

Daylight Sunlight & Overshadowing Assessment

**53-55 CHALTON ST, NW1 1HY
AND
60 CHURCHWAY, NW1 1LT**

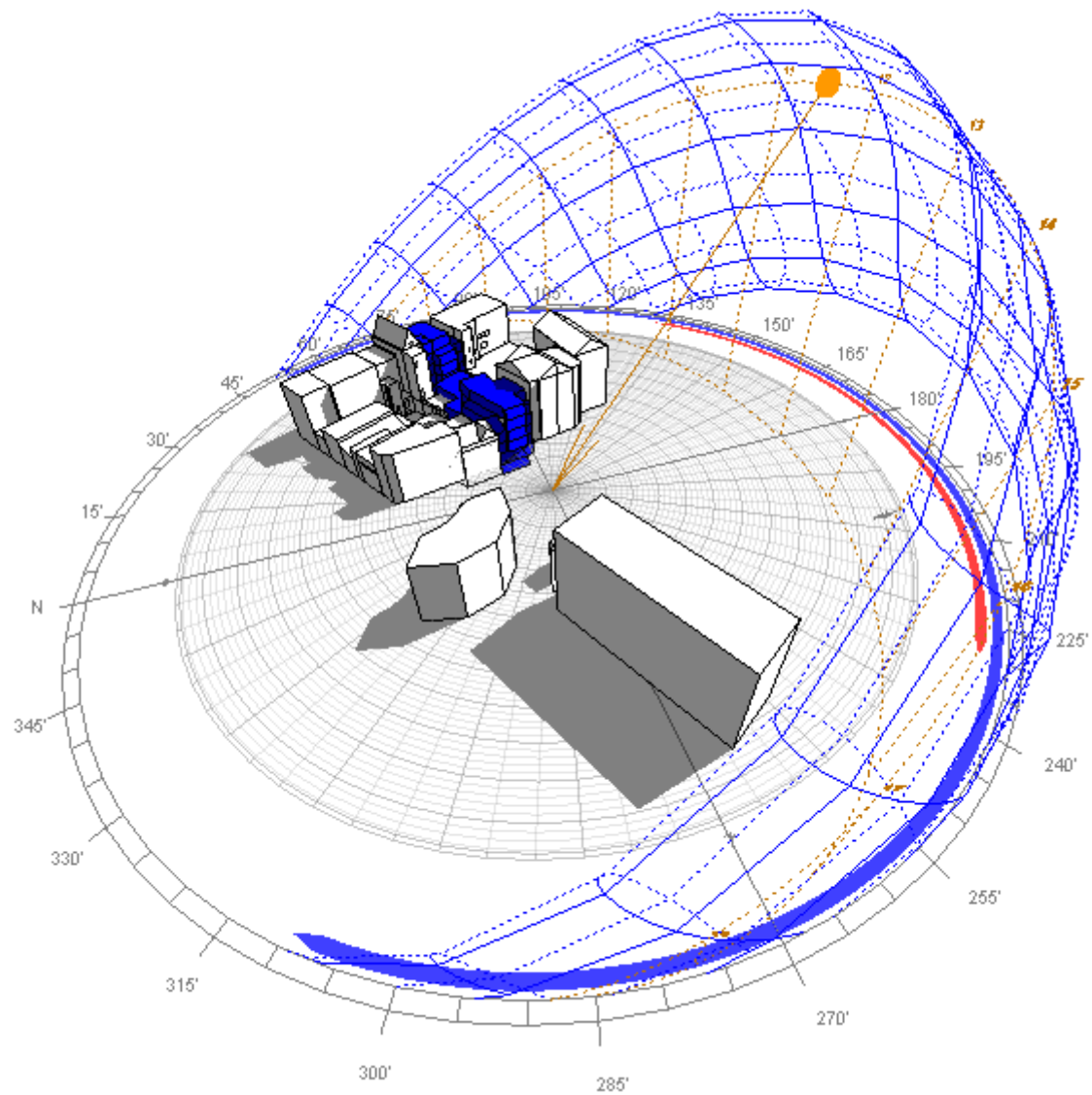
Project No: 377

Revision 3: 01/09/2016



| | | |
|--------------------|---|--|
| Client: | Rangepay Ltd. | |
| Architect: | Divine Ideas Architects | |
| Project Title: | 53-55 Chalton St, NW1 1HY and 60 Churchway, NW1 1LT | |
| Report: | Daylight Sunlight & Overshadowing Assessment | |
| First Issue Dated: | 14/07/2015 | |
| Author: | Stephanie Millan | |
| Reviewer: | Xavier Valladares | |
| Authorized: | Ryan Thrower | |
| Type: | For planning | |
| Revisions: | Date: | Description: |
| 1 | 06/04/2016 | Context amended as per Architects comments. |
| 2 | 07/04/2016 | New windows to 62,64 and 66 Church Street added. |
| 3 | 01/09/2016 | Massing of the proposed development reduced and updated. |

FIGURE 01 – ANNUAL SUN PATH WITH MASSING OF THE DEVELOPMENT ‘AS PROPOSED’



INDEX

INDEX..... 3

1 EXECUTIVE SUMMARY 4

2 INTRODUCTION..... 10

3 THE NATURE AND EFFECT OF DAYLIGHT AND SUNLIGHT 11

4 ASSESSMENT OF THE EFFECT ON DAYLIGHT - SUNLIGHT..... 12

5 ASSESSMENT CRITERIA ON DAYLIGHT – GENERAL..... 13

6 ASSESSMENT CRITERIA ON SUNLIGHT AND OVERSHADOWING 16

7 DATA 17

8 DAYLIGHT SUNLIGHT & OVERSHADOWING ASSESSMENT RESULTS 18

9 CONCLUSION..... 33

APPENDIX A – VSC CALCULATIONS RESULTS – 35

AVAILABLE UPON REQUEST 35

FIGURE 02 - MASSING "AS EXISTING" AT 53-55 CHALTON ST AND 60 CHURCHWAY SHOWN IN SOLID ORANGE AND ADJOINING BUILDINGS SHOWN IN WHITE

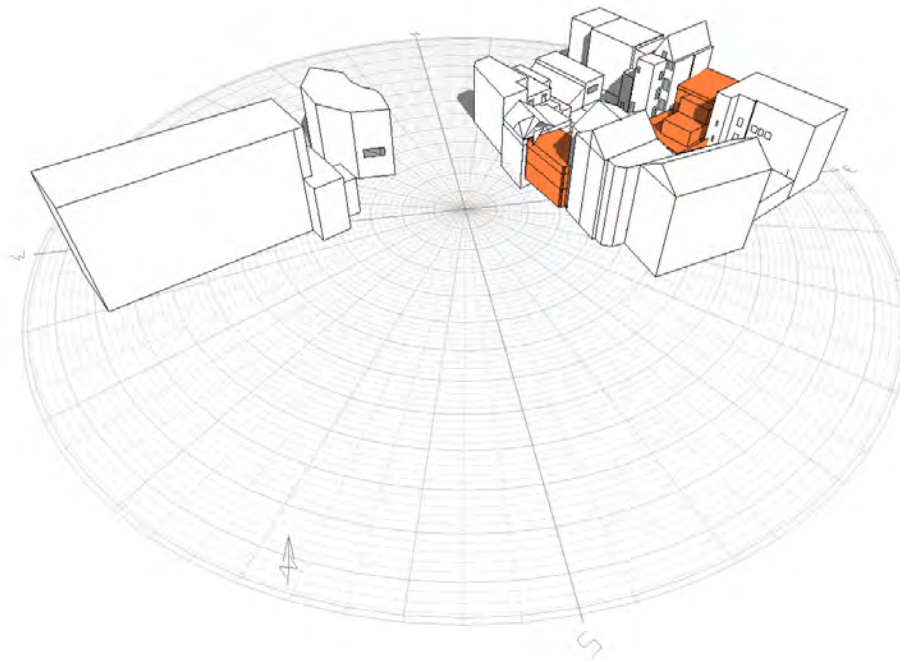
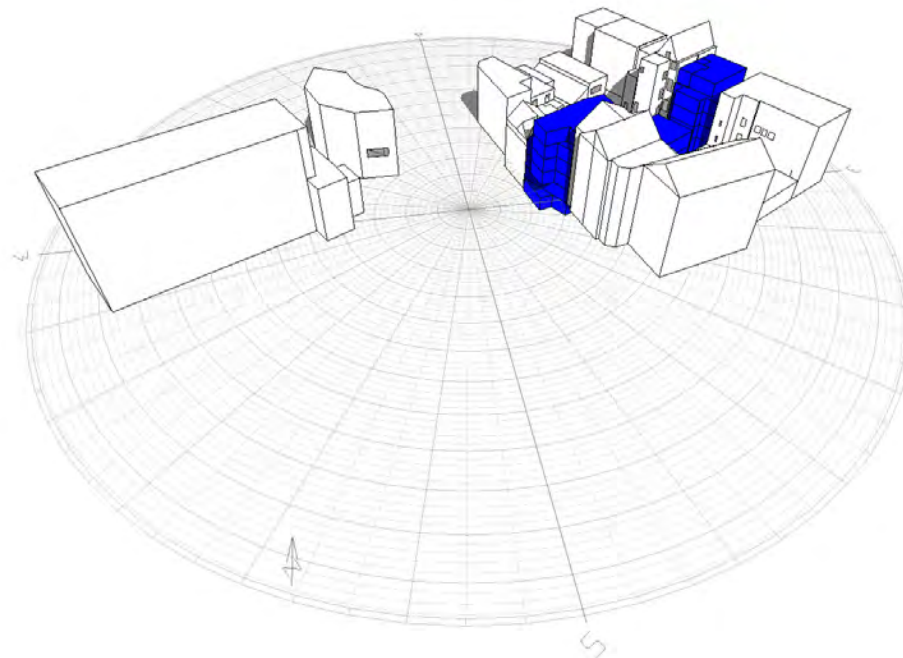


FIGURE 03 – MASSING "AS PROPOSED" AT 53-55 CHALTON ST AND 60 CHURCHWAY SHOWN IN SOLID BLUE AND ADJOINING BUILDINGS SHOWN IN WHITE



WHITE

1 EXECUTIVE SUMMARY

1.1 DAYLIGHT SUNLIGHT AND OVERSHADOWING TO NEIGHBOURS

The assessment undertaken in this report demonstrates that all of the pertinent properties around 53-55 Chalton St & 60 Churchway, would not notice a reduction in their current Daylight and Sunlight levels if the proposed development by Divine Ideas Architects goes ahead as currently proposed.

1.1.1 VERTICAL SKY COMPONENT RESULTS

If the vertical sky component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the vertical sky component, with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear gloomier, and electric lighting will be needed more of the time.

The difference in daylight conditions for most of the buildings varies between the existing and the proposed conditions from 0.93% to 11.82%. **As this change is less than 20% reduction, the proposed development in all cases complies with the BRE guidelines for daylight access to neighbours.** In some cases, some windows will receive more daylight after the proposed development when compared with the existing situation.

The property at 57 Chalton Street is owned by the applicant. The use behind the windows is non-habitable rooms such as toilets and other ancillary spaces. Therefore the BRE guidelines for sunlight and daylight do not apply.

As a result, the proposed scheme will comply with the daylight reduction according to the BRE guidelines once the property at 55 Chalton St is developed. For further details refer to Chapter 8.1.

1.1.2 SUNLIGHT ASSESSMENT RESULTS

The Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) analysis has been carried out to windows 11, 12, 13 located at 70 and 72 Churchway; windows 28 & 29 located at 70 Churchway and 30 & 31 located at 68 Churchway. The sunlight conditions with the proposed buildings would receive more than the minimum 392 Annual Probable Sunlight Hours (APSH) and most of the windows would receive more than the minimum 78 Winter Probable Sunlight Hours (WPSH).

The difference between the existing and proposed conditions for APSH is 0% to 10% reduction. The difference between the existing and proposed conditions for WPSH is 5% to 11%. **As this change is less than 20%, the proposed development in all cases complies with the BRE guidelines for sunlight access to neighbours.** The windows at 11, 12, 13 located at 70 and 72 Churchway show an improvement in terms of WPSH when compared with the existing conditions. For further details refer to Chapter 8.2.

In terms of Sunlight and Overshadowing, there is no garden, park or open space facing 90 degrees due south in relation to the proposed development. See Figure 24 for further details.

Therefore the proposed development at 53-55 Chalton Street and 60 Churchway is acceptable in Daylight, Sunlight and Overshadowing impact to neighbours as per the BRE Guidelines.

FIGURE 04 – WINDOW IDs AT 57 CHALTON ST - MASSING “AS PROPOSED” IN SOLID BLUE

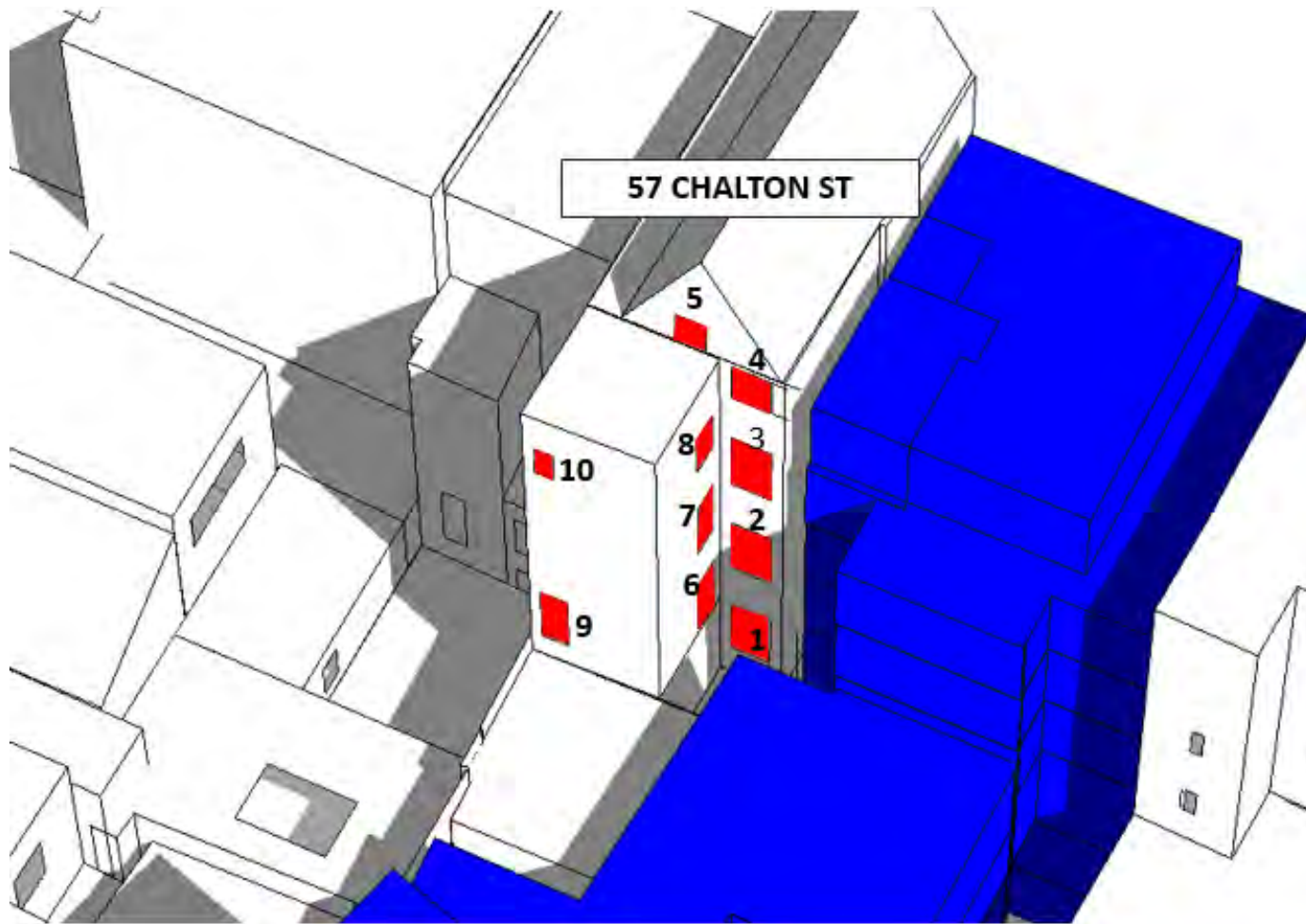


FIGURE 05 – WINDOW IDs AT 72 CHURCHWAY AND 70 CHURCHWAY - MASSING “AS PROPOSED” IN SOLID BLUE

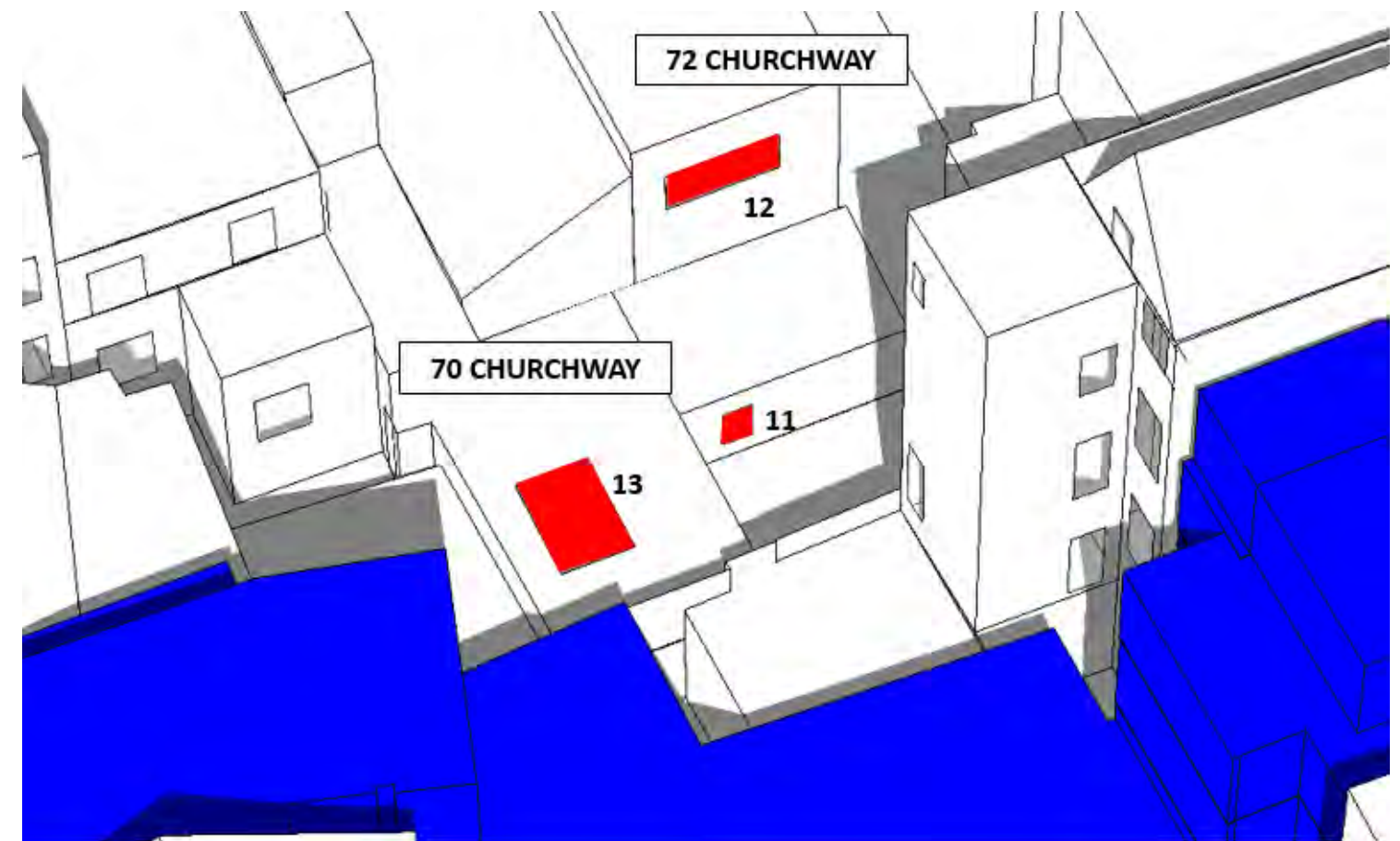


FIGURE 06 – WINDOW IDs AT WINSHAM HOUSE- MASSING “AS PROPOSED” IN SOLID BLUE

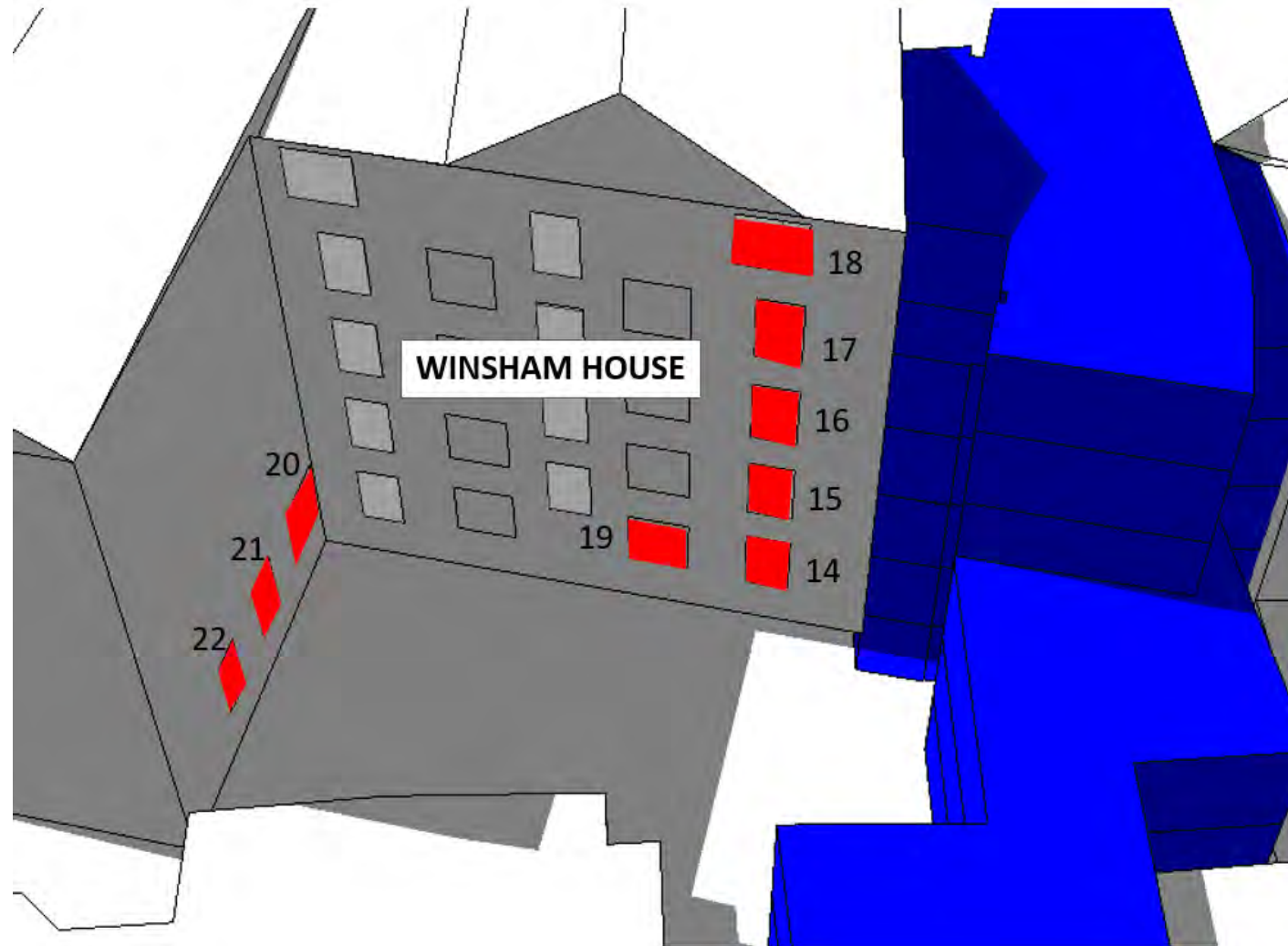


FIGURE 07 – WINDOW IDs AT 51 CHALTON ST - MASSING “AS PROPOSED” IN SOLID BLUE

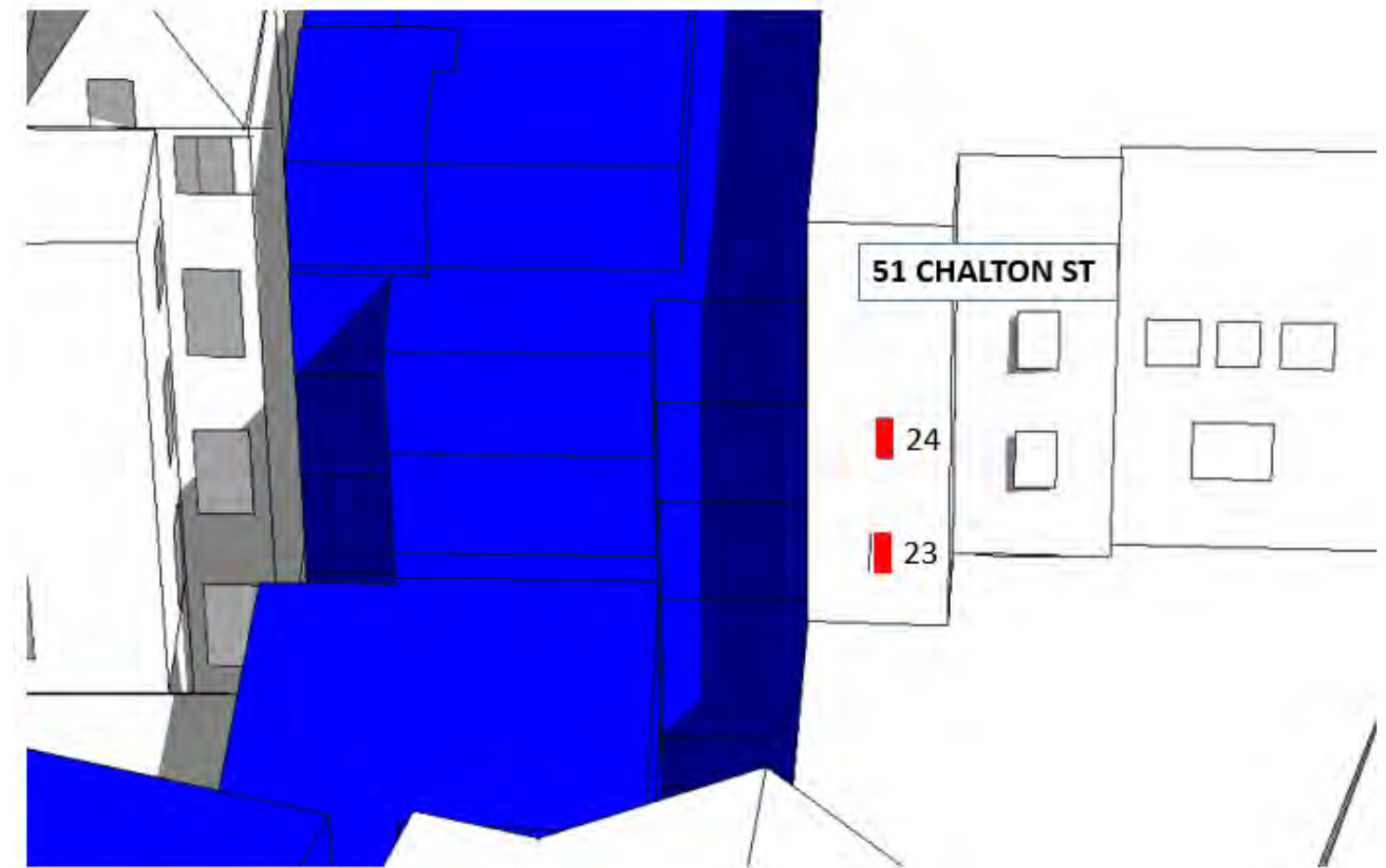


FIGURE 08 – WINDOW IDs AT 27 DUMMOND CRESCENT AND ST ANNES FLATS CHALTON ST - MASSING “AS PROPOSED” IN SOLID BLUE

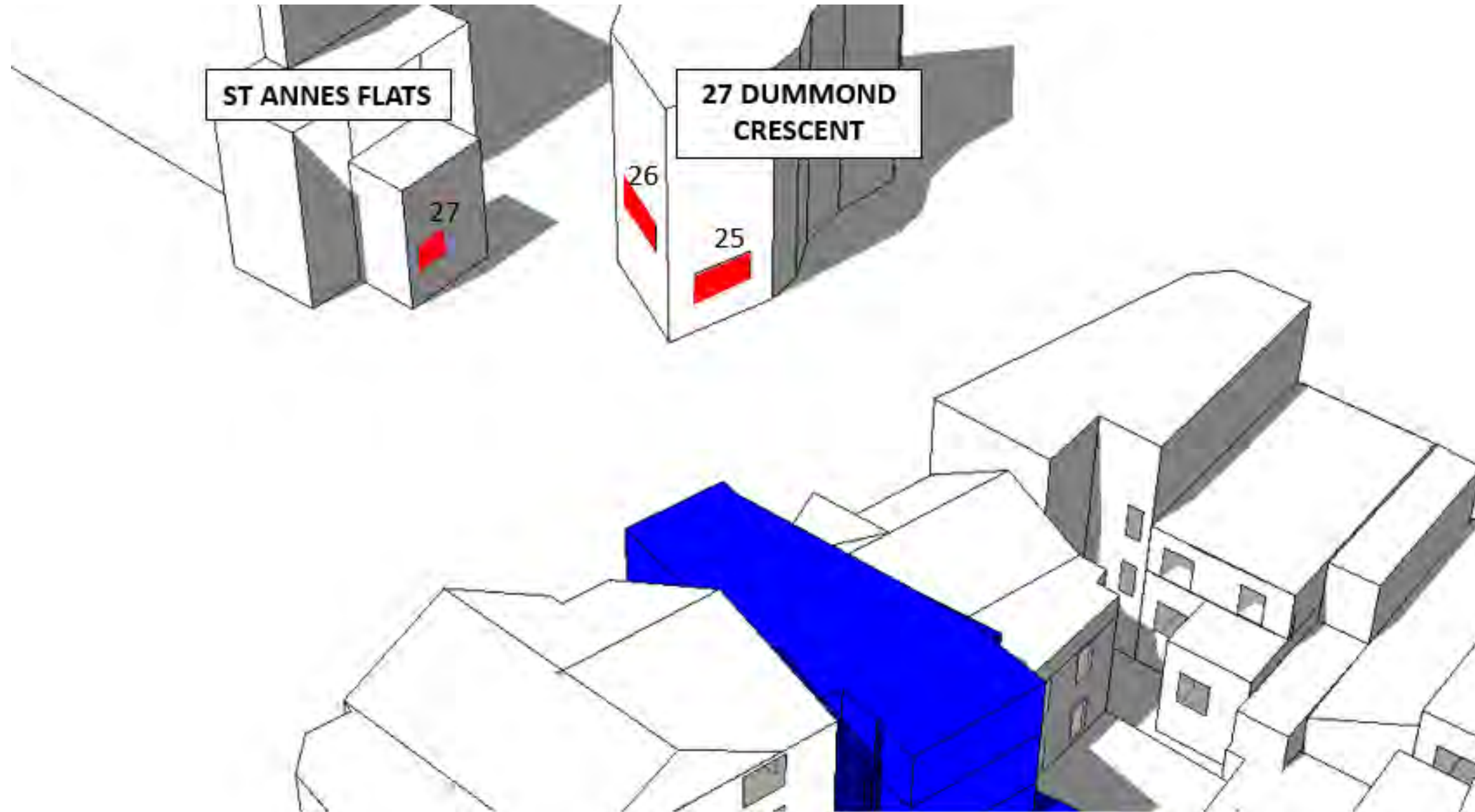
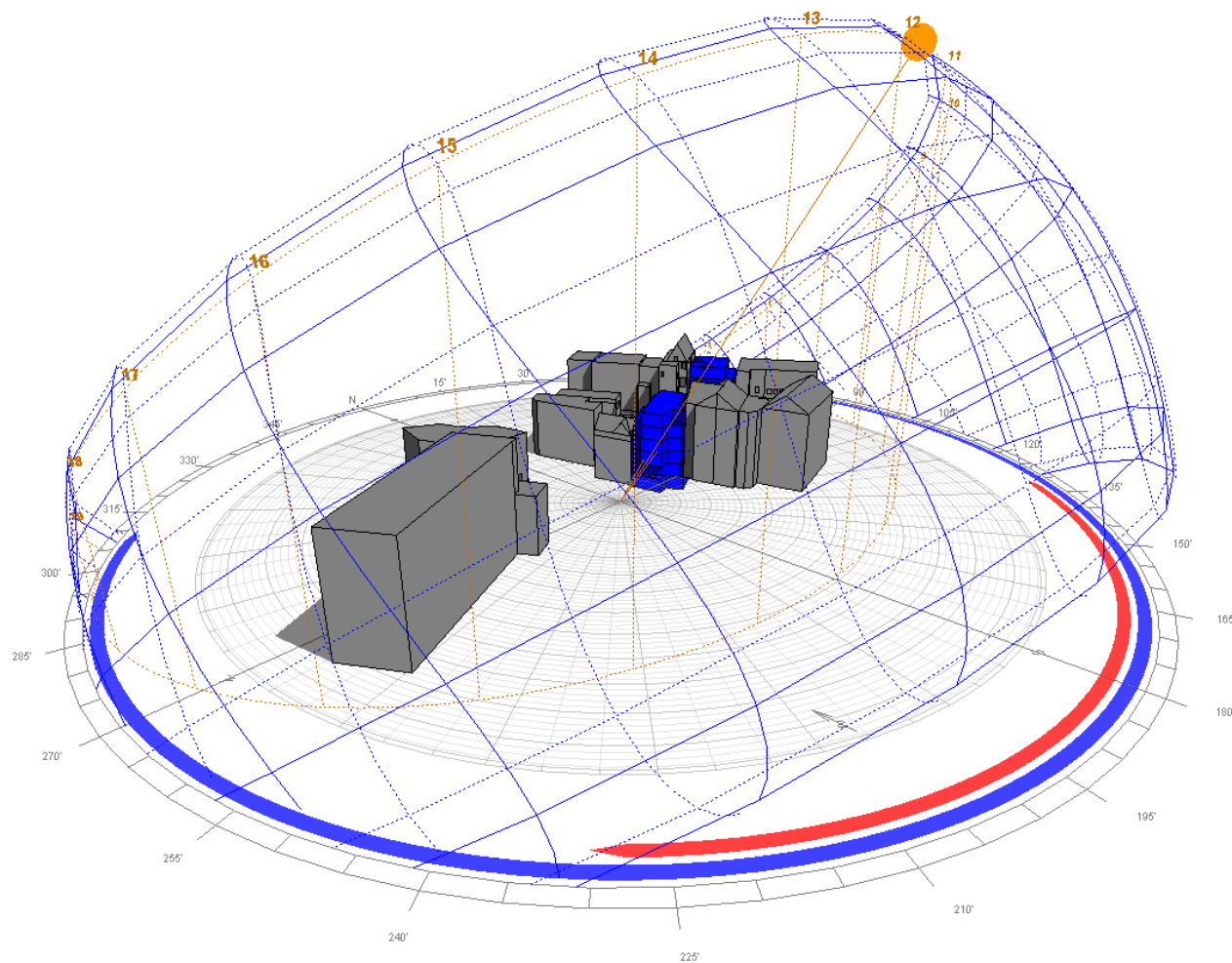


FIGURE 10 – ANNUAL SUN PATH WITH MASSING OF THE DEVELOPMENT ‘AS EXISTING’ - PERSPECTIVE VIEW



2 INTRODUCTION

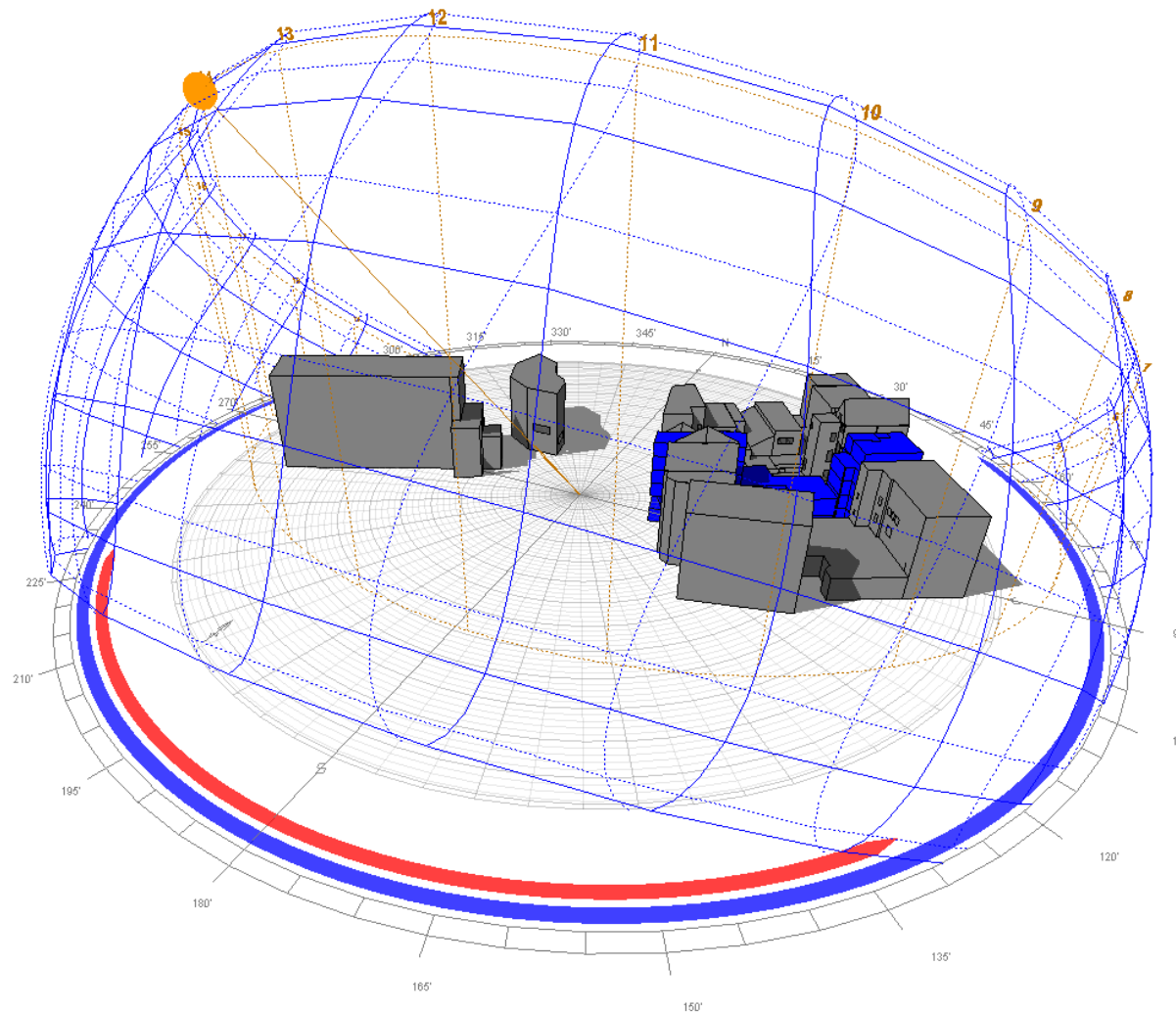
The Building Research Establishment (BRE) has set out in their handbook Site Layout Planning for Daylight and Sunlight a Guide to Good Practice (2011), guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings. This document states that it is also intended to be used in conjunction with the interior daylight recommendations found within the British Standard BS8206-2:2008 and the Applications Manual on Window Design of the Chartered Institution of Buildings Services Engineers (CIBSE).

The guide also provides advice on site layout planning to determine the quality of daylight and sunlight within open spaces between buildings.

NRG Consulting has been commissioned to undertake the following studies of the adjoining properties around 53-55 Chalton St & 60 Churchway by Divine Ideas Architects.

- Create a 3D computer model of the proposal based upon drawings prepared by the design team.
- Carry out the following assessments:
 - Daylight, sunlight and overshadowing assessment to neighbours using the methodologies set out in the BRE guidelines for APSH, WPSH and VSC. These were based on design proposals developed by the design team.
- Prepare a report setting out the analysis and our findings.

FIGURE 11 – ANNUAL SUN PATH WITH MASSING OF THE DEVELOPMENT 'AS PROPOSED' - PERSPECTIVE VIEW



3 THE NATURE AND EFFECT OF DAYLIGHT AND SUNLIGHT

The provision of daylight is as important as ensuring low levels of noise, or low levels of odour, in maintaining the enjoyment of one's property. Adequate levels of daylight are important not only to light and heat the home, but also for an occupant's emotional well-being. Daylight is widely accepted to have a positive psychological effect on human beings and there is a great deal of evidence to suggest that people who are deprived of daylight are more susceptible to depression and mood swings. This is common in northern countries, such as Norway, Iceland and Canada where daylight is scarce during the winter months.

When assessing the effects of proposed building projects on the potential to cause issues relating to light, it is important to recognize the distinction between daylight and sunlight. Daylight is the combination of all direct and indirect sunlight during the daytime, whereas sunlight comprises only the direct elements of sunlight. On a cloudy or overcast day diffused daylight still shines through windows, even when sunlight is absent.

Care should also be taken when the development is situated to the south of existing buildings, as in the northern hemisphere the majority of the sunlight comes from the south. In the UK (and other northern hemisphere countries) south-facing facades will, in general, receive most sunlight, while north facing facades will receive sunlight few hours during summer months, specifically early mornings and late evenings.

TABLE 01 – SUMMARY CRITERIA FROM BRE REPORT TO ASSESS THE IMPACT OF PROPOSED DEVELOPMENTS

| PARAMETER | BRE REPORT REFERENCE | CRITERIA | ACCEPTABILITY CRITERIA |
|--------------------------|----------------------|--|--|
| Sunlight & Overshadowing | Section 3.1 | Annual Probable Sunlight Hours. (APSH) Winter Probable Sunlight Hours. (WPSH) | Reduction from existing not more than 20% AND Not less than 75 for WPSH and 392 for APSH |

4 ASSESSMENT OF THE EFFECT ON DAYLIGHT - SUNLIGHT

The Department for Communities and Local Government (DCLG) sets national planning policy. Their document “The Planning System: General Principles (2005)”, published in conjunction with Planning Policy Statement 1: Delivering Sustainable Development, discusses the need to protect amenities in the effects of overshadowing, and does not have target, criteria or relevant planning guidance, in the way it has for other environmental impacts such as noise, landscape or air quality.

London Borough of Camden City Council states that: “Where your proposed development has the potential to negatively impact the existing levels of daylight or sunlight on neighbouring properties, a daylight and sunlight assessment will need to accompany your planning application.”

The daylight and sunlight assessment should include the necessary information to meet the criteria outlined in the Building Research Establishment (BRE) report, “Site Layout Planning for daylight and sunlight- a guide to good practice” by P J Littlefair, 2011.

The BRE document looks at three separate areas when considering the impacts of a new development on an existing property:

- 1. - Daylight. - The impacts of all direct and indirect sunlight during daytime
- 2. - Sunlight. - The impacts of only the direct sunlight; and overshadowing of garden and open spaces.
- 3. - Overshadowing of Gardens and Open spaces

When designing a new development, the impact on the amount of internal daylight and sunlight should be assessed in terms of

- Internal daylighting to kitchen, living, dining, bedrooms and studies,
- Internal sunlight hours in the living areas.

The BRE report provides guidelines for when the obstruction to sunlight may become an issue:

- If the proposed or existing development has a window that faces within 90° of due south, and
- On this window wall, all points on a line 2m above ground level are within 4m (measured sideways) of a point which receives at least a quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months, between 21st September and 21st March.

TABLE 02 – SUMMARY CRITERIA FROM BRE REPORT TO ASSESS THE IMPACT OF THE PROPOSED DEVELOPMENTS

| PARAMETER | BRE REPORT REFERENCE | CRITERIA | ACCEPTABILITY CRITERIA |
|-----------|----------------------|---|---|
| Daylight | Section 2.2 | Any part of the new building measured in a vertical section perpendicular to a main window wall subtends an angle of less than 25° to the horizontal. | Any part of the new building measured in a vertical section perpendicular to a main window wall subtends an angle of less than 25° to the horizontal. |
| | | Vertical Sky Component (VSC) | Reduction from existing not more than 20% its former value if VSC is lower than 27%. |

5 ASSESSMENT CRITERIA ON DAYLIGHT – GENERAL

When assessing the effects of proposed building projects on the potential to cause issues relating to light, it is important to recognize the distinction between daylight and sunlight. Daylight is the combination of all direct and indirect sunlight during the daytime, whereas sunlight comprises only the direct elements of sunlight. On a cloudy or overcast day diffused daylight still shines through windows, even when sunlight is absent.

Care should also be taken when the development is situated to the south of existing buildings, as in the northern hemisphere the majority of the sunlight comes from the south. In the UK (and other northern hemisphere countries) south- facing facades will, in general, receive most sunlight, while north facing facades will receive sunlight few hours during summer months, specifically early mornings and late evenings. The Sunlight Assessment has been carried out in a separate report.

5.1 ASSESSMENT CRITERIA ON DAYLIGHT – IMPACT TO NEIGHBOURS

The Department for Communities and Local Government (DCLG) sets national planning policy. Their document ‘The Planning System: General Principles (2005), published in conjunction with Planning Policy Statement 1: Delivering Sustainable Development, discusses the need to protect amenities in the effects of overshadowing, and does not have target, criteria or relevant planning guidance, in the way it has for other environmental impacts such as noise, landscape or air quality.

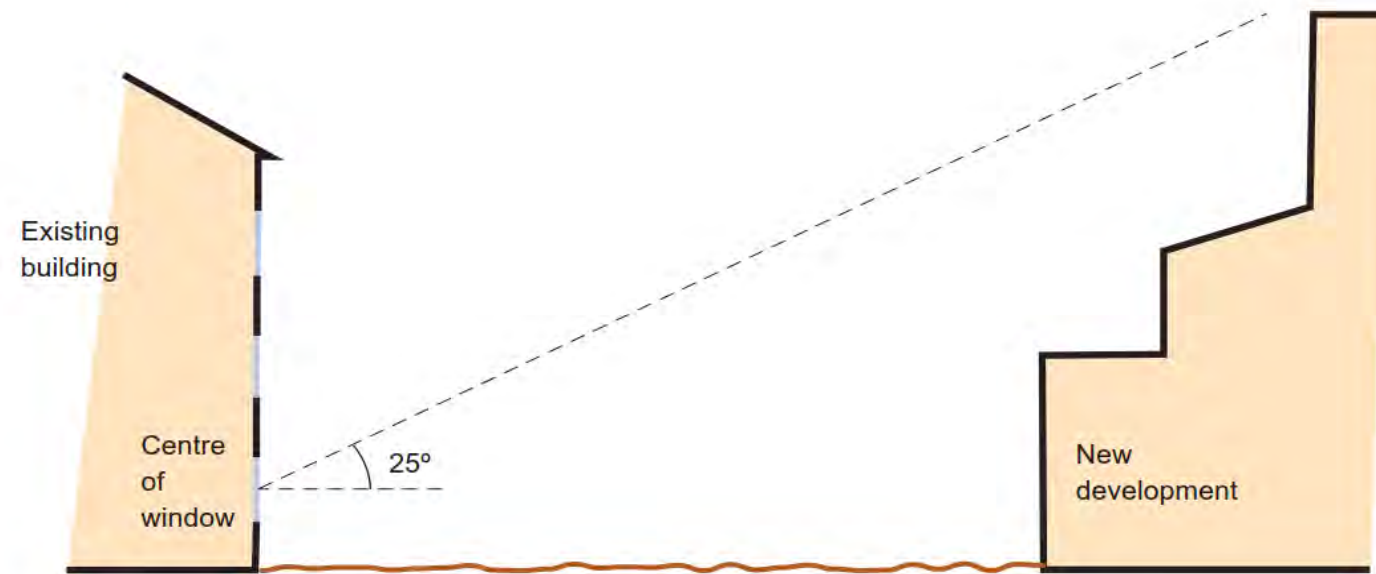
Reference is made to the Building Research Establishment (BRE) report, “Site Layout planning for daylight and sunlight- a guide to good practice” by P J Little fair.

The BRE document looks at three separate areas when considering the impacts of a new development on an existing property:

- 1. – Daylight - The impacts of all direct and indirect sunlight during daytime.
- 2. – Sunlight - The impacts of only the direct sunlight; and overshadowing of garden and open spaces.
- 3. – Overshadowing of Gardens and Open spaces

Table 02 summarizes the criteria used to assess the impacts from new development on the daylight reaching existing properties.

FIGURE 12 – SECTION IN PLANE PERPENDICULAR TO THE AFFECTED WINDOW WALL



5.2 ANGLE TO SKY FROM HORIZONTAL-IMPACT TO NEIGHBOURS

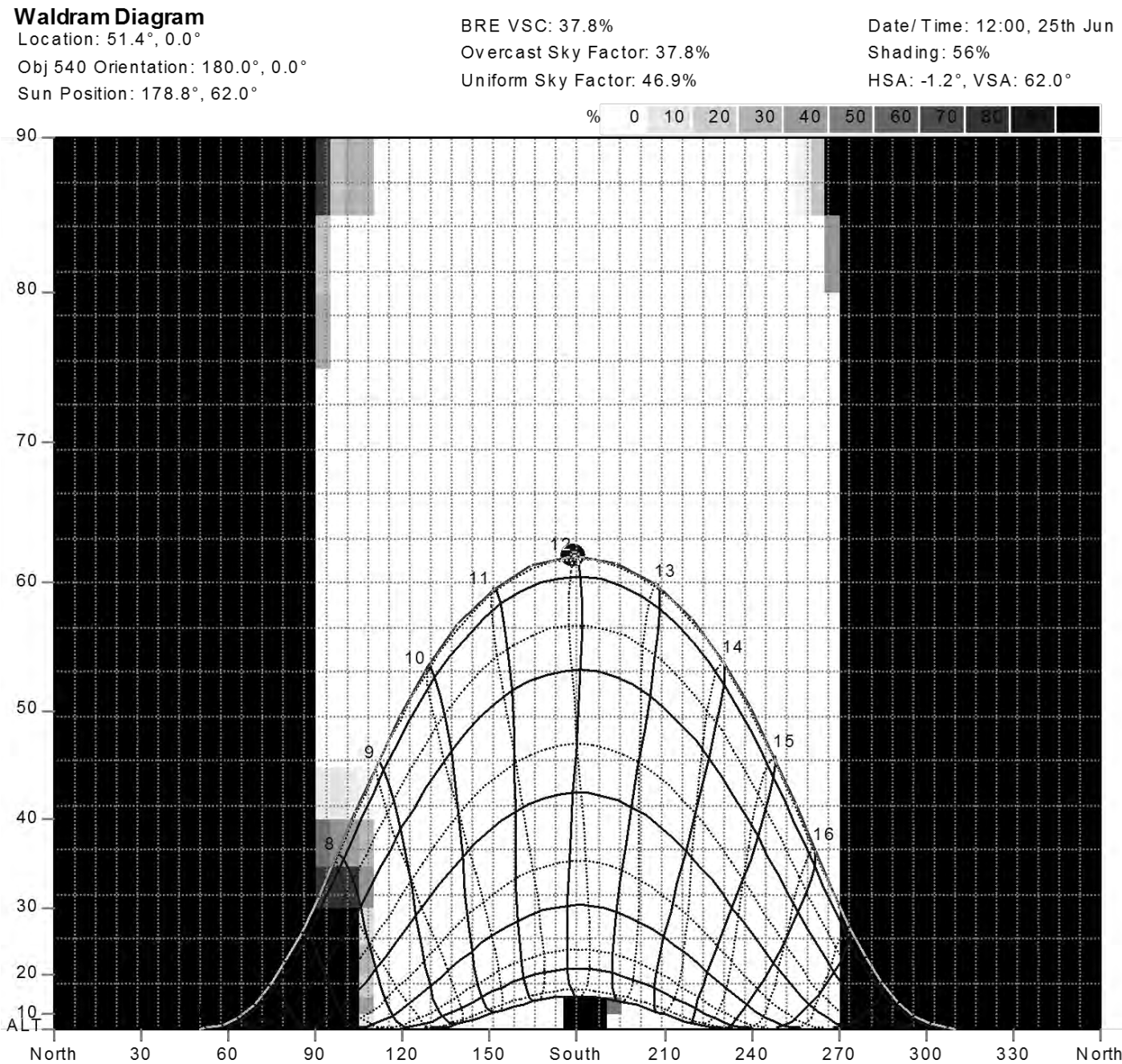
In general, a building will retain the potential for good interior diffuse day lighting provided that on all its main faces:

- a) No obstruction, measured in a vertical section perpendicular to the main face, from a point 2m above ground or first level, subtends an angle of 25 ° to the horizontal or less. See Figure 11 for further details.

OR

- b) If (a) is not satisfied, then all points on the main face on a line 2m above ground or first level are within 4m (measured sideways) of a point which has a vertical sky component of 27% or less.

FIGURE 13 – STEREOGRAPHIC DIAGRAM FOR CALCULATING THE VSC



5.3 VERTICAL SKY COMPONENT (VSC) CRITERIA

When the angle to sky from horizontal criteria is not met, of there is a complex geometry in the surrounding buildings a more detailed assessment needs to be carried out. This detailed assessment is called Vertical Sky Component (VSC).

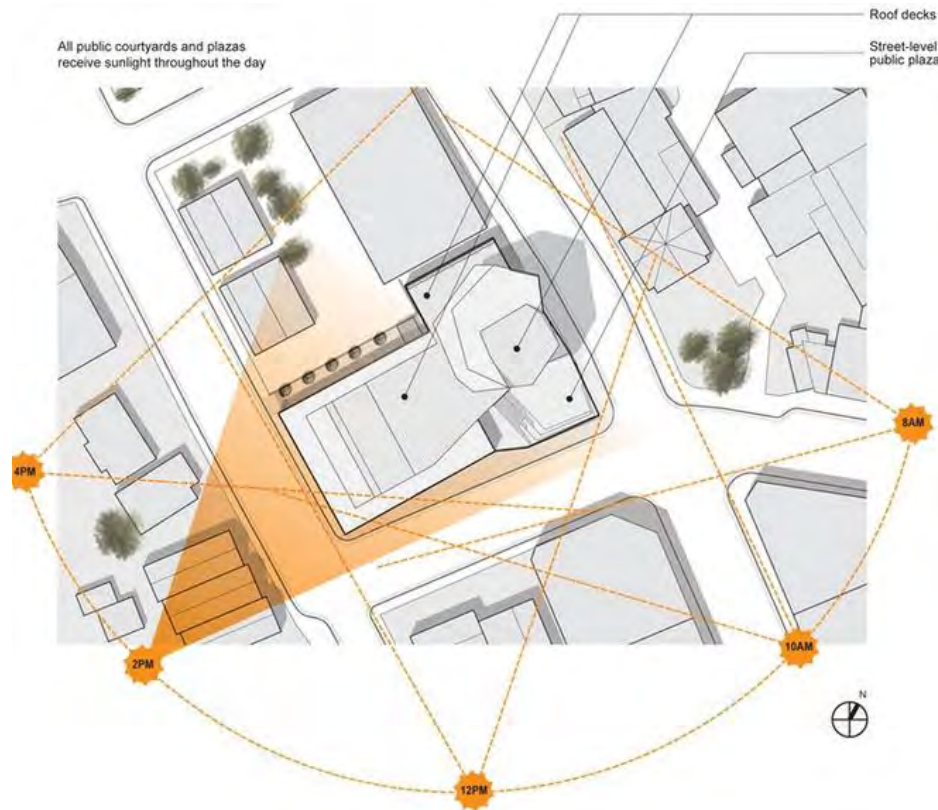
This analysis will quantify the amount of sky falling on the reference windows for a daylight calculation).

When undertaking a daylight assessment, the BRE report recommends a VSC of 27% or more should be achieved if a room is to be adequately day lit. It is also suggested that when existing levels of daylight are below 27% VSC, a reduction of more than 20% from the existing level.

TABLE 03 – SUMMARY CRITERIA FROM BRE REPORT TO ASSESS THE IMPACT OF PROPOSED DEVELOPMENTS

| PARAMETER | BRE REPORT REFERENCE | CRITERIA | ACCEPTABILITY CRITERIA |
|--------------------------|----------------------|--|--|
| Sunlight & Overshadowing | Section 3.1 | Annual Probable Sunlight Hours. (APSH) Winter Probable Sunlight Hours. (WPSH) | Reduction from existing not more than 20% AND Not less than 75 for WPSH and 392 for APSH |

FIGURE 14 – OPEN SPACES ANALYSIS DIAGRAM



6 ASSESSMENT CRITERIA ON SUNLIGHT AND OVERSHADOWING

6.1 SUNLIGHT – THE IMPACT DIRECT SUNLIGHT

The methodologies and criteria to assess the impact of Direct Sunlight. Table 03 summarises the criteria used to assess the impact from a new development on the sunlight reaching existing properties. Further details can be found at Appendix 1 of the BRE Report,

6.2 ASSESSMENT CRITERIA ON SUNLIGHT AND OVERSHADOWING TO GARDENS, PARKS AND OPEN SPACES

According to Paul Littlefair’s “Site Layout Planning for Daylight and Sunlight” if a building is to be constructed near an open space such as:

- Gardens
- Parks
- Children Playgrounds
- Outdoor swimming pools
- Monuments or fountains.

A Sunlight analysis should be carried out in order to prove that, at least half of the garden or open space receives 2 hours of sunlight on 21st March.

7 DATA

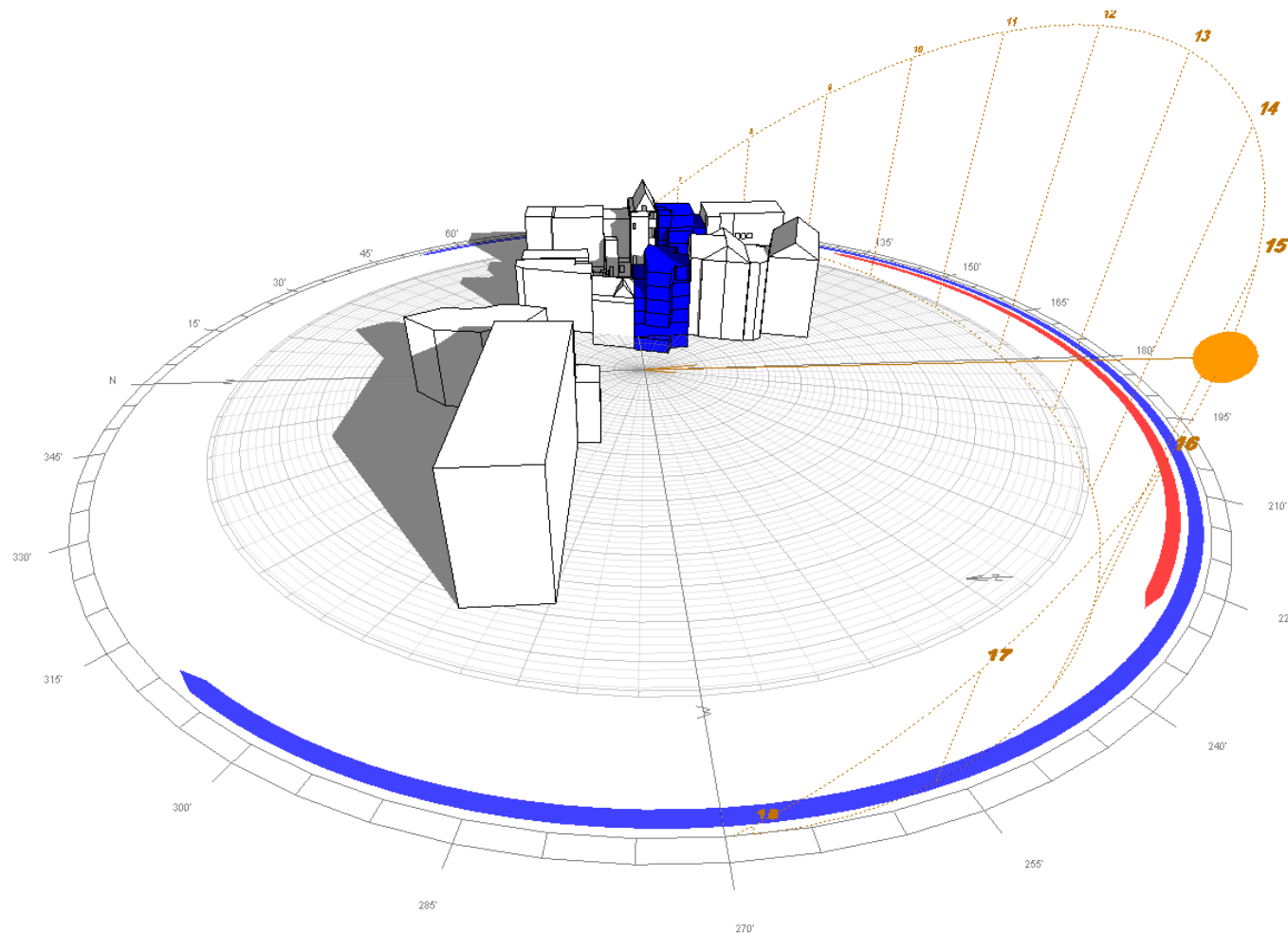
All of the information has been taken directly from digital files provided by the Design Team. The height of the obstructions has been taken from survey data or from aerial photographs available online.

Following the guidance stated in BS8206:Pt2, each window has taken into account their specific angle of visible sky.

FIGURE 15 – SITE LOCATION SHOWING THE SITE IN RED MASK - “AS EXISTING”



FIGURE 16 – AERIAL VIEW SHOWING THE DAILY SUN PATH WITH THE PROPOSED DEVELOPMENT.



8 DAYLIGHT SUNLIGHT & OVERSHADOWING ASSESSMENT RESULTS

8.1 VERTICAL SKY COMPONENT RESULTS

If the vertical sky component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the vertical sky component, with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear gloomier, and electric lighting will be needed more of the time.

The difference in daylight conditions for most of the buildings varies between the existing and the proposed conditions from 0.93% to 11.82%. **As this change is less than 20% reduction, the proposed development in all cases complies with the BRE guidelines for daylight access to neighbours.** In some cases, some windows will receive more daylight after the proposed development when compared with the existing situation.

The property at 57 Chalton Street is owned by the applicant. The uses behind the windows is non-habitable rooms such as toilets and other ancillary spaces. Therefore the BRE guidelines for sunlight and daylight do not apply.

As a result, the proposed scheme will comply with the daylight reduction according to the BRE guidelines once the property at 57 Chalton Street is developed.

FIGURE 17 – WINDOW IDs AT 57 CHALTON ST - MASSING “AS PROPOSED” IN SOLID ORANGE

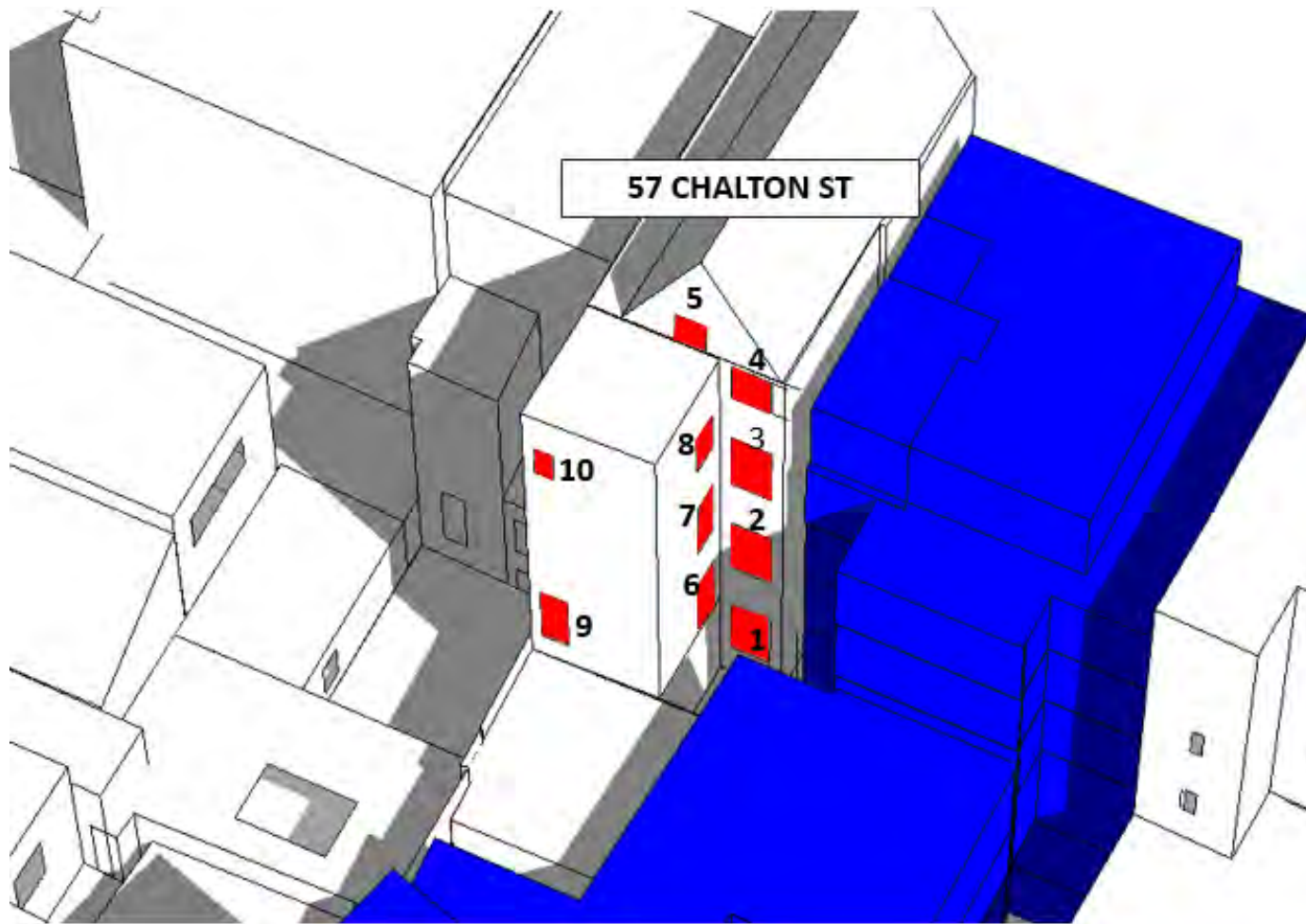


FIGURE 18 – WINDOW IDs AT 70 AT 72 CHURCHWAY AND 70 CHURCHWAY - MASSING “AS PROPOSED” IN SOLID ORANGE

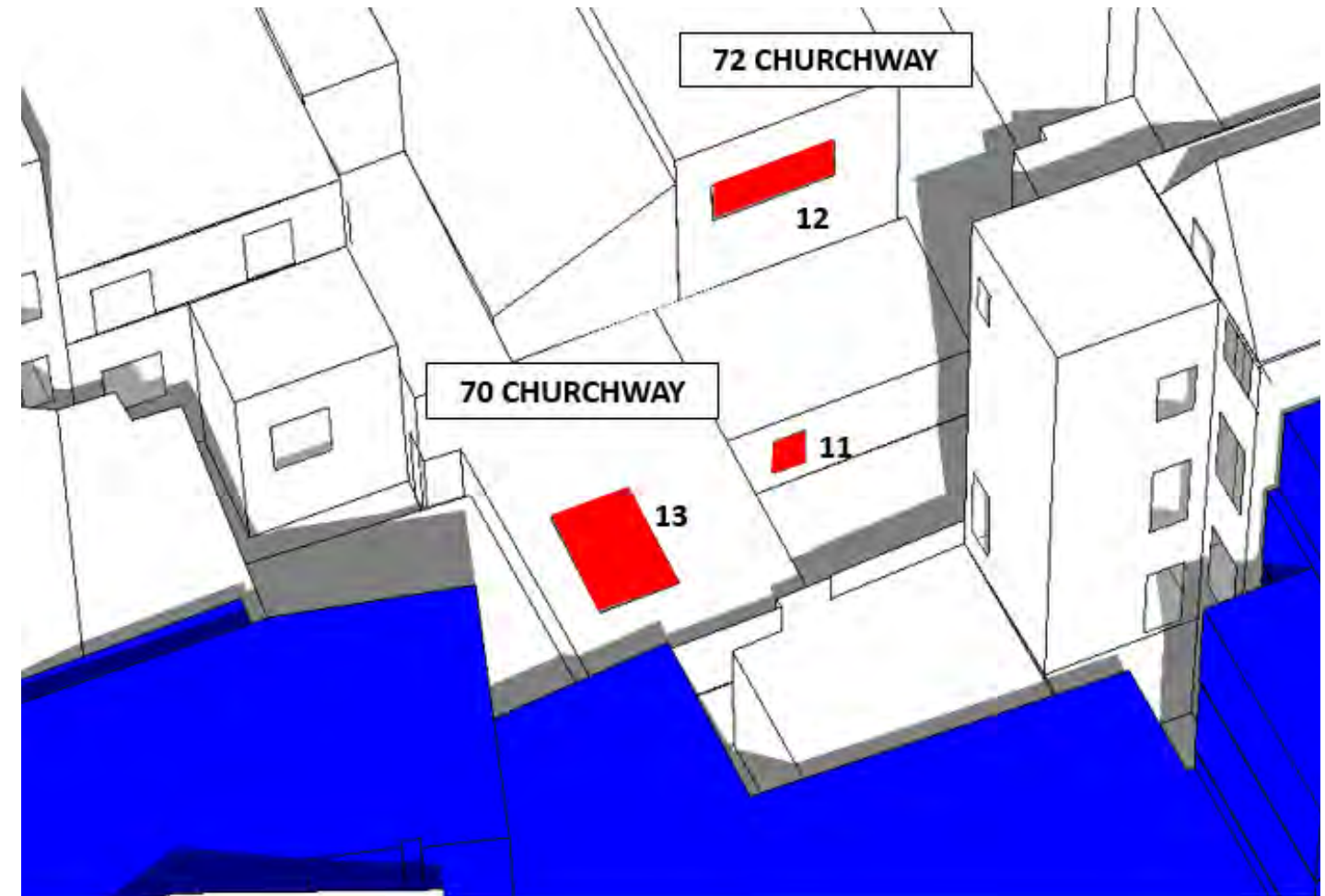


FIGURE 19 – WINDOW IDs AT WINSHAM HOUSE- MASSING “AS PROPOSED” IN SOLID ORANGE

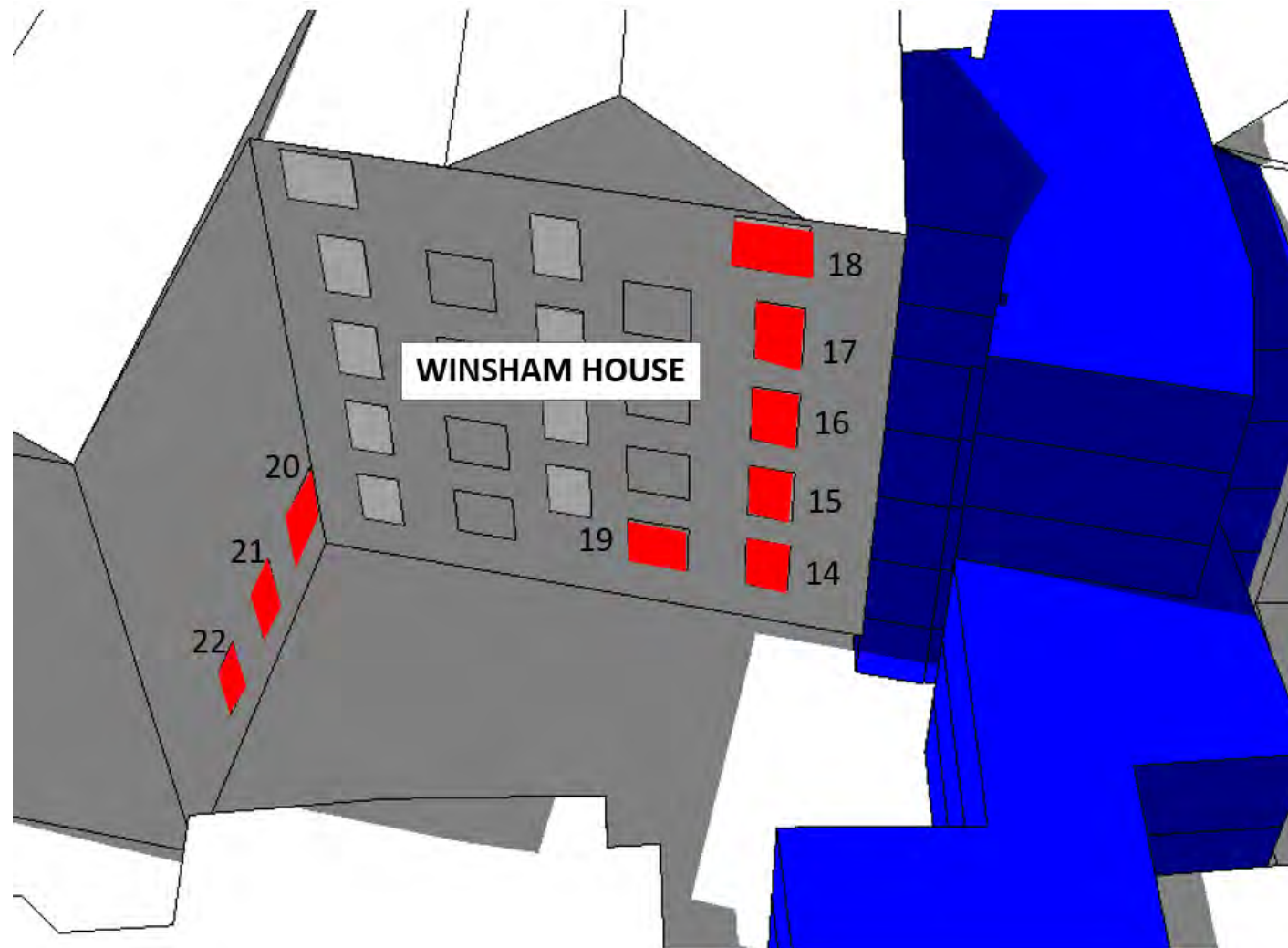


FIGURE 20 – WINDOW IDs AT 51 CHALTON ST - MASSING “AS PROPOSED” IN SOLID ORANGE

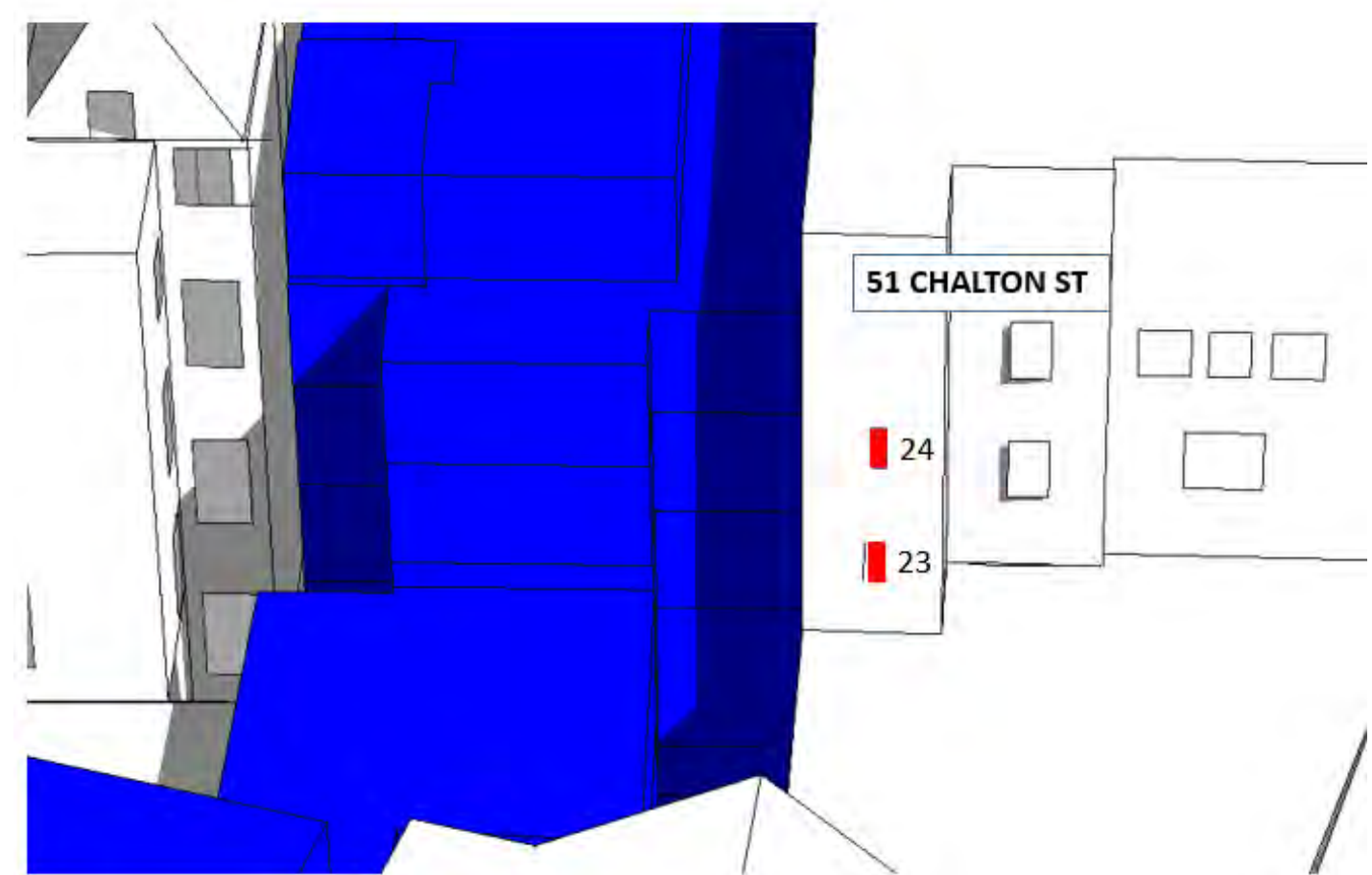


FIGURE 21 – WINDOW IDs AT 27 DUMMOND CRESCENT AND ST ANNES FLATS CHALTON ST - MASSING “AS PROPOSED” IN SOLID BLUE

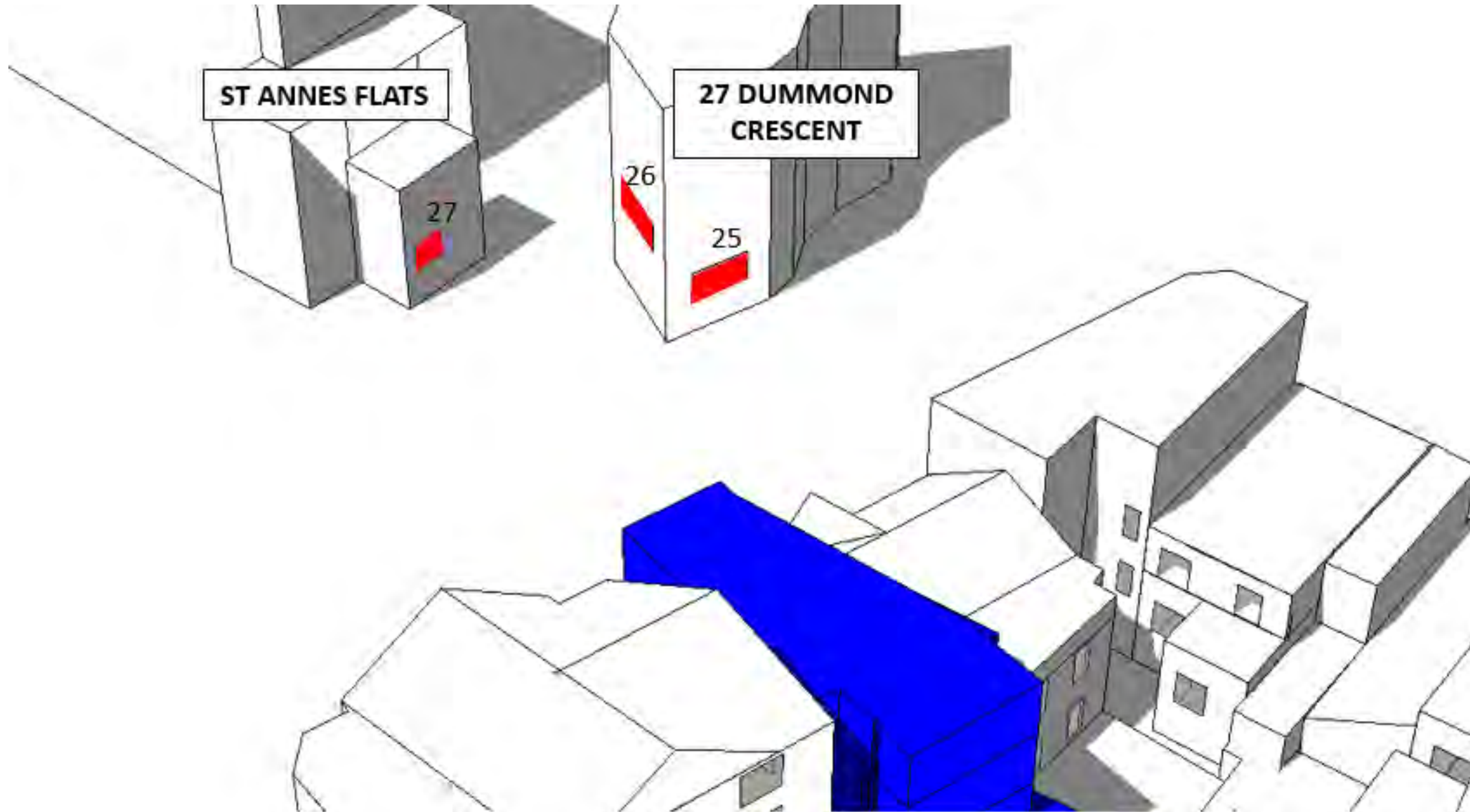


FIGURE 22 – WINDOW IDs AT 62-68 CHURCHWAY AND ST ANNES FLATS CHALTON ST - MASSING “AS PROPOSED” IN SOLID BLUE

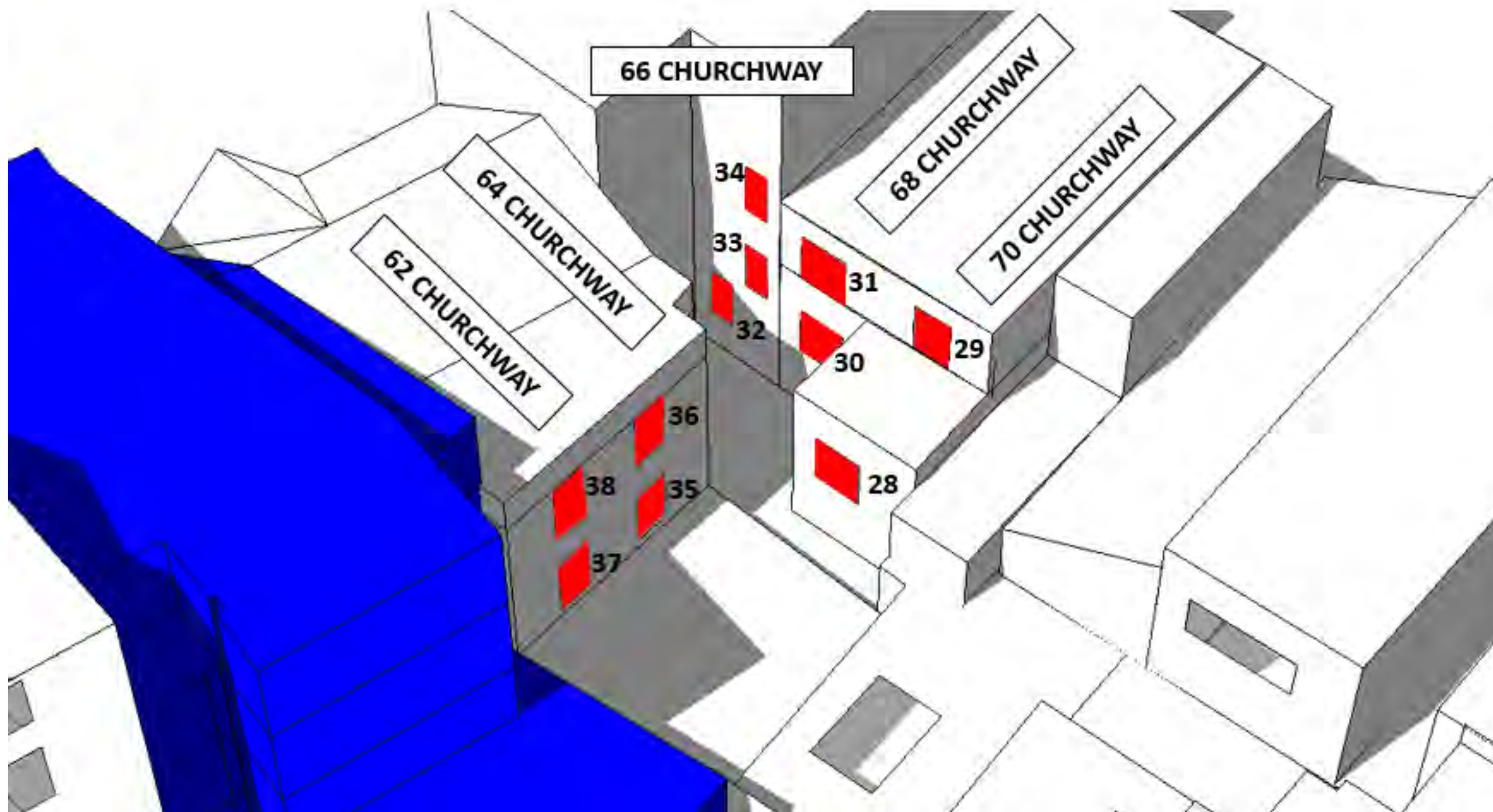


TABLE 04 - VERTICAL SKY COMPONENT – EXISTING AND PROPOSED DEVELOPMENT

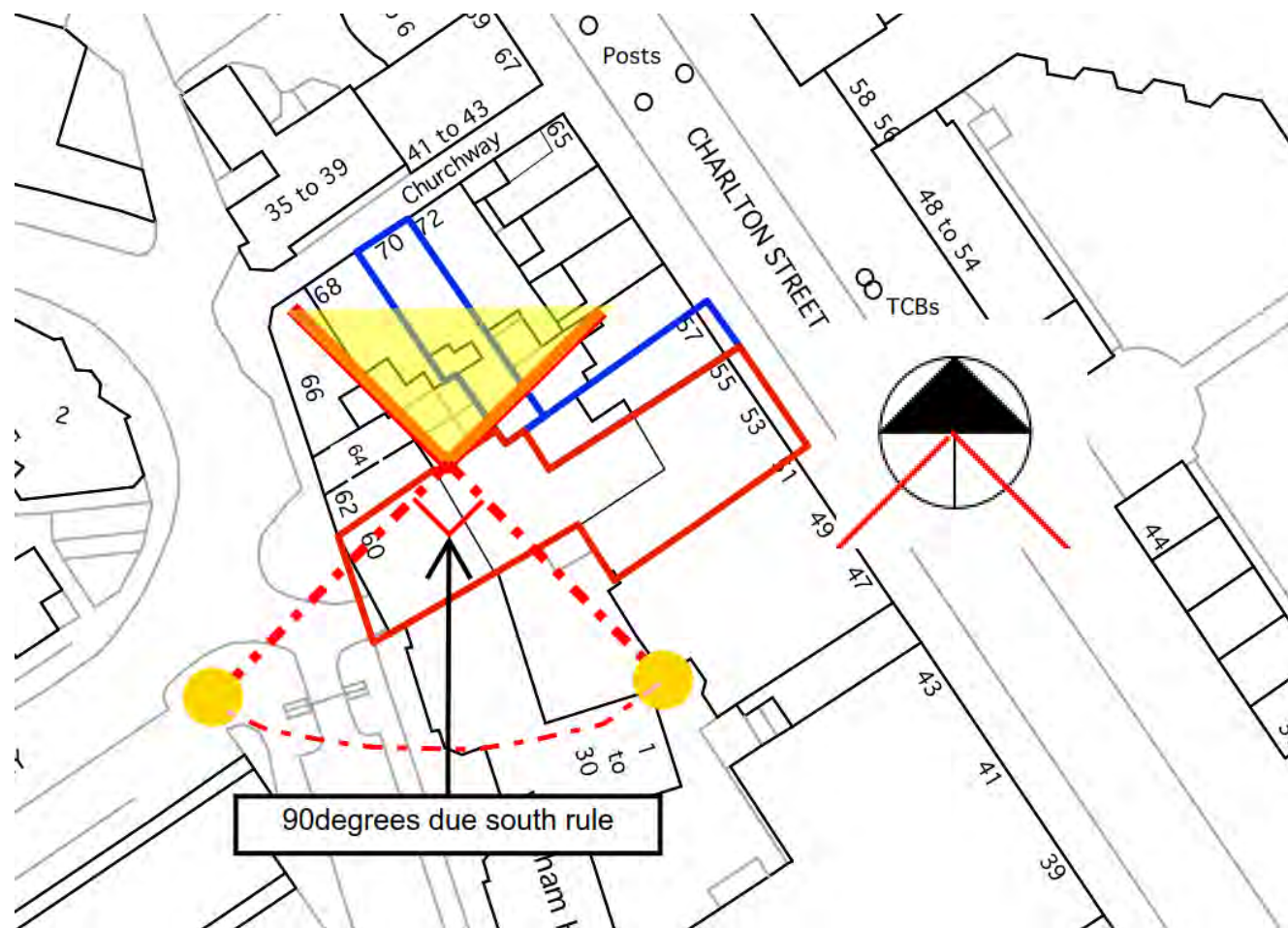
| WINDOW | ADJOINING PROPERTY | EXISTING CONDITIONS % | PROPOSED DEVELOPMENT % | MINIMUM VSC TO ACHIEVE COMPLIANCE % | DIFFERENCE % (MAXIMUM 20%) | COMPLIES WITH BRE GUIDELINES ? |
|--------|---------------------|-----------------------|------------------------|-------------------------------------|----------------------------|--------------------------------|
| 1 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 2 | 57 CHALTON ST | - | - | -- | - | DOES NOT APPLY* |
| 3 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 4 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 5 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 6 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 7 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 8 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 9 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 10 | 57 CHALTON ST | - | - | - | - | DOES NOT APPLY* |
| 11 | 70 CHURCHWAY ST | 12.4 | 12 | 9.92 | 3.23% | YES |
| 12 | 70 CHURCHWAY ST | 21.5 | 21.2 | 17.2 | 1.40% | YES |
| 13 | 72 CHURCHWAY ST | 28.4 | 26.9 | 22.72 | 5.28% | YES |
| 14 | WINSHAM HOUSE | 22.5 | 22.3 | 18 | 0.89% | YES |
| 15 | WINSHAM HOUSE | 28.4 | 26.9 | 22.72 | 5.28% | YES |
| 16 | WINSHAM HOUSE | 32.3 | 31.1 | 25.7 | 3.72% | YES |
| 17 | WINSHAM HOUSE | 35.8 | 35 | 29.1 | 2.23% | YES |
| 18 | WINSHAM HOUSE | 38.3 | 38.2 | 36.1 | 0.26% | YES |
| 19 | WINSHAM HOUSE | 23.4 | 22.2 | 19.6 | 5.13% | YES |
| 20 | WINSHAM HOUSE | 15.1 | 14.4 | 13.2 | 4.64% | YES |
| 21 | WINSHAM HOUSE | 18.8 | 17.6 | 15.4 | 6.38% | YES |
| 22 | WINSHAM HOUSE | 20.4 | 19.1 | 17.7 | 6.37% | YES |
| 23 | 51 CHALTON ST | 31.5 | 31.1 | 25.2 | 1.27% | YES |
| 24 | 51 CHALTON ST | 27.6 | 27.2 | 22.08 | 1.45% | YES |
| 25 | 27 DUMMOND CRESCENT | 32.1 | 31.1 | 25.68 | 3.12% | YES |

* THE USE TYPE BEHIND WINDOWS 1no to 10 at 57 CHALTON STREET ARE NON- HABITABLE ROOMS SUCH AS TOILETS AND OTHER ANCILLARY SPACES. THEREFORE THE BRE REQUIREMENTS DO NOT APPLY

TABLE 04 - VERTICAL SKY COMPONENT – EXISTING AND PROPOSED DEVELOPMENT

| WINDOW | ADJOINING PROPERTY | EXISTING CONDITIONS % | PROPOSED DEVELOPMENT % | MINIMUM VSC TO ACHIEVE COMPLIANCE % | DIFFERENCE % (MAXIMUM 20%) | COMPLIES WITH BRE GUIDELINES ? |
|--------|---------------------|-----------------------|------------------------|-------------------------------------|----------------------------|--------------------------------|
| 26 | 27 DUMMOND CRESCENT | 32.2 | 31.9 | 25.76 | 0.93% | YES |
| 27 | ST ANNES FLATS | 24.5 | 24.2 | 19.6 | 1.22% | YES |
| 28 | 68 CHURCHWAY | 20.1 | 18.1 | 16.08 | 9.95% | YES |
| 29 | 68 CHURCHWAY | 28.9 | 27.7 | 23.12 | 4.15% | YES |
| 30 | 68 CHURCHWAY | 13.2 | 11.8 | 10.56 | 10.61% | YES |
| 31 | 68 CHURCHWAY | 26.2 | 24.8 | 20.96 | 5.34% | YES |
| 32 | 66 CHURCHWAY | 6.8 | 6.7 | 5.44 | 1.47% | YES |
| 33 | 66 CHURCHWAY | 13.2 | 12.9 | 10.56 | 2.27% | YES |
| 34 | 66 CHURCHWAY | 23.9 | 22.5 | 19.12 | 5.86% | YES |
| 35 | 62 CHURCHWAY | 21.9 | 20.7 | 17.52 | 5.48% | YES |
| 36 | 62 CHURCHWAY | 29.3 | 27.5 | 23.44 | 6.14% | YES |
| 37 | 62 CHURCHWAY | 19.8 | 20.2 | 15.84 | -2.02% | YES |
| 38 | 62 CHURCHWAY | 29.1 | 26.4 | 23.28 | 9.28% | YES |

FIGURE 23 – SITE PLAN - 53-55 CHALTON ST AND 60 CHURCHWAY SHOWING THE 90 DEGREES DUE SOUTH RULE



8.2 SUNLIGHT ASSESSMENT RESULTS

The proposed development orientation, located at 53-55 Chalton St and 60 Churchway can be seen on Figure 24.

According to the BRE Guidelines any window should be assessed against the WPSH and APSH if they face 90° degrees due south. This in relation to the proposed development and the existing conditions.

The Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) analysis has been carried out to windows 11, 12, 13 located at 70 and 72 Churchway; windows 28 & 29 located at 70 Churchway and 30 & 31 located at 68 Churchway. The sunlight conditions with the proposed buildings would receive more than the minimum 392 Annual Probable Sunlight Hours (APSH) and most of the windows would receive more than the minimum 78 Winter Probable Sunlight Hours (WPSH).

The difference between the existing and proposed conditions for APSH is 0% to 10% reduction. The difference between the existing and proposed conditions for WPSH is 5% to 11%. **As this change is less than 20%, the proposed development in all cases complies with the BRE guidelines for sunlight access to neighbours.** The windows at 11, 12, 13 located at 70 and 72 Churchway show an improvement in terms of WPSH when compared with the existing conditions. For further details refer to Chapter 8.2.

8.3 SUNLIGHT AND OVERSHADOWING ASSESSMENT RESULTS – OPEN SPACES

According to Littlefair's "Site Layout Planning for Daylight and Sunlight" if a building is to be constructed near an open space such as:

- Gardens.
- Parks.
- Children Playgrounds.
- Outdoor swimming pools.
- Monuments or fountains.

Daylight analysis should be carried out in order to prove that, at least, half of the garden or open space receives 2 hours of sunlight on 21st March. In terms of Sunlight and Overshadowing, there is no garden, park or open space facing 90 degrees due south in relation to the proposed development.

FIGURE 24 - APSH TO WINDOWS AT 68 AND 70 CHURCHWAY WITH THE DEVELOPMENT "AS EXISTING"

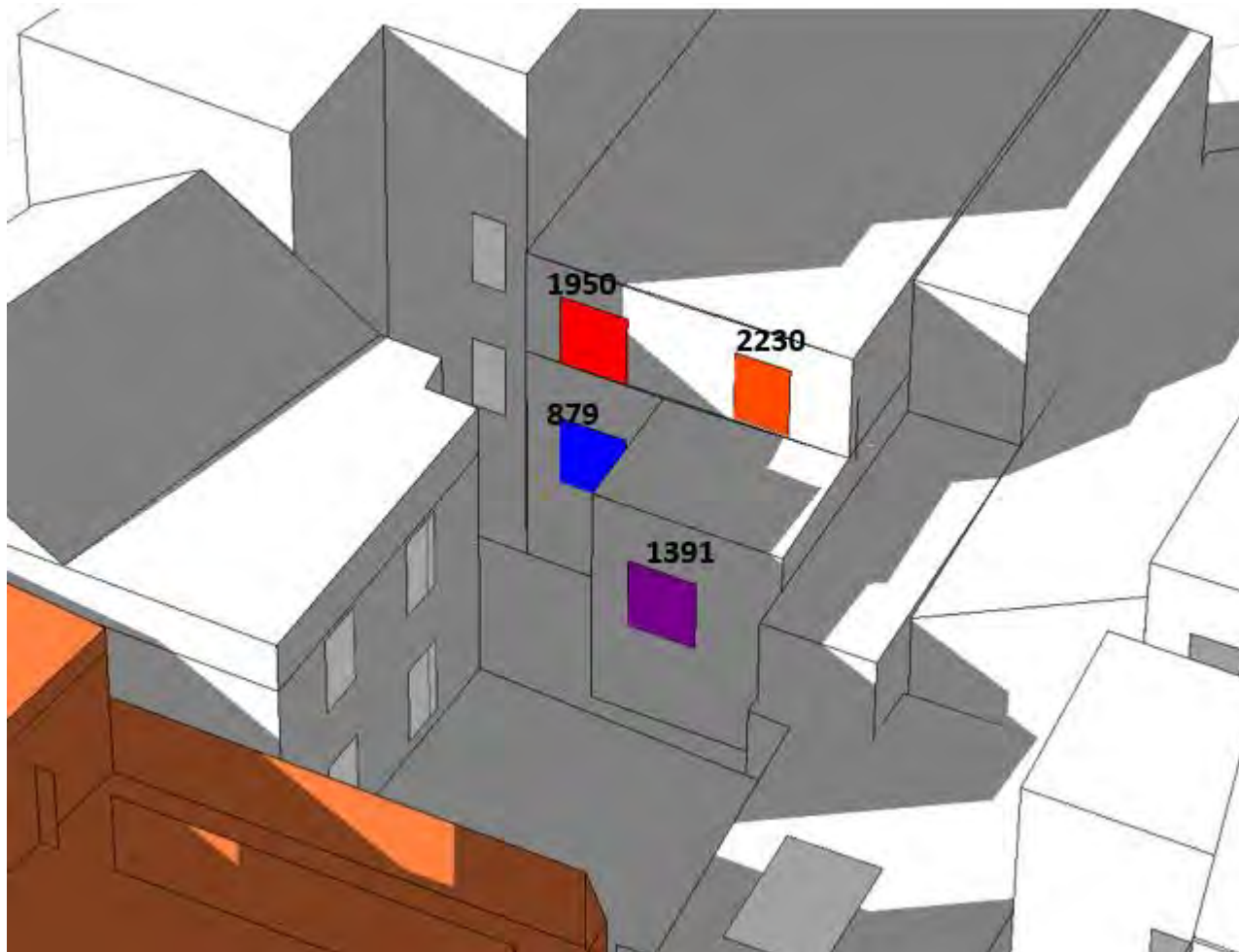


FIGURE 25 - APSH TO WINDOWS AT 68 AND 70 CHURCHWAY WITH THE DEVELOPMENT "AS PROPOSED"

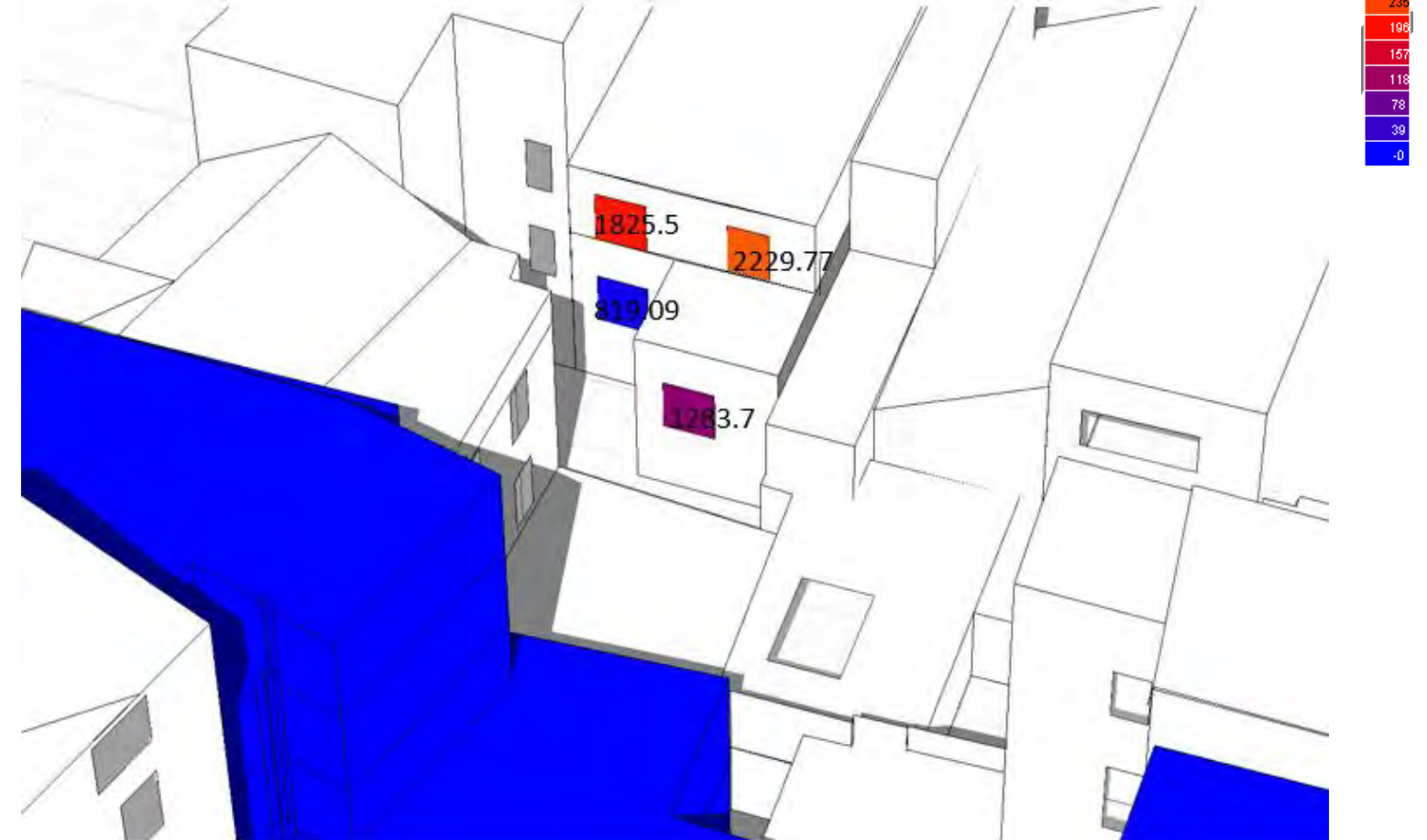


FIGURE 26 - WPSH TO WINDOWS AT 68 AND 70 CHURCHWAY WITH THE DEVELOPMENT
"AS EXISTING"

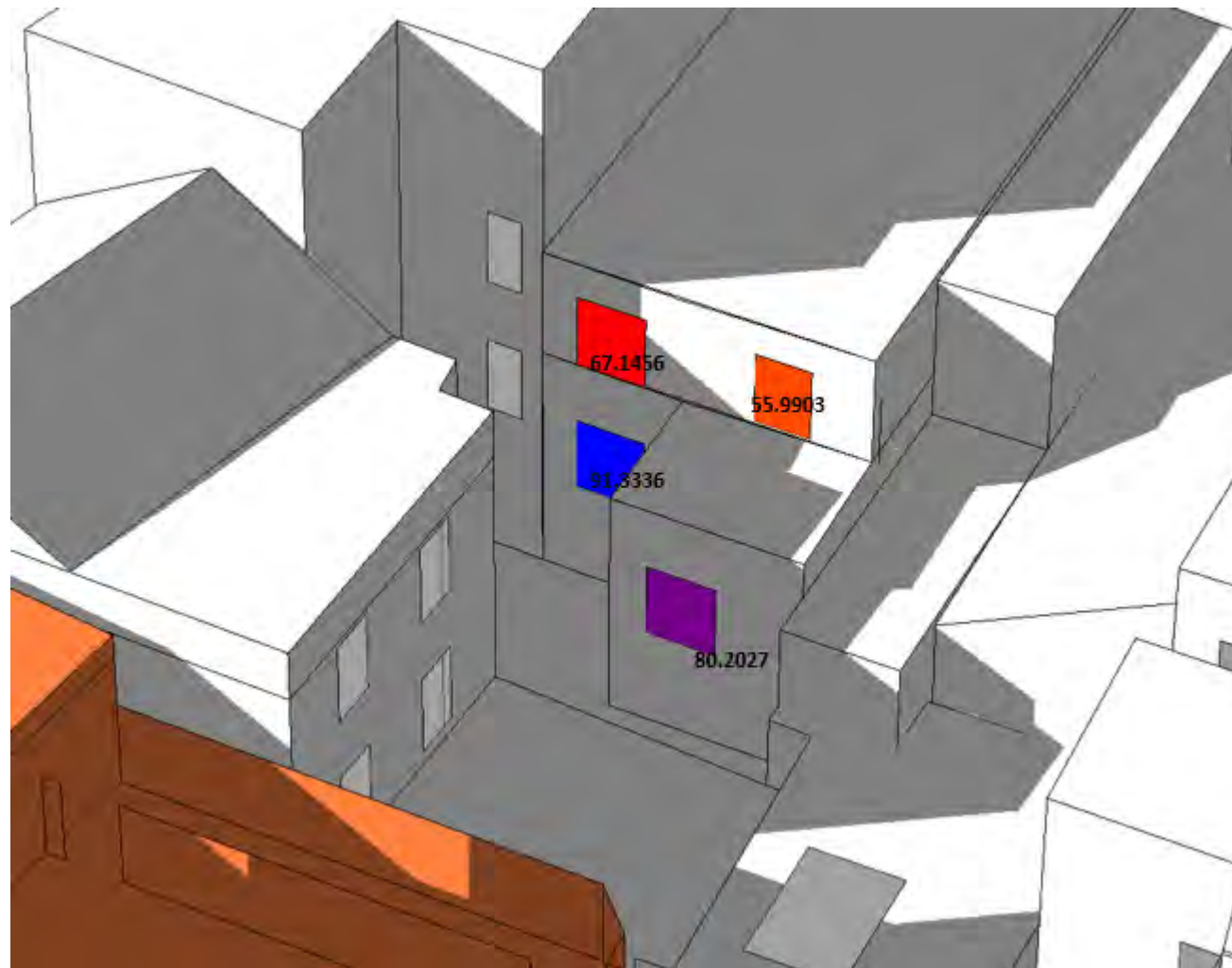


FIGURE 27 - WPSH TO WINDOWS AT 68 AND 70 CHURCHWAY WITH THE DEVELOPMENT
"AS PROPOSED"

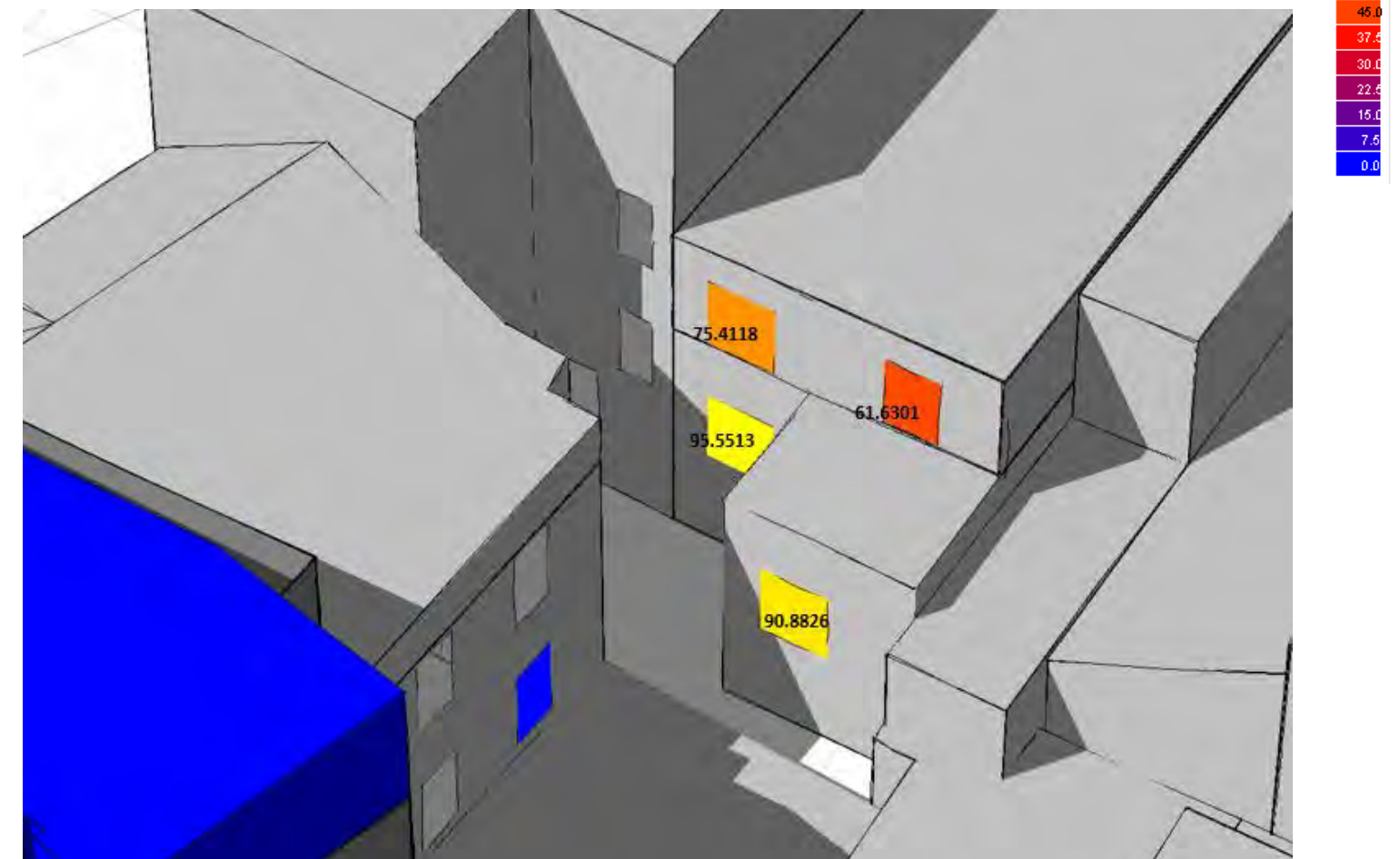


FIGURE 28 - APSH TO WINDOWS AT 70 AND 72 CHURCHWAY WITH THE DEVELOPMENT "AS EXISTING"

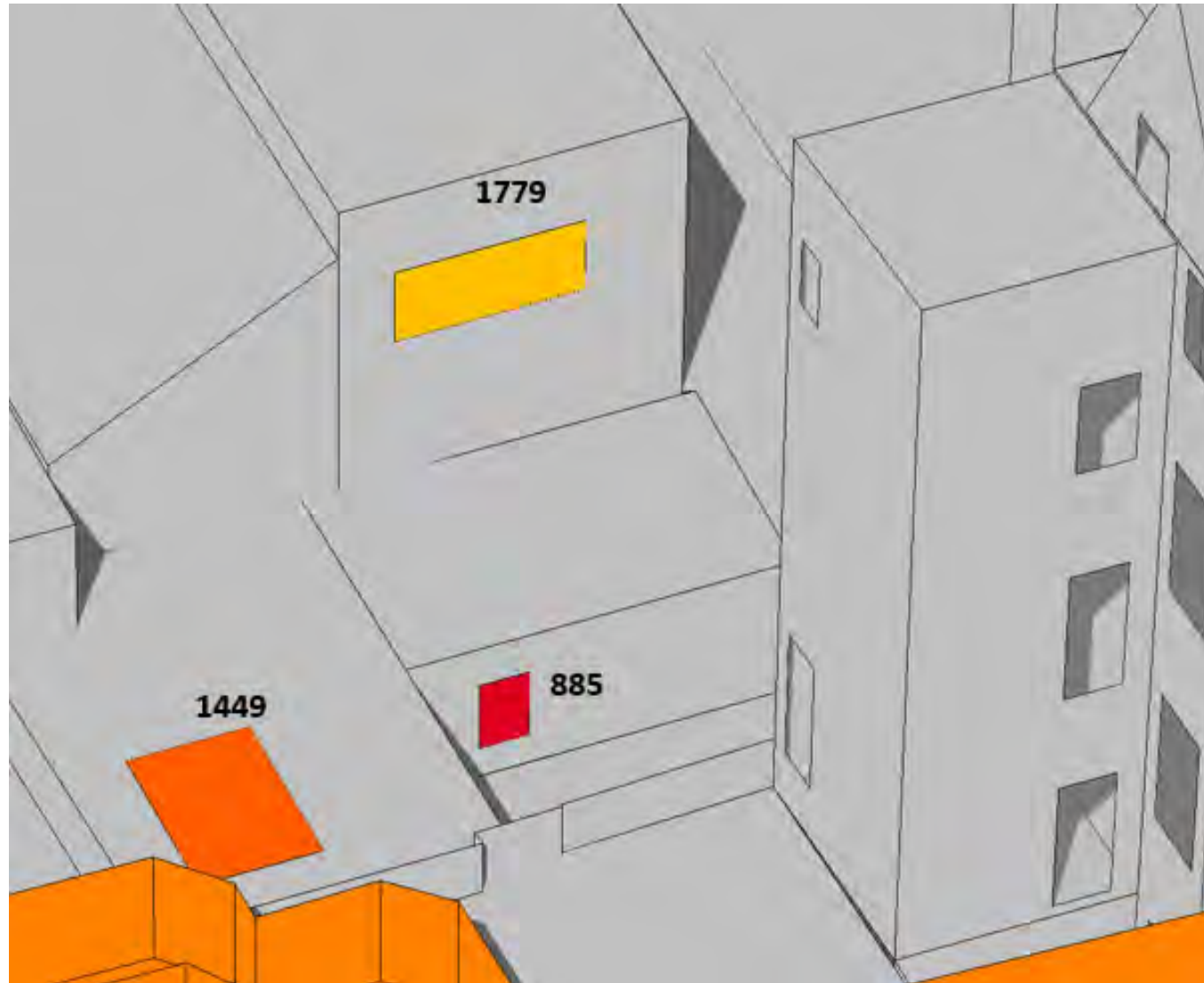


FIGURE 29 - APSH TO WINDOWS AT 70 AND 72 CHURCHWAY WITH THE DEVELOPMENT "AS PROPOSED"

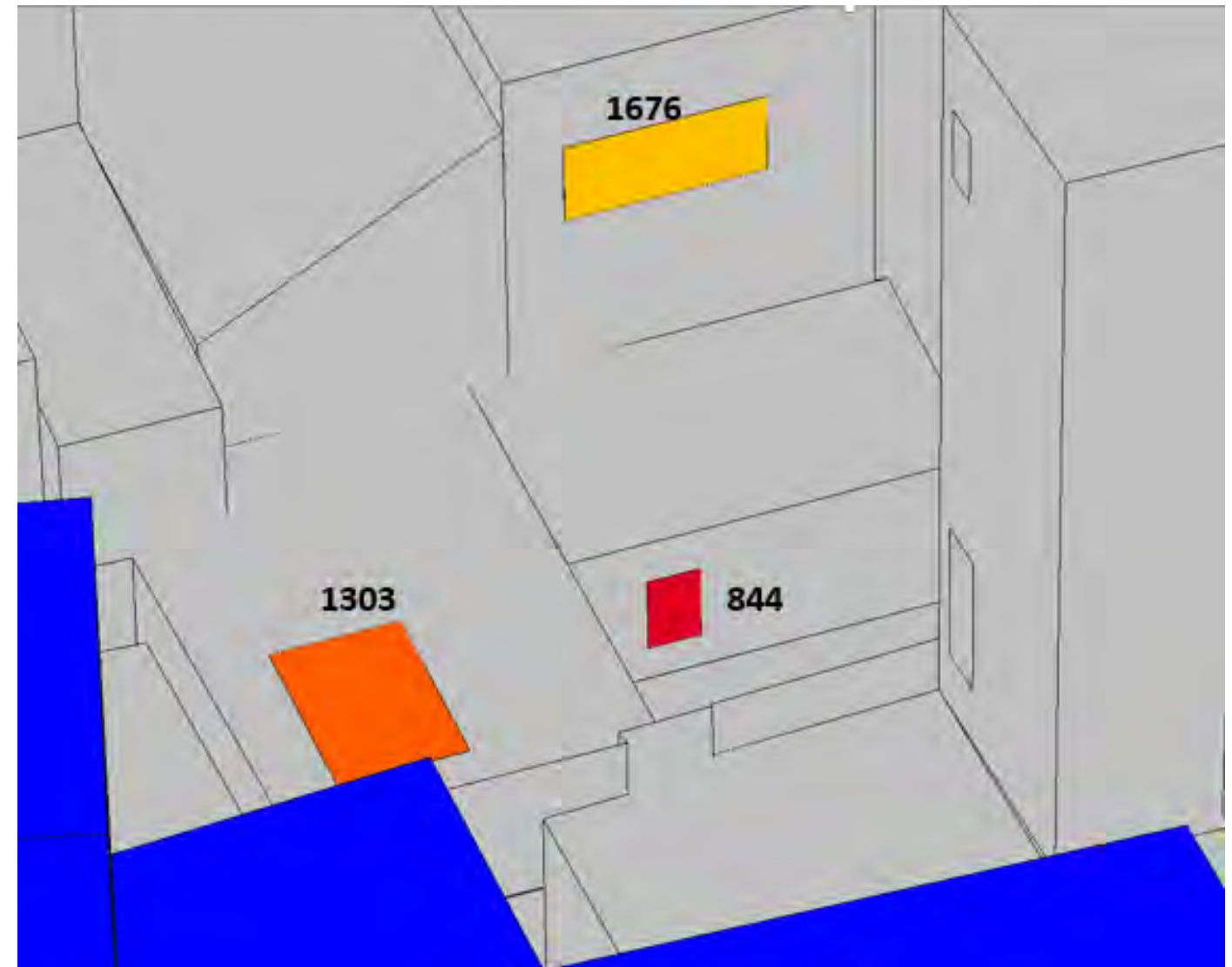


FIGURE 30 - WPSH TO WINDOWS AT 70 AND 72 CHURCHWAY WITH THE DEVELOPMENT
"AS EXISTING"

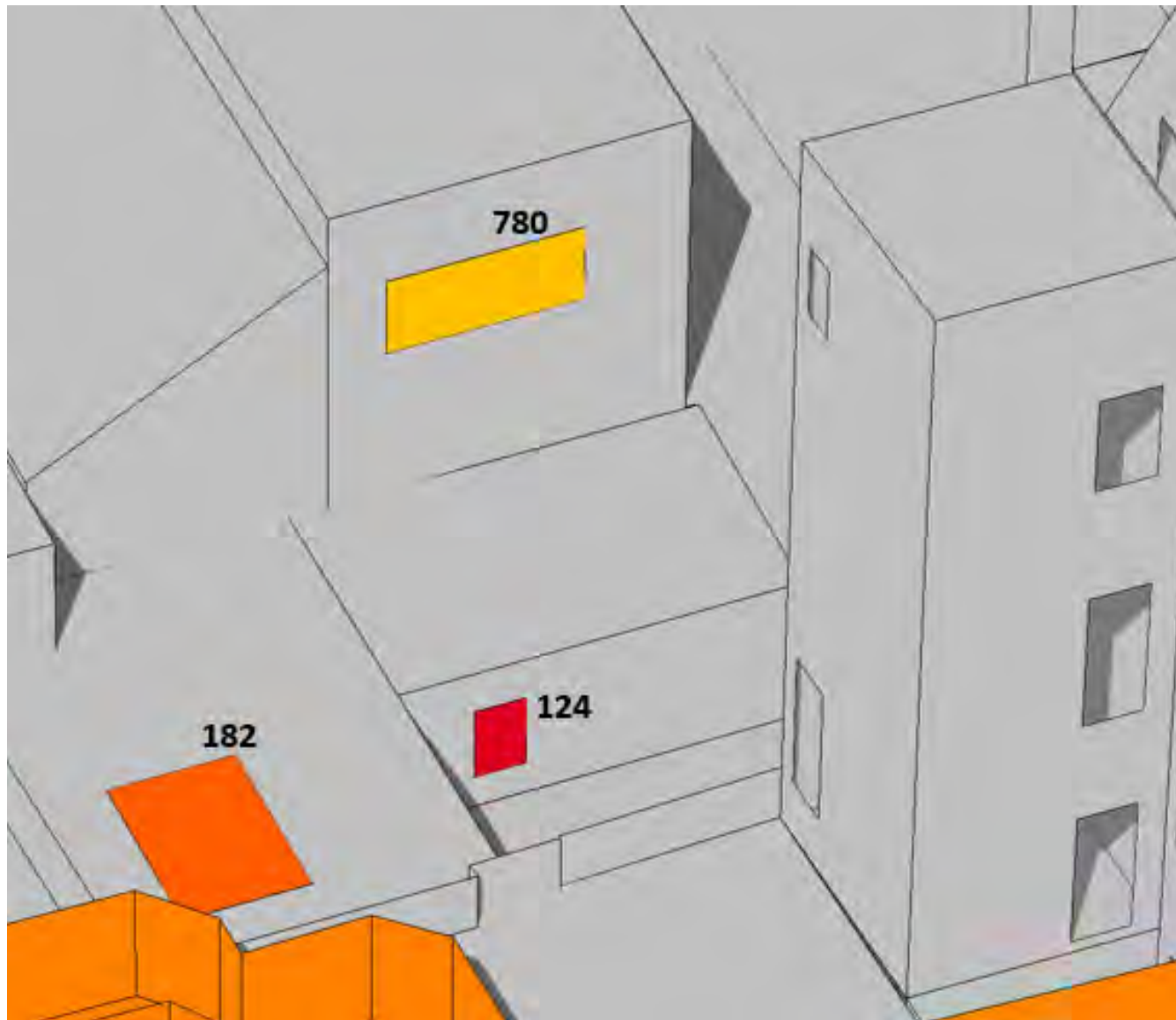


FIGURE 31 - WPSH TO WINDOWS AT 70 AND 72 CHURCHWAY WITH THE DEVELOPMENT
"AS PROPOSED"



TABLE 05 – APSH

| WINDOWS | ADJOINING PROPERTY | 25% APSH | EXISTING CONDITIONS | MAXIMUM 0.8 TIMES ITS FORMER SUNLIGHT HOURS | PROPOSED DEVELOPMENT | DIFFERENCE % MAXIMUM 20% | COMPLIES WITH MAXIMUM 20% REDUCTION? | COMPLIES WITH MINIMUM 25% APSH? | MAXIMUM 4% APSH REDUCTION | COMPLIES WITH MAXIMUM 4% REDUCTION? | OVERALL COMPLIES WITH BRE GUIDELINES FOR APSH? |
|---------|--------------------|----------|---------------------|---|----------------------|--------------------------|--------------------------------------|---------------------------------|---------------------------|-------------------------------------|--|
| 11 | 70 CHURCHWAY | 392 | 885 | 708 | 844 | 5% | YES | YES | 850 | NO | YES |
| 12 | 70 CHURCHWAY | 392 | 1779 | 1423 | 1676 | 6% | YES | YES | 1708 | NO | YES |
| 13 | 72 CHURCHWAY | 392 | 1449 | 1159 | 1303 | 10% | YES | YES | 1391 | NO | YES |
| 28 | 70 CHURCHWAY | 392 | 1391 | 1113 | 1284 | 8% | YES | YES | 1335 | NO | YES |
| 29 | 70 CHURCHWAY | 392 | 2230 | 1784 | 2230 | 0% | YES | YES | 2141 | NO | YES |
| 30 | 68 CHURCHWAY | 392 | 879 | 703 | 819 | 7% | YES | YES | 844 | NO | YES |
| 31 | 68 CHURCHWAY | 392 | 1950 | 1560 | 1826 | 6% | YES | YES | 1872 | NO | YES |

TABLE 06 – WPSH

| WINDOWS | ADJOINING PROPERTY | 5% WPSH | EXISTING CONDITIONS | COMPLIES WITH MINIMUM 5% APSH? | PROPOSED DEVELOPMENT | MINIMUM 0.8 TIMES ITS FORMER SUNLIGHT HOURS | DIFFERENCE % MAXIMUM 20% | COMPLIES WITH MAXIMUM 20% REDUCTION? | OVERALL COMPLIES WITH BRE GUIDELINES FOR WPSH |
|---------|--------------------|---------|---------------------|--------------------------------|----------------------|---|--------------------------|--------------------------------------|---|
| 11 | 70 CHURCHWAY | 78 | 124 | YES | 116 | 93 | -7% | YES | YES |
| 12 | 70 CHURCHWAY | 78 | 780 | YES | 671 | 537 | -16% | YES | YES |
| 13 | 72 CHURCHWAY | 78 | 182 | YES | 100 | 80 | -82% | YES | YES |
| 28 | 70 CHURCHWAY | 78 | 80 | YES | 90 | 60 | 11% | YES | YES |
| 29 | 70 CHURCHWAY | 78 | 56 | YES | 61 | 60 | 8% | YES | YES |
| 30 | 70 CHURCHWAY | 78 | 91 | YES | 96 | 77 | 5% | YES | YES |
| 31 | 70 CHURCHWAY | 78 | 67 | YES | 72 | 58 | 7% | YES | YES |

FIGURE 32 – SHADOW – DEVELOPMENT “AS PROPOSED” – 21ST MARCH AT 3:30 PM – PERSPECTIVE

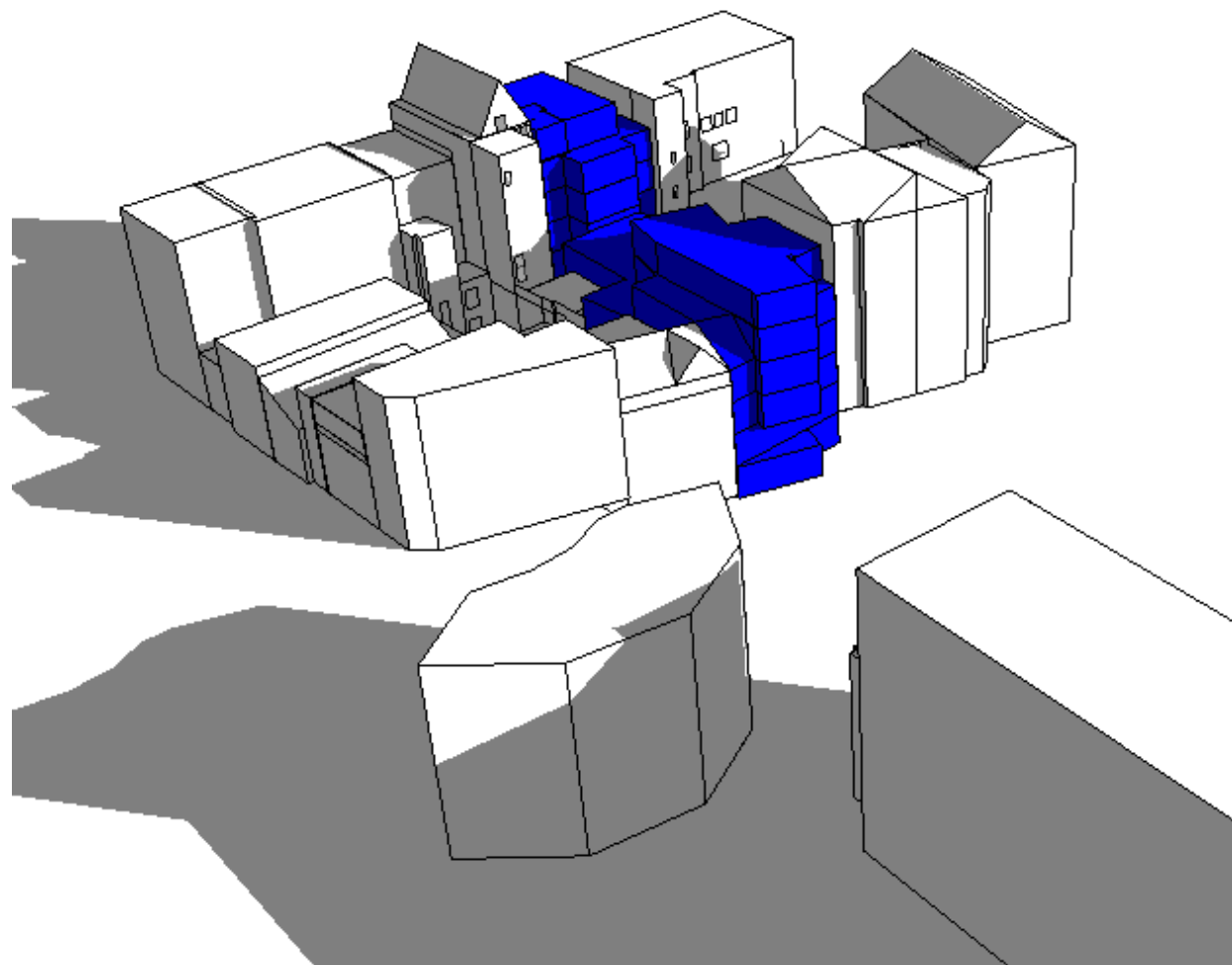


FIGURE 33 – SHADOW – DEVELOPMENT “AS EXISTING” – 21ST MARCH AT 3:30 PM – PERSPECTIVE

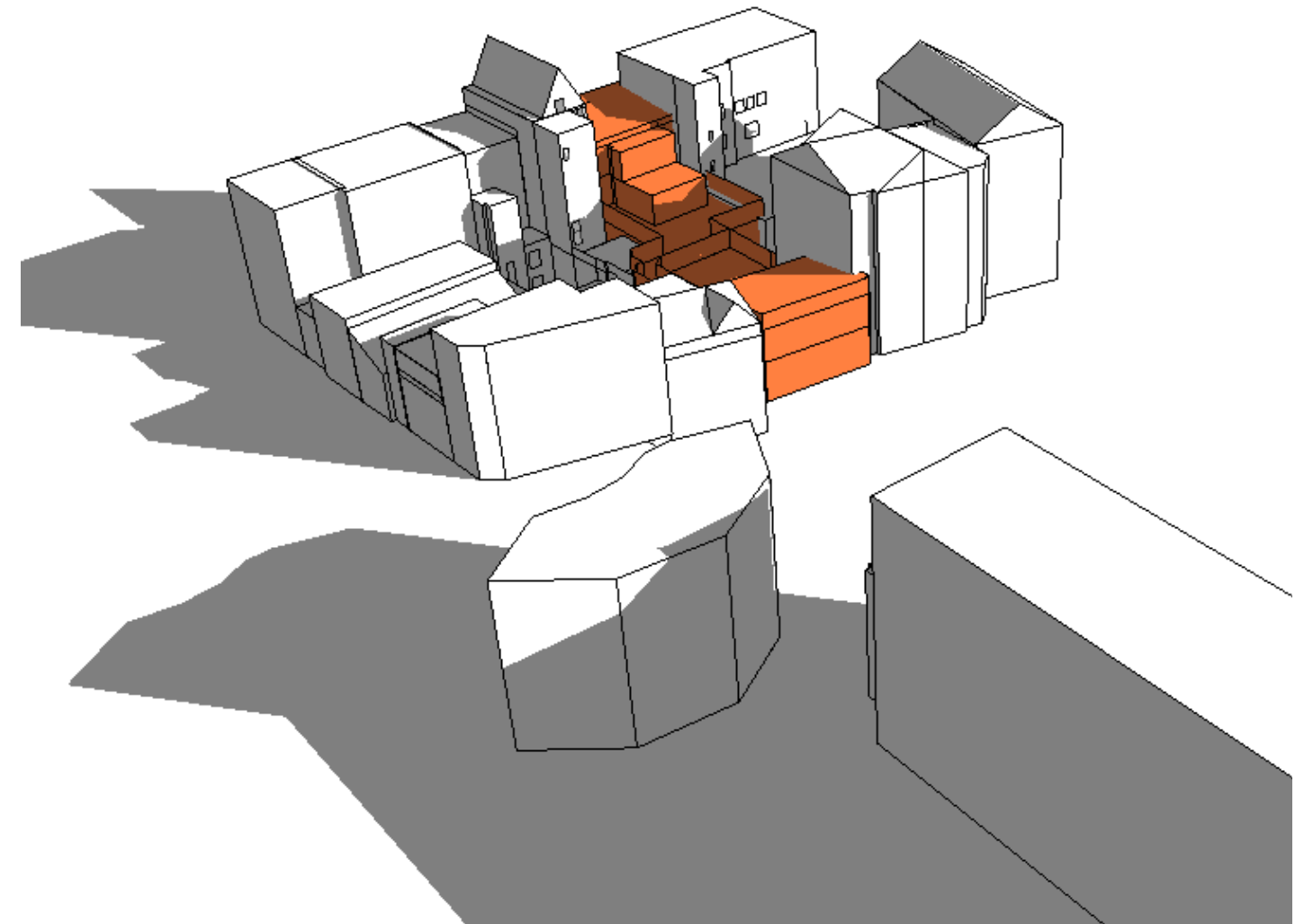


FIGURE 34 – SHADOW – DEVELOPMENT “AS PROPOSED” – 21ST MARCH AT 3:30 PM – PLAN FIGURE 35– SHADOW – DEVELOPMENT “AS EXISTING” – 21ST MARCH AT 3:30 PM – PLAN

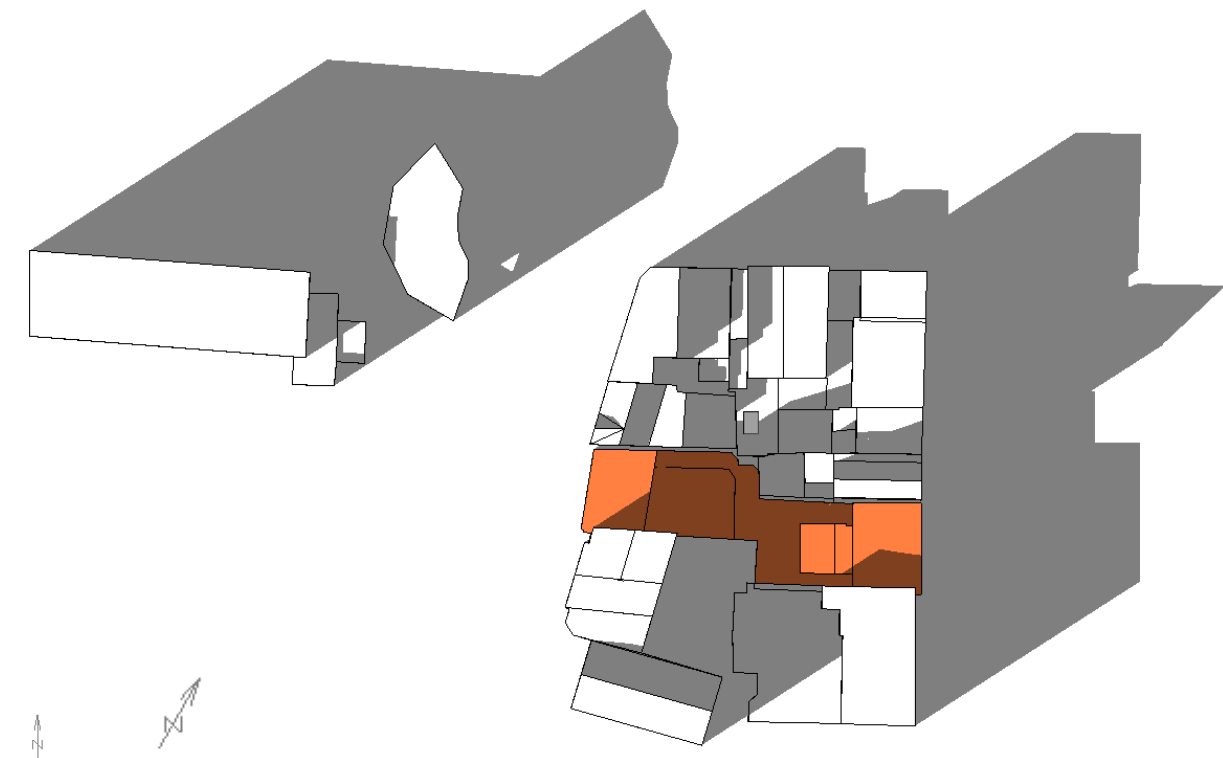
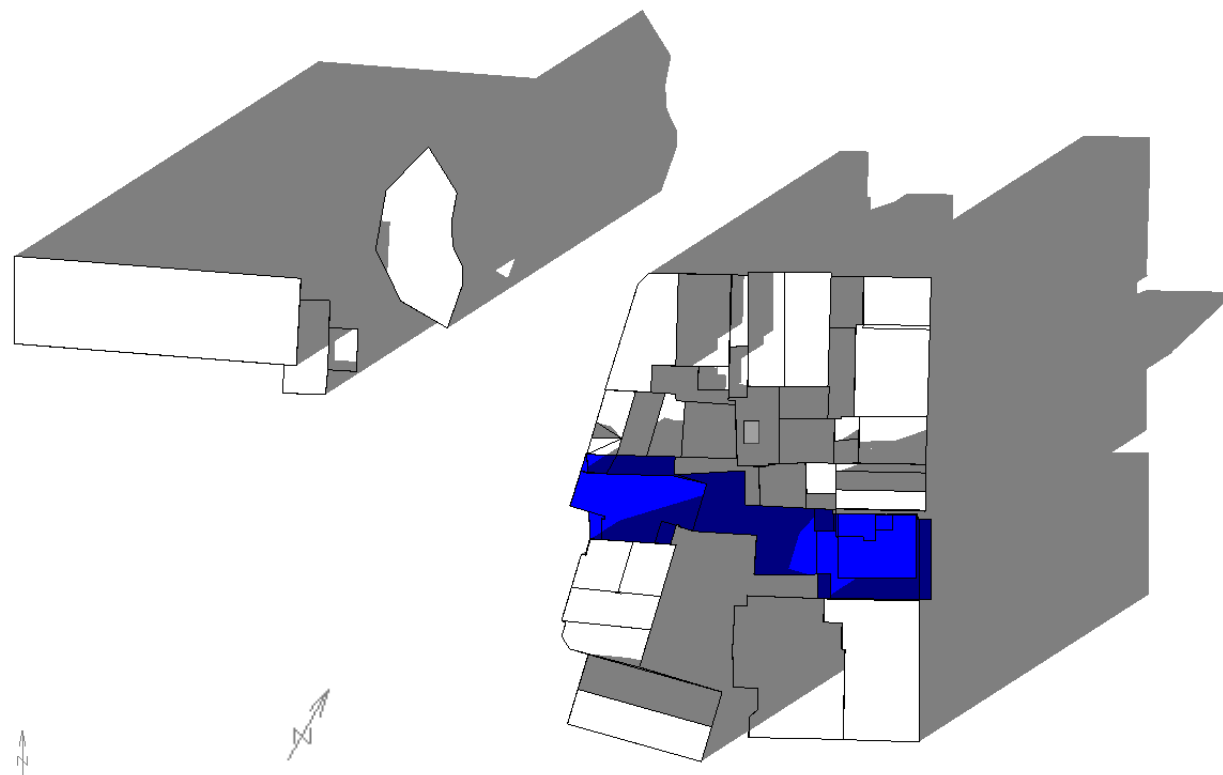
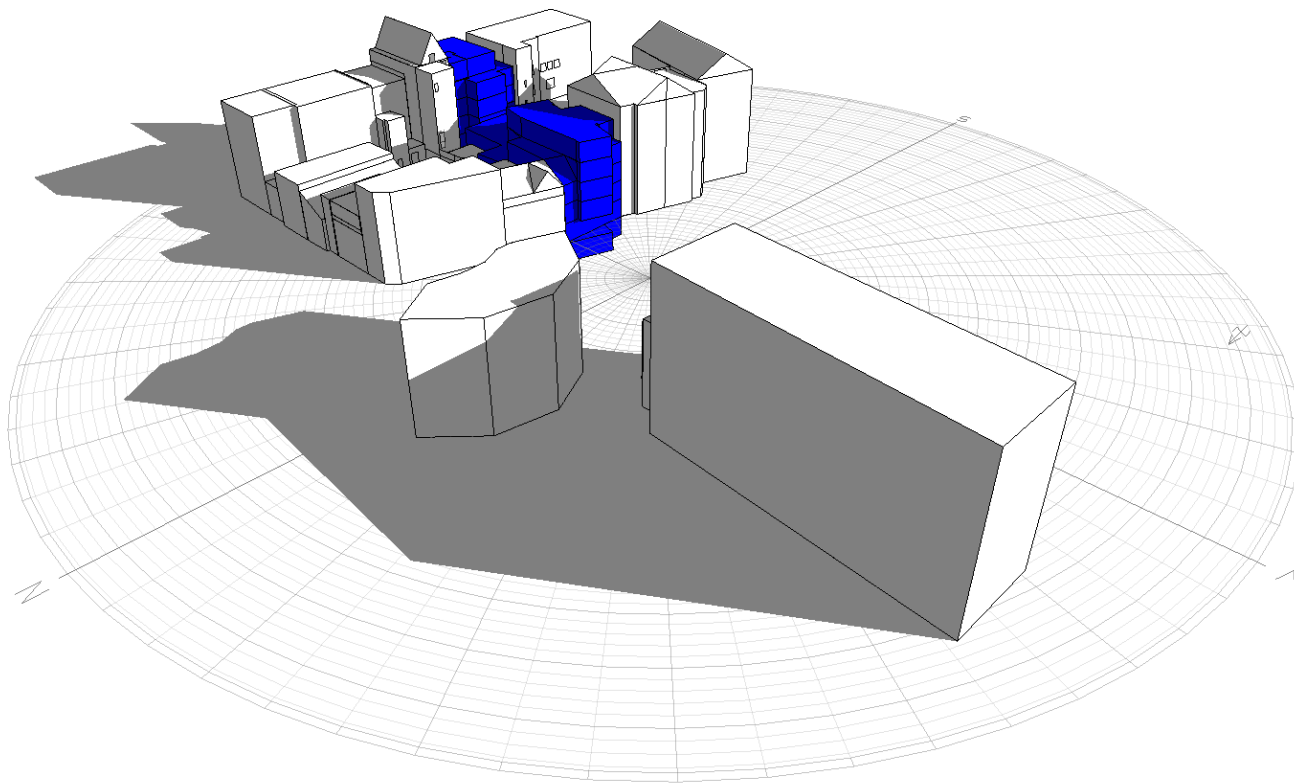


FIGURE 36 – 3D VIEW OF THE PROPOSED DEVELOPMENT AT 53-55 CHALTON ST AND 60 CHURCHWAY



9 CONCLUSION

9.1 DAYLIGHT SUNLIGHT AND OVERSHADOWING TO NEIGHBOURS

The assessment undertaken in this report demonstrates that all of the pertinent properties around 53-55 Chalton St & 60 Churchway, would not notice a reduction in their current Daylight and Sunlight levels if the proposed development by Divine Ideas Architects goes ahead as currently proposed.

9.1.1 VERTICAL SKY COMPONENT RESULTS

If the vertical sky component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the vertical sky component, with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear gloomier, and electric lighting will be needed more of the time.

The difference in daylight conditions for most of the buildings varies between the existing and the proposed conditions from 0.93% to 11.82%. **As this change is less than 20% reduction, the proposed development in all cases complies with the BRE guidelines for daylight access to neighbours.** In some cases, some windows will receive more daylight after the proposed development when compared with the existing situation.

The property at 57 Chalton Street is owned by the applicant. The uses behind the windows is non-habitable rooms such as toilets and other ancillary spaces. Therefore the BRE guidelines for sunlight and daylight do not apply.

As a result, the proposed scheme will comply with the daylight reduction according to the BRE guidelines once the property at 55 Chalton St is developed.

9.1.2 SUNLIGHT ASSESSMENT RESULTS

The Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) analysis has been carried out to windows 11, 12, 13 located at 70 and 72 Churchway; windows 28 & 29 located at 70 Churchway and 30 & 31 located at 68 Churchway. The sunlight conditions with the proposed buildings would receive more than the minimum 392 Annual Probable Sunlight Hours (APSH) and most of the windows would receive more than the minimum 78 Winter Probable Sunlight Hours (WPSH).

The difference between the existing and proposed conditions for APSH is 0% to 10% reduction. The difference between the existing and proposed conditions for WPSH is 5% to 11%. **As this change is less than 20%, the proposed development in all cases complies with the BRE guidelines for sunlight access to neighbours.** The windows at 11, 12, 13 located at 70 and 72 Churchway show an improvement in terms of WPSH when compared with the existing conditions. For further details refer to Chapter 8.2.

In terms of Sunlight and Overshadowing, there is no garden, park or open space facing 90 degrees due south in relation to the proposed development. See Figure 24 for further details.

Therefore the proposed development at 53-55 Chalton Street and 60 Churchway is acceptable in Daylight, Sunlight and overshadowing impact to neighbours as per the BRE Guidelines.

**APPENDIX A – VSC CALCULATIONS RESULTS –
AVAILABLE UPON REQUEST**