46 INVERNESS STREET

Daylight and Sunlight Report

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daylight & sunlight

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Waldrams Ltd
Chartered Surveyors

Daylight and Sunlight Report

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Executive Summary

- This is a report into the impact of the development at 46 Inverness Street on the daylight and sunlight to surrounding residential properties and internally to the scheme itself. This analysis has been based upon scheme drawings provided by Purcell, a photogrammetric survey, and site photography.
- The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines (Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice by P. Littlefair (2011)), which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.
- The proposals have been designed specifically to limit any impact, in terms of sunlight and daylight, to neighbouring properties. The overall height of the proposed building was higher in earlier iterations of the design, but during the development of the proposals the applicant expressed a desire to reduce the height, in order to limit any impact, therefore the proposed building height has been reduced to the minimum possible with this in mind. Furthermore, the new roof has purposefully been designed to slope down towards the garden of No. 24, to further limit any impact and, although this results in restricted headroom to parts of the first floor and therefore also impacts on the usable floor space, the applicant has expressed a desire to incorporate this into the design nonetheless.
- All windows in all surrounding properties analysed meet the BRE Guidelines for daylight in terms of VSC.
- In sunlight terms, all windows either face within 90° of due north or meet the BRE Guidelines for sunlight.
- Internally to the scheme, 4 out of 5 rooms analysed meet the BRE Guidelines for ADF and daylight distribution. The remaining room is a guest bedroom positioned in the basement and so may be argued as being less sensitive to daylight, particularly given its usage. In sunlight terms, the main living room meets the BRE Guidelines for both annual and winter sunlight.
- In sunlight amenity terms, the rear gardens at 24 and 25 Gloucester Crescent both meet the BRE Guidelines for sunlight amenity.
- Since the windows and gardens nearest the proposal meet the BRE Guidelines those windows and gardens at 26, 27, 28 and 29 are not covered by this assessment since it follows that they will be too far away from the proposal to be impacted.

1. Introduction

Waldrams Ltd has been instructed to provide daylight and sunlight analysis for the proposed development of the site at 46 Inverness Street, Camden, London, both in terms of the impact to the surrounding properties and in terms of daylight and sunlight internally to the proposed development. This analysis is based upon scheme drawings by Purcell, a photogrammetric and measured survey of the site and surrounding context and site photography. Sunlight amenity analysis has been undertaken to the two gardens to the north of the site at 24 & 25 Gloucester Crescent; the results of this analysis are included in Appendix 4.

The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines (*Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice* by P. Littlefair (2011)), which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.

The existing site can be seen on drawings 2059-02-01 to -02-03 with the proposal on drawings 2059-04-01 to -04-04 and internal layouts for the proposal on drawing 2059-05-01, all in Appendix 1. The numerical results of the quantitative daylight and sunlight analysis to the surrounding properties can be found in Appendix 2. Drawings showing the rooms analysed internally to the proposed development are included on drawings 2059-01-10 in Appendix 1 which reference the internal daylight and sunlight results included in Appendix 3. Window maps showing the locations of the windows analysed in the neighbouring properties can be found on drawings 2059-02-07 and -02-08 in Appendix 1. The results of the sunlight amenity (shadow) analysis are included on drawing 2059-04-05 in Appendix 4.

The proposed scheme at 46 Inverness Street will comprise a ground floor, as per the current structure, a basement and a first floor. This first floor has been carefully designed with a sloping roof in order to minimise daylight and sunlight impacts to the surrounding residential properties and amenity spaces.

2. Summary of how daylight and sunlight are considered for planning

2.1 Introduction to the BRE Guidelines

Daylight and sunlight are planning considerations. The main reference used by local planning authorities to determine the acceptability of proposals in terms of their internal daylight and sunlight and the impact on daylight and sunlight to the surrounding properties is the Building Research Establishment (BRE) Guidelines, used in conjunction with British Standard BS8206 Part 2.

The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme and the surrounding properties. In practice it is principally the main habitable rooms internal to the scheme and within the surrounding residential properties which are sensitive in terms of daylight and sunlight. This report therefore focuses on the internal daylight and sunlight and the change in daylight and sunlight to habitable rooms in the surrounding residential property.

The BRE Guidelines specify that the daylight and sunlight results be considered flexibly and in the context of the site. Clearly there would be a higher expectation for daylight and sunlight in a rural or suburban environment than in a dense city centre location. The important factor in all cases is that the levels of daylight and sunlight are appropriate, taking into account all the planning policy requirements of the site. The BRE Guidelines acknowledge this in the introduction where the BRE Guidelines state:

> "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and thus this document 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 because natural lighting is only one of the many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."

(Page 1, BRE Guidelines)

Thus, the numerical figures should not be rigidly applied, but instead used as part of the overall evaluation of the daylight and sunlight to the surroundings in context of the site, its existing massing, and the need for regeneration and local planning policy guidance for the site. In particular existing local precedents or recent planning consents may provide a good indication as to appropriate levels in the vicinity.

The BRE Guidelines specifies in Paragraph H1.2:

> "Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of trees. This is because daylight is at its scarcest and most valuable in winter months when most trees will not be in leaf."

This summary in section 2 of this report is provided to briefly introduce some of the main methods of the BRE Guidelines, however, the BRE Guidelines should be used as the basis for assessing the

daylight and sunlight results included within this report. This section is not intended to override the wording of the BRE Guidelines for Daylight and Sunlight.

2.2 Daylight and sunlight criteria to surrounding residential property

According to the BRE Guidelines a surrounding existing building to a proposed scheme will retain the potential for good interior daylighting, provided that the scheme subtends less than 25 degrees from the horizontal as measured from the lowest habitable windows in the neighbouring windows. If this is not achieved then good daylighting to the neighbouring properties is still achieved if the Vertical Sky Component (VSC) is in excess of 27% or is reduced by less than 20% from its existing level and if the area of the room that can see the sky at desk height (known as the daylight distribution or no sky contour) is reduced by less than 20% of its existing area. The BRE Guidelines state this as:

> *"2.2.21 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 measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value*
> - *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."*

The BRE Guidelines recommend that in urban development locations, alternative baselines or lower target values may be used (*cf* Appendix F of the BRE Guidelines for Daylight & Sunlight). Paragraph F1 states:

> *"…such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylight needs of the proposed development itself."*

Indeed, in paragraph 2.2.3 of the BRE Guidelines it states:

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

constraints. Another important issue is whether the existing building it itself a good neighbour, standing a reasonable distance from the boundary and taking more than its fair share of light. Appendix F gives further guidance.

In Paragraph F4, the BRE Guidelines state:

"For example, in a mews in a historic city centre, a typical obstruction angle from ground floor window level might be close to 40°. This would correspond to a VSC of 18%, which could be used as a target value for development in that street if new development is to match the existing layout."

In Paragraph F5, the BRE Guidelines state:

"A similar approach may be adopted in cases where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light… To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for those windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away from the other side of the boundary."

In considering planning policy, it is important to establish whether the impact of a proposed development on the daylighting and sunlight conditions of surrounding property to development:

i) would or would not result in a "material deterioration" of those conditions; and
ii) whether such deterioration would be "unacceptable"

The BRE Guidelines are those that assess the impact of a proposed development and whether or not there is likely to be a "material deterioration".

The Greater London Authority (GLA), in their representation hearing report D&P/3067/03-Appendix 1 (18th November 2013) in the context of a planning appeal state that:

"It should, nevertheless, be noted that the 27% VSC target value is derived from a low density suburban housing model. The independent daylight and sunlight review states that in an inner city urban environment, VSC values in excess of 20% should be considered as

reasonably good, and that VSC in the mid-teens should be acceptable. However, where the VSC value falls below 10% (so as to be in single figures), the availability of direct light from the sky will be poor. With respect to the reduction factor, it should also be noted that whilst BRE guidelines state that a 20% reduction is the threshold for a materially noticeable change, the independent daylight and sunlight review sets out that given the underdeveloped nature of the site relative to its context, this percentage reduction should be increased to 30%, with and upper threshold of 40%."[1]

The test for sunlight to the neighbouring properties is calculated for each main south facing window to habitable rooms and in particular living rooms. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less than 25% of the total APSH across the whole year or less than 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st). If the retained total APSH is reduced by less than 4% or the change from the existing is less than 20% for total and winter levels of APSH then this too would meet the BRE Guideline levels.

Following the BRE Guidelines recommendations, VSC and APSH are measured from a point on the outer window wall whilst ADF is measured from the point halfway between the inner and outer window wall.

2.3 Internal new build criteria for daylight and sunlight

The BRE Guidelines refer to BS8206 Part 2 and CIBSE Lighting Guide LG10, which refer to three criteria for assessing interior daylight:

- Average Daylight Factor
- Position of the no sky line (Daylight distribution)
- Room depth

[1] Greater London Authority, *representation hearing report D&P/3067/03-Appendix 1* (18 November 2013), page i.

Analysis of the first two measurements is laid out below. Due to the irregular plan dimensions of rooms within the scheme, such that they are not rectilinear, the room depth is ambiguous and so this calculation has not been carried out.

According to the BRE Guidelines and BS8206 (Part 2), the primary method for assessing internal daylight is:

- Average Daylight Factor (ADF);

The ADF measure of daylight takes into account the main factors which affect the actual daylight appearance of a room including the area of the window.

ADF provides an absolute measure of daylight expressed as a ratio of daylight for the room in question as a proportion of the daylight outside at any moment in time. The ADF for a living room should be above 1.5% (i.e. the room should enjoy a minimum of 1.5% of the average external daylight at any moment in time), whilst that for a bedroom and kitchen should be in excess of 1% and 2% respectively. ADF is dependent on the area of sky visibility, which is closely related to VSC, the area of the window serving the room, the glazing transmittance, the total area of the room's surfaces and the internal reflectance of the room.

In relation to the position of the no-sky line (daylight distribution), the BRE Guidelines state in paragraph C16:

> *"If a significant area of the working plane (normally more than 20%) lies beyond the no-sky line (i.e. it receives no direct skylight) then the distribution of daylight in the room will look poor and supplementary electric lighting will be required."*

We have therefore calculated the proportion of each habitable room internally to the scheme between the window and the no-sky line.

For internal sunlight, the only test is Annual Probable Sunlight Hours (APSH). The test for sunlight is calculated for each main south facing window to habitable rooms and in particular living rooms. Bedrooms and kitchens are considered by the BRE Guidelines as less important for sunlight. The BRE Guidelines state that any south facing window may potentially receive up to 1486 hours of sunlight per year on average, representing 100% of the annual probable sunlight hours (APSH). Of this, each main window to a main habitable room may be adversely affected if it has less than 25% of the total APSH across the whole year or less that 5% APSH during the winter months (defined as the 6 months from September 21st through to March 21st).

Following the BRE Guidelines recommendations, APSH is measured from a point on the inner window wall whilst ADF is measured from the point halfway between the inner and outer window wall.

2.4 Method used for calculating the daylight and sunlight results

The analysis provided in this report utilizes state-of-the-art software to calculate in three dimensions the daylight and sunlight following the methods specified in the BRE Guidelines. A three dimensional accurate computer model has been created for the existing site in context of the immediate surrounding properties, based upon a photogrammetric and partial measured survey of the site and surrounding properties, site photographs and Ordnance Survey information.

Drawings of the existing and proposed building in context of the surrounding properties are shown in Appendix 1.

2.4.1 Surrounding properties

Daylight and sunlight levels comparing the existing and proposed daylight (VSC, daylight distribution and ADF) and sunlight (APSH) situation are then calculated for the surrounding properties. These results are provided in Appendix 2.

VSC, or Vertical Sky Component, is a measure of daylight and is the ratio of direct illuminance on a vertical plane, i.e. a window, to illuminance on an unobstructed horizontal plane under a CIE Standard Overcast Sky.

Daylight distribution is a measure of daylight and represents the proportion of a room which is able to see some portion of the sky at desk height.

ADF, or Annual Daylight Factor, is a measure of daylight and is the ratio of total daylight flux incident on the working plane to the area of the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed CIE Standard Overcast Sky. For example, if the illuminance by daylight of a horizontal surface inside a room is 60 lux and the overcast sky is 6000 lux, the daylight factor would be 1%.

APSH, or Annual Probable Sunlight Hours, is a measure of sunlight and shows the proportion of probable sunlight that a given window will receive. The maximum number of annual probable sunlight hours for London is 1,486 hours; the target value is 25% annually and 5% of this in winter.

2.4.2 Internal residential rooms

Daylight and sunlight levels for the proposed daylight (ADF) and sunlight (APSH) internally to the scheme are then calculated. These results are provided in Appendix 3.

2.5 Method for analysing acceptable sunlight amenity to the open amenity spaces within and surrounding the proposed scheme

The BRE Guidelines state that for an amenity space to appear adequately sunlit throughout the year, at least half of the amenity area should receive at least two hours of sunlight on 21st March. If as a result of new development an existing amenity area does not meet the above, it should retain at least 80% of its former value with the proposal in place. If a detailed calculation cannot be carried out and the area is a simple shape, the BRE Guidelines suggest that the centre area of each amenity space should receive at least 2 hours of sunlight on March 21st.

References:

BRE Guidelines (BR 209):- Site layout planning for daylight and sunlight: a guide to good practice, by PJ Littlefair (2011).

These Guidelines provide the basis of the analysis described in this report. Please refer to this document for a detailed description as to the approach, methodology and implementation of the numerical analysis used in this report. A summary of the approach and methods recommended by the BRE Guidelines is included in Section 2 above of this report.

3. Assumptions used in the analysis

Uses of the surrounding properties have been based on external appearance to determine whether they are residential or commercial use. Where this is ambiguous we have researched the Council Tax records for the property, which if listed would indicate residential use.

It is important to note that the precise position of the surrounding property elevations has been estimated, based on brick counts from site photographs. The floor levels for the surrounding buildings are assumed unless otherwise indicated, which may affect the daylight distribution and ADF calculations.

We have not been able to obtain layouts or gain access internally to any of the surrounding properties and so details of the internal layouts and floor level heights have been assumed from the external appearance of the building, and the locations of windows. Unless known or otherwise,

appropriate the depths of rooms have been assumed at 4.27m for residential properties and 6m for commercial properties, or half the building depth if this is less than these dimensions.

The following assumed window transmittance and internal reflectance values have been used in the ADF calculations:

- Transmittance (T): 0.68
- Reflectance (R): 0.69

Please note that we have not applied a window frame factor or maintenance factor in the calculation; we have assumed that the windows are cleaned regularly.

4. Sources of Information Used in the Report

Maltby Land Surveys Ltd
11012-200.dwg
11012-300.dwg
Received 23.10.17
200.pdf
200(1).pdf
202.pdf
203.pdf
204.pdf
210.pdf
220.pdf
221.pdf
222.pdf
223.pdf
Received 13.03.19

Waldrams Chartered Surveyors
Site Photographs
Ordnance Survey

5. Daylight & Sunlight Analysis

The existing site is shown on drawings 2059-01-01 to -01-03 in Appendix 1. The existing property in its current condition is shown on photo 1 below.

Photo 1: Existing building

In terms of daylight and sunlight, the following properties were analysed due to their proximity to the development site given the height and massing of the proposal:

- 39 Inverness Street
- 41 Inverness Street
- 43 Inverness Street
- 24 Gloucester Crescent

The table below summarises the VSC (daylight) and APSH (sunlight) results by property comparing the proposed with the existing position.

Property	No. of windows analysed (no. which are south-facing)	No. of windows where VSC criteria are met (i.e. <20% loss from existing or >27% absolute VSC)	No. of rooms (where layouts are known)	No. Of rooms where DD criteria are met (i.e. <20% loss from existing)	No. of windows meeting both annual and winter APSH criteria (i.e. <20% loss from existing)
39 Inverness Street	5 (0)	5	N/A	N/A	N/A
41 Inverness Street	5 (0)	5	N/A	N/A	N/A
43 Inverness Street	5 (0)	5	N/A	N/A	N/A
24 Gloucester Crescent	8 (1)	7	N/A	N/A	0
Total	**23 (1)**	**22**	**N/A**	**N/A**	**0**

As the above table shows, all surrounding properties meet the BRE Guidelines for daylight in terms of VSC and have no windows which face within 90° of due south, with the exception of 24 Gloucester Crescent; all properties therefore meet the BRE Guidelines for sunlight. The commentary below therefore focusses only on 24 Gloucester Crescent.

24 Gloucester Crescent

This residential property is shown below in photos 2 and 3. There is a small square window in the side elevation, shown below in photo 3, boxed in red. Although the internal layouts have not been obtained in 24 Gloucester Crescent, the applicant has confirmed that this window provides light to a bathroom, which is not based on speculation as they have physically been into this bathroom. As such, this window does not require analysis for daylight and sunlight in planning terms according to the BRE Guidelines and has not been commented on further.

Photo 2: 24 Gloucester Crescent (rear elevation)

Photo 3: 24 Gloucester Crescent (side elevation)

In daylight terms, all 7 windows overlooking the proposed development that potentially serve habitable space meet the BRE Guidelines for VSC with the proposal in place.

In sunlight terms, the BRE Guidelines makes clear that sunlight is of primary importance to main living rooms. All of the 7 windows analysed that potentially serve habitable space meet the BRE Guidelines for both annual and winter sunlight with the proposal in place.

6. Internal daylight and sunlight

The room layouts within the proposed development are shown on drawings 2059-05-01 in Appendix 1 which reference the results of the internal daylight and sunlight analysis included in Appendix 3.

The BRE Guidelines make it clear that ADF is a primary measure for daylight for new build accommodation such as this, and APSH is the measure for sunlight.

In sunlight terms, the BRE Guidelines state in paragraph 3.1.2 that the main requirement for sunlight in new housing is in living rooms. It goes on to state that it is viewed as less important in bedrooms and in kitchens. We have therefore analysed sunlight internally to the proposed development blocks for the main living spaces (i.e. living rooms and living room/kitchen/dining rooms (LKDs)).

In daylight terms, four out of five of the proposed habitable rooms meet the BRE Guidelines in ADF terms for their room usage, including the LKD and one out of the two bedrooms. The one room that does not meet the BRE Guidelines is the basement guest bedroom, which in our opinion is of less sensitivity to daylight given its position and usage. In daylight distribution terms, four out of five rooms meet the target value (80%); the one room not meeting the target value is again the basement guest bedroom.

In sunlight terms, the main living room on the ground floor meets the BRE Guidelines for both annual and winter sunlight and as such, the proposal is compliant with the BRE Guidelines for sunlight.

7. Sunlight Amenity

We have assessed the level of sunlight to the outdoor amenity spaces (i.e. gardens) associated with the surrounding properties. The results of the analysis to surrounding amenity spaces can be found on drawings 2059-04-05 in Appendix 4. The BRE Guidelines recommend that an outdoor amenity space receives at least 2 hours of sunlight on March 21st to at least 50% of its area in the proposed situation or retains at least 80% of its former value with the proposal in place.

We have analysed the gardens to the rear of the following properties for sunlight amenity:

- 24 Gloucester Crescent
- 25 Gloucester Crescent

The amenity space associated with 24 Gloucester Crescent meets the BRE Guidelines with the proposal in place since it experiences no change in its existing level of sunlight. The amenity space associated with 25 Gloucester Crescent meets the BRE Guidelines for sunlight amenity as it retains 80% of its former value with the proposal in place.

8. Conclusions and Recommendations

This is a report into the impact of the development at 46 Inverness Street on the daylight and sunlight to surrounding residential properties and internally to the scheme itself. This analysis has been based upon scheme drawings provided by Purcell, a photogrammetric survey, and site photography.

The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines (Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice by P. Littlefair (2011)), which is used by the local authority to determine the acceptability of a proposal in terms of its effect on neighbouring daylight and sunlight amenity.

The proposals have been designed specifically to limit any impact, in terms of sunlight and daylight, to neighbouring properties. The overall height of the proposed building was higher in earlier iterations of the design, but during the development of the proposals the applicant expressed a desire to reduce the height, in order to limit any impact, therefore the proposed building height has been reduced to the minimum possible with this in mind. Furthermore, the new roof has purposefully been designed to slope down towards the garden of No. 24, to further limit any impact and, although this results in restricted headroom to parts of the first floor and therefore also impacts on the usable floor space, the applicant has expressed a desire to incorporate this into the design nonetheless.

All windows in all surrounding properties analysed meet the BRE Guidelines for daylight in terms of VSC.

In sunlight terms, all windows either face within 90° of due north or meet the BRE Guidelines for sunlight.

Internally to the scheme, 4 out of 5 rooms analysed meet the BRE Guidelines for ADF and daylight distribution. The one remaining room, a guest bedroom, is positioned in the basement and so may be argued as being less sensitive to daylight, particularly given its usage. In sunlight terms, the main living room meets the BRE Guidelines for both annual and winter sunlight.

In sunlight amenity terms, the rear gardens at 24 and 25 Gloucester Crescent both meet the BRE Guidelines for sunlight amenity.

APPENDIX 1

Drawings

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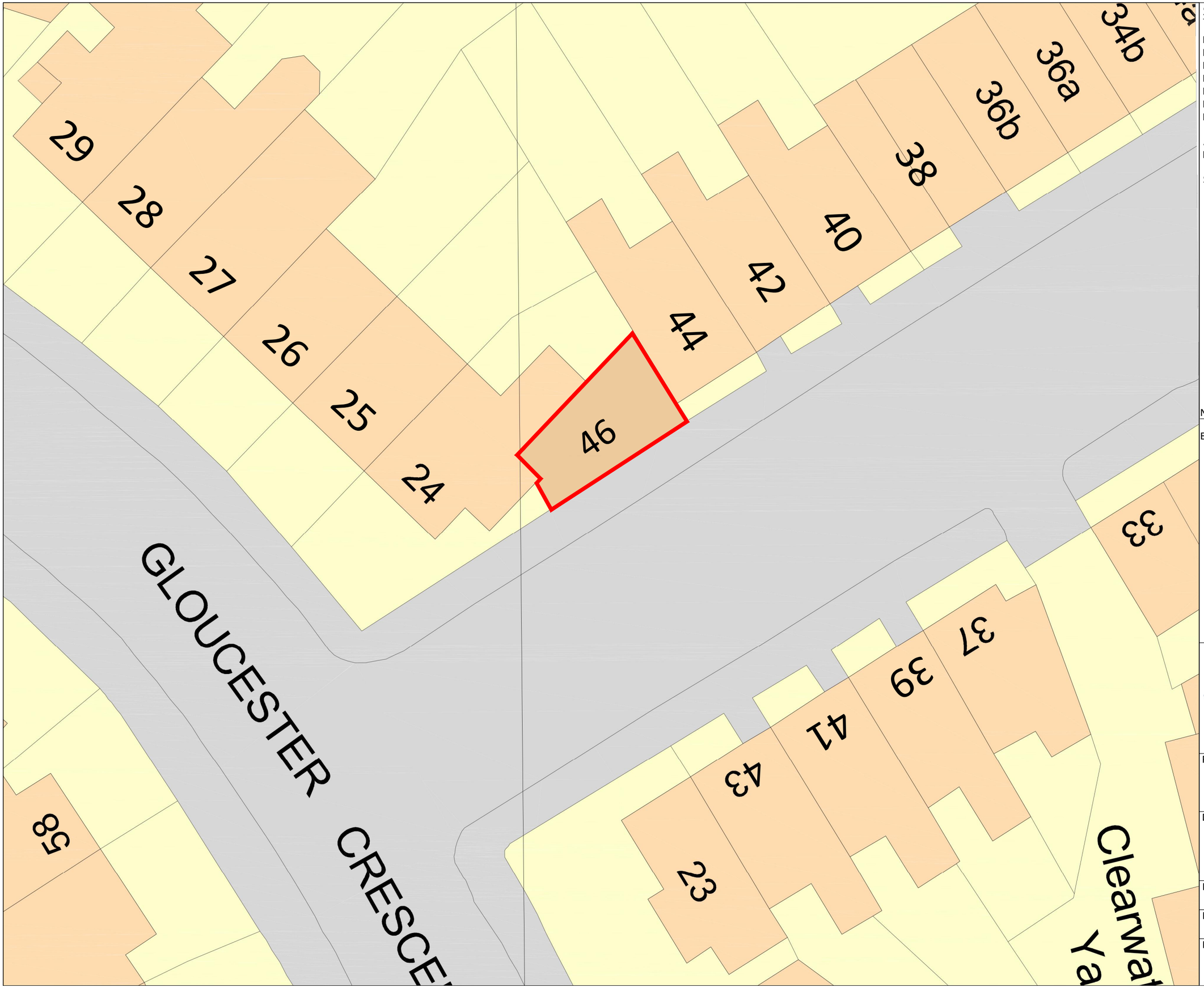

SOURCES OF INFORMATION:

PURCELL
IR01 (RECEIVED 05.10.2017)
IR02 (RECEIVED 23.10.2017)
IR03 (RECEIVED 24.10.2017)
IR04 (RECEIVED 10.08.2018)
IR06 (RECEIVED 30.08.2018)
IR07 (RECEIVED 28.11.2018)

ACCUCITIES
IR05 (RECEIVED 21.08.2018)

SITE PHOTOGRAPHS

N

NOTES:

EXISTING BUILDING SHOWN IN GREEN

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Tel: 020 7183 9109
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PROJECT
46 INVERNESS STREET
LONDON, NW1

DRAWING
PLAN VIEW
EXISTING CONDITION

DATE	SCALE @ A3
17.12.18	1:200
MODELED BY	DRAWN BY
DF	JG
PROJECT No.	REL No.- DRAWING No.
2059	02-01

SOURCES OF INFORMATION:

PURCELL
IR01 (RECEIVED 05.10.2017)
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IR03 (RECEIVED 24.10.2017)
IR04 (RECEIVED 10.08.2018)
IR06 (RECEIVED 30.08.2018)
IR07 (RECEIVED 28.11.2018)

ACCUCITIES
IR05 (RECEIVED 21.08.2018)

SITE PHOTOGRAPHS

NOTES:

ALL AOD HEIGHTS ARE IN METRES

EXISTING BUILDING SHOWN IN GREEN

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PROJECT
46 INVERNESS STREET
LONDON, NW1

DRAWING
3D VIEW
EXISTING CONDITION

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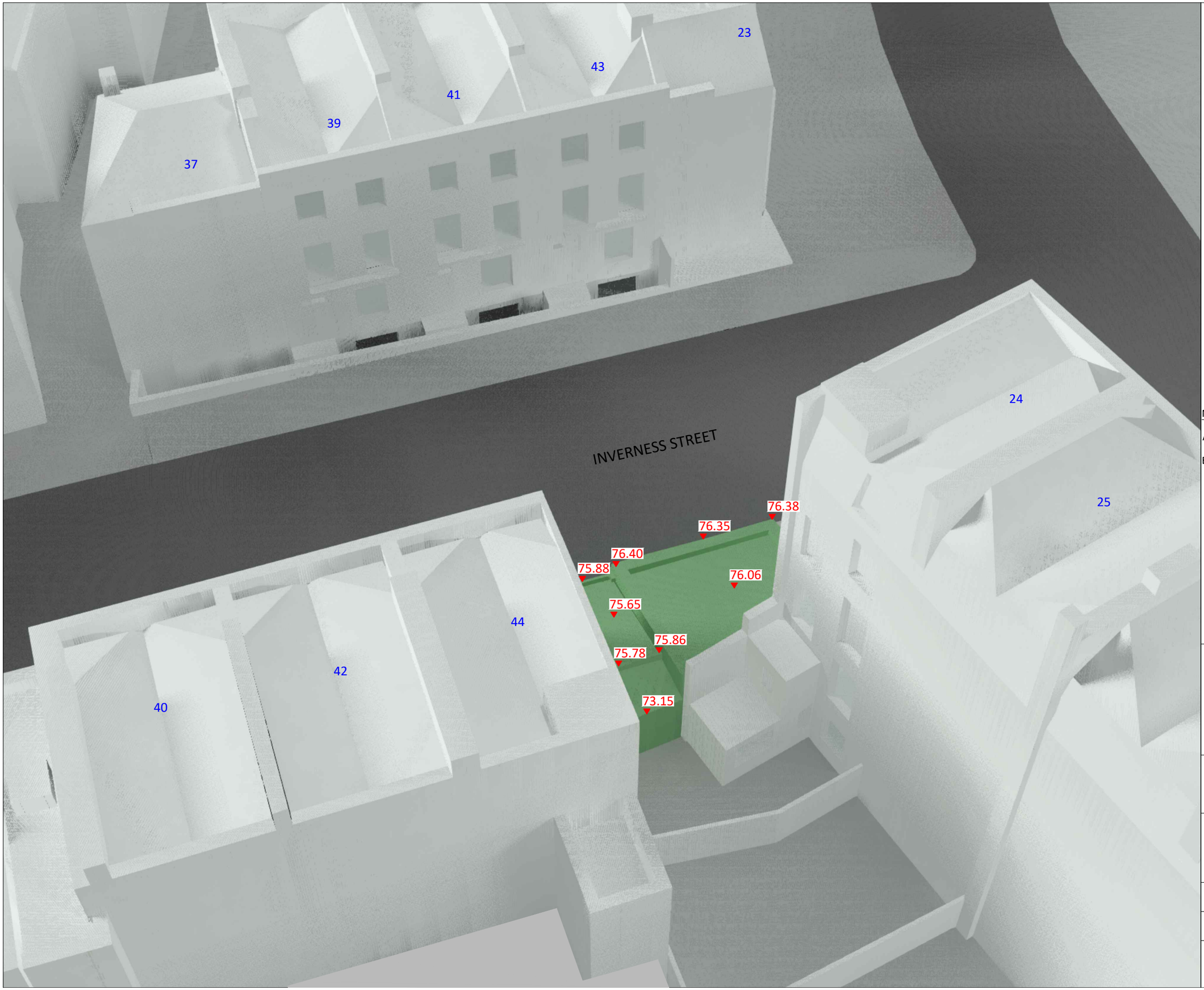
PROJECT No.	REL No.- DRAWING No.
2059	02-02



SOURCES OF INFORMATION:

PURCELL
IR01 (RECEIVED 05.10.2017)
IR02 (RECEIVED 23.10.2017)
IR03 (RECEIVED 24.10.2017)
IR04 (RECEIVED 10.08.2018)
IR06 (RECEIVED 30.08.2018)
IR07 (RECEIVED 28.11.2018)

ACCUCITIES
IR05 (RECEIVED 21.08.2018)

SITE PHOTOGRAPHS

NOTES:

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DRAWING
3D VIEW
EXISTING CONDITION

DATE	SCALE @ A3
17.12.18	NTS
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DF	JG
PROJECT No.	REL No.- DRAWING No.
2059	02-03

SOURCES OF INFORMATION:

WALDRAMS LTD
REL_03

N

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46 INVERNESS STREET
LONDON, NW1

DRAWING

PLAN VIEW
PROPOSED

DATE	SCALE @ A3
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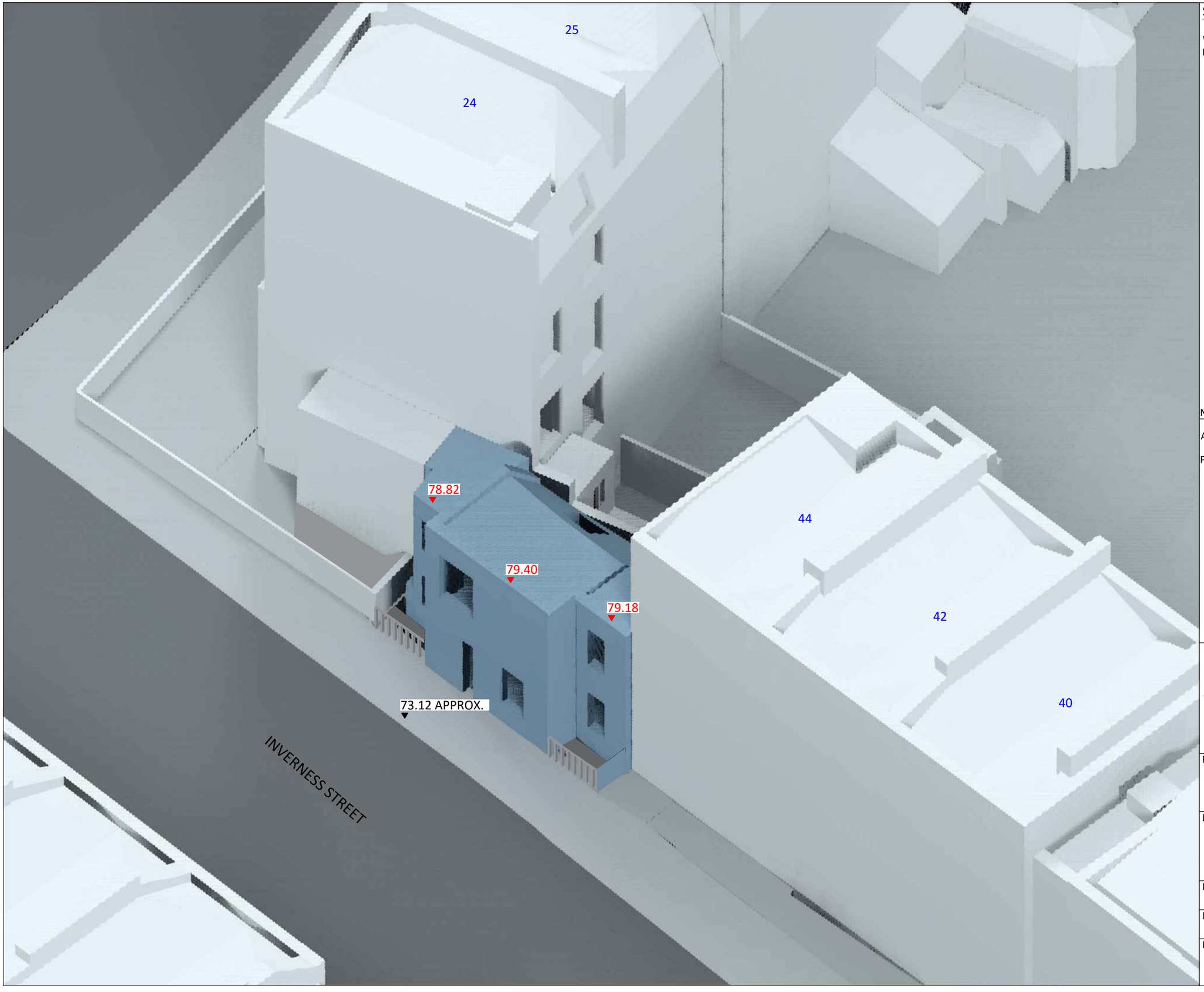
MODELED BY	DRAWN BY
DF	DF

PROJECT No.	REL No.- DRAWING No.
2059	04-01



SOURCES OF INFORMATION:

WALDRAMS LTD
REL_03

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PROJECT

46 INVERNESS STREET
LONDON, NW1

DRAWING

3D VIEW
PROPOSED

DATE	SCALE @ A3
22.02.19	NTS
MODELED BY	DRAWN BY
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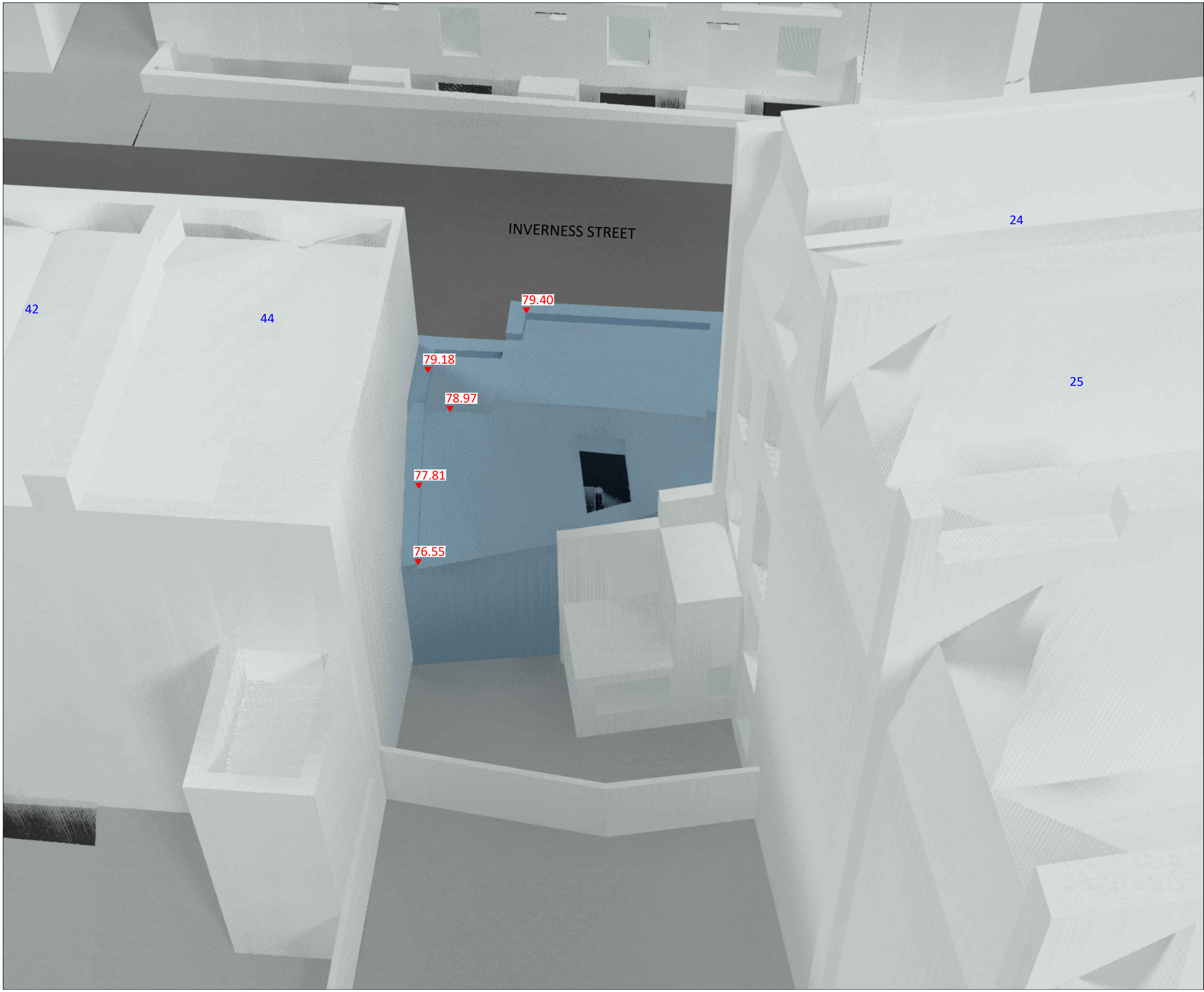
PROJECT No.	REL No.- DRAWING No.
2059	04-02



SOURCES OF INFORMATION:

WALDRAMS LTD
REL_03

NOTES:

ALL AOD HEIGHTS ARE IN METRES

PROPOSED SHOWN IN BLUE

waldrams
Email: contact@waldrams.com
Tel: 020 7183 9109
www.waldrams.com

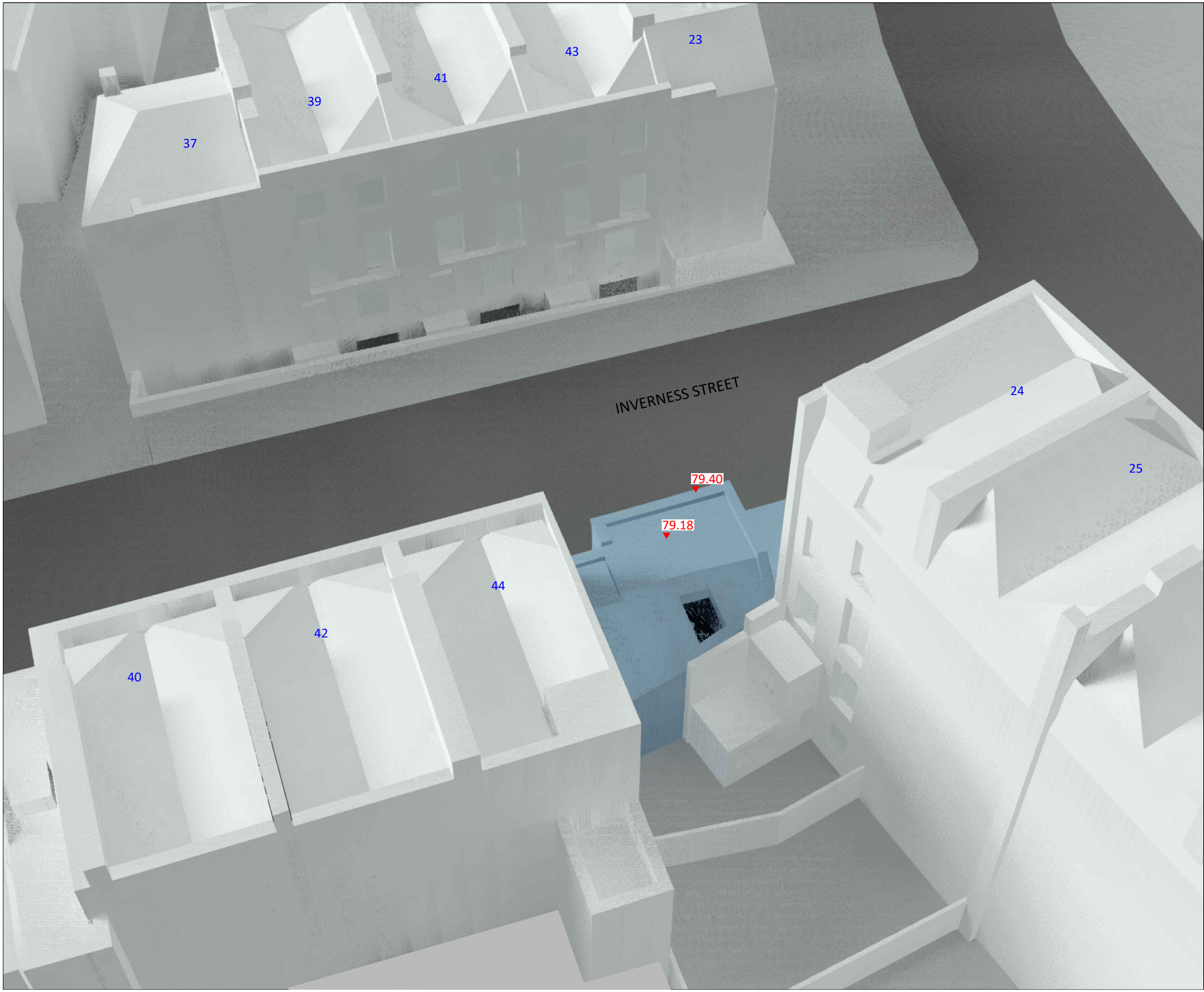
PROJECT

46 INVERNESS STREET
LONDON, NW1

DRAWING

3D VIEW
PROPOSED

DATE	SCALE @ A3
22.02.19	NTS
MODELED BY	DRAWN BY
DF	DF
PROJECT No.	REL No.- DRAWING No.
2059	04-03



SOURCES OF INFORMATION:

WALDRAMS LTD
REL_03

NOTES:

ALL AOD HEIGHTS ARE IN METRES

PROPOSED SCHEME SHOWN IN BLUE

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Tel: 020 7183 9109
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PROJECT

46 INVERNESS STREET
LONDON, NW1

DRAWING

3D VIEW
PROPOSED SCHEME

DATE	SCALE @ A3
22.02.19	NTS
MODELED BY	DRAWN BY
DF	DF
PROJECT No.	REL No.- DRAWING No.
2059	04-04

VIEW 01

39

41

43

W2

W1

W2

W1

W2

W1

W2

W1

W2

W1

W1

W1

W1

INVERNESS STREET

SOURCES OF INFORMATION:

PURCELL
IR01 (RECEIVED 05.10.2017)
IR02 (RECEIVED 23.10.2017)
IR03 (RECEIVED 24.10.2017)
IR04 (RECEIVED 10.08.2018)
IR06 (RECEIVED 30.08.2018)
IR07 (RECEIVED 28.11.2018)

ACCUCITIES
IR05 (RECEIVED 21.08.2018)

SITE PHOTOGRAPHS

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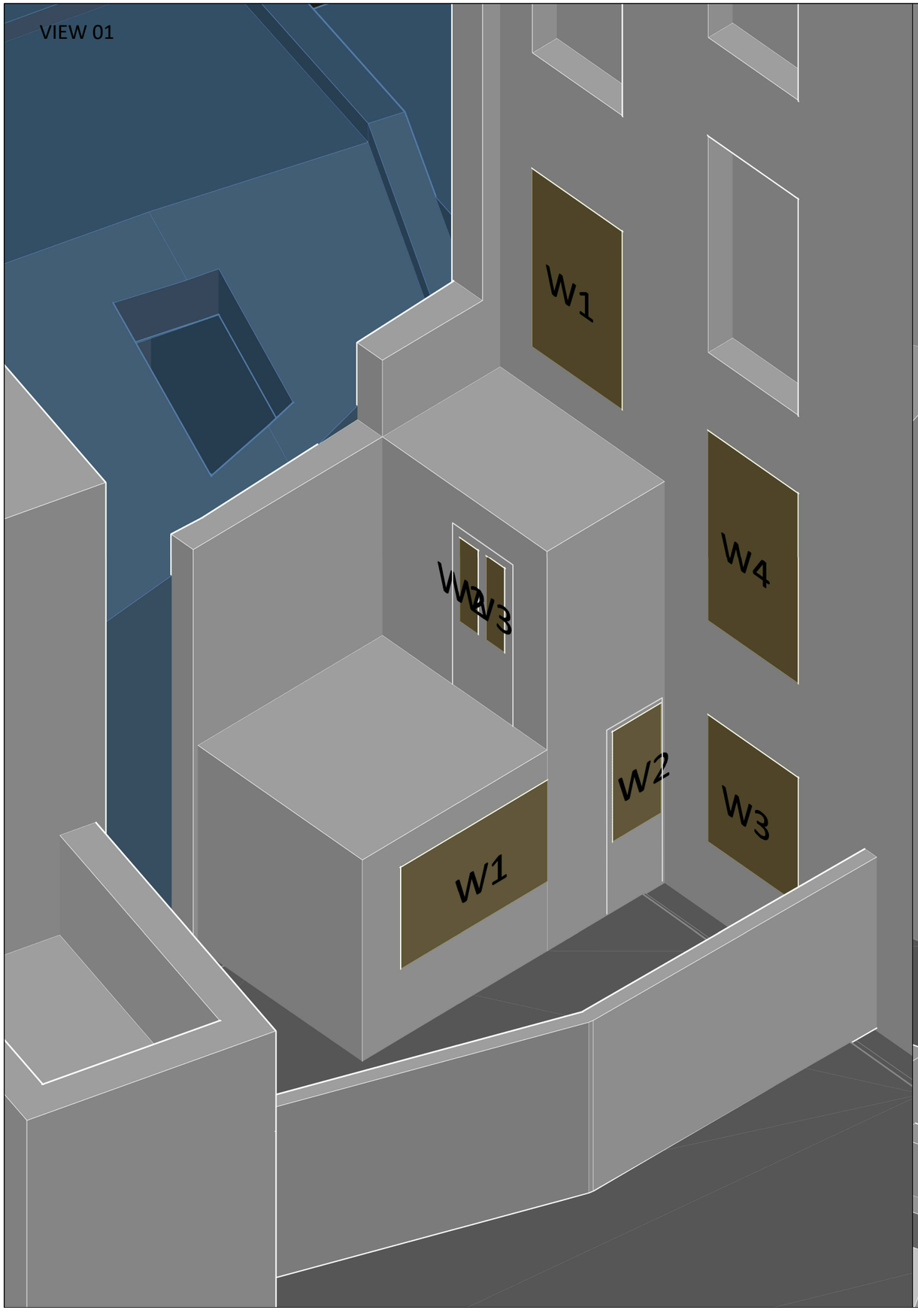
PROJECT
46 INVERNESS STREET
LONDON, NW1

DRAWING
WINDOW MAP

DATE	SCALE @ A3
04.12.18	NTS
MODELED BY	DRAWN BY
DF	EF
PROJECT No.	REL No.- DRAWING No.
2059	02-07

VIEW 01



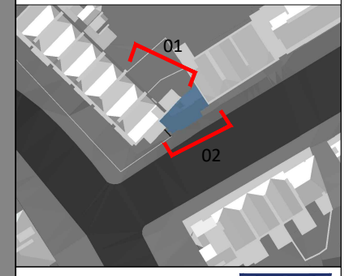
VIEW 02

SOURCES OF INFORMATION:

PURCELL
IR01 (RECEIVED 05.10.2017)
IR02 (RECEIVED 23.10.2017)
IR03 (RECEIVED 24.10.2017)
IR04 (RECEIVED 10.08.2018)
IR06 (RECEIVED 30.08.2018)
IR07 (RECEIVED 28.11.2018)

ACCUCITIES
IR05 (RECEIVED 21.08.2018)

SITE PHOTOGRAPHS



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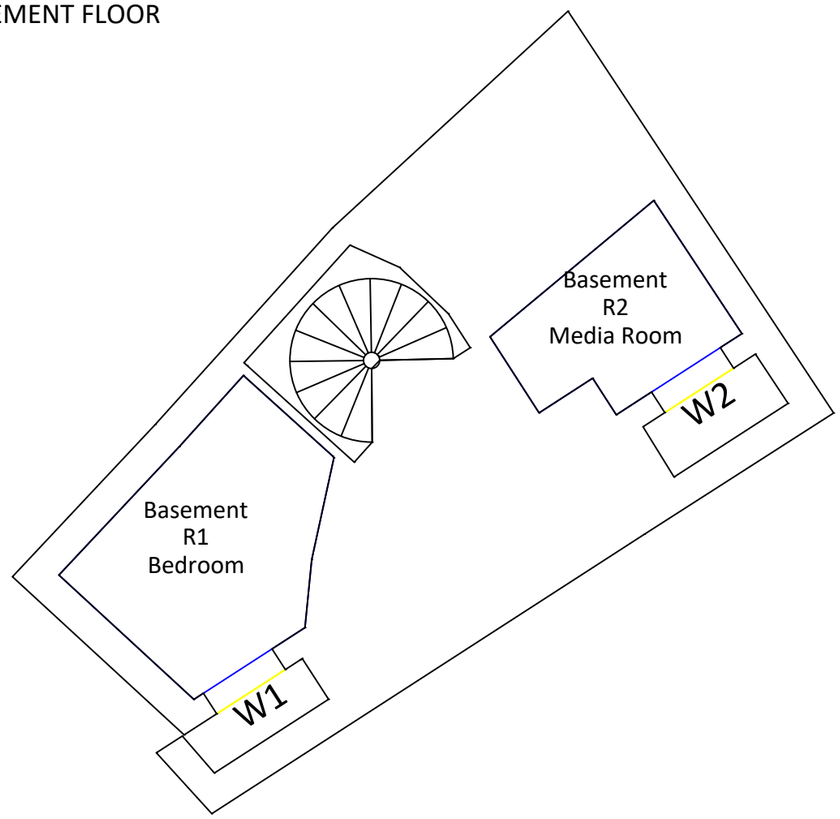
PROJECT
46 INVERNESS STREET
LONDON, NW1

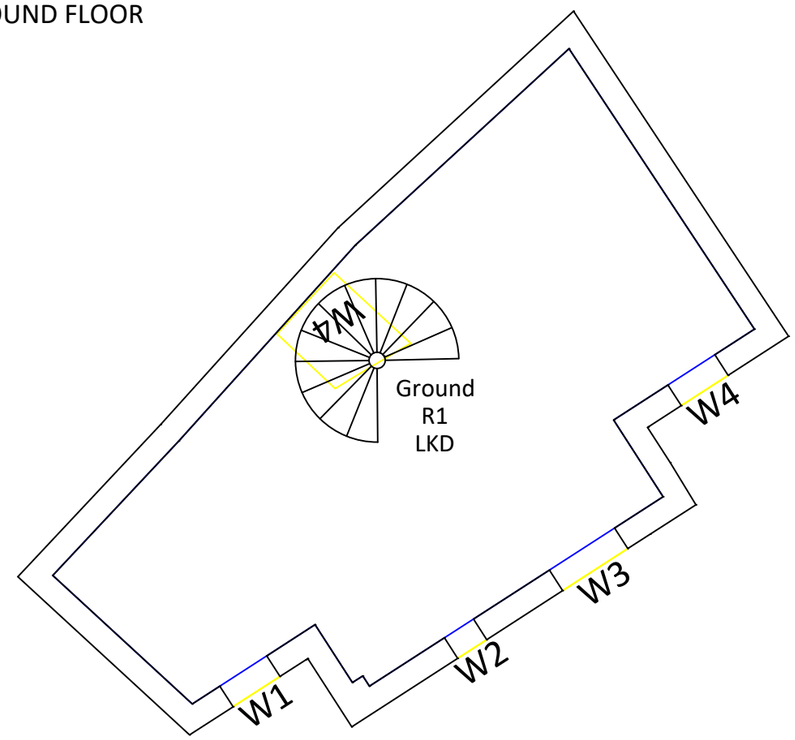
DRAWING
WINDOW MAP
24 GLOUCESTER CRESCENT

DATE	SCALE @ A3
17.12.18	NTS
MODELED BY	DRAWN BY
DF	EF
PROJECT No.	REL No.- DRAWING No.
2059	02-08

BASEMENT FLOOR



GROUND FLOOR



SOURCES OF INFORMATION:

PURCELL
IR10 (RECEIVED 13.03.2019)

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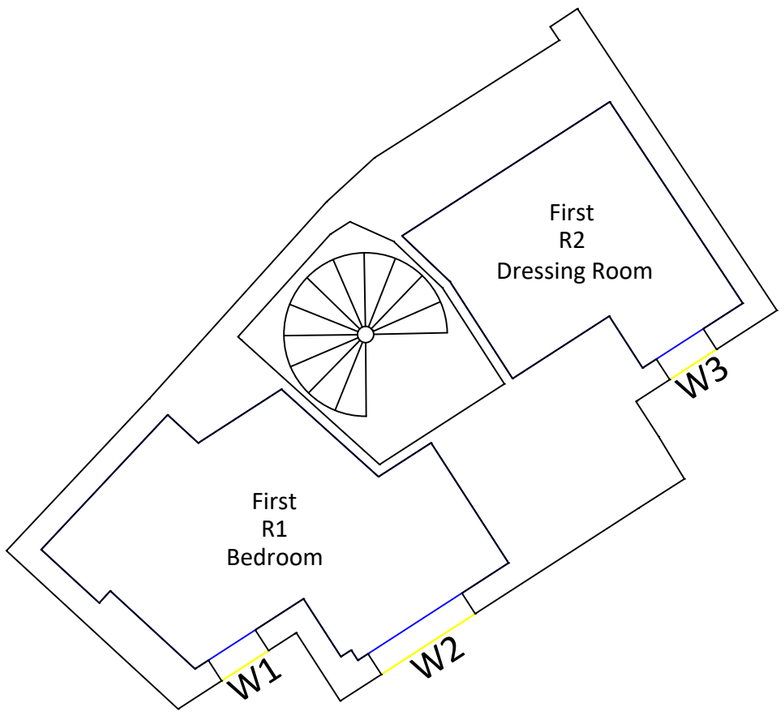
FIRST FLOOR



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PROJECT
46 INVERNESS STREET
LONDON, NW1

DRAWING
INTERNAL LAYOUTS

DATE	SCALE @ A3
14.03.19	1:75
MODELED BY	DRAWN BY
ET	ET
PROJECT No.	REL No.- DRAWING No.
2059	05-01

APPENDIX 2

Daylight & Sunlight Results

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daylight & sunlight

Daylight_Sunlight Analysis Table
Surroundings

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					Vertical Sky Component			No Skyline				Annual Probable Sunlight Hours					
Address/Floor	Room Ref	Property Type	Room Usage	Window Ref	Existing VSC %	Proposed VSC %	Ratio Proposed /Existing VSC	Room Area m^2	Existing NSC %	Proposed NSC %	Ratio Proposed /Existing NSC	Existing Sunlight Annual%	Proposed Sunlight Annual%	Ratio Proposed /Existing Annual	Existing Sunlight Winter%	Proposed Sunlight Winter%	Ratio Proposed /Existing Winter
43 Inverness Street																	
Basement	R1	Residential	Unknown	W1	15.28	15.28	1.00	13.73	88.77	73.97	0.83	North	North	North	North	North	North
Ground	R1	Residential	Unknown	W1	27.03	26.5	0.98	13.73	94.67	94.57	0.99	North	North	North	North	North	North
Ground	R2	Residential	Circulation	W2	25.28	24.68	0.97	5.62	59.78	59.78	1.00	North	North	North	North	North	North
First	R1	Residential	Unknown	W1	31.73	31.52	0.99	9.48	90.97	90.95	0.99	North	North	North	North	North	North
First	R2	Residential	Unknown	W2	31.92	31.62	0.99	9.87	91.32	91.31	0.99	North	North	North	North	North	North
41 Inverness Street																	
Basement	R1	Residential	Unknown	W1	15.04	15.04	1.00	13.76	78.19	66.91	0.85	North	North	North	North	North	North
Ground	R1	Residential	Unknown	W1	26.94	26.32	0.97	13.76	94.5	94.49	0.99	North	North	North	North	North	North
Ground	R2	Residential	Circulation	W2	25.05	24.59	0.98	5.65	62.21	62.21	1.00	North	North	North	North	North	North
First	R1	Residential	Unknown	W1	31.89	31.63	0.99	9.51	97.88	97.88	0.99	North	North	North	North	North	North
First	R2	Residential	Unknown	W2	31.78	31.59	0.99	9.91	98.81	98.81	0.99	North	North	North	North	North	North
39 Inverness Street																	
Basement	R1	Residential	Unknown	W1	12.91	12.91	1.00	13.59	65.83	63.89	0.97	North	North	North	North	North	North
Ground	R1	Residential	Unknown	W1	26.17	25.96	0.99	13.59	91.99	91.94	0.99	North	North	North	North	North	North
Ground	R2	Residential	Circulation	W2	23.95	23.95	1.00	5.48	46.96	46.96	1.00	North	North	North	North	North	North
First	R1	Residential	Unknown	W1	31.48	31.39	0.99	9.34	99.33	99.33	0.99	North	North	North	North	North	North
First	R2	Residential	Unknown	W2	31.17	31.17	0.99	9.73	98.88	98.88	1.00	North	North	North	North	North	North
24 Gloucester Crescent																	
Ground	R1	Residential	Unknown	W1	16.63	16.63	1.00	7.42	98.47	98.47	1.00	North	North	North	North	North	North
Ground	R1	Residential	Unknown	W2	15.23	15.23	1.00	7.42	98.47	98.47	1.00	North	North	North	North	North	North
Ground	R2	Residential	Unknown	W3	16.94	16.94	1.00	12.41	55.9	55.9	1.00	North	North	North	North	North	North
First	R1	Residential	Unknown	W1	28.81	0	0.00	4.93	86.2	60.07	0.69	60	0	0.00	16	0	0.00
First	R1	Residential	Unknown	W2	17.59	17.59	0.99	4.93	86.2	60.07	0.69	North	North	North	North	North	North
First	R1	Residential	Unknown	W3	18.59	18.51	0.99	4.93	86.2	60.07	0.69	North	North	North	North	North	North
First	R2	Residential	Unknown	W4	26.69	26.45	0.99	12.41	89.88	89.88	0.99	North	North	North	North	North	North
Second	R1	Residential	Circulation	W1	28.26	28.26	1.00	4.81	99.32	99.32	0.99	North	North	North	North	North	North

APPENDIX 3

Internal Daylight & Sunlight Results

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daylight & sunlight

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.	Window Ref.	Glass Transmittance	Maintenance Factor	Glazed Area	Clear Sky Angle Proposed	Room Surface Area	Average Surface Reflectance	Below Working Plane Factor	ADF Proposed	Req'd Value
					Proposed									
Basement	R1		Residential	Bedroom	W1-L	0.68	1.00	0.25	12.15	40.93	0.69	0.15	0.01	
					W1-U	0.68	1.00	1.16	21.11	40.93	0.69	1.00	0.77	
													0.78	1.00
Basement	R2		Residential	Media Room	W2-L	0.68	1.00	0.25	14.96	29.83	0.69	0.15	0.02	
					W2-U	0.68	1.00	1.16	25.80	29.83	0.69	1.00	1.29	
													1.31	1.00
Ground	R1		Residential	LKD	W1	0.68	1.00	0.78	53.18	128.16	0.69	1.00	0.42	
					W2-L	0.68	1.00	0.33	53.21	128.16	0.69	0.15	0.03	
					W2-U	0.68	1.00	0.57	55.15	128.16	0.69	1.00	0.32	
					W4-L	0.68	1.00	0.01	49.25	128.16	0.69	0.15	0.00	
					W4-U	0.68	1.00	0.93	50.36	128.16	0.69	1.00	0.47	
					W3-L	0.50	1.00	0.02	59.76	128.16	0.69	0.15	0.00	
					W3-U	0.50	1.00	1.35	60.90	128.16	0.69	1.00	0.61	
					W4	0.50	1.00	1.51	N/A	128.16	0.69	1.00	0.55	
													2.40	2.00
First	R1		Residential	Bedroom	W1-L	0.68	1.00	0.04	56.88	64.99	0.69	0.15	0.01	
					W1-U	0.68	1.00	0.74	57.19	64.99	0.69	1.00	0.83	
					W2-L	0.68	1.00	0.09	68.02	64.99	0.69	0.15	0.02	
					W2-U	0.68	1.00	2.15	69.47	64.99	0.69	1.00	2.96	
													3.82	1.00
First	R2		Residential	Dressing Room	W3-L	0.68	1.00	0.01	55.08	44.65	0.69	0.15	0.00	
					W3-U	0.68	1.00	0.94	56.67	44.65	0.69	1.00	1.54	
													1.54	1.00

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.		Room Area	Lit Area Proposed
			Proposed				
Basement	R1		Residential	Bedroom	Area m2	7.40	2.74
					% of room		37%
	R2		Residential	Media Room	Area m2	4.25	3.49
					% of room		82%
Ground	R1		Residential	LKD	Area m2	32.83	31.36
					% of room		96%
First	R1		Residential	Bedroom	Area m2	11.22	11.05
					% of room		98%
	R2		Residential	Dressing Room	Area m2	7.43	6.12
					% of room		82%

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.	Window Ref.	Window Attribute	VSC	Meets BRE Criteria	Window Orientation	Annual	Winter
Proposed											
Basement	R1		Residential	Bedroom	W1		N/R	N/A	147°	6	0
	R2		Residential	Media Room	W2		N/R	N/A	147°	5	0
Ground	R1		Residential	LKD	W1		N/R	N/A	147°	36	12
					W2		N/R	N/A	147°	25	4
					W4		N/R	N/A	147°	31	6
					W3		N/R	N/A	147°	64	15
					W4		N/R	N/A	328°N	*North*	*North*
First	R1		Residential	Bedroom	W1		N/R	N/A	147°	37	13
					W2		N/R	N/A	147°	58	17
	R2		Residential	Dressing Room	W3		N/R	N/A	147°	39	11

APPENDIX 4

Sunlight Amenity Analysis

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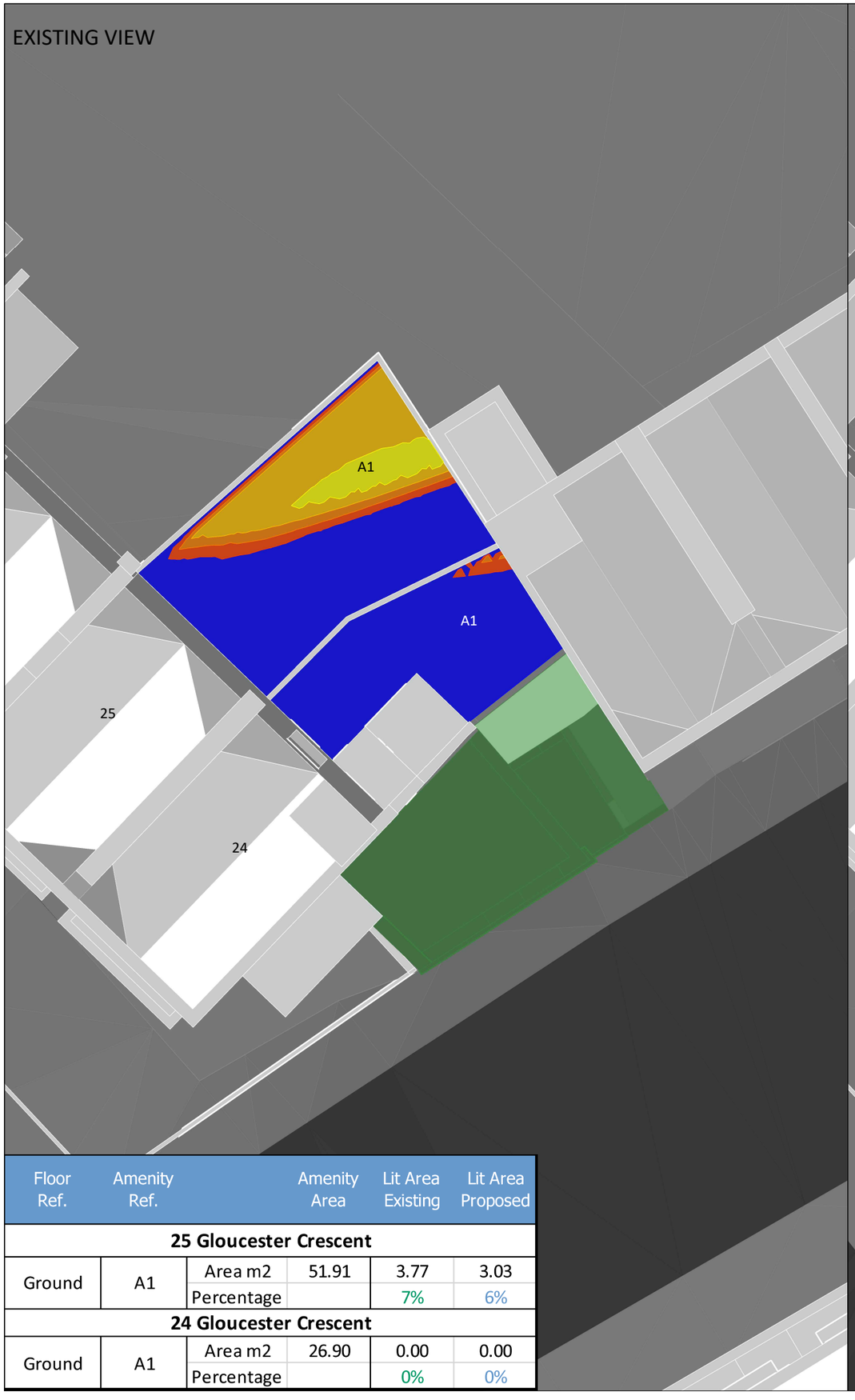
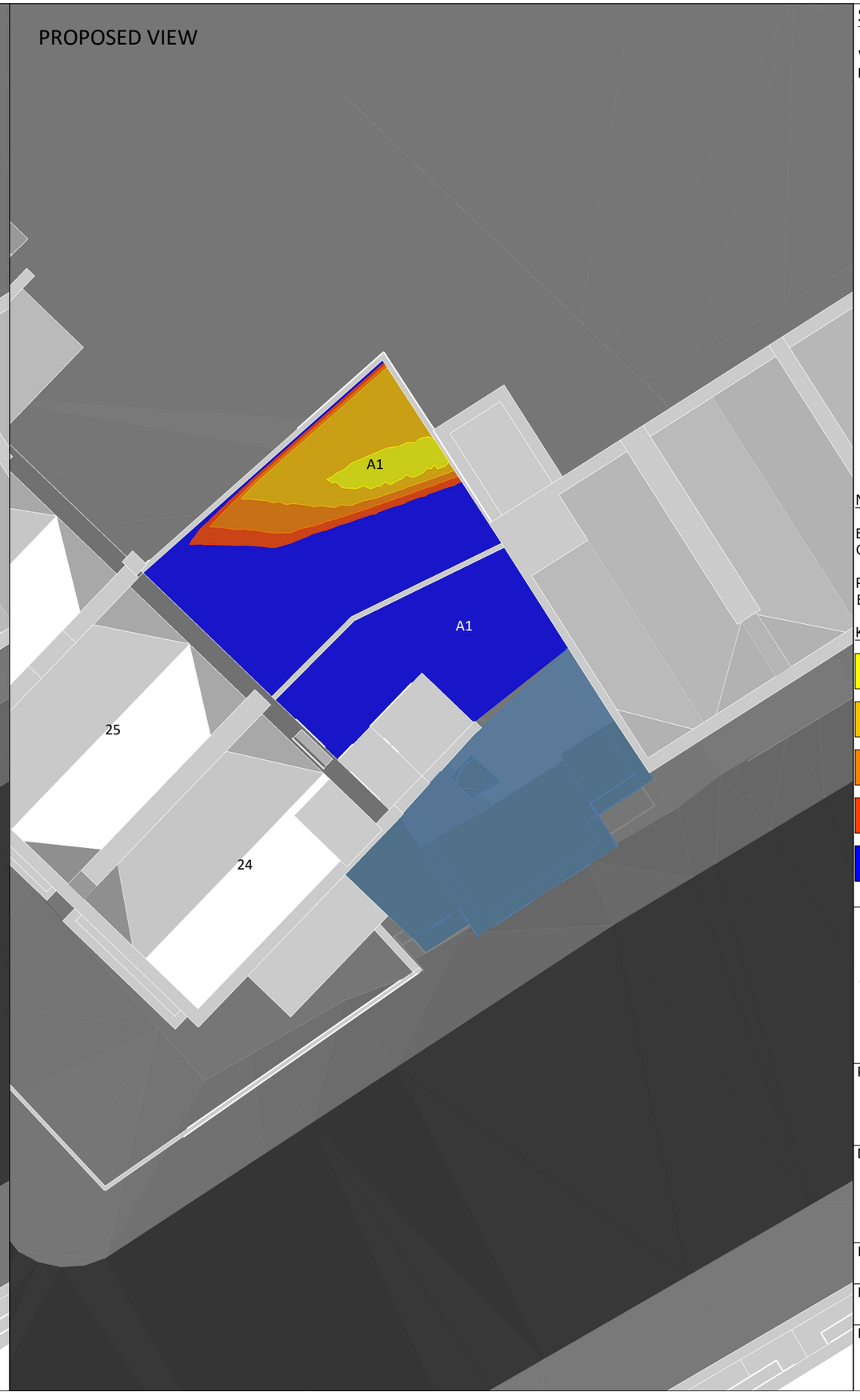
daylight & sunlight

EXISTING VIEW



PROPOSED VIEW



Floor Ref.	Amenity Ref.		Amenity Area	Lit Area Existing	Lit Area Proposed
25 Gloucester Crescent					
Ground	A1	Area m2	51.91	3.77	3.03
		Percentage		7%	6%
24 Gloucester Crescent					
Ground	A1	Area m2	26.90	0.00	0.00
		Percentage		0%	0%

SOURCES OF INFORMATION:

WALDRAMS LTD
REL_03

N

NOTES:

EXISTING SCHEME SHOWN IN GREEN

PROPOSED SCHEME SHOWN IN BLUE

KEY:

- MORE THAN TWO HOURS OF SUN
- FROM 1.50 TO 2.00 HOURS OF SUN
- FROM 1.00 TO 1.50 HOURS OF SUN
- FROM 0.50 TO 1 HOURS OF SUN
- LESS THAN 0.5 HOURS OF SUN

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PROJECT

46 INVERNESS STREET
LONDON, NW1

DRAWING

AMENITY ANALYSIS
EXISTING VS PROPOSED

DATE	SCALE @ A3
22.02.19	1:150
MODELED BY	DRAWN BY
DF	DF
PROJECT No.	REL No.- DRAWING No.
2059	04-05