malcolm hollis

Daylight and Sunlight Report for the Proposed Development at 42 Elsworthy Road, London, NW3 3DL

Prepared for	**Marek Wojciechowski Architects**
Prepared by	**Stephen Parker BSc (Hons) Dip Surv**
Date	**02 October 2018**
Reference	**61680/16/SJP/SMM**

Malcolm Hollis LLP
140 London Wall, London, EC2Y 5DN
T +44 20 7622 9555 **F** +44 20 7627 9850 **W** malcolmhollis.com

Daylight and Sunlight Report for the Proposed Development at 42 Elsworthy Road, London, NW3 3DL
Prepared for Marek Wojciechowski Architects

malcolm hollis

Contents

Page

1. Executive Summary

1.1 Scope

1.1.1 We have been instructed by Marek Wojciechowski Architects to determine the impact upon the daylight and sunlight amenity of the existing surrounding buildings which may arise from the proposed development(s) at 42 Elsworthy Road, London, NW3 3DL. We have also undertaken a sample of internal daylight and sunlight tests to determine whether the proposed building itself will receive sufficient daylight and sunlight.

1.2 Assessment Criteria

1.2.1 To ensure that this assessment can be appropriately evaluated against The London Borough of Camden's planning policy, daylight and sunlight calculations have been undertaken in accordance with the Building Research Establishment Report `Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2nd Edition, 2011(the "BRE guide") and also British Standard 8206 – 2: 2008 – `Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE guide refers. The standards and tests applied within this assessment are briefly described in Appendix A.

1.3 Summary of Effect of Proposed Development on Existing Surrounding Buildings

1.3.1 Daylight & Sunlight

We have undertaken 25° tests to those neighbouring properties likely to be affected by the development. On all occasions, the properties considered are below this line and are therefore considered to remain adequately lit following the construction of the development.

1.4 Summary of Analysis of Daylight, Sunlight and Overshadowing for the New Development

Internal Daylight

1.4.1 Of the 7 rooms assessed for Average Daylight Factor (ADF) and Daylight Distribution (DD) all will continue to meet or exceed the target values as set out in the BRE guide for daylight.

Internal Sunlight

1.4.2 The results for the Annual Probable Sunlight Hours (APSH) assessment show that 3 rooms fall short of BRE criteria for sunlighting. However, the BRE sunlight guidelines note that the main requirement for sunlighting relates to living rooms whereas bedrooms and kitchen are considered as less as important. As such, the three failures all occupy bedrooms and kitchens and the failures are not thought to be significant.

1.5 Overall

1.5.1 Overall, we consider that the proposed development has been well designed in order to eliminate any potential effects in relation to the properties surrounding the site. Moreover, the proposed development itself will receive sufficient daylight and sunlight and therefore complies with the aspirations of the BRE guide upon completion.

2. Introduction

2.1 Scope

2.1.1 We have been instructed by Marek Wojciechowski Architects to determine the impact upon the daylight and sunlight amenity that may arise from the proposed development of 42 Elsworthy Road, London, NW3 3DL in respect of the existing surrounding buildings. We have also undertaken internal daylight and sunlight tests and an overshadowing assessment to determine whether the proposed building will receive sufficient daylight and sunlight.

2.2 Planning Policy

2.2.1 London Borough of Camden Council's Local Plan (LP) refers to the following documents as those being used to review adequacy of daylight and sunlight. This Report is therefore based on the following publications which contain the accepted standards for assessing daylight and sunlight:

- Building Research Establishment (BRE) Report "Site Layout Planning for Daylight and Sunlight – a guide to good practice, 2nd Edition, 2011" ("the BRE guide")
- BS8206 – Part 2: 2008 Code of Practice for Daylighting.

2.2.2 London Borough of Camden Council's Local Plan contains the following policy guidance under Policy A1 Managing the impact of development:

Sunlight, daylight and overshadowing

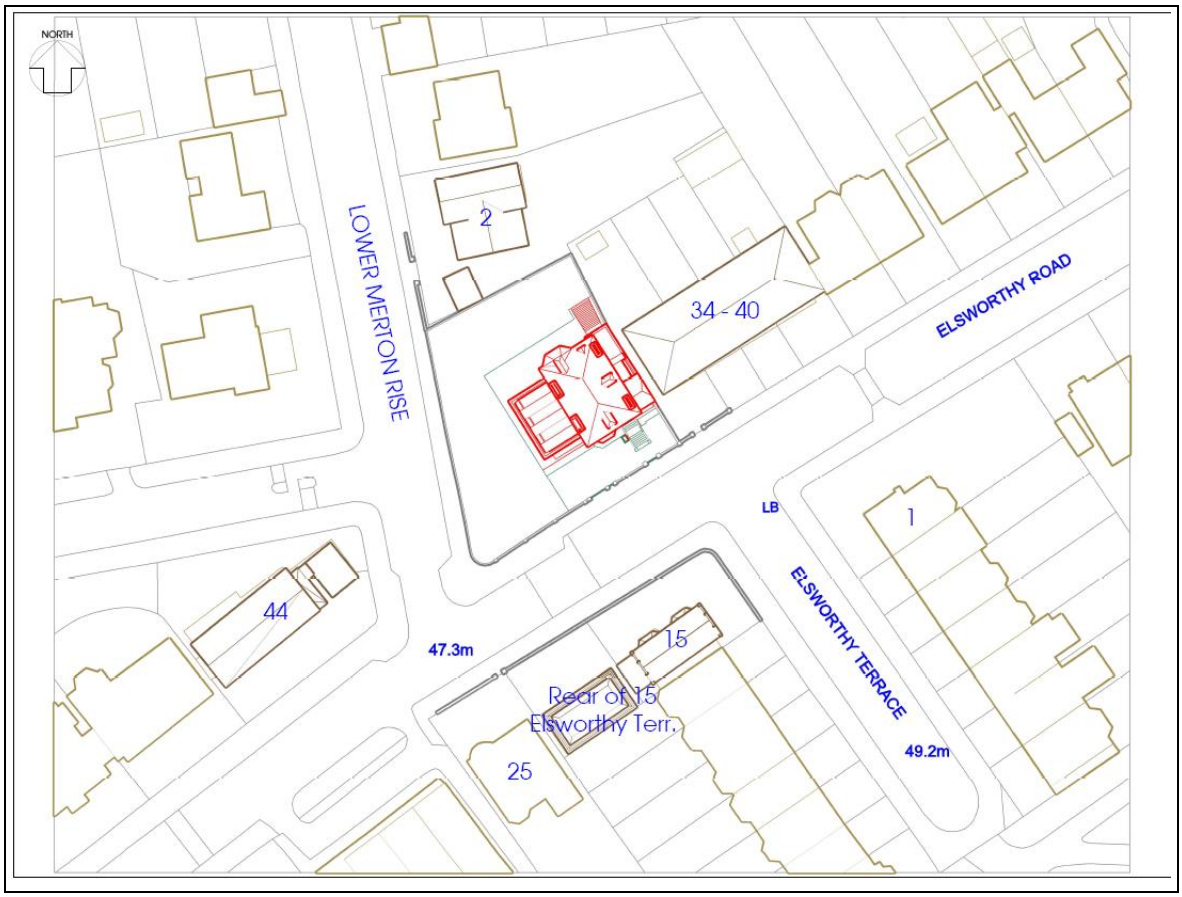
6.5 Loss of daylight and sunlight can be caused if spaces are overshadowed by development. To assess whether acceptable levels of daylight and sunlight are available to habitable, outdoor amenity and open spaces, the Council will take into account the most recent guidance published by the Building Research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

2.3 Assessment Criteria

2.3.1 To ensure that this assessment can be appropriately evaluated against The London Borough of Camden's planning policy, daylight and sunlight calculations have been undertaken in accordance with the `BRE guide' and also on BS8206–2: 2008 to which the BRE guide refers. The standards and tests applied are briefly described in Appendix A.

2.3.2 The existing buildings adjacent to the proposed development site are shown on the Site Plan (see below) and comprise:

Name/Address of Building	Assumed Use
2 Lower Merton Rise	Residential
44 Elsworthy Road	Residential
15 Elsworthy Terrace	Residential



2.4 Limitations

2.4.1 Our assessment is based on the scheme drawings provided by MWA Architects and Mobile CAD Surveying as listed below:

Title	Date
MWA Architects – Proposed Drawings	
P01_Proposed Ground Floor Plan.dwg	19 July 2018
P02_Proposed Lower Ground Floor Plan.dwg	19 July 2018
P03_Proposed Basement Floor Plan.dwg	19 July 2018
P04_Proposed First Floor Plan.dwg	19 July 2018
P05_Proposed Second Floor Plan.dwg	19 July 2018
P06_Proposed Third Floor Plan.dwg	19 July 2018
P07_Proposed Roof Plan.dwg	19 July 2018
Mobile CAD Surveying – Topographical Survey	02 August 2018
1851 - 01 Lower Ground Floor Plan.dwg	02 August 2018
1851 - 02 Ground Floor Plan - Rev A.dwg	02 August 2018
1851 - 03 First Floor Plan - Rev A.dwg	02 August 2018
1851 - 04 Second Floor Plan - Rev A.dwg	02 August 2018
1851 - 05 Third Floor Plan - Rev A.dwg	02 August 2018
1851 - 06 Loft Plan - Rev A.dwg	02 August 2018

Title	Date
1851 - 07 Roof Plan - Rev A.dwg	02 August 2018
1851 - 08 Southeast & Street Elevation.dwg	02 August 2018
1851 - 09 Southwest Elevation - Rev A.dwg	02 August 2018
1851 - 10 Southwest Street Elevation.dwg	02 August 2018
1851 - 11 Northwest Elevation.dwg	02 August 2018
1851 - 12 Northeast Elevation.dwg	02 August 2018
1851 - 13 Section A--A - Rev A.dwg	02 August 2018
1851 - 14 Section B--B & C--C.dwg	02 August 2018
1851 - 15 Section D--D.dwg	02 August 2018
1851 - 16 Section E--E.dwg	02 August 2018

2.4.2 A site inspection was not undertaken, however aerial photography and street view was used where necessary to record details on the relevant elevations. Where no elevation survey data has been provided to us, we have estimated approximate window heights and positions in the surrounding existing properties from data gathered on-line.

2.4.3 In some areas the view was restricted and therefore our assessment has been made on the basis of assumptions as to the likely location of windows, room dimensions and uses. These buildings/areas are listed below:

- 2 Lower Merton Rise.

2.4.4 Furthermore, it is felt that the following properties are remote enough to not warrant assessment and/or there are no windows that overlook the site:

- 25 Elsworthy Road.
- 1 Elsworthy Terrace.
- 34-40 Elsworthy Road.

3. Assessment & Results – Impact of New Development on Existing, Surrounding Buildings

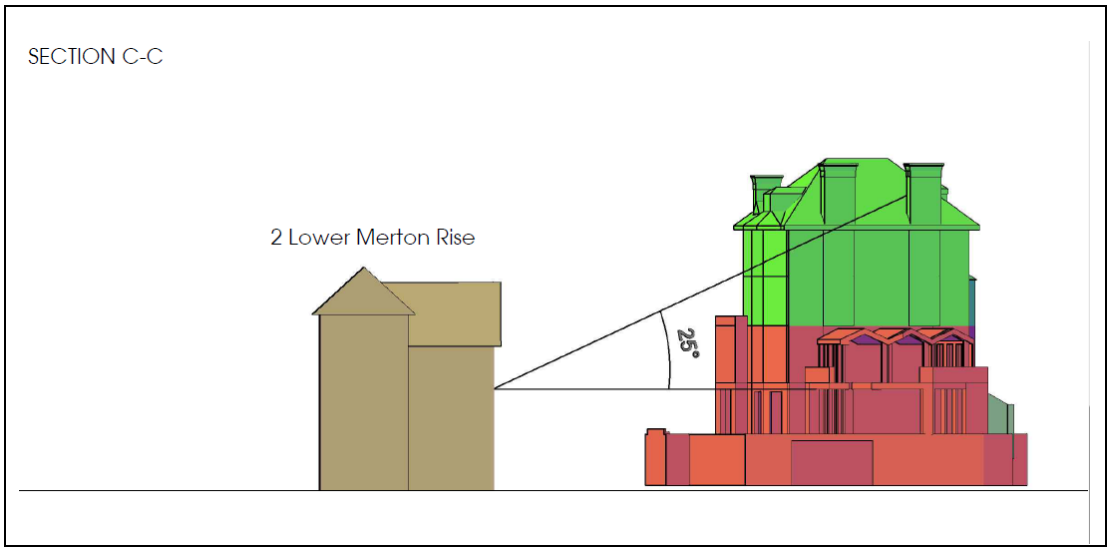
3.1 Daylight & Sunlight

3.1.1 Following a review of the site, it is felt that the residential dwellings listed within section 2.3.2 of this report are close enough to warrant consideration for potential daylight and sunlight implications around the site.

3.1.2 In order to establish whether or not a full daylight & sunlight assessment is required, a 25° test is needed which is a very simple test that is used where there is a uniform profile directly adjacent to the neighbouring elevations. In essence, where the new development subtends to an angle of less than 25° to the centre of the lowest window of an existing neighbouring building, it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. If the angle is more than 25° then a more detailed assessment is required.

3.1.3 In that regard, we have carried out a 25° test on those properties identified in section 2.3.2 of this report and below is a summary of our findings of this assessment.

2 Lower Merton Rise

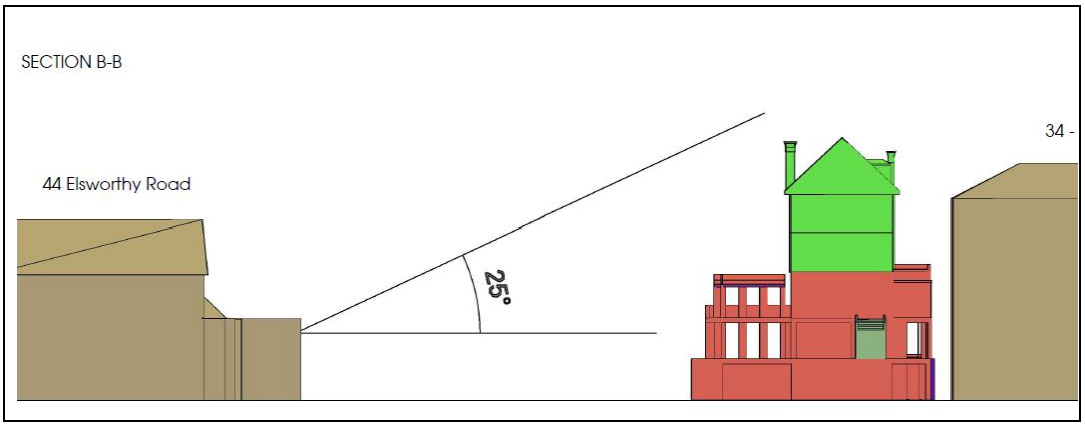


3.1.4 This property is located to the north of the site and appears to be in residential use. This means that the BRE Guidance should be considered in order to demonstrate that the proposed scheme would not have an adverse impact on the beneficial use of this property.

3.1.5 We have undertaken a 25° line test on this property and can confirm that the proposed extension would not sit above this line and on that basis we feel that this property will be unaffected by this development in terms of daylight and sunlight amenity.

3.1.6 This is demonstrated above and in section C-C which is attached at Appendix B of this report.

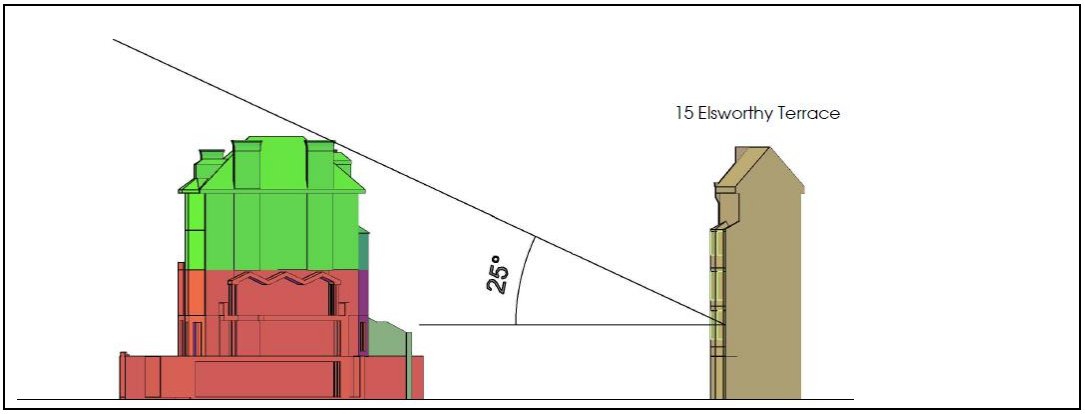
44 Elsworthy Road



3.1.7 This property is located to the west of the site and also appears to be in residential use. We have therefore considered the BRE Guidance and undertaken a 25° line test on this property.

3.1.8 The results of our assessment are shown above and in Section B-B attached in Appendix B of this report. It is clear to see that the new extension sits comfortably below this line and on that basis we are content that the scheme proposals will not have an adverse impact on daylight and sunlight amenity to this property.

15 Elsworthy Terrace



3.1.9 This property is located to the south of the site and has windows which appear to be residential to face north towards the development site. On that basis we have considered this property for the 25° line test in accordance with BRE recommendations.

3.1.10 The results of this assessment are illustrated above and in Section A-A attached in Appendix B of this report. As shown, it is clear that this property comfortably passes the assessment and we therefore feel that that the daylight and sunlight amenity should be considered acceptable.

4. Assessment & Results – Daylighting, Sunlighting & Overshadowing issues in the New Development

4.1 Internal Daylight

4.1.1 Average Daylight Factor (ADF) tests have been undertaken to a sample of the principal habitable rooms within the proposed development. The full ADF test results are shown in full in Appendix D. Below is a summary of our findings:

Building Address	No. of Rooms Analysed	BRE Compliant Yes	BRE Compliant No	Total Percentage BRE Compliant
42 Elsworthy Road	7	8	0	100
TOTAL	**7**	**8**	**0**	**100**

4.1.2 Of the 7 rooms assessed for ADF all will continue to meet or exceed the target values as set out in the BRE guidelines.

4.1.3 The Daylight Distribution (DD) test results are shown in full in Appendix D. Below is a summary of our findings:

Building Address	No. of Rooms Analysed	BRE Compliant Yes	BRE Compliant No	Total Percentage BRE Compliant
42 Elsworthy Road	7	7	0	100
TOTAL	**7**	**7**	**0**	**100**

4.1.4 Of the 7 rooms assessed for DD all will continue to meet or exceed the target values as set out in the BRE guide.

4.2 Internal Sunlight

4.2.1 Annual Probable Sunlight Hours (APSH) tests have been undertaken to a sample of the principal habitable rooms within the proposed development. The full APSH test results are shown in full in Appendix E. Below is a summary of our findings:

Building Address	No. of Rooms Analysed	BRE Compliant Yes	BRE Compliant No	Total Percentage BRE Compliant
42 Elsworthy Road	7	4	3	57
TOTAL	**7**	**4**	**3**	**57**

4.2.2 Of the 7 rooms assessed 4 will meet the BRE target values with 3 falling marginally short. However, the sunlight guidelines note that the main requirement for sunlighting relates to living rooms whereas bedrooms and kitchen are considered as less as important. As such, the three failures all occupy bedrooms and kitchens and the failures are not thought to be significant.

malcolm hollis

Appendix A

Tests to be Applied

malcolm hollis

Introduction

The main purpose of the guidelines in the Building Research Establishment Report "Site Layout Planning for Daylight and Sunlight – a guide to good practice 2011, 2nd Edition" ("the BRE guide") is to assist in the consideration of the relationship of new and existing buildings to ensure that each retains a potential to achieve good daylighting and sunlighting levels. That is, by following and satisfying the tests contained in the guidelines, new and existing buildings should be sufficiently spaced apart in relation to their relative heights so that both have the potential to achieve good levels of daylight and sunlight. The guidelines have been drafted primarily for use with low density suburban developments and should therefore be used flexibly when dealing with dense urban sites and extensions to existing buildings, a fact recognised by the BRE Report's author in the Introduction where Dr Paul Littlefair says:

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

In many cases in low-rise housing, meeting the criteria for daylight and sunlight may mean that the BRE criteria for other amenity considerations such as *privacy* and *sense of enclosure* are also satisfied.

The BRE guide states that recommended minimum privacy distances (in cases where windows of habitable rooms face each other in low-rise residential property), as defined by each individual Local Authority's policies, vary widely, from 18-35m[1]. For two-storey properties a spacing within this range would almost certainly also satisfy the BRE guide's daylighting requirements as it complies with the 25^0 rule and will almost certainly satisfy the 'Three times height' test too (as discussed more fully below). However, the specific context of each development will be taken into account and Local Authorities may relax the stated minimum, for instance, in built-up areas where this would lead to an inefficient use of land. Conversely, greater distances may be required between higher buildings, in order to satisfy daylighting and sunlighting requirements. It is important to recognize also that privacy can also be achieved by other means: design, orientation and screening can all play a key role and may also contribute towards reducing the theoretical 'minimum' distance.

A sense of enclosure is also important as the perceived quality of an outdoor space may be reduced if it is too large in the context of the surrounding buildings. In urban settings the BRE guide suggests a spacing-to-height ratio of 2.5:1 would provide a comfortable environment, whilst not obstructing too much natural light: this ratio also approximates the 25° rule.

[1] The commonest minimum privacy distance is 21m (Householder Development Consents Review: Implementation of Recommendations – Department for Communities and Local Government – May 2007)

malcolm hollis

Daylight

The criteria for protecting daylight to existing buildings are contained in Section 2.2 and Appendix C of the BRE guide. There are various methods of measuring and assessing daylight and the choice of test depends on the circumstances of each particular window. For example, greater protection should be afforded to windows which serve habitable dwellings and, in particular, those serving living rooms and family kitchens, with a lower requirement required for bedrooms. The BRE guide states that circulation spaces and bathrooms need not be tested as they are not considered to require good levels of daylight. In addition, for rooms with more than one window, secondary windows do not require assessment if it is established that the room is already sufficiently lit through the principal window.

The tests should also be applied to non-domestic uses such as offices and workplaces where such uses will ordinarily have a reasonable expectation of daylight and where the areas may be considered a principal workplace.

The BRE has developed a series of tests to determine whether daylighting levels within new developments and rooms within existing buildings surrounding new developments will satisfy or continue to satisfy a range of daylighting criteria

Note: Not every single window is assessed separately, only a representative sample, from which conclusions may be drawn regarding other nearby dwellings.

Daylighting Tests

'Three times height' test - If the distance of each part of the new development from the existing windows is three or more times its height above the centre of the existing window then loss of light to the existing windows need not be analysed. If the proposed development is taller or closer than this then the 25° test will need to be carried out.

25° test – A very simple test that should only be used where the proposed development is of a reasonably uniform profile and is directly opposite the existing building. Its use is most appropriate for low density well-spaced developments such as new sub-urban housing schemes and often it is not a particularly useful tool for assessing urban and in-fill sites. In brief, where the new development subtends to an angle of less than 25^0 to the centre of the lowest window of an existing neighbouring building, it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. Equally, the new development itself is also likely to have the potential for good daylighting. If the angle is more than 25^0 then more detailed tests are required, as outlined below.

VSC Test - The VSC is a unit of measurement that represents the amount of available daylight from the sky, received at a particular window. It is measured on the outside face of the window. The 'unit' is expressed as a percentage as it is the ratio between the amount of sky visible at the given reference point compared to the amount of light that would be available from a totally unobstructed hemisphere of sky. To put this unit of measurement into perspective, the maximum percentage value for a window with a completely unobstructed outlook (i.e. with a totally unobstructed view through 90° in every direction) is 40%.

The target figure for VSC recommended by the BRE is 27%. A VSC of 27% is a relatively good level of daylight and the level we would expect to find for habitable rooms with windows on principal elevations. However, this level is often difficult to achieve on secondary elevations and in built-up urban environments. For comparison, a window receiving 27% VSC is approximately equivalent to a window that would have a continuous obstruction opposite it which subtends an angle of 25° (i.e. the same results as would be found utilising the 25^0 Test). Where tests show that the new development itself meets the 27% VSC target this is a good indication that the development will enjoy good daylighting and further tests can then be carried out to corroborate this (see under).

Through research the BRE have determined that in existing buildings daylight (and sunlight levels) can be reduced by approximately 20% of their original value before the loss is materially noticeable. It is for this reason that they consider that a 20% reduction is permissible in circumstances where the existing VSC value is below the 27% threshold. For existing buildings once this has been established it is then necessary to determine whether the distribution of daylight inside each room meets the required standards (see under).

Daylight Distribution (DD) Test – This test looks at the position of the "No-Sky Line" (NSL) – that is, the line that divides the points on the working plane (0.7m from floor level in offices and 0.85m in dwellings and industrial spaces) which can and cannot see the sky. The BRE guide suggests that areas beyond the NSL may look dark and gloomy compared with the rest of the room and BS8206 states that electric lighting is likely to be needed if a significant part of the working plane (normally no more than 20%) lies beyond it.

In new developments no more than 20% of a room's area should be beyond the NSL. For existing buildings the BRE guide states that if, following the construction of a new development, the NSL moves so that the area beyond the NSL increases by more than 20%, then daylighting is likely to be seriously affected.

The guide suggests that in houses, living rooms, dining rooms and kitchens should be tested: bedrooms are deemed less important, although should nevertheless be analysed. In other buildings each main room where daylight is expected should be investigated.

ADF Test – The ADF (Average Daylight Factor) test takes account of the interior dimensions and surface reflectance within the room being tested as well as the amount of sky visible from the window. For this reason it is considered a more detailed and representative measure of the adequacy of light. The minimum ADF values recommended in BS8206 Part 2 are: 2% for family kitchens (and rooms containing kitchens); 1.5% for living rooms; and 1% for bedrooms. This is a test used in assessing new developments, although, in certain circumstances, it may be used as a supplementary test in the assessment of daylighting in existing buildings, particularly where more than one window serves a room.

Room depth ratio test - This is a test for new developments looking at the relative dimensions of each room (principally its depth) and its window(s) to ensure that the rear half of a room will receive sufficient daylight so as not to appear gloomy.

malcolm hollis

Sunlight

Sunlight is an important 'amenity' in both domestic and non-domestic settings. The way in which a building's windows are orientated and the overall position of a building on a site will have an impact on the sunlight it receives but, importantly, will also have an effect on the sunlight neighbouring buildings receive. Unlike daylight, which is non-directional and assumes that light from the sky is uniform, the availability of sunlight is dependent on direction. That is, as the United Kingdom is in the northern hemisphere, we receive virtually all of our sunlight from the south. The availability of sunlight is therefore dependent on the orientation of the window or area of ground being assessed relative to the position of due south.

In new developments the BRE guide suggests that dwellings should aim to have at least one main living room which faces the southern or western parts of the sky so as to ensure that it receives a reasonable amount of sunlight. Where groups of dwellings are planned the Guide states that site layout design should aim to maximise the number of dwellings with a main living room that meet sunlight criteria. Where a window wall faces within 90^0 of due south and no obstruction subtends to angle of more than 25^0 to the horizontal or where the window wall faces within 20^0 of due south and the reference point has a VSC of at least 27% then sunlighting will meet the required standards: failing that the Annual Probable Sunlight Hours (APSH) need to be analysed. APSH means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloud for the location in question. If the APSH tests reveal that the new development will receive at least one quarter of the available APSH, including at least 5% of APSH during the winter months (from 21 September to 21 March), then the requirements are satisfied. It should be noted that if a room has two windows on opposite walls, the APSH due to each can be added together.

The availability of sunlight is also an important factor when looking at the impact of a proposed development on the existing surrounding buildings. APSH tests will be required where one or more of the following are true:

- The 'Three times height' test is failed (see 'Daylight' above);
- The proposed development is situated within 90^0 of due south of an existing building's main window wall and the new building subtends to angle of more than 25^0 to the horizontal;
- The window wall faces within 20^0 of due south and a point at the centre of the window on the outside face of the window wall (the reference point) has a VSC of less than 27%.

Where APSH testing is required it is similar to the test for the proposed development. That is to say that compliance will be demonstrated where a room receives:

- At least 25% of the APSH (including at least 5% in the winter months), or
- At least 0.8 times its former sunlight hours during either period, or
- A reduction of no more than 4% APSH over the year.

The Guide stresses that the target values it gives are purely advisory, especially in circumstances such as: the presence of balconies (which can overhang windows, obstructing light); when an existing building stands unusually close to the common boundary with the new development and; where the new development needs to match the height and proportion of existing nearby buildings. In circumstances like these a larger reduction in sunlight may be necessary.

The sunlight criteria in the BRE guide primarily apply to windows serving living rooms of an existing dwelling. This is in contrast to the daylight criteria which apply to kitchens and bedrooms as well as living rooms. Having said that, the guide goes on to say that care should be taken not to block too much sun from kitchens and bedrooms. Non-domestic buildings which are deemed to have a requirement for sunlight should also be checked.

Sunlight – Gardens and Open Spaces

As well as ensuring buildings receive a good level of sunlight to their interior spaces, it is also important to ensure that the open spaces between buildings are suitably lit. The recommendations as set out in the BRE guide are meant to ensure that spaces between buildings are not permanently in shade for a large part of the year. Trees and fences over 1.5m tall are also factored into the calculations.

The BRE guidelines state that:

- For a garden or amenity area to appear adequately sunlit throughout the year, at least 50% of the area should receive at least two hours of sunlight on 21 March;

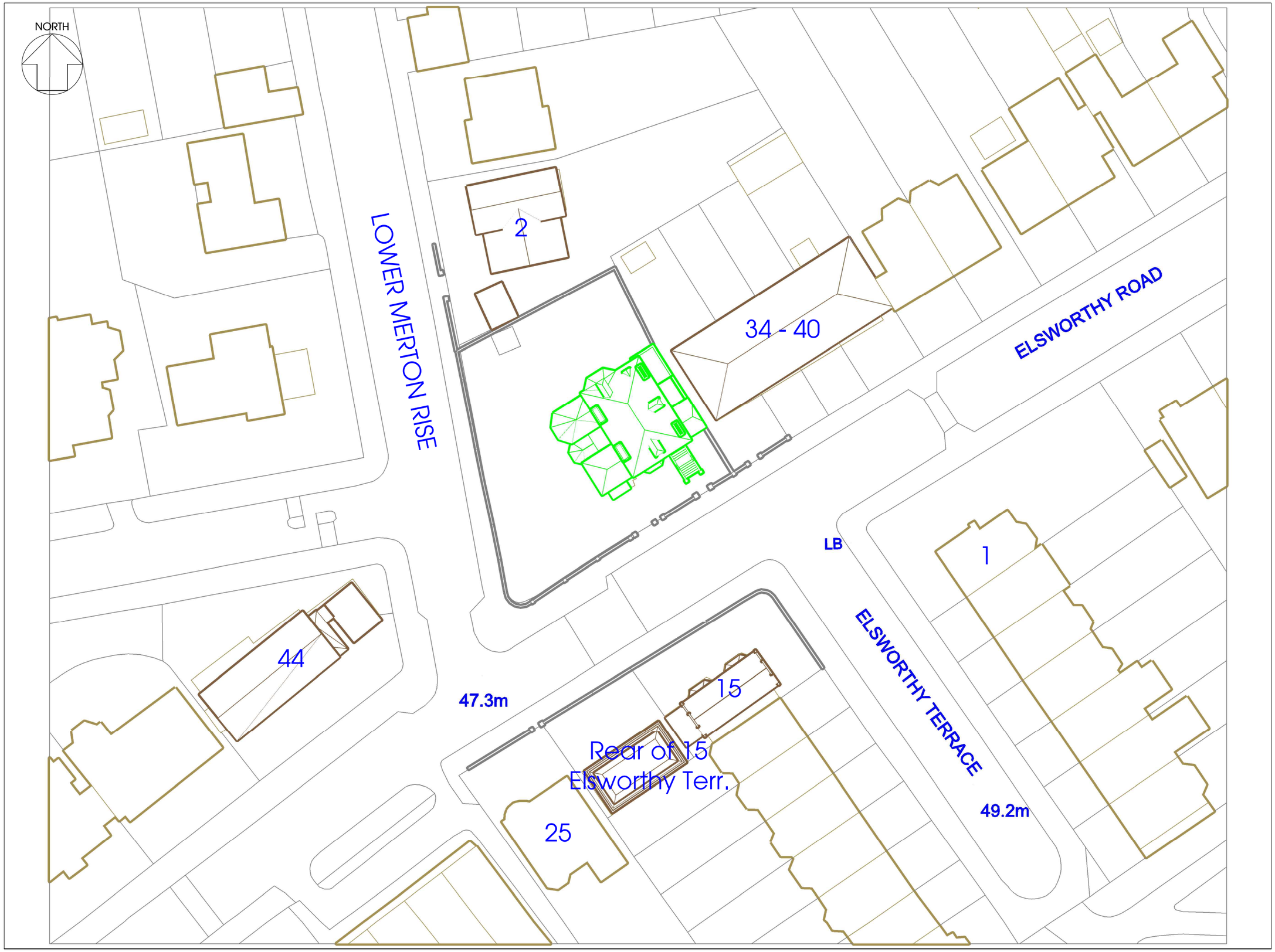
- In addition, if, as result of new development, an existing garden or amenity area does not reach the area target above and the area which can receive two hours of direct sunlight on 21 March is reduced by more than 20% this loss is likely to be noticeable.

Appendix G of the BRE guidelines describes a methodology for calculating sunlight availability for amenity spaces.

malcolm hollis

Appendix B

Context Drawings



Existing Site Plan

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
Existing Site Plan

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

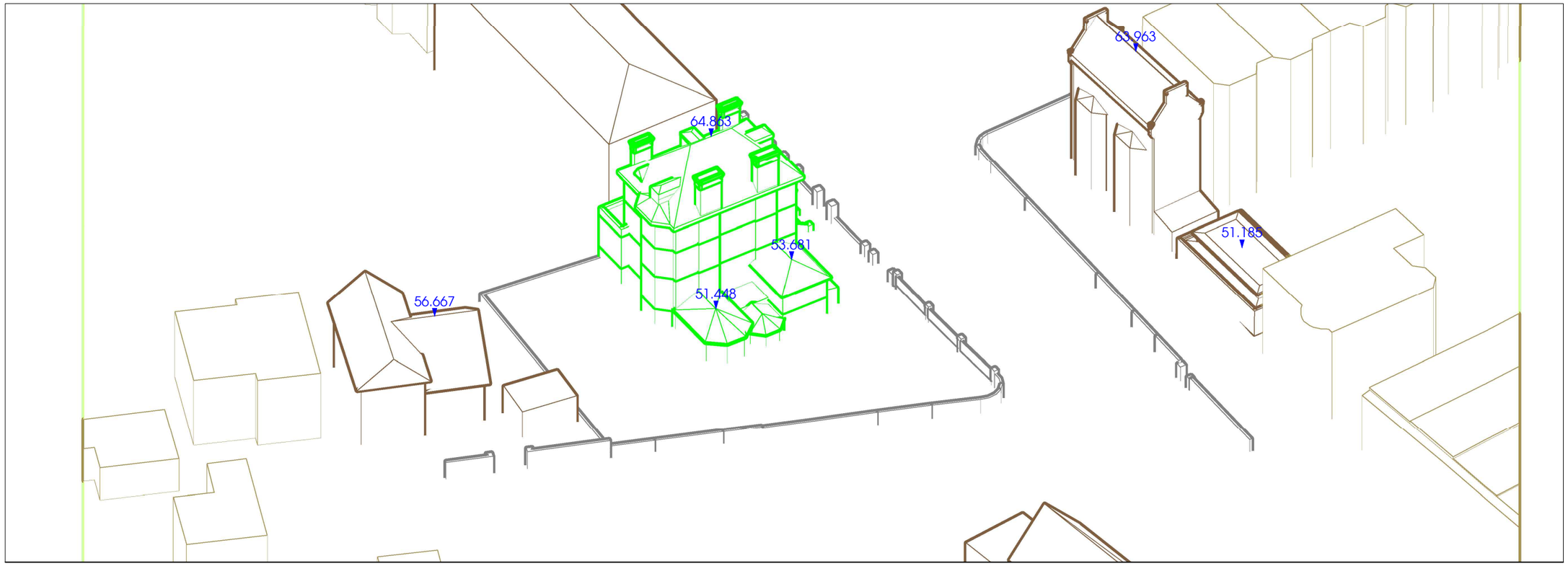
DRAWN BY	CHECKED
E.B	S.P
SCALE	DATE
1:500@A3	August 2018

malcolm hollis

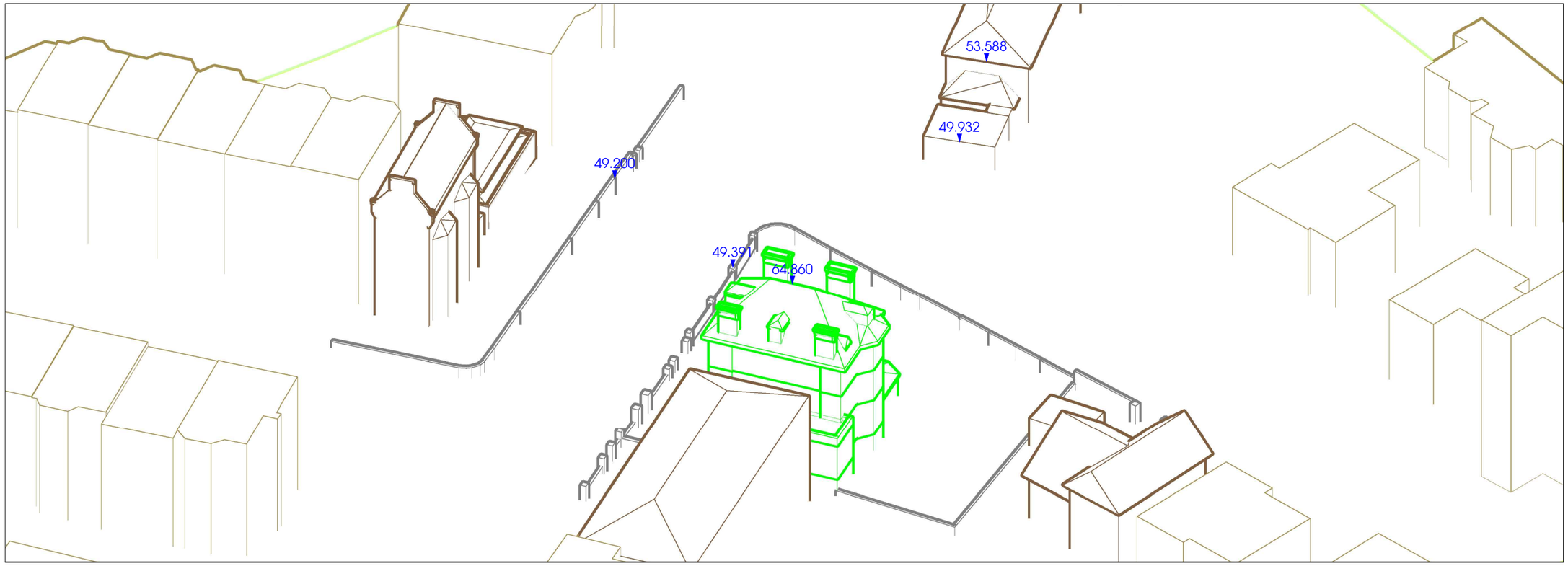
80-82 Silverthorne Road
London
SW8 3HE

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_CTXT_01	1



3D Context View - View from West (Existing)



3D Context View - View from North-East (Existing)

ALL HEIGHTS IN METERS AOD

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
3D Views
Existing Site

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

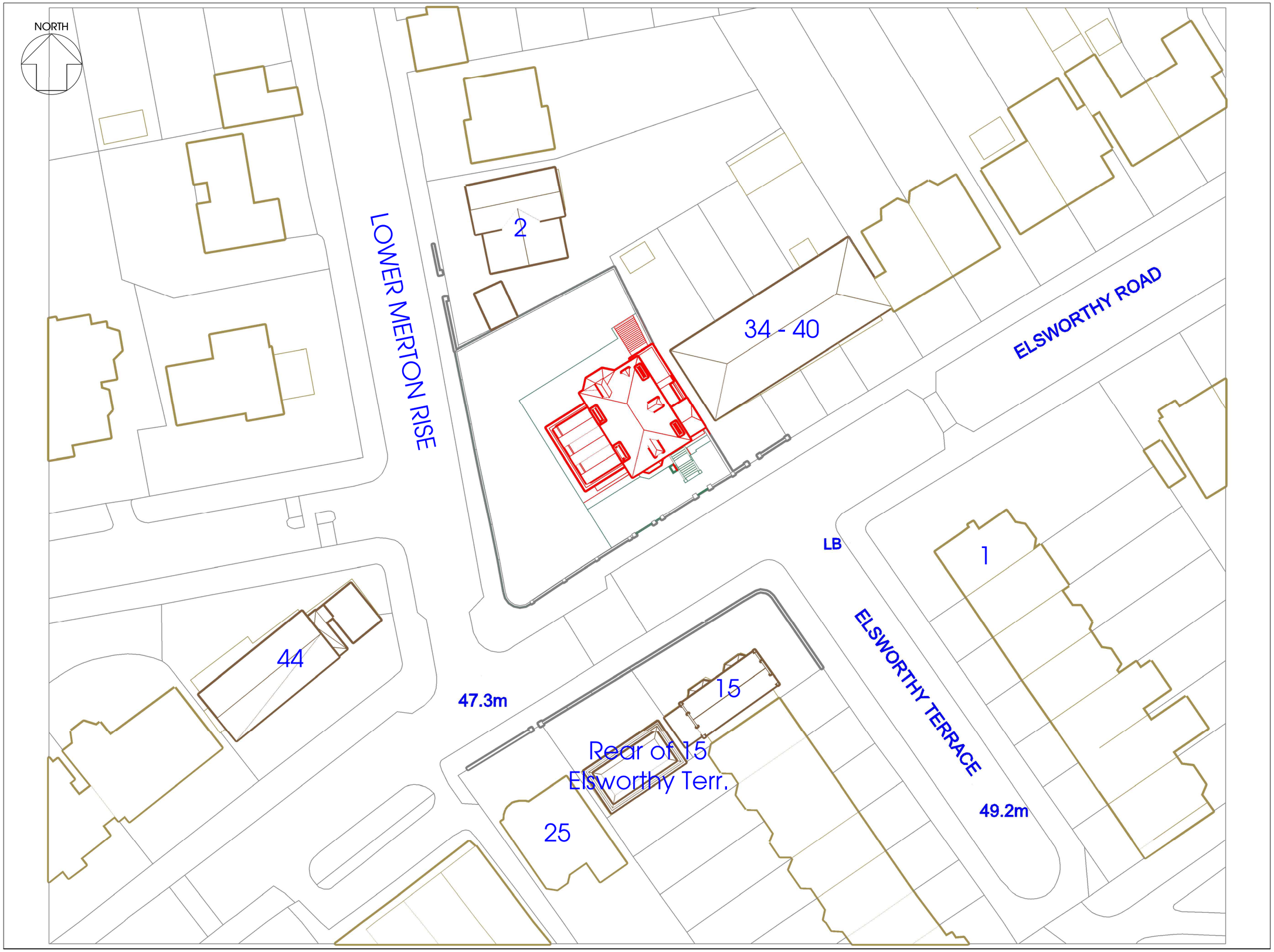
DRAWN BY	CHECKED
E.B	S.P
SCALE	DATE
NTS@A3	August 2018

malcolm hollis

80-82 Silverthorne Road
London
SW8 3HE

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_CTXT_02	1



Proposed Site Plan

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
Proposed Site Plan

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

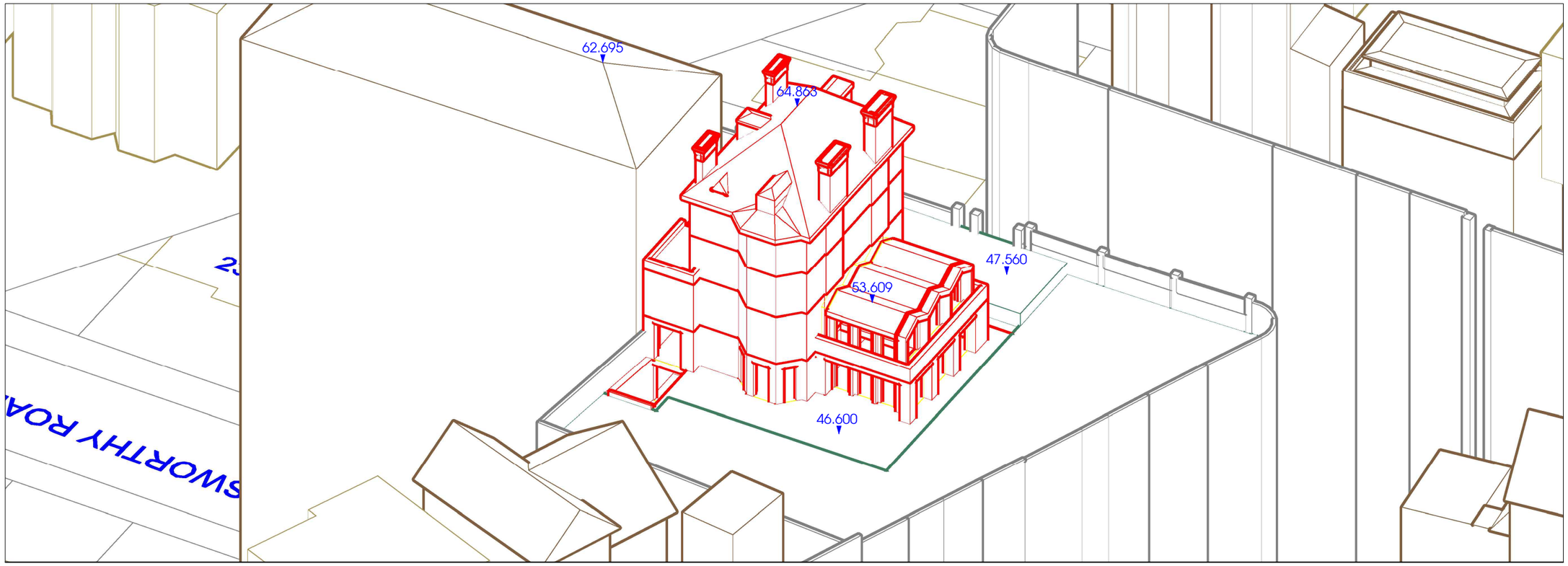
DRAWN BY	CHECKED
E.B	S.P
SCALE	DATE
1:500@A3	August 2018

malcolm hollis

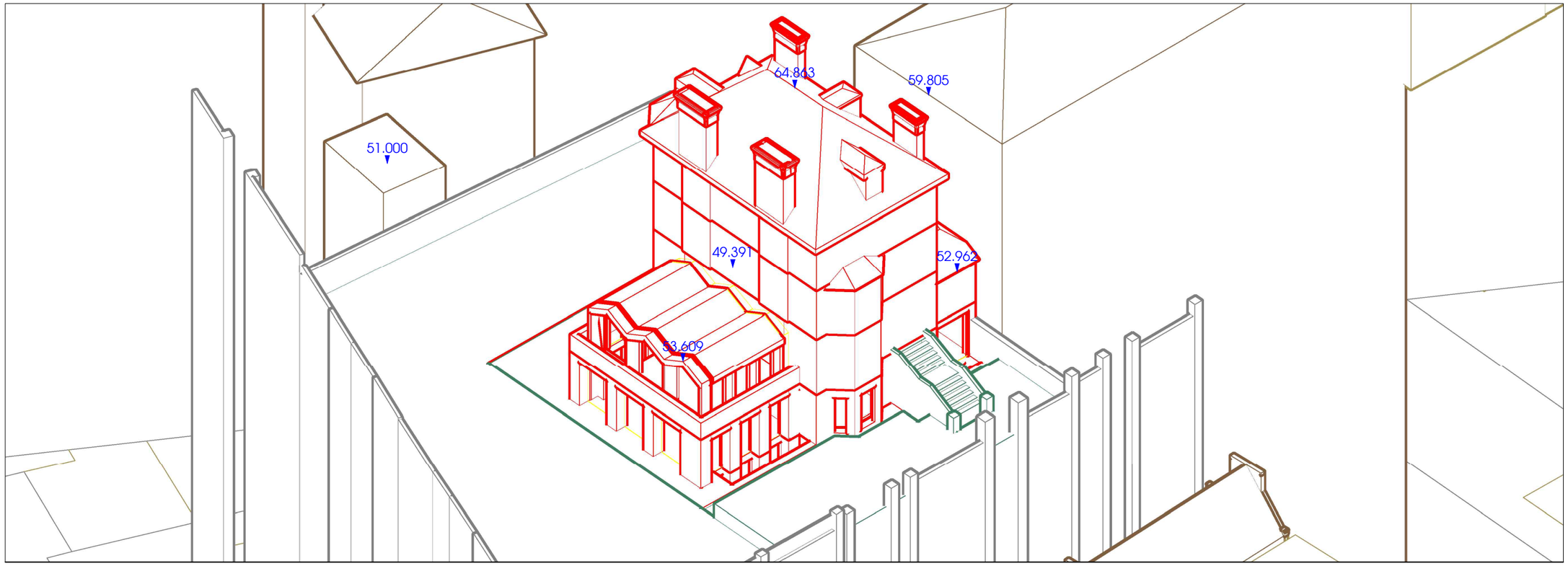
80-82 Silverthorne Road
London
SW8 3HE

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_CTXT_03	1



3D Context View - View from North-West (Proposed)



3D Context View - View from South (Proposed)

ALL HEIGHTS IN METERS AOD

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
3D Views
Proposed Site

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

DRAWN BY	CHECKED
E.B	S.P

SCALE	DATE
NTS@A3	August 2018

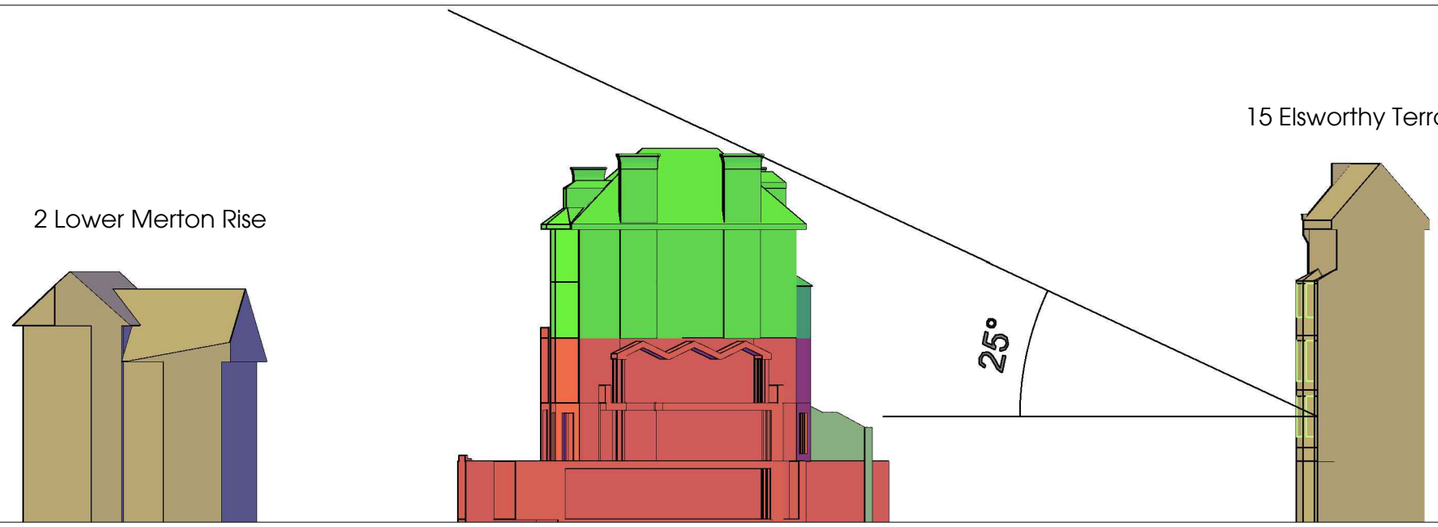
malcolm hollis

80-82 Silverthorne Road
London
SW8 3HE

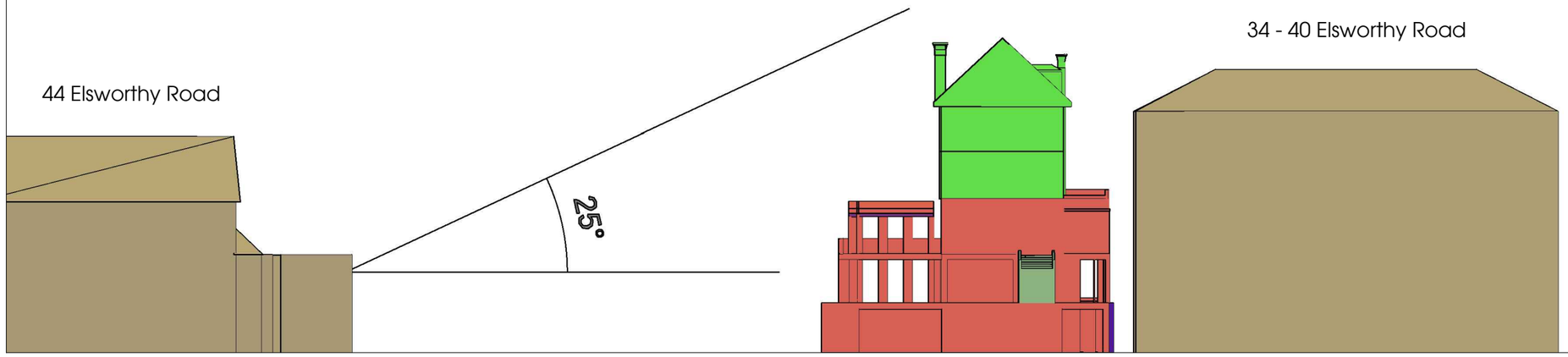
T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_CTXT_04	1

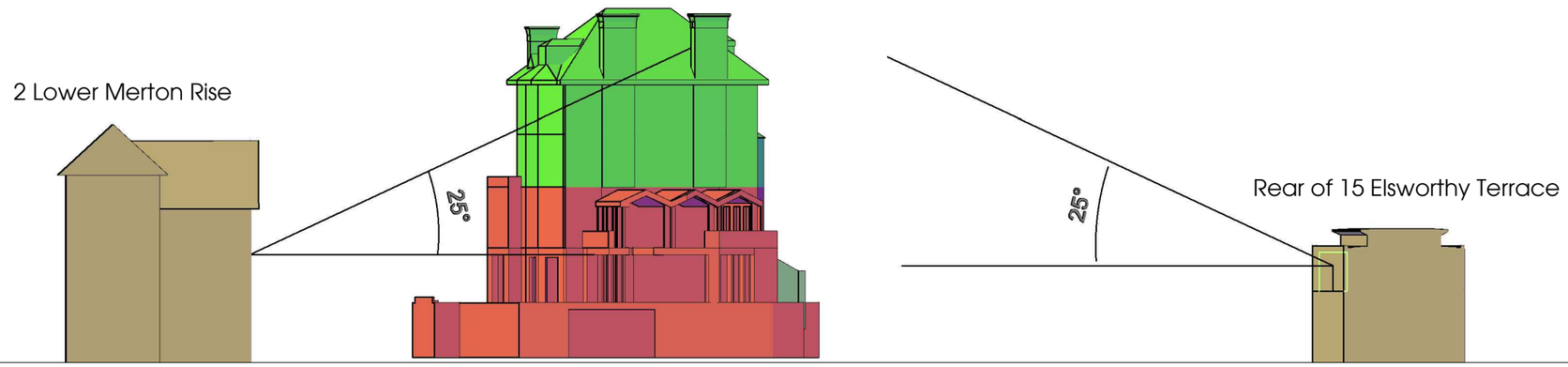
SECTION A-A



SECTION B-B



SECTION C-C



SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

EXISTING

PROPOSED

ALL HEIGHTS IN METERS AOD

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
3D Views
25 Degree Section

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

DRAWN BY	CHECKED
E.B	S.P
SCALE	DATE
NTS@A3	August 2018

malcolm hollis

80-82 Silverthorne Road
London
SW8 3HE

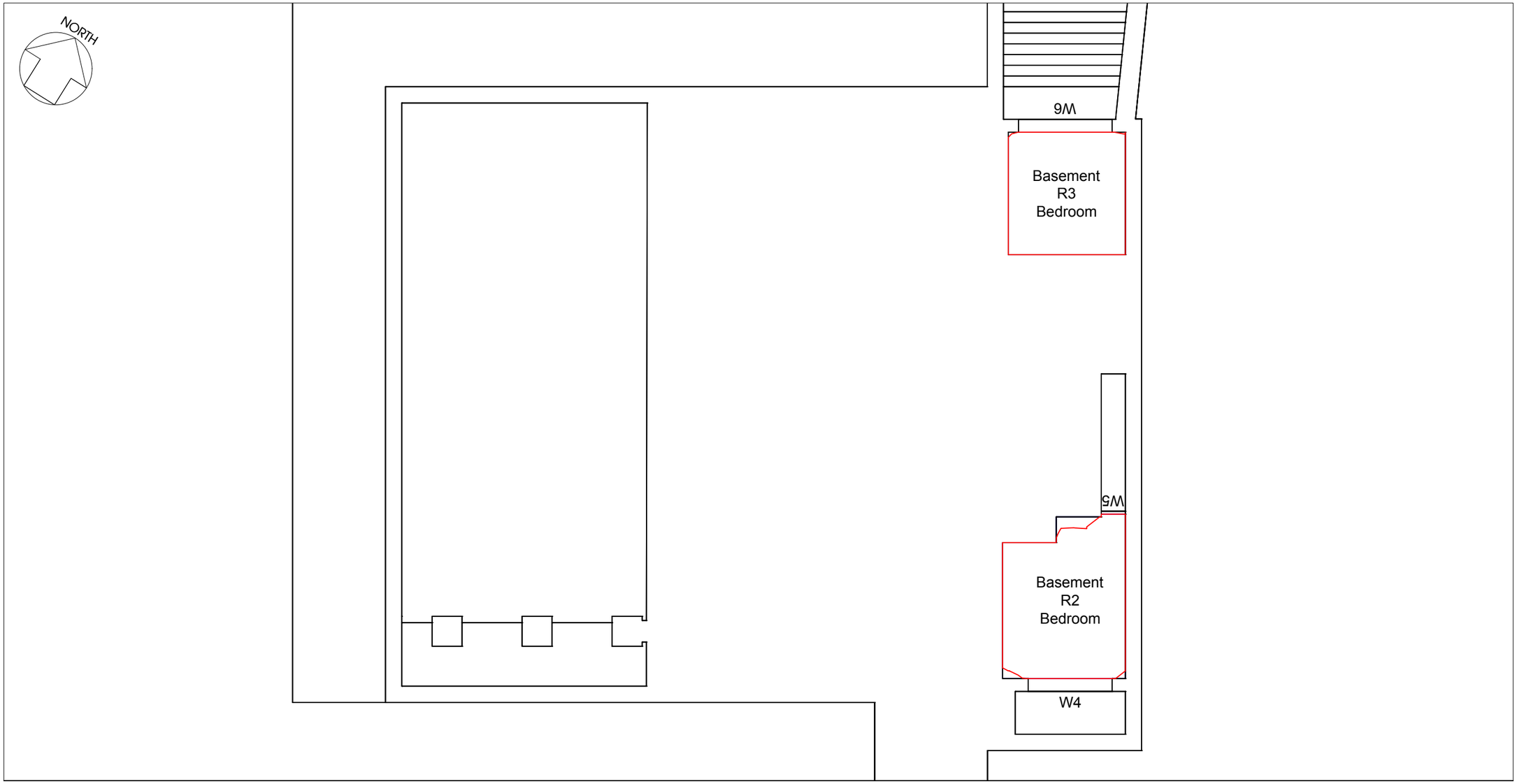
T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_25D_01	1

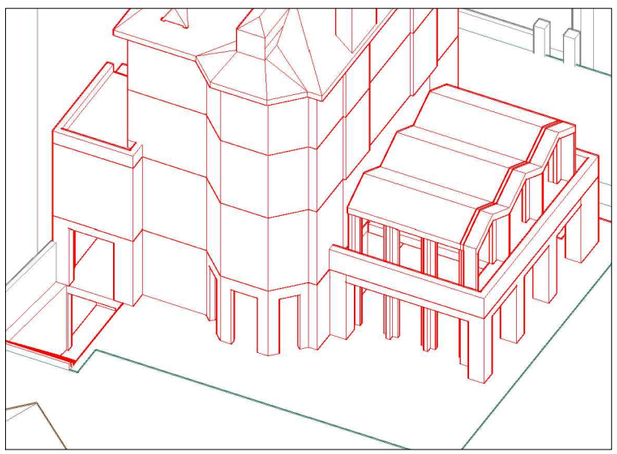
malcolm hollis

Appendix C

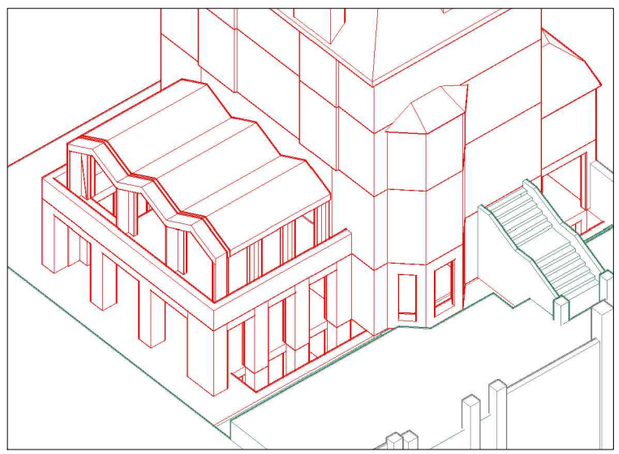
Window/Room Reference Drawings



Proposed Basement Level



3D Context View - North-West



3D Context View - South

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
Daylight Distribution
Contours/Referencing Plans
Proposed Extension

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

DRAWN BY	CHECKED
E.B	S.P

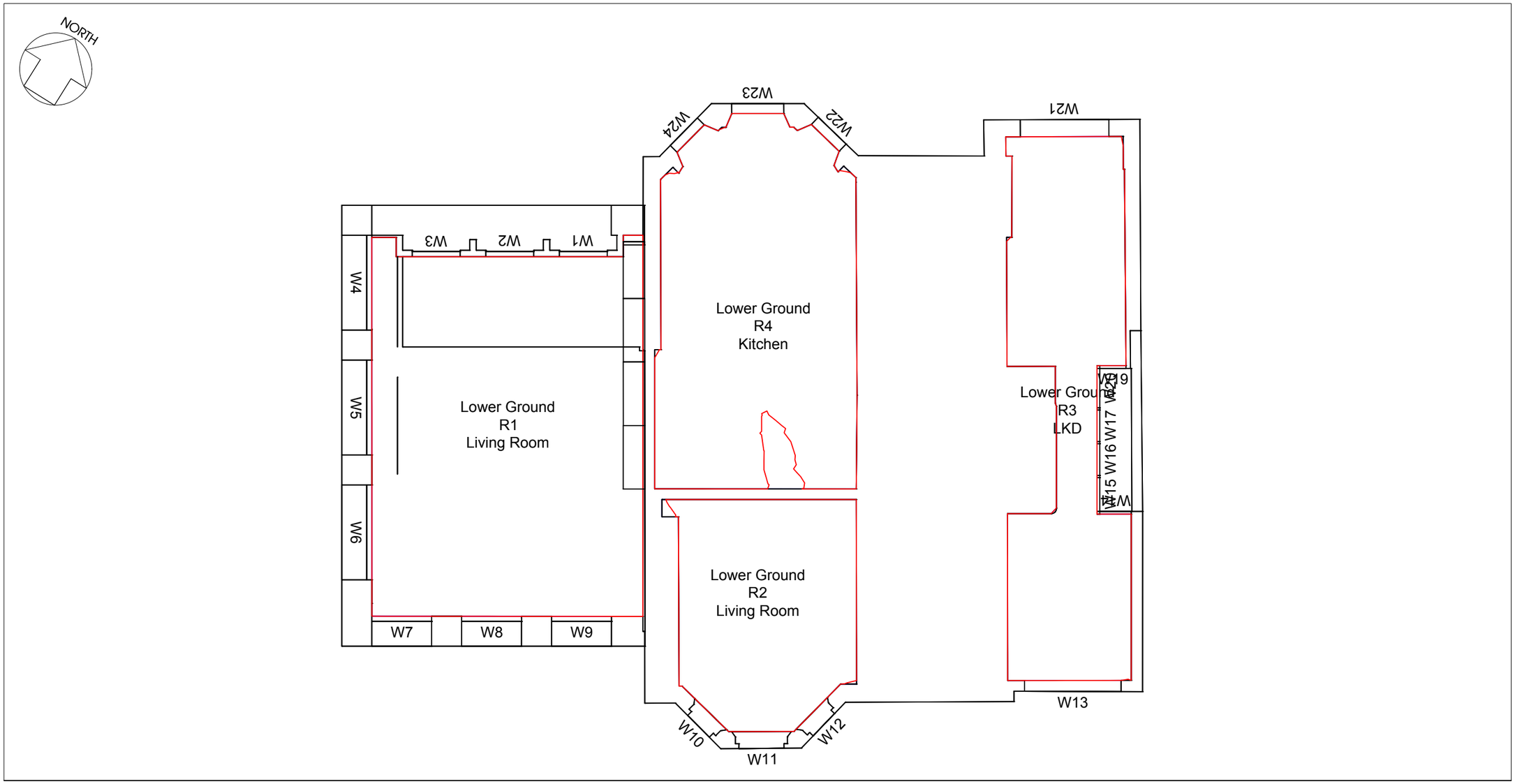
SCALE	DATE
1:100@A3	August 2018

malcolm hollis

80-82 Silverthorne Road
London
SW8 3HE

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

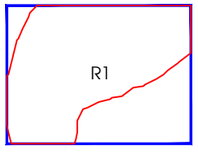
DRAWING NO.	RELEASE NO.
61680_DD_01	1



Proposed Lower Ground Level

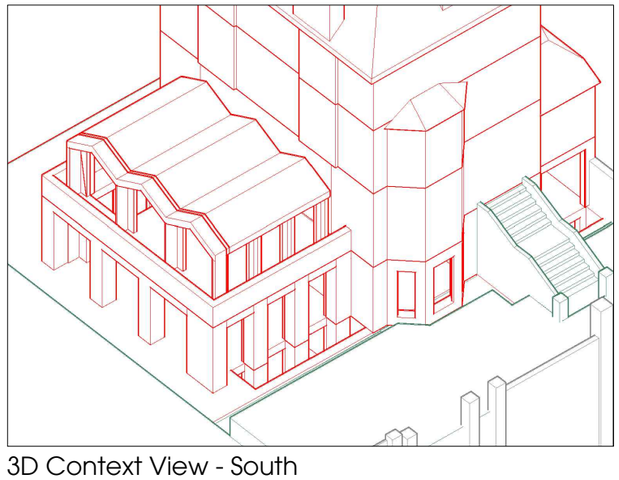
3D Context View - North-West

KEY



Proposed contour

Subject room



3D Context View - South

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE
Daylight Distribution Contours/Referencing Plans Proposed Extension

CLIENT
Marek Wojciechowski Architects

PROJECT
42 Elsworthy Road
London
NW3 3DL

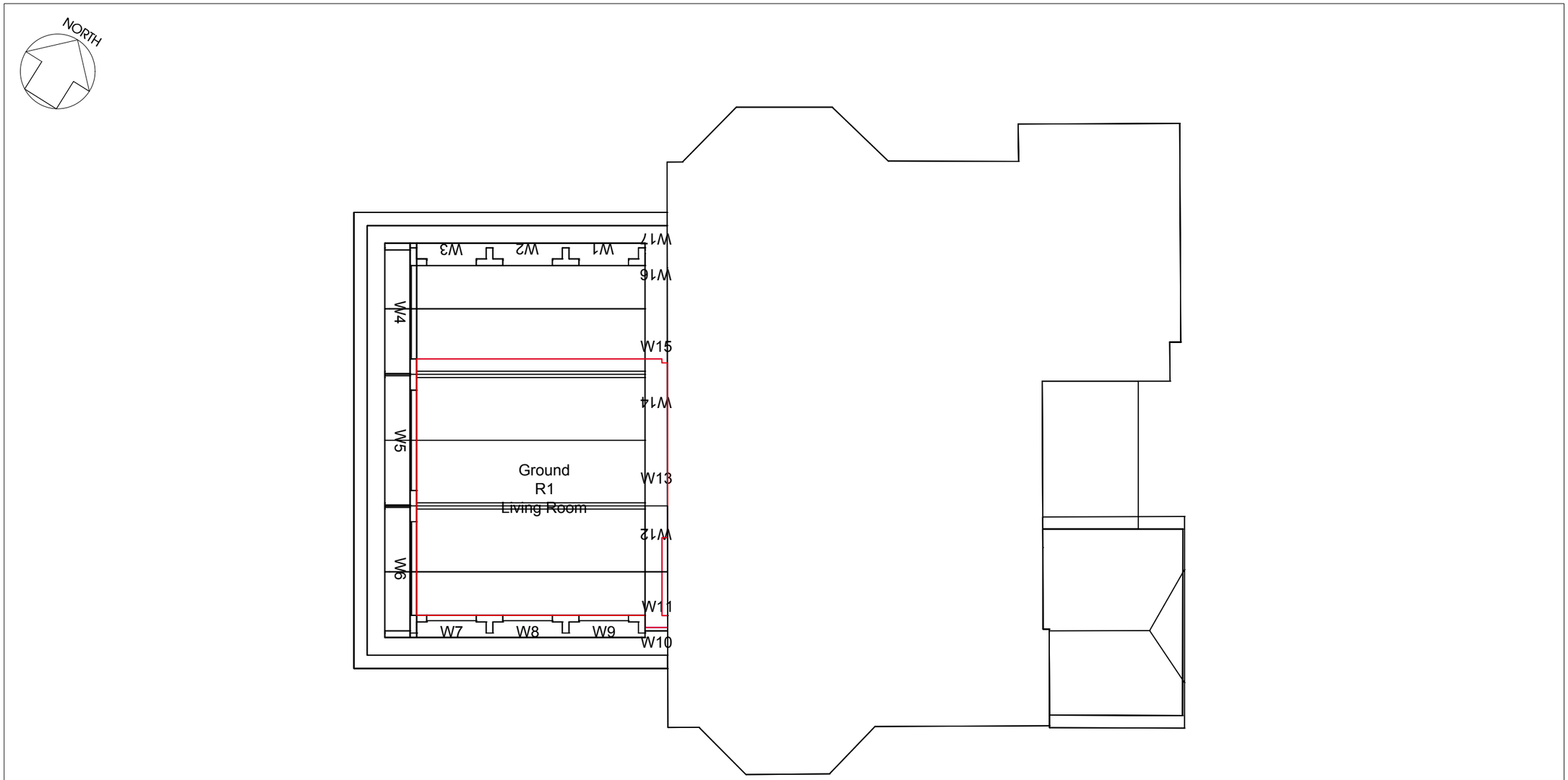
DRAWN BY	CHECKED
E.B	S.P
SCALE	DATE
1:100@A3	August 2018

malcolm hollis

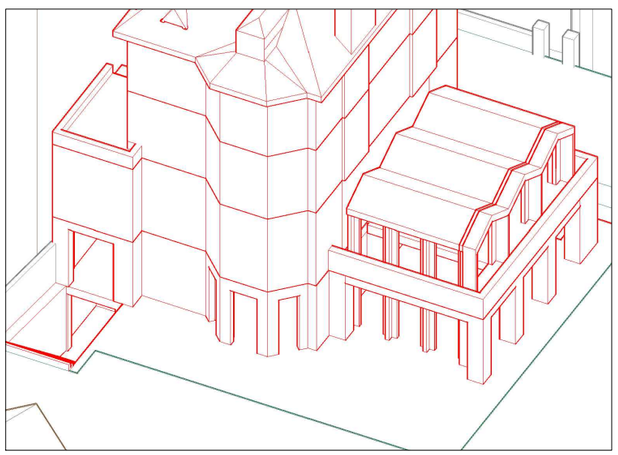
80-82 Silverthorne Road
London
SW8 3HE

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_DD_02	1

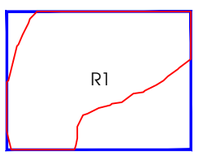


Proposed Ground Level



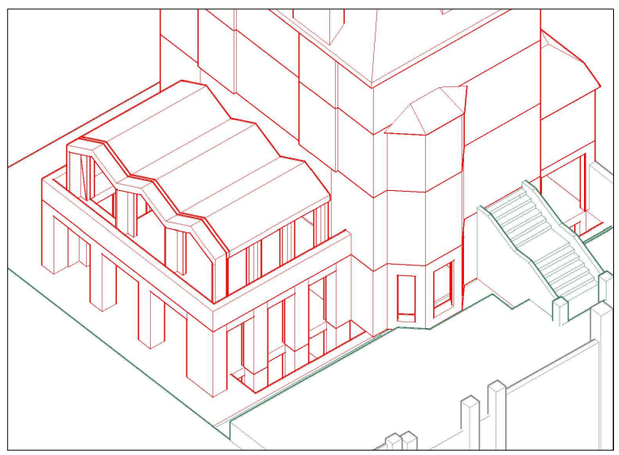
3D Context View - North-West

KEY



Proposed contour

Subject room



3D Context View - South

SOURCES OF INFORMATION:

MWA ARCHITECTS - Proposed Drawings
P01_Proposed Ground Floor Plan.dwg
P02_Proposed Lower Ground Floor Plan.dwg
P03_Proposed Basement Floor Plan.dwg
P04_Proposed First Floor Plan.dwg
P05_Proposed Second Floor Plan.dwg
P06_Proposed Third Floor Plan.dwg
P07_Proposed Roof Plan.dwg
Received 19 July 2018

MOBILE CAD SURVEYING - Topographical Survey
1851 - 01 Lower Ground Floor Plan.dwg
1851 - 02 Ground Floor Plan - Rev A.dwg
1851 - 03 First Floor Plan - Rev A.dwg
1851 - 04 Second Floor Plan - Rev A.dwg
1851 - 05 Third Floor Plan - Rev A.dwg
1851 - 06 Loft Plan - Rev A.dwg
1851 - 07 Roof Plan - Rev A.dwg
1851 - 08 Southeast & Street Elevation.dwg
1851 - 09 Southwest Elevation - Rev A.dwg
1851 - 10 Southwest Street Elevation.dwg
1851 - 11 Northwest Elevation.dwg
1851 - 12 Northeast Elevation.dwg
1851 - 13 Section A–A - Rev A.dwg
1851 - 14 Section B–B & C–C.dwg
1851 - 15 Section D–D.dwg
1851 - 16 Section E–E.dwg
Received 02 August 2018

Rev.	Date	Amendments	Initial

MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN MILLIMETERS ONLY

TITLE

Daylight Distribution Contours/Referencing Plans Proposed Extension

CLIENT

Marek Wojciechowski Architects

PROJECT

42 Elsworthy Road
London
NW3 3DL

DRAWN BY	CHECKED
E.B	S.P

SCALE	DATE
1:100@A3	August 2018

malcolm hollis

80-82 Silverthorne Road
London
SW8 3HE

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

DRAWING NO.	RELEASE NO.
61680_DD_03	1

malcolm hollis

Appendix D

Daylight Study

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Proposed Clear Sky	Proposed ADF	Meets BRE Criteria
42 Elsworthy Road						
Basement	R2	Bedroom	W4-L	13.63	0.07	
Basement	R2	Bedroom	W4-U	24.73	2.04	
Basement	R2	Bedroom	W5-L	6.03	0.01	
Basement	R2	Bedroom	W5-U	10.84	0.26	
				Total	**2.37**	**YES**
Basement	R3	Bedroom	W6-L	34.66	0.23	
Basement	R3	Bedroom	W6-U	44.44	5.02	
				Total	**5.25**	**YES**
Lower Ground	R1	Living Room	W1-L	51.6	0.04	
Lower Ground	R1	Living Room	W1-U	40.26	0.57	
Lower Ground	R1	Living Room	W2-L	60.08	0.05	
Lower Ground	R1	Living Room	W2-U	46.25	0.65	
Lower Ground	R1	Living Room	W3-L	59.61	0.05	
Lower Ground	R1	Living Room	W3-U	46.12	0.65	
Lower Ground	R1	Living Room	W4-L	66.58	0.11	
Lower Ground	R1	Living Room	W4-U	61.85	1.73	
Lower Ground	R1	Living Room	W5-L	66.96	0.11	
Lower Ground	R1	Living Room	W5-U	61.93	1.73	
Lower Ground	R1	Living Room	W6-L	67.19	0.11	
Lower Ground	R1	Living Room	W6-U	61.93	1.73	
Lower Ground	R1	Living Room	W7-L	54.01	0.06	
Lower Ground	R1	Living Room	W7-U	50.96	0.90	
Lower Ground	R1	Living Room	W8-L	54.03	0.06	
Lower Ground	R1	Living Room	W8-U	51.01	0.90	
Lower Ground	R1	Living Room	W9-L	51.46	0.05	
Lower Ground	R1	Living Room	W9-U	49.01	0.86	
Lower Ground	R1	Living Room	W4	62.85	2.34	
Lower Ground	R1	Living Room	W3	65.01	1.10	
Lower Ground	R1	Living Room	W2	63.33	1.07	
Lower Ground	R1	Living Room	W1	55.87	0.95	
Lower Ground	R1	Living Room	W17	47.5	0.41	
Lower Ground	R1	Living Room	W16	N/A	0.43	
Lower Ground	R1	Living Room	W15	N/A	0.46	
Lower Ground	R1	Living Room	W5	63.05	2.51	
Lower Ground	R1	Living Room	W14	N/A	0.46	
Lower Ground	R1	Living Room	W13	N/A	0.46	
				Total	**20.55**	**YES**
Lower Ground	R2	Living Room	W10-L	54	0.03	
Lower Ground	R2	Living Room	W10-U	54.94	0.94	
Lower Ground	R2	Living Room	W11-L	56.19	0.05	
Lower Ground	R2	Living Room	W11-U	58.8	1.48	
Lower Ground	R2	Living Room	W12-L	30.81	0.02	
Lower Ground	R2	Living Room	W12-U	39.88	0.69	
				Total	**3.20**	**YES**

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Proposed Clear Sky	Proposed ADF	Meets BRE Criteria
Lower Ground	R3	LKD	W13-L	50.23	0.10	
Lower Ground	R3	LKD	W13-U	65.8	2.30	
Lower Ground	R3	LKD	W14-L	22.21	0.02	
Lower Ground	R3	LKD	W14-U	23.53	0.27	
Lower Ground	R3	LKD	W15-L	11.33	0.01	
Lower Ground	R3	LKD	W15-U	11.81	0.14	
Lower Ground	R3	LKD	W16-L	11.01	0.01	
Lower Ground	R3	LKD	W16-U	11.75	0.13	
Lower Ground	R3	LKD	W17-L	7.58	0.01	
Lower Ground	R3	LKD	W17-U	8.85	0.10	
Lower Ground	R3	LKD	W19-L	19.55	0.01	
Lower Ground	R3	LKD	W19-U	20.46	0.19	
Lower Ground	R3	LKD	W20-L	8.05	0.01	
Lower Ground	R3	LKD	W20-U	9.05	0.13	
Lower Ground	R3	LKD	W21-L	61.01	0.12	
Lower Ground	R3	LKD	W21-U	68.84	2.21	
				Total	**5.77**	**YES**
Lower Ground	R4	Kitchen	W22-L	57.89	0.05	
Lower Ground	R4	Kitchen	W22-U	61.24	0.84	
Lower Ground	R4	Kitchen	W23-L	64.9	0.08	
Lower Ground	R4	Kitchen	W23-U	66.51	1.23	
Lower Ground	R4	Kitchen	W24-L	63.71	0.06	
Lower Ground	R4	Kitchen	W24-U	64.66	0.88	
				Total	**3.13**	**YES**
Ground	R1	Living Room	W1-L	41.34	0.05	
Ground	R1	Living Room	W1-U	55.87	1.01	
Ground	R1	Living Room	W2-L	46.3	0.06	
Ground	R1	Living Room	W2-U	63.33	1.14	
Ground	R1	Living Room	W3-L	47.8	0.06	
Ground	R1	Living Room	W3-U	65.01	1.18	
Ground	R1	Living Room	W4-L	52.93	0.13	
Ground	R1	Living Room	W4-U	62.85	2.68	
Ground	R1	Living Room	W5-L	53.31	0.14	
Ground	R1	Living Room	W5-U	63.05	2.86	
Ground	R1	Living Room	W6-L	52.93	0.13	
Ground	R1	Living Room	W6-U	62.85	2.68	
Ground	R1	Living Room	W7-L	48.09	0.06	
Ground	R1	Living Room	W7-U	62.97	1.14	
Ground	R1	Living Room	W8-L	46.11	0.06	
Ground	R1	Living Room	W8-U	60.99	1.10	
Ground	R1	Living Room	W9-L	40.88	0.05	
Ground	R1	Living Room	W9-U	54.58	0.99	
Ground	R1	Living Room	W10-L	28.14	0.02	
Ground	R1	Living Room	W10-U	45.79	0.46	
Ground	R1	Living Room	W11	N/A	0.75	
Ground	R1	Living Room	W12	N/A	0.81	
Ground	R1	Living Room	W13	N/A	0.80	
Ground	R1	Living Room	W14	N/A	0.80	
Ground	R1	Living Room	W15	N/A	0.79	
Ground	R1	Living Room	W16	N/A	0.74	
Ground	R1	Living Room	W17-L	28.1	0.02	
Ground	R1	Living Room	W17-U	47.5	0.47	
				Total	**21.20**	**YES**

Floor Ref	Room Ref	Room Use	Room Area (m²)	No Sky Line (m²)	% of Room Area	BRE Compliant
42 Elsworthy Road						
Basement	R2	Bedroom	10.07	9.76	96.86%	YES
Basement	R3	Bedroom	7.79	7.77	99.82%	YES
Lower Ground	R1	Living Room	53.65	53.65	100.00%	YES
Lower Ground	R2	Living Room	20.97	20.87	99.53%	YES
Lower Ground	R3	LKD	29.12	29.11	99.96%	YES
Lower Ground	R4	Kitchen	38.3	37.12	96.92%	YES
Ground	R1	Living Room	32.67	32.67	100.00%	YES

malcolm hollis

Appendix E

Sunlight Study

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Proposed Window Winter %	Proposed Window Annual %	Proposed Room Winter %	Proposed Room Annual %	Meets BRE Criteria
42 Elsworthy Road								
Basement	R2	Bedroom	W4	0	4			
Basement	R2	Bedroom	W5	0	0	0	4	NO
Basement	R3	Bedroom	W6	0	0	0	0	NO
Lower Ground	R1	Living Room	W1	0	6			
Lower Ground	R1	Living Room	W2	0	7			
Lower Ground	R1	Living Room	W3	0	4			
Lower Ground	R1	Living Room	W4	14	45			
Lower Ground	R1	Living Room	W5	14	46			
Lower Ground	R1	Living Room	W6	15	47			
Lower Ground	R1	Living Room	W7	14	43			
Lower Ground	R1	Living Room	W8	14	43			
Lower Ground	R1	Living Room	W9	14	40			
Lower Ground	R1	Living Room	W4	15	45			
Lower Ground	R1	Living Room	W3	0	8			
Lower Ground	R1	Living Room	W2	0	8			
Lower Ground	R1	Living Room	W1	0	8			
Lower Ground	R1	Living Room	W17	0	6			
Lower Ground	R1	Living Room	W16	3	43			
Lower Ground	R1	Living Room	W15	18	48			
Lower Ground	R1	Living Room	W5	16	47			
Lower Ground	R1	Living Room	W14	3	42			
Lower Ground	R1	Living Room	W13	18	48	29	88	YES
Lower Ground	R2	Living Room	W10	18	44			
Lower Ground	R2	Living Room	W11	13	47			
Lower Ground	R2	Living Room	W12	3	17	21	68	YES
Lower Ground	R3	LKD	W13	10	48			
Lower Ground	R3	LKD	W14	0	0			
Lower Ground	R3	LKD	W15	0	0			
Lower Ground	R3	LKD	W16	0	0			
Lower Ground	R3	LKD	W17	0	0			
Lower Ground	R3	LKD	W19	1	3			
Lower Ground	R3	LKD	W20	0	0			
Lower Ground	R3	LKD	W21	0	9	10	57	YES
Lower Ground	R4	Kitchen	W22	0	0			
Lower Ground	R4	Kitchen	W23	0	8			
Lower Ground	R4	Kitchen	W24	3	24	3	25	NO
Ground	R1	Living Room	W1	0	8			
Ground	R1	Living Room	W2	0	8			
Ground	R1	Living Room	W3	0	8			
Ground	R1	Living Room	W4	15	45			
Ground	R1	Living Room	W5	16	47			
Ground	R1	Living Room	W6	16	48			
Ground	R1	Living Room	W7	20	59			
Ground	R1	Living Room	W8	18	55			
Ground	R1	Living Room	W9	18	45			
Ground	R1	Living Room	W10	14	31			
Ground	R1	Living Room	W11	17	49			
Ground	R1	Living Room	W12	3	43			
Ground	R1	Living Room	W13	18	48			
Ground	R1	Living Room	W14	3	42			
Ground	R1	Living Room	W15	18	48			
Ground	R1	Living Room	W16	3	43			
Ground	R1	Living Room	W17	0	6	29	94	YES