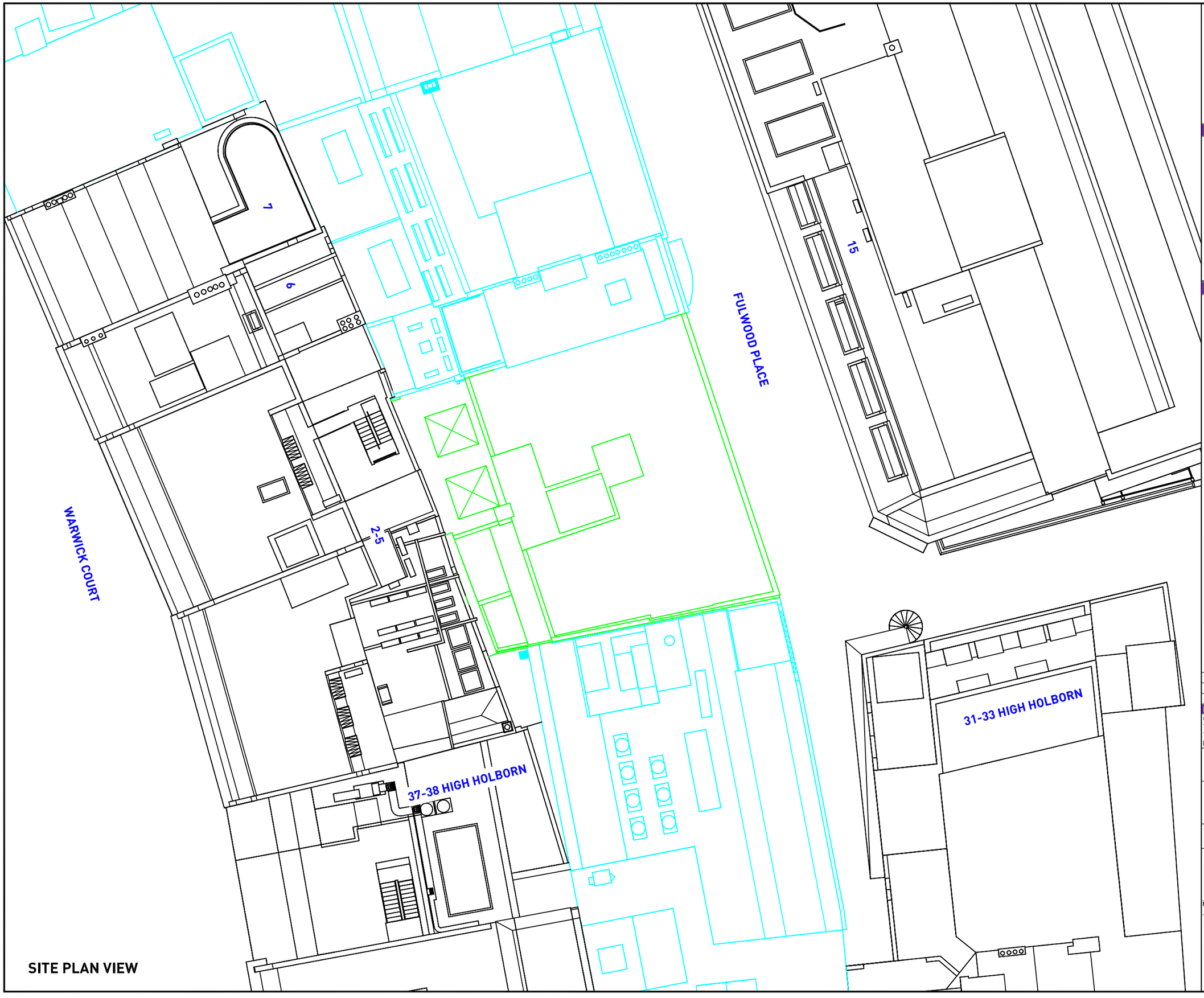
20 October 2017

APPENDIX A

-

PLAN AND 3D VIEWS OF THE COMPUTER MODEL

DRAWING NOS. ROL7671_1_001 TO 003 & ROL7671_5_004 TO 006



SITE PLAN VIEW

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

LEGEND:

- Existing
- Proposed
- Analysed Buildings
- Surrounding

N

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

0m 2m 4m 6m 8m 10m

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

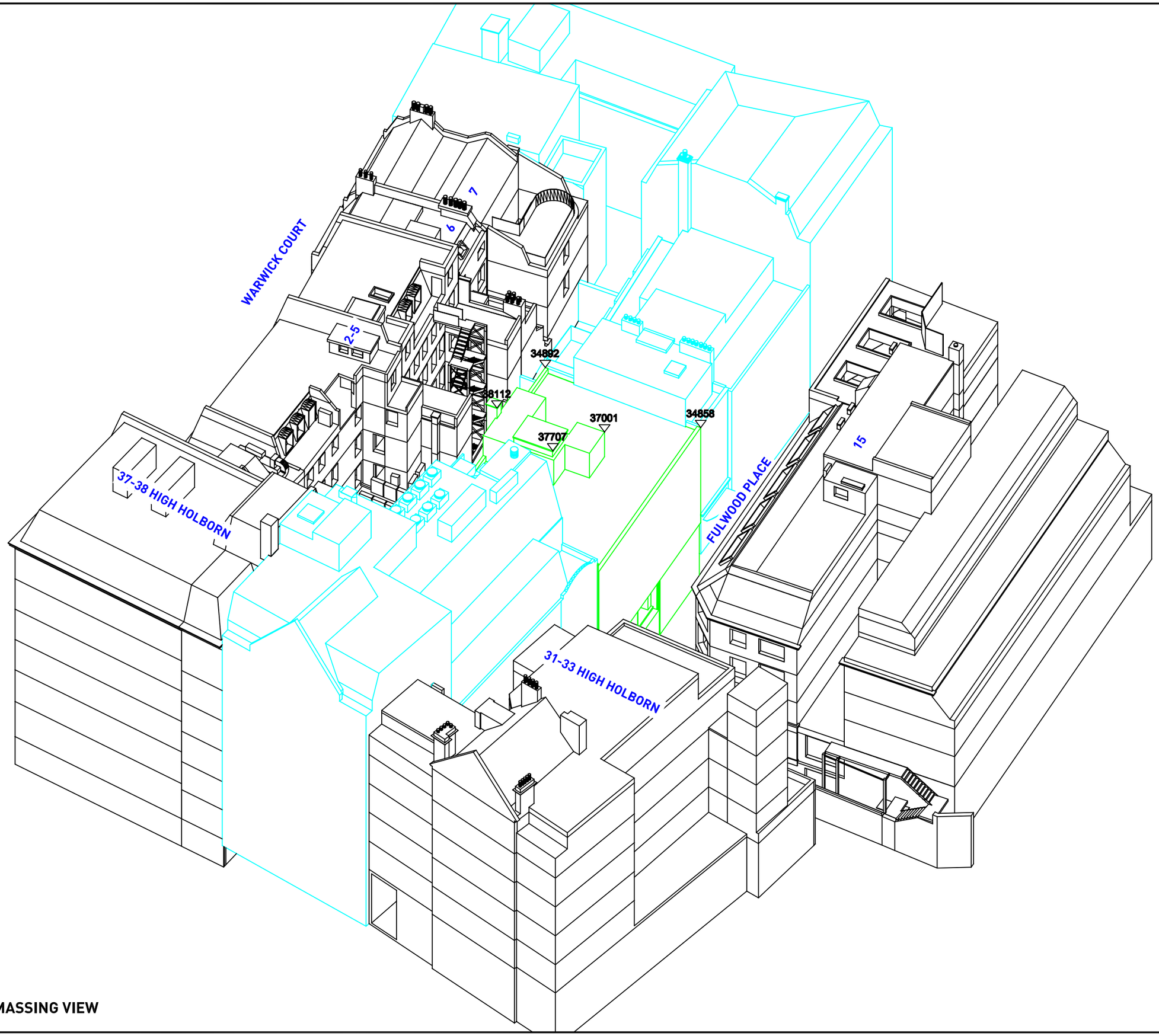
SCHEME REF: SCHEME RECEIVED:- 13/07/17

DRAWING TITLE: SITE PLAN VIEW
EXISTING CONDITION

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
CC	28/07/17	1:200	A3

DRAWING No: ROL7671_01_001
REVISION: .

Site Plan



3D MASSING VIEW

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

LEGEND:

- Existing
- Proposed
- Analysed
- Surrounding
- 12120 AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 13/07/17

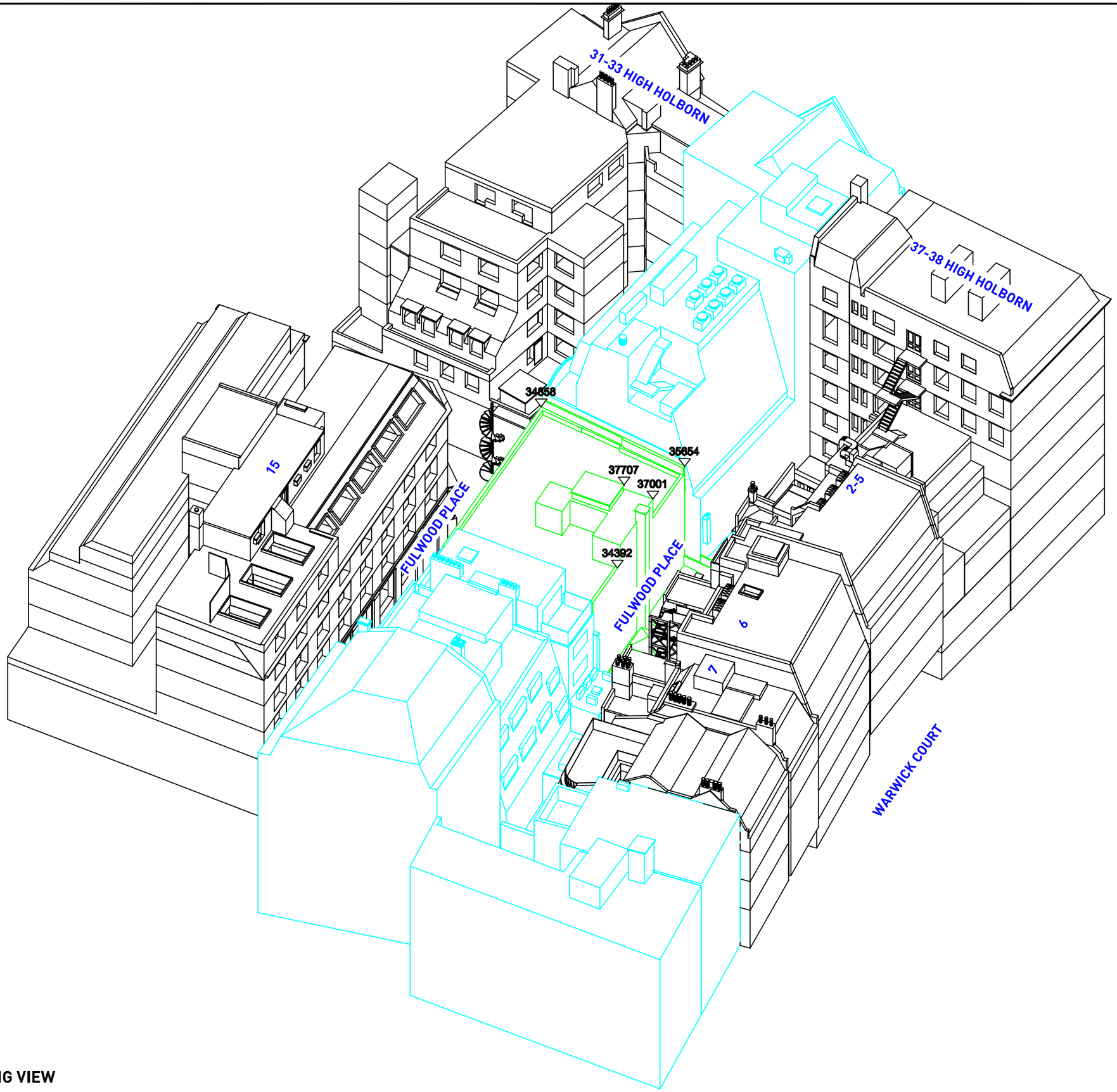
DRAWING TITLE: 3D MASSING MODEL VIEW
EXISTING CONDITION
VIEW 1

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
CC	28/07/17	N.T.S.	A3

DRAWING No: ROL7671_01_002

REVISION: .

3D Massing Model



3D MASSING VIEW

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

LEGEND:

- Existing
- Proposed
- Analysed
- Surrounding
- 12120 AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 13/07/17

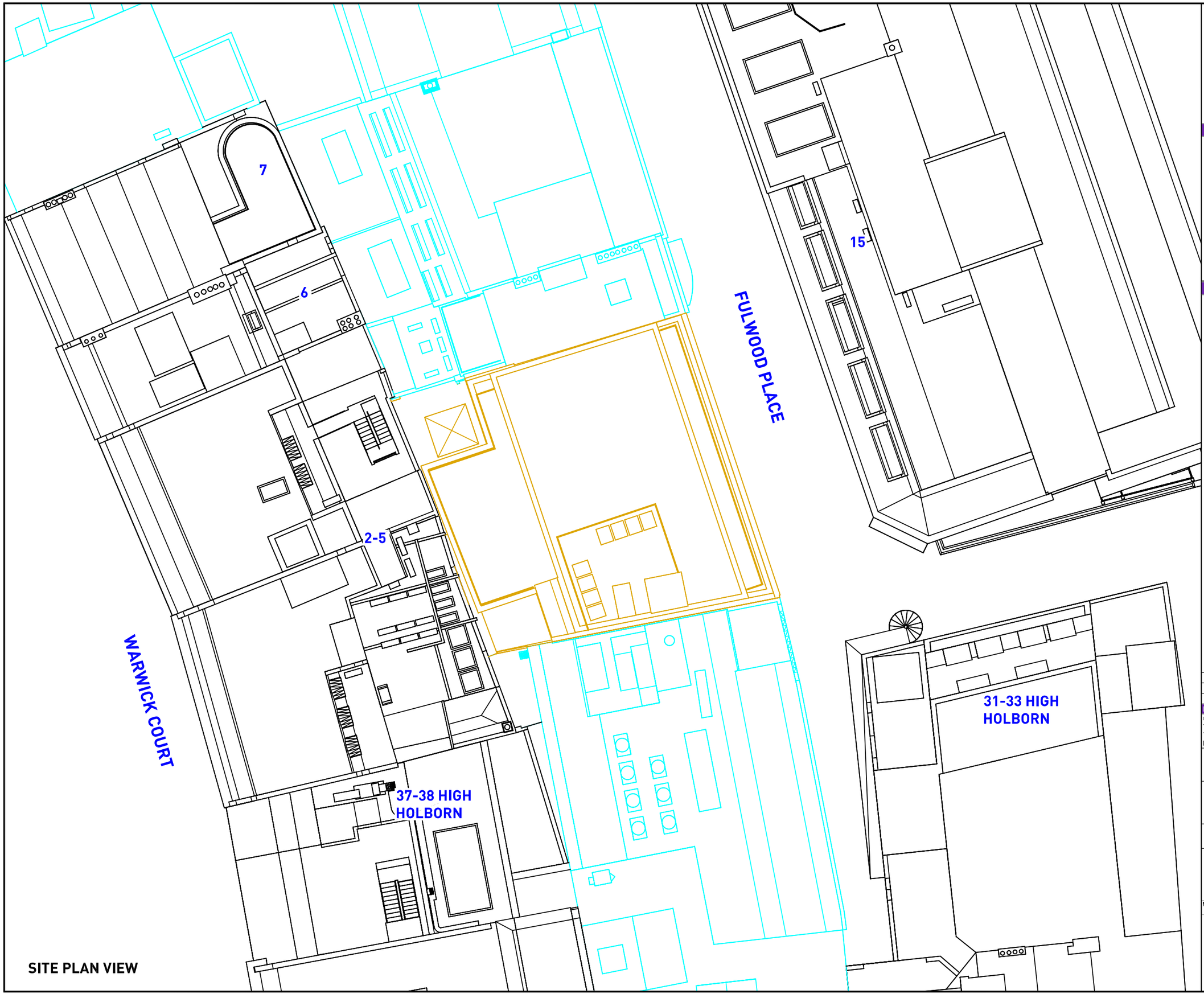
DRAWING TITLE: 3D MASSING MODEL VIEW
EXISTING CONDITION
VIEW 2

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
CC	28/07/17	N.T.S.	A3

DRAWING No: ROL7671_01_003

REVISION: .

3D Massing Model



SITE PLAN VIEW

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

LEGEND:

- Existing
- Proposed
- Analysed Buildings
- Surrounding

N

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 17/10/17

0m 2m 4m 6m 8m 10m

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 17/10/17

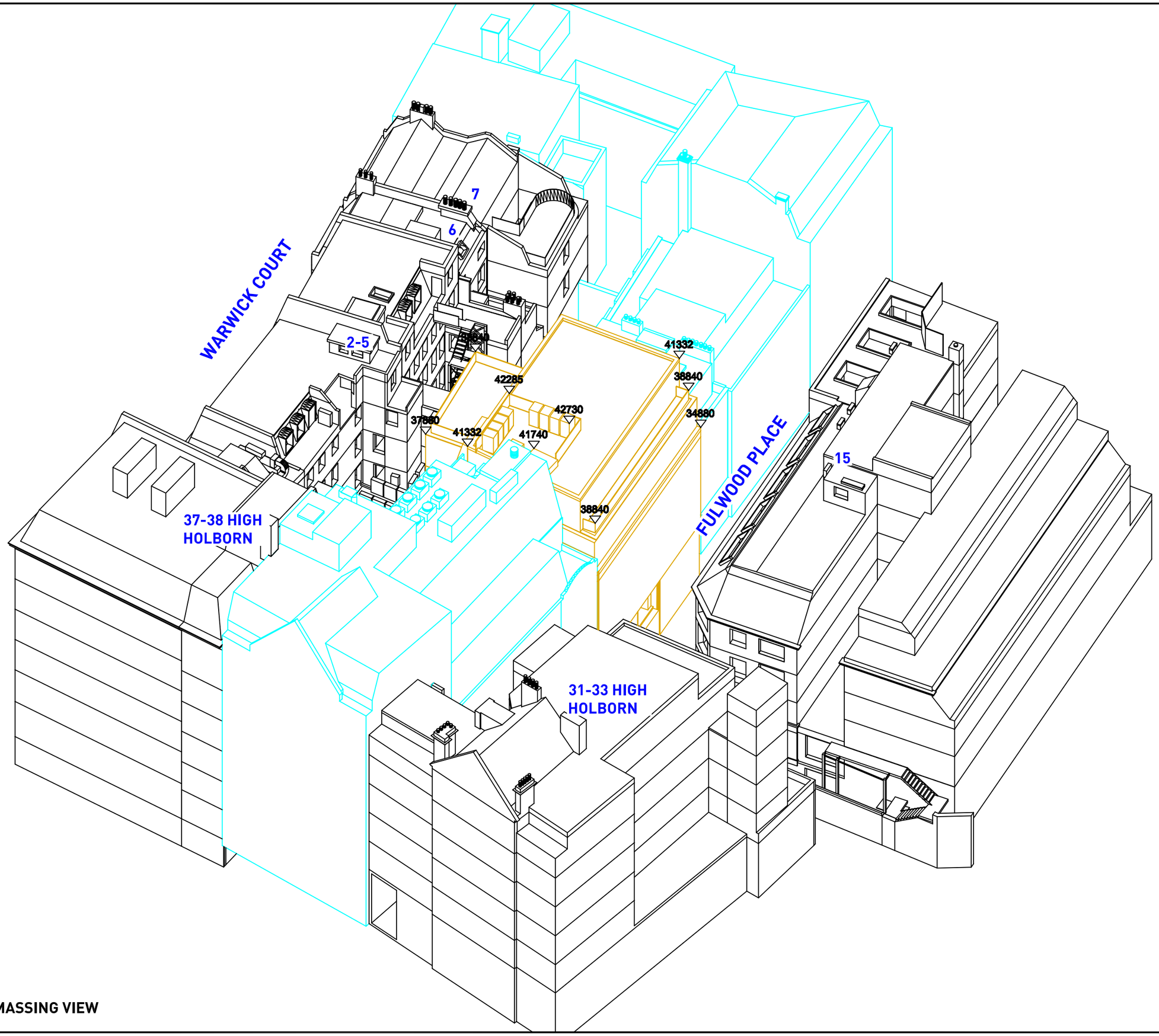
DRAWING TITLE: SITE PLAN VIEW
PROPOSED CONDITION - OPTION 1

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
*	18/10/17	1:200	A3

DRAWING No: ROL7671_05_004

REVISION: .

Site Plan



3D MASSING VIEW

AnsteyHorne

CHARTERED SURVEYORS

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

LEGEND:

- Existing
- Proposed
- Analysed
- Surrounding
- 12120 AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 17/10/17

REV.	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 17/10/17

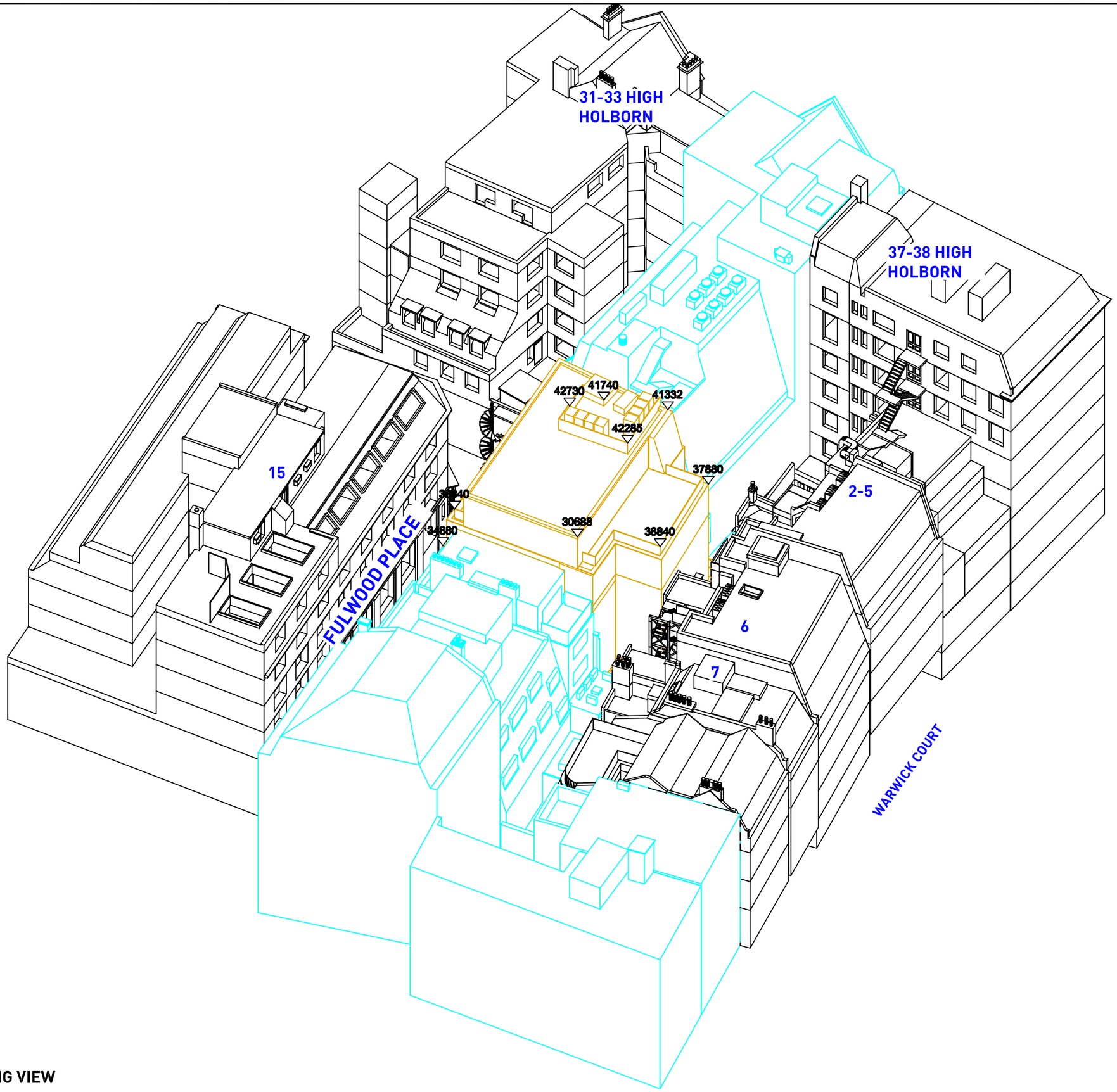
DRAWING TITLE: 3D MASSING MODEL VIEW
PROPOSED CONDITION - OPTION 1
VIEW 1

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
*	18/10/17	N.T.S.	A3

DRAWING No: ROL7671_05_005

REVISION: .

3D Massing Model



3D MASSING VIEW

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

LEGEND:

- Existing
- Proposed
- Analysed
- Surrounding
- 12120 AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
GCP ARCHITECTS 2D DWGS
Received on 17/10/17

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 17/10/17

DRAWING TITLE: 3D MASSING MODEL VIEW
PROPOSED CONDITION - OPTION 1
VIEW 2

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
*	18/10/17	N.T.S.	A3

DRAWING No: ROL7671_05_006

REVISION: .

3D Massing Model

APPENDIX B
-
VERTICAL SKY COMPONENT ('VSC') TABLE

ROL7671 - Elizabeth House
Release 05
18/10/2017

TABLE P1
VERTICAL SKY COMPONENT (VSC)
SURROUNDING BUILDINGS

Property/ room ref.	Property type	Room usage	Window ref.	Existing VSC(%)	Proposed VSC(%)	*Factor of former value
31-33 High Holborn						
3rd Floor						
R1	RESIDENTIAL	LD	W1	34.93	33.69	N/A
R2	RESIDENTIAL	BEDROOM	W2	34.53	32.92	N/A
R2	RESIDENTIAL	BEDROOM	W3	15.50	14.33	0.92
R3	RESIDENTIAL	BEDROOM	W4	22.72	21.71	0.96
4th Floor						
R1	RESIDENTIAL	LIVING ROOM	W1	37.96	37.21	N/A
R2	RESIDENTIAL	BEDROOM	W2	37.53	36.59	N/A
R2	RESIDENTIAL	BEDROOM	W3	22.40	21.65	0.97
R3	RESIDENTIAL	BEDROOM	W4	28.77	28.11	N/A
5th Floor						
R1	RESIDENTIAL	BEDROOM	W1	38.90	38.76	N/A
R1	RESIDENTIAL	BEDROOM	W2	38.90	38.81	N/A
R2	RESIDENTIAL	BEDROOM	W3	38.63	38.53	N/A
R2	RESIDENTIAL	BEDROOM	W4	38.37	38.21	N/A
R3	RESIDENTIAL	LKD	W5	26.74	26.71	1.00
R3	RESIDENTIAL	LKD	W6	24.75	24.73	1.00
7 Warwick Court						
1st Floor						
R1	RESIDENTIAL	BEDROOM	W1	11.22	10.90	0.97
2nd Floor						
R1	RESIDENTIAL	BEDROOM	W1	17.77	17.28	0.97

*NOTES: 'Factor of former value' = Proposed VSC / Existing VSC. A factor greater than 1 indicates an increase in daylight.A proposed VSC of 27% or more satisfies the BRE criteria and the ratio is N/A.

APPENDIX C
-
DAYLIGHT DISTRIBUTION TABLE

TABLE P2
DAYLIGHT DISTRIBUTION (DD)
SURROUNDING BUILDINGS

Property / room ref.	Property type	Room Usage	Room area (m²)	Existing lit area (m²)	Proposed lit area (m²)	*Factor of former value
31-33 High Holborn						
3rd Floor						
R1	RESIDENTIAL	LD	21.15	20.27	20.27	1.00
R2	RESIDENTIAL	BEDROOM	15.08	14.84	14.84	1.00
R3	RESIDENTIAL	BEDROOM	14.29	14.07	14.07	1.00
4th Floor						
R1	RESIDENTIAL	LIVING ROOM	21.15	20.46	20.46	1.00
R2	RESIDENTIAL	BEDROOM	15.08	14.95	14.95	1.00
R3	RESIDENTIAL	BEDROOM	14.29	14.21	14.21	1.00
5th Floor						
R1	RESIDENTIAL	BEDROOM	12.17	11.66	11.66	1.00
R2	RESIDENTIAL	BEDROOM	8.42	8.20	8.20	1.00
R3	RESIDENTIAL	LKD	28.84	27.22	27.22	1.00
7 Warwick Court						
1st Floor						
R1	RESIDENTIAL	BEDROOM	10.83	4.41	4.06	0.92
2nd Floor						
R1	RESIDENTIAL	BEDROOM	10.83	9.60	8.67	0.90

*NOTES: 'Factor of former value' = Proposed lit area / Existing lit area. A factor greater than 1 indicates an increase in daylight.

APPENDIX D
-
ANNUAL PROBABLE SUNLIGHT HOURS ('APSH') TABLE

TABLE P3
ANNUAL PROBABLE SUNLIGHT HOURS (APSH)
SURROUNDING BUILDINGS

PROPERTY					WINDOW					
					ANNUAL SUNLIGHT (%APSH)			WINTER SUNLIGHT (% APSH IN WINTER)		
Room ref.	Property type	Flat no.	Window ref.	Room use	Existing (%)	Proposed (%)	*Factor of former value	Existing (%)	Proposed (%)	*Factor of former value
31-33 High Holborn										
3rd Floor										
R2	RESIDENTIAL		W3	BEDROOM	2	2	1.00	0	0	-
4th Floor										
R2	RESIDENTIAL		W3	BEDROOM	15	15	1.00	0	0	-
5th Floor										
R3	RESIDENTIAL		W5	LKD	35	35	N/A	8	8	N/A
R3	RESIDENTIAL		W6	LKD	30	30	N/A	6	6	N/A

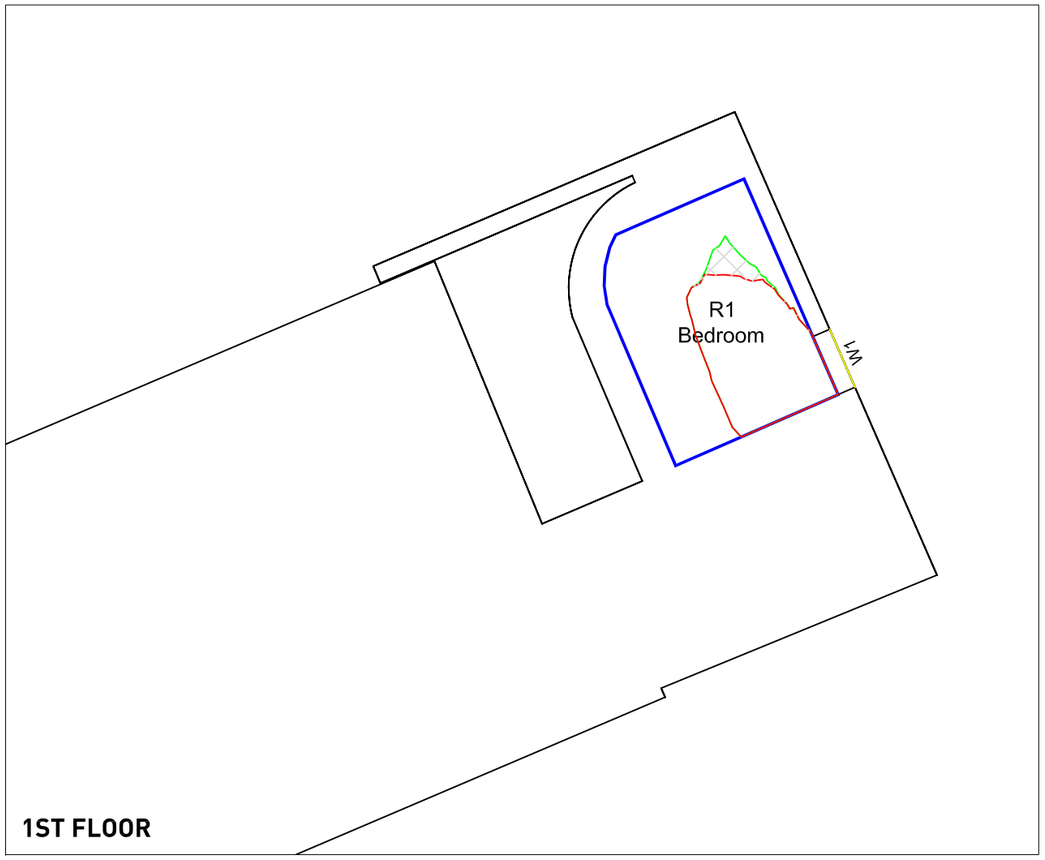
*NOTES:'Factor of former value' = Proposed/Existing. A factor >1 indicates an increase in sunlight.An APSH > 25%/5% satisfies BRE criteria and ratio is N/A.Total annual sunlight (100% APSH) in London is 1486 hours.

APPENDIX E

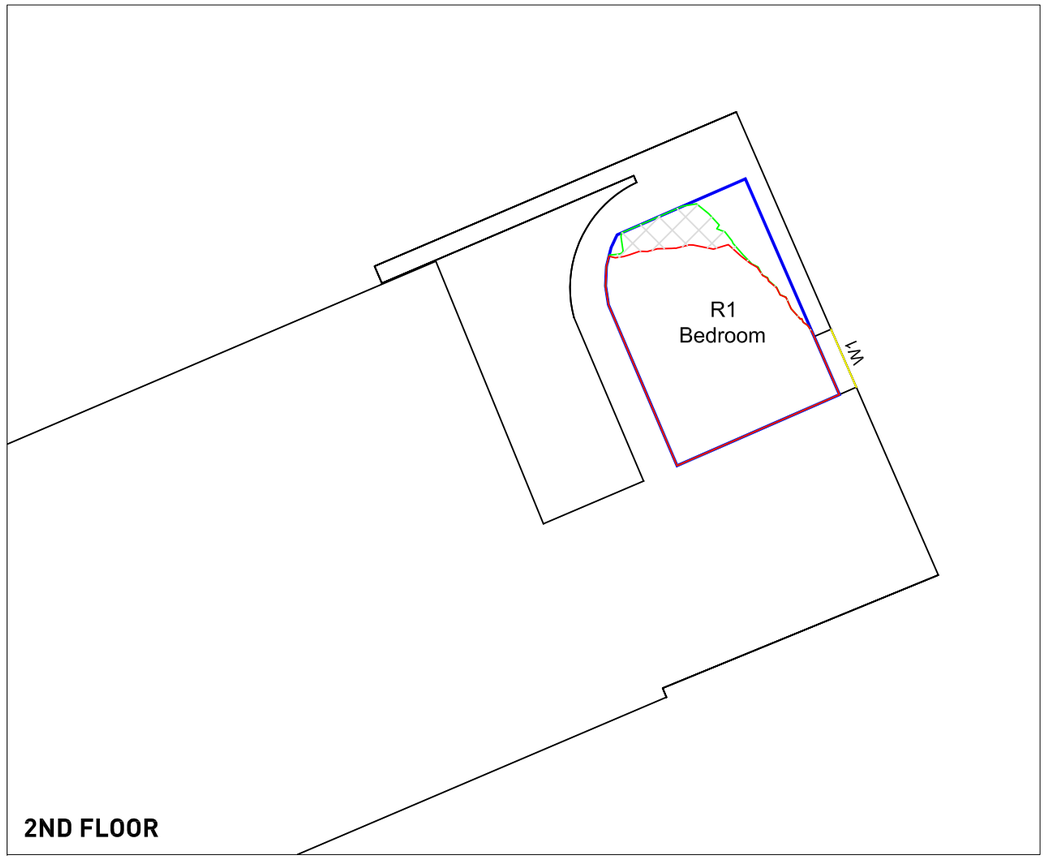
-

DAYLIGHT DISTRIBUTION CONTOUR PLANS

DRAWING NOS. ROL7671_5_104 & 117



1ST FLOOR



2ND FLOOR

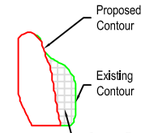
AnsteyHorne
CHARTERED SURVEYORS
London 020 7065 2770
Birmingham 0121 667 9902
www.ansteyhorne.co.uk

LEGEND:

Room Layout - Plan/ Inspection

Room Layout - Notional/ Cellular

Room Layout - Assumed



N

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
***GCP ARCHITECTS* 2D DWGS**
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
***GCP ARCHITECTS* 2D DWGS**
Received on 17/10/17

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

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 17/10/17

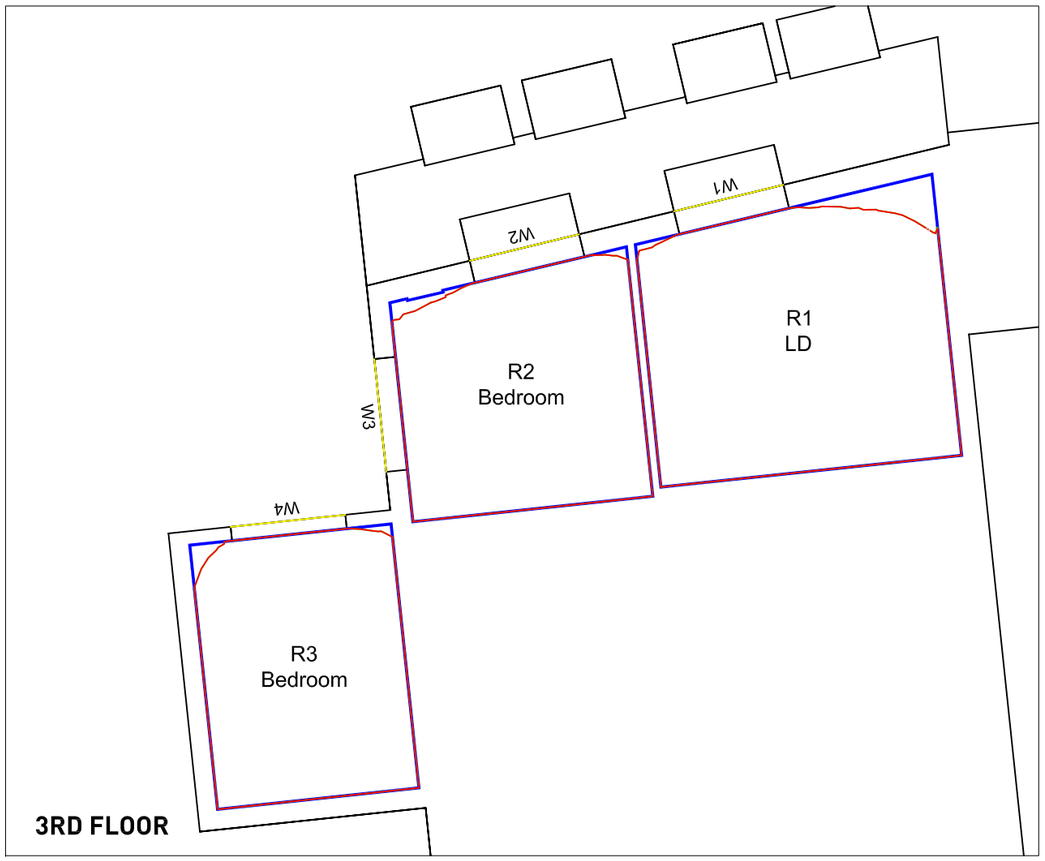
DRAWING TITLE: DAYLIGHT DISTRIBUTION CONTOURS
7 WARWICK COURT

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
*	18/10/17	1:100	A3

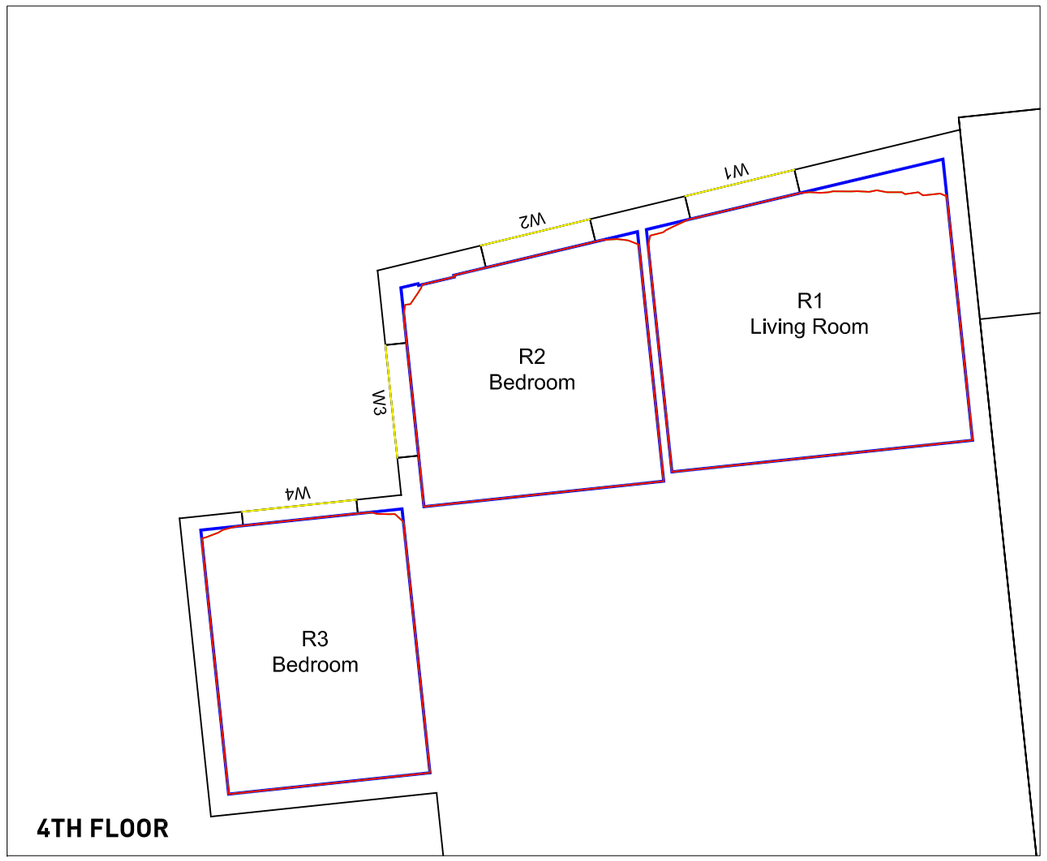
DRAWING No: ROL7671_05_117

REVISION: .

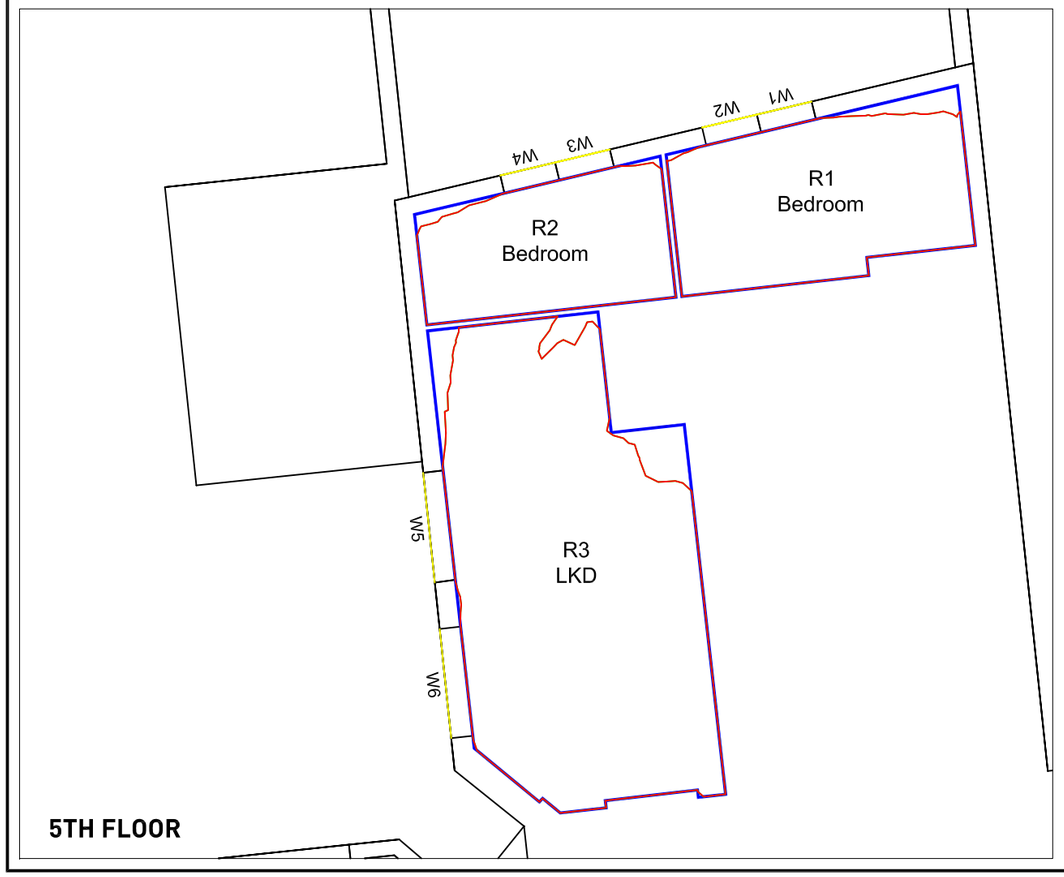
Daylight & Sunlight



3RD FLOOR



4TH FLOOR



5TH FLOOR

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

LEGEND:

Room Layout - Plan/ Inspection

Room Layout - Notional/ Cellular

Room Layout - Assumed

Proposed Contour

Existing Contour

Square Ft. Grid

N

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
***GCP ARCHITECTS* 2D DWGS**
Received on 13/07/17

MBS 3D survey
Recieved on **21/07/17**

PROPOSED BUILDINGS
***GCP ARCHITECTS* 2D DWGS**
Received on 17/10/17

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

REV	DESCRIPTION	DATE

CLIENT: COURTENAY INVESTMENTS LTD

PROJECT TITLE: ELIZABETH HOUSE
4-7 FULWOOD PLACE, HOLBORN

SCHEME REF: SCHEME RECEIVED:- 17/10/17

DRAWING TITLE: DAYLIGHT DISTRIBUTION CONTOURS
31-33 HIGH HOLBORN

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
*	18/10/17	1:100	A3

DRAWING No: ROL7671_05_104

REVISION: .

Daylight & Sunlight

APPENDIX F
-
AVERAGE DAYLIGHT FACTOR TABLE ('ADF')

Project Name: ROL7671 - Elizabeth House
Project No.: Release 05
Report Title: Average Daylight Analysis - Neighbour <Report Title>
Date: 18/10/2017

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.	Window Ref.	Glass Transmittance	Glazed Area	Clear Sky Angle Existing	Clear Sky Angle Proposed	Room Surface Area	Average Surface Reflectance	Below Working Plane Factor	ADF Existing	ADF Proposed
31-33 High Holborn														
F03	R1		Residential	LD	W1-L	0.63	0.11	74.91	72.42	86.65	0.50	0.15	0.01	0.01
					W1-U	0.63	2.41	77.87	75.42	86.65	0.50	1.00	1.82	1.76
													1.83	1.77
F03	R2		Residential	Bedroom	W2-L	0.63	0.11	73.96	70.84	67.67	0.50	0.15	0.02	0.01
					W2-U	0.63	2.41	77.02	73.90	67.67	0.50	1.00	2.30	2.21
					W3-L	0.63	0.00	42.64	40.55	67.67	0.50	0.15	0.00	0.00
					W3-U	0.63	2.53	44.49	42.45	67.67	0.50	1.00	1.40	1.33
													3.71	3.56
F03	R3		Residential	Bedroom	W4-L	0.63	0.02	54.88	53.29	65.19	0.50	0.15	0.00	0.00
					W4-U	0.63	2.52	56.31	54.68	65.19	0.50	1.00	1.83	1.77
													1.83	1.78
F04	R1		Residential	Living Room	W1-L	0.63	0.15	83.79	81.82	86.65	0.50	0.15	0.02	0.02
					W1-U	0.63	2.37	84.14	82.50	86.65	0.50	1.00	1.94	1.90
													1.95	1.92
F04	R2		Residential	Bedroom	W2-L	0.63	0.15	82.67	80.19	67.67	0.50	0.15	0.02	0.02
					W2-U	0.63	2.37	83.16	81.13	67.67	0.50	1.00	2.45	2.39
					W3-L	0.63	0.05	51.96	50.41	67.67	0.50	0.15	0.01	0.00
					W3-U	0.63	2.48	55.92	54.69	67.67	0.50	1.00	1.72	1.69
													4.20	4.10
F04	R3		Residential	Bedroom	W4	0.63	2.54	66.36	65.25	65.19	0.50	1.00	2.17	2.14
													2.17	2.14
F05	R1		Residential	Bedroom	W1-L	0.63	0.55	84.70	84.18	60.28	0.50	0.15	0.10	0.10
					W1-U	0.63	0.92	84.96	84.79	60.28	0.50	1.00	1.09	1.08
					W2-L	0.63	0.11	85.51	85.07	60.28	0.50	0.15	0.02	0.02
					W2-U	0.63	0.92	84.99	84.82	60.28	0.50	1.00	1.09	1.09
													2.29	2.29
F05	R2		Residential	Bedroom	W3-L	0.63	0.11	84.66	84.19	46.43	0.50	0.15	0.03	0.03
					W3-U	0.63	0.92	84.18	83.98	46.43	0.50	1.00	1.40	1.40
					W4-L	0.63	0.55	83.88	83.29	46.43	0.50	0.15	0.13	0.12
					W4-U	0.63	0.92	84.13	83.92	46.43	0.50	1.00	1.40	1.39
													2.95	2.94

Project Name: ROL7671 - Elizabeth House
Project No.: Release 05
Report Title: Average Daylight Analysis - Neighbour <Report Title>
Date: 18/10/2017

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.	Window Ref.	Glass Transmittance	Glazed Area	Clear Sky Angle Existing	Clear Sky Angle Proposed	Room Surface Area	Average Surface Reflectance	Below Working Plane Factor	ADF Existing	ADF Proposed
F05	R3		Residential	LKD	W5-L	0.63	0.22	60.72	60.63	114.47	0.50	0.15	0.01	0.01
					W5-U	0.63	1.80	62.66	62.61	114.47	0.50	1.00	0.83	0.83
					W6-L	0.63	0.21	57.13	57.08	114.47	0.50	0.15	0.01	0.01
					W6-U	0.63	1.79	59.48	59.45	114.47	0.50	1.00	0.78	0.78
													1.64	1.64
7 Warwick Court														
F01	R1		Residential	Bedroom	W1-L	0.63	0.23	34.23	33.74	58.42	0.50	0.15	0.02	0.02
					W1-U	0.63	1.36	36.80	36.24	58.42	0.50	1.00	0.72	0.71
													0.74	0.73
F02	R1		Residential	Bedroom	W1-L	0.63	0.01	44.97	44.22	58.42	0.50	0.15	0.00	0.00
					W1-U	0.63	1.36	47.71	46.89	58.42	0.50	1.00	0.93	0.92
													0.93	0.92

Chartered Surveyors, founded 1795

Rights of Light and Party Wall Consultants
4 Chiswell Street, London EC1Y 4UP

T 020 7065 2770
F 020 7065 2779
www.ansteyhorne.co.uk