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DAYLIGHT & SUNLIGHT REPORT

117 Pinner Road

Northwood Hills, HA6 1DA

Our Ref: 4724

14 March 2022

Contents

Prepared by: MA

Checked by: HA

1 Introduction

1.1.1 eb7 have been instructed to assess the effect of proposed development at 117 Pinner Road, Northwood Hills, HA6 1DA on daylight and sunlight to the existing surrounding properties as well as daylight and sunlight within the proposal itself. These assessments consider the latest Studio V Architects' scheme proposals dated 22nd December 2021.

1.1.2 The methodology and criteria used for these assessments is provided by Building Research Establishment's (BRE) guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (BRE 209 2nd edition, 2011).

1.1.3 In order to carry out an assessment, we have generated a 3D computer model (Test Environment) of the existing site, the key surrounding properties and the proposed scheme. Using this model and our specialist software, we have calculated the daylight and sunlight levels in both the existing and proposed conditions for the relevant neighbouring buildings.

1.1.4 As the proposed development includes residential accommodation, the daylight and sunlight to rooms within the proposal has also been considered.

1.1.5 The numerical criteria suggested within the BRE guidelines has been applied to each of the assessments mentioned above. It is important to note that these guidelines are not a rigid set of rules, but are advisory and need to be applied flexibly according to the specific context of a site.

2 Guidance

2.1 Daylight & sunlight for planning

'Site layout planning for daylight and sunlight: A guide to good practice', BRE 2011

2.1.1 The Building Research Establishment (BRE) Report 209, *'Site layout planning for daylight and sunlight: A guide to good practice'*, is the reference document used by most local authorities for assessing daylight and sunlight in relation to new developments. Commonly referred to as 'the BRE guidelines', it provides various testing methodologies to calculate the potential light levels received by neighbours of a development site and provided within proposed new development.

2.1.2 The guidance given within the BRE document makes direct reference to the British Standard BS8206 Part 2: Code of Practice for Daylighting (2008) and the CIBSE (Chartered Institute of Building Services Engineers) guide LG10: Daylighting – a guide for designers (2014). It is intended to be used in conjunction with these guides as they provide more detailed background to the assessments and methodologies used for assessment of proposed dwellings.

2.1.3 The European Standard EN17037 was published in 2018 and is intended to replace the British Standard BS8206 Part 2: Code of Practice for Daylighting. Current policy and guidance from most planning authorities still refers to the BRE guide and its methodologies, which in turn are based upon the BS8206 document. As such, we continue to base our daylight and sunlight assessments for proposed new dwellings on the BRE, British Standard and CIBSE guidance until planning policy dictates otherwise.

Daylight and Sunlight to Neighbouring Properties

Detailed daylight assessments

2.1.4 The guidance outline three detailed methods for calculating daylight: the Vertical Sky Component (VSC), the No-Sky Line (NSL) and the Average Daylight Factor (ADF).

2.1.5 The VSC and NSL are primarily used for the assessment of existing buildings, while the ADF test is generally recommended for proposed rather than existing dwellings. The ADF test may sometimes be useful as a supplementary analysis for existing buildings, particularly newer ones, and a number of local authorities request this as a standard measurement for impact assessments. It can help in judging whether impacts to daylight, which might otherwise be deemed 'noticeable', are nonetheless acceptable if affected rooms continue to receive levels of daylight sufficient for their use.

2.1.6 The VSC test measures the amount of sky that is visible to a specific point on the outside of a property, which is directly related to the amount of daylight that can be received. It is measured on the outside face of the external walls, usually at the centre

point of a window.

2.1.7 The NSL test calculates the distribution of daylight within rooms by determining the area of the room at desk / work surface height (the 'working plane') which can and cannot receive a direct view of the sky and hence 'sky light'. The working plane height is set at 850mm above floor level within residential property.

2.1.8 For the above methods, the guidance suggests that existing daylight may be noticeably affected by new development if: -

- Windows achieve a VSC below 27% and are reduced to less than 0.8 times their former value; and / or
- Levels of NSL within rooms are reduced to less than 0.8 times their former values.

2.1.9 Where rooms are greater than 5m in depth and lit from only one side, the guidance recognises that *"a greater movement of the no sky-line may be unavoidable"* (page 8, paragraph 2.2.10).

Daylight to new buildings

2.1.10 The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including window transmittance and surface reflectivity. The BRE guidance references the former British Standard BS8206 Part 2 and sets the following recommended ADF levels for habitable room uses: -

Bedrooms	1% ADF
Living rooms & dining rooms	1.5% ADF
Kitchens	2% ADF

Table 1 - ADF targets by room use

Detailed sunlight assessments

2.1.11 For sunlight, the Annual Probable Sunlight Hours (APSH) test calculates the percentage of probable hours of sunlight received by a window or room over the course of a year.

2.1.12 In assessing sunlight effects to existing properties surrounding a new development, only those windows orientated within 90° of due south and which overlook the site require assessment. The main focus is on living rooms, with bedrooms and kitchens deemed less important.

2.1.13 The British Standard guidance BS8206 part 2 advises that the degree of satisfaction for occupants is related to the expectation of sunlight, so if a room is north facing, or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than where its exclusion seems arbitrary.

"The degree of satisfaction is related to the expectation of sunlight. If a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when its exclusion seems arbitrary."

2.1.14 The guidelines suggest that the main living rooms within new buildings should achieve at least 25% of annual sunlight hours, with 5% during the winter period. For neighbouring buildings, the guide suggests that occupiers will notice the loss of sunlight if the APSH to main living rooms is both less than 25% annually (with 5% during winter) and that the amount of sunlight, following the proposed development, is reduced by more than 4%, to less than 0.8 times its former value.

3 Application of the guidance

3.1 Scope of assessment

Impact analysis for neighbouring buildings

3.1.1 The BRE guidelines advise that, when assessing any potential effects on surrounding properties, only those windows and rooms that have a 'reasonable expectation' of daylight and sunlight need to be considered. At paragraph 2.2.2 it states: -

> *"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."*

3.1.2 Our assessments therefore consider the neighbouring residential properties only, which the BRE recognises have the highest expectation for natural light. We have tested the impact on the main rooms in each residential property and ignored non-habitable space (e.g. staircases, hallways, bathrooms, toilets, stores etc.) as per BRE guidance.

Assessment for proposed accommodation

3.1.3 Our assessment has considered all of the proposed residential units within the scheme. The daylight assessment considers all of the main habitable rooms (bedrooms, living rooms, kitchens etc.), toilets, hallways and staircases are not considered habitable use.

3.1.4 For sunlight the BRE acknowledges that windows with a predominantly northern orientation are unlikely to satisfy its targets and that main living rooms are most important. Therefore, our sunlight assessment focusses on the relevant living areas with windows facing within 90° of due south only.

> *"The overall sunlighting potential of a large residential development may be initially assessed by counting how many dwellings have a window to a main living room facing south, east or west. The aim should be to minimise the number of dwellings whose living rooms face solely north, north east or north west, unless there is some compensating factor such as an appealing view to the north."*

3.2 Application of the numerical criteria

3.2.1 The opening paragraphs of 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 the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer.*

Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design… 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".

3.2.2 It is therefore very important to apply the BRE guidance sensibly and flexibly, with careful consideration of the specific site context. Its numerical targets theoretically apply to any built environment, from city centres to rural villages. However, in more tightly constrained environments, achieving the default BRE targets can be very challenging and conflict with other beneficial factors of site layout design.

3.2.3 With the above in mind, rigid adherence to the BRE in certain situations could easily result in an inappropriate form of development. In which case it may be appropriate to adopt lower target values more appropriate to the location concerned. This is acknowledged in the BRE guidance at paragraph 2.2.3 (page 7):

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

3.2.4 For buildings that neighbour a new development, the guidance suggests that daylight will be adversely affected by the development, if either; its windows achieve a VSC below 27% and have their levels reduced to less than 0.8 times their former value, or the levels of NSC within rooms are reduced to less than 0.8 times their former values.

3.2.5 Some recent planning decisions by the Mayor of London[1] and Planning Inspectorate[2] have suggested that retained levels of daylight (VSC) between 10% and 20% can be considered acceptable for residential properties neighbouring new developments in Central London. Further to these decisions, recent guidance from the Mayor of London (Draft SPG 'Good Quality Homes for all Londoners') suggests that residential properties in Central London can typically expect VSC values of between 13% and 18%. We have therefore assessed the severity of impacts to the neighbouring residential properties in light of this guidance.

Appendix F – Setting alternative target values

3.2.6 In certain situations, the BRE guidance suggests that alternative target values may be set for the assessment of daylight and sunlight to neighbouring buildings.

"F1 Sections 2.1, 2.2 and 2.3 give numerical target values in assessing how much light from the sky is blocked by obstructing buildings. These values are purely advisory and different targets may be used based on the special requirements of

[1] Monmouth House, Islington (Ref.: D&P/3698/02)
[2] Whitechapel Estate (Ref: APP/E5900/W/17/3171437)

the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylighting needs of the proposed development itself."

"F5. 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. Figure F3 shows an example, where side windows of an existing building are close to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary."

4 Planning Policy

4.1.1 We have considered local, regional and national planning policy relating to daylight and sunlight. In general terms, planning policy advises that new development will only be permitted where it is shown not to cause unacceptable loss of daylight or sunlight amenity to neighbouring properties.

4.1.2 The need to protect amenity of neighbours is echoed within recent publications from the Mayor of London and the Secretary of State for Housing, Communities and Local Government. Although, these documents also stress that current guidance needs to be used flexibly where developments are located in urban areas and intend to achieve higher densities. Specifically, these documents suggest that the nationally applicable criteria given within the BRE guidance needs to be applied in consideration of the development's context.

4.2 London Borough of Hillingdon

4.2.1 Hillingdon's Design and Accessibility Statement Supplementary Planning Document (2006), states the following:

Daylight / Sunlight

Daylight is the volume of natural light, which is required to enter a dwelling to provide satisfactory illumination of internal accommodation between dawn and dusk.

The Building Research Establishment's report 'Site Layout Planning for Daylight and Sunlight 'recommends that suitable daylight to habitable rooms is achieved where a 25 ° vertical angle taken from a point 2 metres above the floor of the fenestrated elevation is kept unobstructed. When this criterion is applied to the rear of a dwelling the resulting dimension will normally be satisfied within the length of the smallest recommended size for a private garden. However, where main habitable rooms are located to the front of a dwelling daylight may be affected if dwellings on the opposite side of the street are very close (i.e. less than 10m. in the case of two storey dwellings).

Similarly, large two storey extensions, which are positioned close to a boundary, may not be acceptable if they have a significant overshadowing and overbearing effect on the habitable rooms of adjoining dwellings. In this respect any two-storey extension extending beyond a 45 ° horizontal angle measured from the middle of a principal window to a habitable room on the adjoining dwelling may not be acceptable. Depending on orientation smaller two storey extensions may also cause significant overshadowing. Two storey rear extensions on semi-detached and terraced dwellings are likely to be problematic unless undertaken with the neighbouring property.

Although it would be unreasonable to require that all dwellings enjoy sunlit rooms, single aspect dwellings which are sited so that every habitable room is facing due north and have amenity areas which are usually in shade, may not be acceptable.

4.3 The London Plan – The Mayor of London (March 2021)

4.3.1 The Mayor of London's New London Plan gives the following: -

Policy D6 Housing quality and standards

"C. Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 Optimising site capacity through the design-led approach than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating."

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

4.4 The Housing SPG – The Mayor of London (March 2016)

4.4.1 The London Plan Housing SPG confirms the flexibility that should be applied in the interpretation of the BRE guidelines having regard to the 'need to optimise capacity; and scope for the character and form of an area to change over time.'

1.3.45. Policy 7.6Bd requires new development to avoid causing 'unacceptable harm' to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.

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

4.5 Draft SPG 'Good Quality Homes for all Londoners' – The Mayor of London (October 2020)

4.5.1 The Mayor of London has produced a draft SPG which includes the following: -

C5.3 Daylight, sunlight and overshadowing

Applying BRE guidelines in relation to neighbouring homes

"Decision-makers should recognise that fully optimising housing potential on sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

Guidelines should be applied sensitively to higher density development, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances, the need to optimise housing capacity, and the scope for the character and form of an area to change over time.

The BRE guidelines apply nationwide, and the default numerical targets provided are purely advisory. These are based on a uniform, 25-degree development angle (vertical obstruction angle) typical of a low-rise suburban location. This corresponds to the Vertical Sky Component (VSC) target of 27 per cent cited in the guidelines. Typical development angles in a city or central urban location are considerably higher. In Central London, development angles of 40 degree or 50 degree are common and can, if well planned, deliver successful schemes. A uniform development angle of 40 degree corresponds to a VSC target of 18 per cent, and 50 degree gives a VSC target of 13 per cent. Such daylight levels have been accepted in many desirable central areas for well over a century. Module A: Optimising Site Capacity - A Design-led Approach therefore adopts a 50-degree development angle to determine offset distances.

Even with access to good levels of daylight on the outside of a building, it is possible to have low levels of daylight within a building due to design features such as small windows, recessed windows, poor placement of balconies or deep rooms. Therefore, consideration of the retained target VSC should be the principal consideration. Where this is not met in accordance with BRE guidance, it should not be less than 0.8 times its former value (which protects areas that already have low daylight levels).

Less weight should be given to the room-based measures of daylight such as 'no-sky-line' or average daylight factor as these are dependent on the design of the neighbouring property. Except in exceptional circumstances, design features of neighbouring properties (referred to above) should not hamper the development potential of a site."

Applying BRE guidelines in relation to proposed homes

"It may be possible to mitigate lower external daylight VSC levels by using design features such as larger windows, roof lights and light coloured internal and external surfaces to ensure reasonable internal daylight levels. Therefore, room based measures of daylight and sunlight are most appropriate for judging the acceptability of a proposed development, as these encourage good daylight design. Appropriate 3D modelling should be used to demonstrate acceptable levels.

BRE guidelines confirm that the acceptable minimum average daylight factor target value depends on the room use. That is 1 per cent for a bedroom, 1.5 per cent for a living room and 2 per cent for a family kitchen. In cases where one room serves more than one purpose, the minimum ADF should be that for the room type with the higher value. Notwithstanding this, the independent daylight and sunlight review states that in practice, the principal use of rooms designed as a 'living room/kitchen/dining room' is as a living room. Accordingly, it would be reasonable to apply a target of 1.5 per cent to such rooms.

The need for balconies to be a minimum depth so as to function as usable amenity space, (see C4 Dwelling Space Standards), can have significant bearing on the daylight and sunlight levels reaching nearby windows and rooms. Inevitably, any window or room under a balcony will receive much lower daylight and sunlight levels, although the adjacent balcony space will typically have excellent levels of daylight and sunlight amenity. Given this, the Mayor encourages boroughs to allow the daylight levels on the balcony to contribute to the ADF of the adjacent living space."

4.6 The National Planning Policy Framework - Department for Housing, Communities and Local Government (July 2021)

4.6.1 The latest version of the National Planning Policy Framework was issued in July 2021. The document sets out planning policies for England and how these are expected to be applied. In respect of daylight and sunlight it stresses the need to make optimal use of sites and to take a flexible approach to daylight and sunlight guidance. Para 125 States: -

11. Making effective use of land

Achieving appropriate densities

"125. Area-based character assessments, design guides and codes and masterplans can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:

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

5 Sources of Information & Assumptions

5.1.1 Architectural drawings and an AccuCities model have been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.

5.1.2 Where survey or planning information was unavailable, the position of the neighbouring property elevations has been estimated based upon brick counts from site photographs. Window positions and dimensions used directly affect the results of all assessment methods.

5.1.3 We have not sought access to the surrounding properties and, unless we have been able to source floor layouts via public records, the internal configuration and floor levels have been estimated. Unless the building form dictates otherwise, we assume room depths of c. 4.2m for principal living space. Room layouts used directly affect the results of the NSL and ADF assessments.

5.1.4 Where possible neighbouring building use has been identified via online research, including Valuation Office Agency (VOA) searches, and/or external observation.

5.1.5 The full list of sources of information used in this assessment is as follows: -

5.2 AccuCities

Type of survey

001697_117 Pinner Road, Northwood Hills_HD_MASTER.dwg
Received 22/02/2021

5.3 Studio V Architects

2D drawings of the proposed development

Proposed Drawings-Sheet - PL12 - Proposed Third Floor Plans - Pinner area.dwg
Proposed Drawings-Sheet - PL13 - Proposed Fourth Floor - Pinner Area.dwg
Proposed Drawings-Sheet - PL14 - Proposed Fifth Floor Plan - Pinner Side.dwg
Proposed Drawings-Sheet - PL15 - Proposed Elevations Pinner Area - 1 and 3.dwg
Proposed Drawings-Sheet - PL16 - Proposed Elevations Pinner - 2 and 4.dwg
Proposed Drawings-Sheet - PL17 - Proposed Elevation Piner - 5.dwg
Proposed Drawings-Sheet - PL18 - Proposed Sections C-C and D-D.dwg
Proposed Drawings-Sheet - PL19 - Proposed Section E-E and F-F.dwg
Proposed Drawings-Sheet - PL20 - Proposed Roof and Site Plan.dwg
Received 02/03/2022

6 The Site and Proposal

6.1.1 The site is located 117 Pinner Road, Northwood Hills, HA6 1DA and currently contains a residential block. The proposal involves the addition of a residential extension to the top of the existing building.

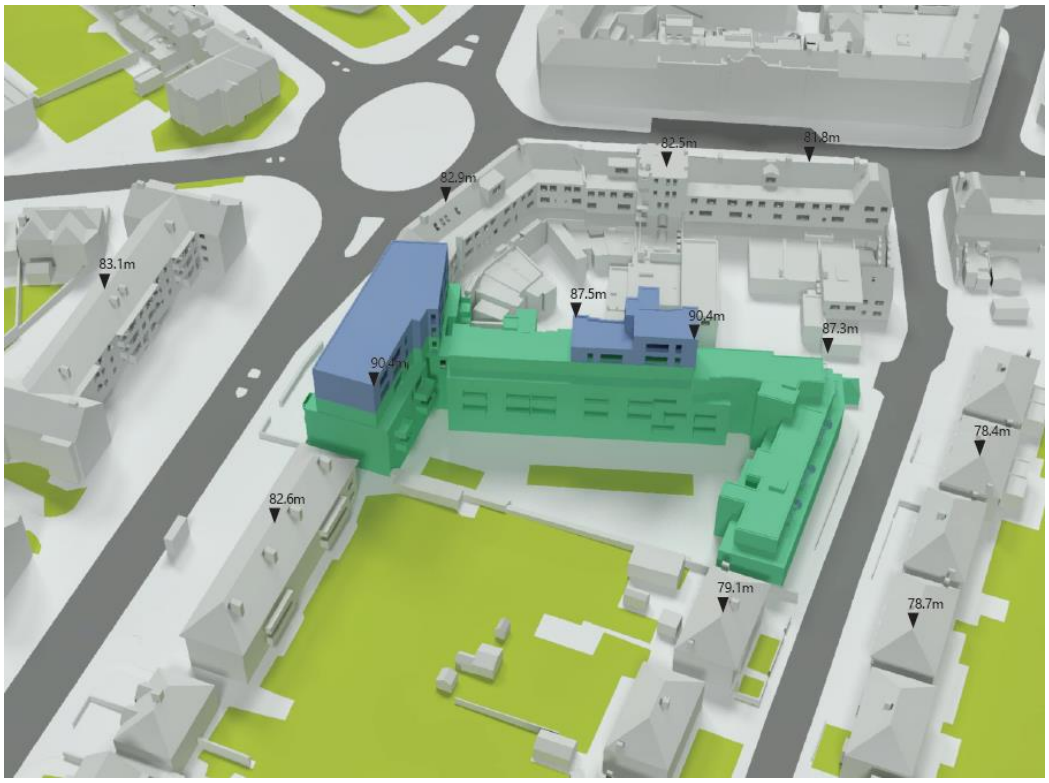

Image 1 - 3D view of the proposed development and context

7 Assessment results

7.1.1 Full results of the daylight and sunlight assessments are attached within Appendix 2. Drawings to show the existing and proposed buildings in the context of the neighbouring properties as well as window maps showing individual window references are attached within Appendix 1.

7.2 Daylight and sunlight to neighbouring buildings

7.2.1 Our assessment has considered all the closest neighbouring residential properties with windows overlooking the proposed development. These are shown on the following image: -

1. 36-44 Pinner Road
2. 2-21 Joel Street
3. 22-34 Joel Street
4. 1-16 Windsor Close
5. 40 Windsor Close
6. 121 Pinner Road

7 & 8. Existing site (117 Pinner Road)

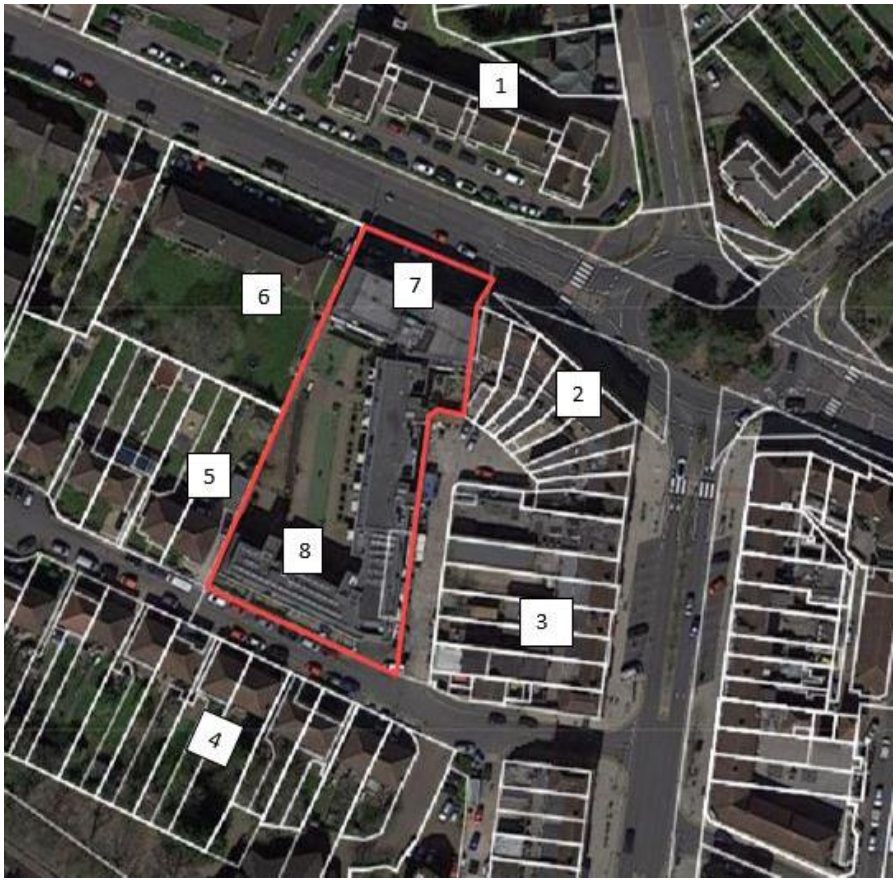

Image 2 - Aerial view of the closest neighbouring properties

36-44 (Even) Pinner Road

Image 3 - Aerial view of 36-44 Pinner Road

7.2.2 This is a three-storey residential block located to the north of the development site across Pinner Road. It has a number of windows in its front, southwest-facing elevation, most of which have a direct view of the proposal.

7.2.3 We have modelled this building using assumed layouts in the absence of available planning information. The BRE guidance suggests that NSC results should not be used where layouts are unknown.

Daylight

7.2.4 The results of the VSC assessment for this property demonstrate full compliance with the BRE guidance: the retained VSC levels shown are well in excess of the suggested numerical targets.

7.2.5 The NSC assessment has shown that 26 of the 33 habitable rooms across this block will retain good levels of daylight distribution with the proposal in place, entirely consistent with BRE targets. There are 7 rooms that fall below the standard BRE targets, all of these rooms are only very marginal with results between 0.68 and 0.79 times the former value. The main cause of the marginally low results is because of the positioning of windows underneath balconies which inevitably restricts the amount of daylight received in both the existing and proposed conditions.

Sunlight

7.2.6 For sunlight, in accordance with BRE recommendations, we have considered all rooms facing within 90° of due south which are the rooms along Pinner Road. In all but one location rooms are considered to comply with BRE target values for APSH and WPSH.

7.2.7 The single exception is within No.44 Pinner Road with an annual sunlight (APSH) result of 21% reduced to 16% which equates to a difference of 0.76 times the former value. This is a very marginal loss to one window, which is positioned underneath a

balcony and therefore restricts daylight within both the existing and proposed conditions. Therefore, with reference to the BRE guidance on flexibility, this result should be seen as acceptable.

2-34 (Even) Joel Street

Image 4 - Aerial view of 2-34 Joel Street

7.2.8 This is a row of three-storey, mixed-use properties containing ground floor commercial units with residential units above. Located directly to the east of the development site with windows in their rear elevations, Nos.2-14 & 26-34 have an oblique view of the site while Nos.14-24 have a direct view. For the purposes of these assessment, we have considered the residential units only.

7.2.9 We have modelled these the majority of these properties using assumed layouts in the absence of available planning information. No.10 has been modelled using planning documents obtained through the local planning portal.

Daylight

7.2.10 The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance: the retained VSC levels shown are well more than the suggested numerical targets and we record no significant alteration in NSL.

Sunlight

7.2.11 For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

Land to the rear of 34 Joel Street

Image 5 - Street view of land to the rear of 34 Joel Street

7.2.12 This is a two-storey house located to the southeast of the development site. It has 4 windows in its rear elevation which have an oblique view of the proposal.

7.2.13 We have modelled this property using assumed layouts in the absence of available planning information.

Daylight

7.2.14 The results of the VSC and NSL assessments for this property demonstrate full compliance with BRE guidance.

Sunlight

7.2.15 For sunlight, we have tested the windows within 90° of due south and note no material transgressions beyond BRE target values.

1-16 (Inclusive) Windsor Close

Image 6 - Aerial view of 1-16 Windsor Road

7.2.16 These are a row of semi-detached residential properties located to the south of the development site, across Windsor Road. Each has a number of windows in their front, northeast-facing elevations, most of which have a direct view of the proposal.

7.2.17 We have modelled these properties using estate agent floorplans sourced online.

Daylight

7.2.18 The results of the VSC and NSL assessments for this property demonstrate full compliance with BRE guidance.

Sunlight

7.2.19 For sunlight, we have tested the windows within 90° of due south and note no material transgressions beyond BRE target values.

40 Windsor Road

Image 7 - Street view of 39-40 Windsor Road

7.2.20 This is a two-storey semi-detached property containing 2 residential units. It is located to the southwest of the development site and has a number of windows in its flank and rear elevations which have an oblique view of the proposal.

7.2.21 We have modelled this property using estate agent floorplans sourced online.

Daylight

7.2.22 The results of the VSC and NSL assessments for this property demonstrate full compliance with BRE guidance.

Sunlight

7.2.23 For sunlight, we have tested the windows within 90° of due south and note no material transgressions beyond BRE target values.

121 Pinner Road

Image 8 - Street view of 121 Pinner Road

7.2.24 This is a three-storey residential property located directly to the west of the development site. It has a number of windows in its rear elevation (not shown) that have an oblique view of the proposal.

7.2.25 We have modelled this property using assumed layouts in the absence of available planning information.

Daylight

7.2.26 The results of the VSC and NSL assessments for this property demonstrate full compliance with BRE guidance.

Sunlight

7.2.27 For sunlight, we have tested the windows within 90° of due south and note no material transgressions beyond BRE target values.

117 Pinner Road

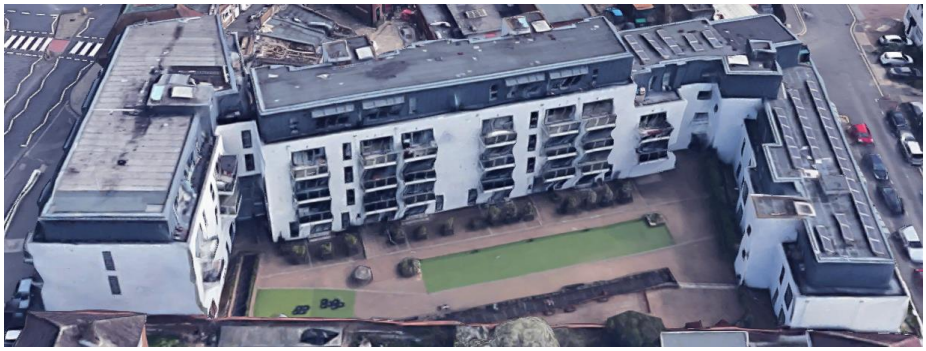

Image 9 - Aerial view of 117 Pinner Road

7.2.28 This is a three to five storey mixed-use block containing ground floor commercial units along the Pinner Road elevation with residential units forming the rest of the block. This block forms part of the development site.

7.2.29 We have modelled this block using planning drawings.

Daylight

7.2.30 The results of the VSC and NSL assessments for this property demonstrate full compliance with BRE guidance.

Sunlight

7.2.31 For sunlight, we have tested the windows within 90° of due south and note no material transgressions beyond BRE target values.

7.3 Daylight and sunlight within the proposal

7.3.1 The daylight and sunlight amenity provided within the proposed residential accommodation has been assessed using the ADF and APSH tests following the methodology of the BRE guidance and (insert ref from above).

7.3.2 Full results of the daylight and sunlight assessments within the proposed apartments, along with drawings to show the layout of rooms and windows, are attached within Appendix X.

Daylight

Room Type	ADF Target	Total No. of Rooms	Rooms That Meet ADF Target
Studio	2%	2	2 (100%)
L/K/D	2%	9	9 (100%)
Bedroom	1%	15	15 (100%)
Total		**26**	**26 (100%)**

Table 2 - Summary ADF results for proposed accommodation

7.3.3 The results of the ADF assessment have shown that all habitable rooms surpass the BRE and British Standard guidance criteria. This is a very good outcome considering the current site constraints.

Sunlight

Room Type	Total No. of rooms	Rooms that meet APSH/WPSH criteria
L/K/Ds or Studio	11	11 (100%)

Table 3 - Summary APSH results for proposed accommodation

7.3.4 The focus of the BRE sunlight guidelines is on main living rooms, rather than bedrooms and kitchens, which the guide views as less important: - ***"3.1.2 In housing the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens"***

7.3.5 The results of the sunlight assessment have shown that all main living achieve the recommended levels of 25% APSH and 5% WPSH.

8 Conclusions

8.1.1 This practice has undertaken a detailed assessment of the potential daylight and sunlight effects of the proposed development at 117 Pinner Road, Northwood Hills, HA6 1DA on the key neighbouring properties. We have also undertaken an assessment of the provision of daylight and sunlight within the proposed residential units.

8.2 Daylight and sunlight impact to neighbouring properties

8.2.1 Our assessments have been undertaken using the VSC, NSL, (daylight) and APSH (sunlight) tests set out within the BRE guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (2011). It is important to reiterate that alterations in daylight and sunlight to adjoining properties are often inevitable when undertaking any meaningful development, especially in an urban environment. Therefore, the BRE guide is meant to be interpreted flexibly because natural lighting is only one of many factors in site layout design. Indeed, the guidelines suggest that different criteria may be used based upon the requirements for natural lighting in an area viewed against other constraints.

8.2.2 The results of these tests have shown that, whilst there will be some minor reductions to individual rooms (NSC) within 36-44 (Even) Pinner Road, the overall amount of daylight received within each of the neighbouring habitable windows (VSC) will remain very high and in excess of the BRE criteria.

8.2.3 The assessment of sunlight to neighbouring windows has shown that in all but one location the results show full compliance with the BRE criteria. The single exception is within No.44 Pinner Road with a very minor low result of 0.76 times the former value.

8.2.4 The main cause of the minor low results is due to the balconies above the windows and rooms which restrict daylight and sunlight in both existing and proposed conditions. The overall set of results should therefore be seen as acceptable in response to BRE guidance and flexibility.

8.3 Daylight and sunlight within the proposed residential units

8.3.1 The assessment of daylight and sunlight within the proposed apartments has shown that all rooms receive good levels in excess of the relevant BRE targets.

Appendix 1

Drawings of the existing, proposed and surrounding buildings

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Sources of information

AccuCities
001697_117 Pinner Road, Northwood Hills_HD_MASTER.dwg
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Studio V Architects
Proposed Drawings-Sheet - PL12 - Proposed Third Floor Plans - Pinner area.dwg
Proposed Drawings-Sheet - PL13 - Proposed Fourth Floor - Pinner Area.dwg
Proposed Drawings-Sheet - PL14 - Proposed Fifth Floor Plan - Pinner Side.dwg
Proposed Drawings-Sheet - PL15 - Proposed Elevations Pinner Area - 1 and 3.dwg
Proposed Drawings-Sheet - PL16 - Proposed Elevations Pinner - 2 and 4.dwg
Proposed Drawings-Sheet - PL17 - Proposed Elevation Piner - 5.dwg
Proposed Drawings-Sheet - PL18 - Proposed Sections C-C and D-D.dwg
Proposed Drawings-Sheet - PL19 - Proposed Section E-E and F-F.dwg
Proposed Drawings-Sheet - PL20 - Proposed Roof and Site Plan.dwg

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Key:

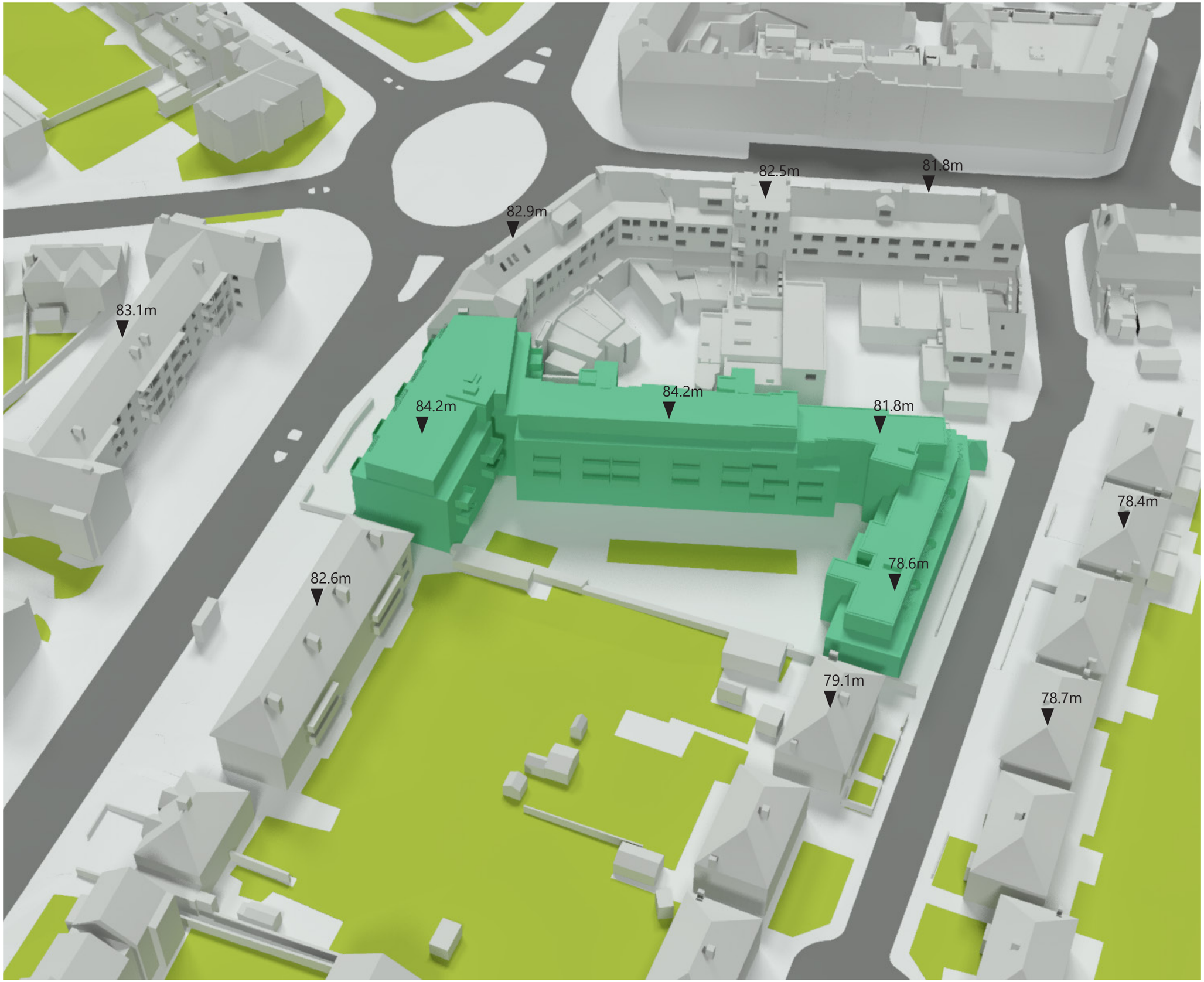
Existing

NORTH

Project	117 Pinner Road Northwood Hills
Title	Existing Condition Plan View

Drawn	DF	Checked	--
Date	04/03/2022	Project	4724

Rel no.	Prefix	Page no.
03	DS01	01



Notes: All heights and dimensions are in AOD

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Proposed Drawings-Sheet - PL15 - Proposed Elevations Pinner Area - 1 and 3.dwg
Proposed Drawings-Sheet - PL16 - Proposed Elevations Pinner - 2 and 4.dwg
Proposed Drawings-Sheet - PL17 - Proposed Elevation Piner - 5.dwg
Proposed Drawings-Sheet - PL18 - Proposed Sections C-C and D-D.dwg
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Key:

Existing

Project: 117 Pinner Road
Northwood Hills

Title: Existing Condition
3D View

Drawn	DF	Checked	--
Date	04/03/2022	Project	4724
Rel no.	Prefix	Page no.	
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Proposed Drawings-Sheet - PL15 - Proposed Elevations Pinner Area - 1 and 3.dwg
Proposed Drawings-Sheet - PL16 - Proposed Elevations Pinner - 2 and 4.dwg
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Proposed Drawings-Sheet - PL18 - Proposed Sections C-C and D-D.dwg
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Key:

Proposed

NORTH

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Title	Proposed Development Plan View
Drawn	DF
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Project	4724
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Prefix	DS01
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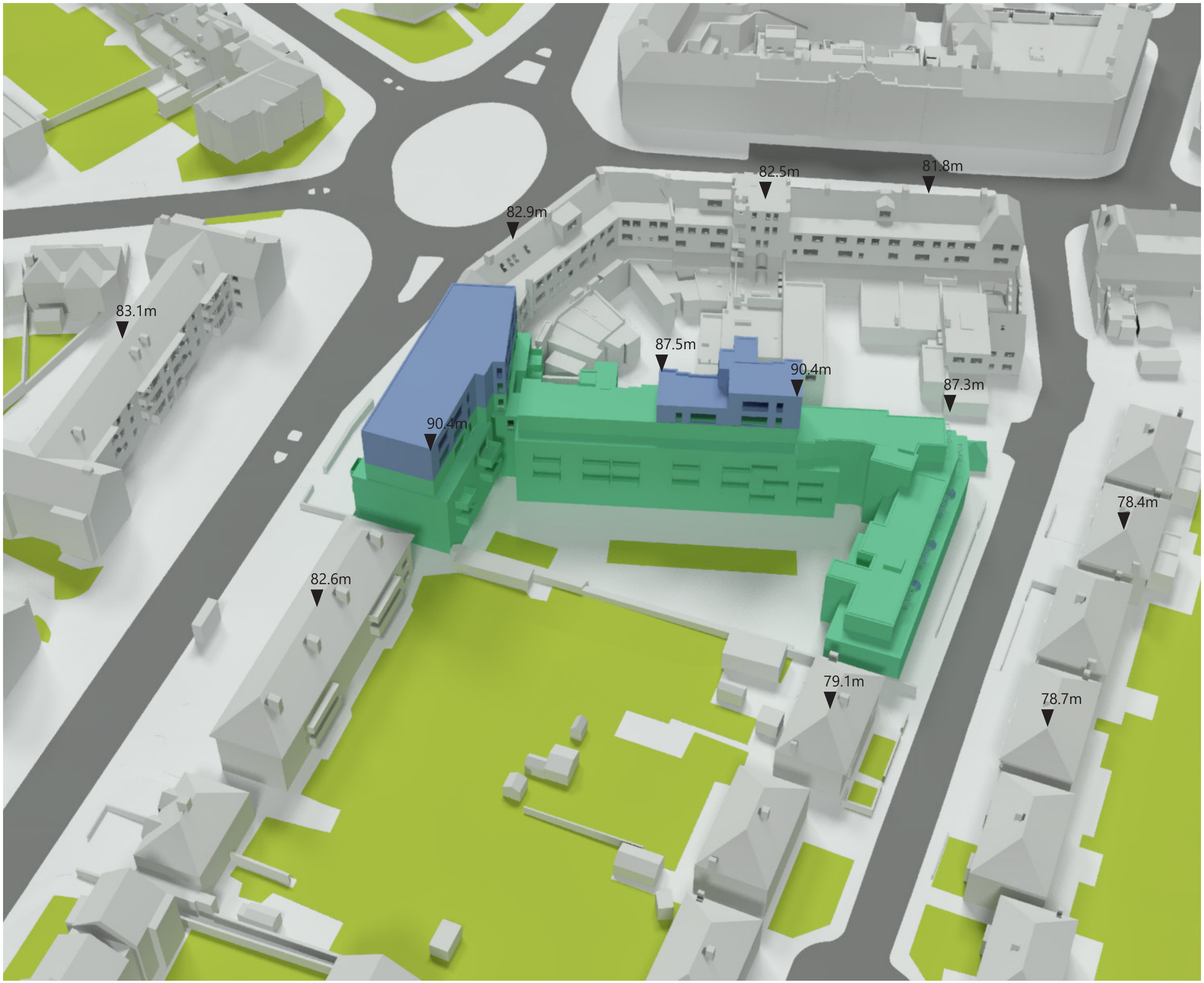

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Proposed Drawings-Sheet - PL17 - Proposed Elevation Piner - 5.dwg
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Key:

Proposed

Project: 117 Pinner Road
Northwood Hills

Title: Proposed Development
3D View

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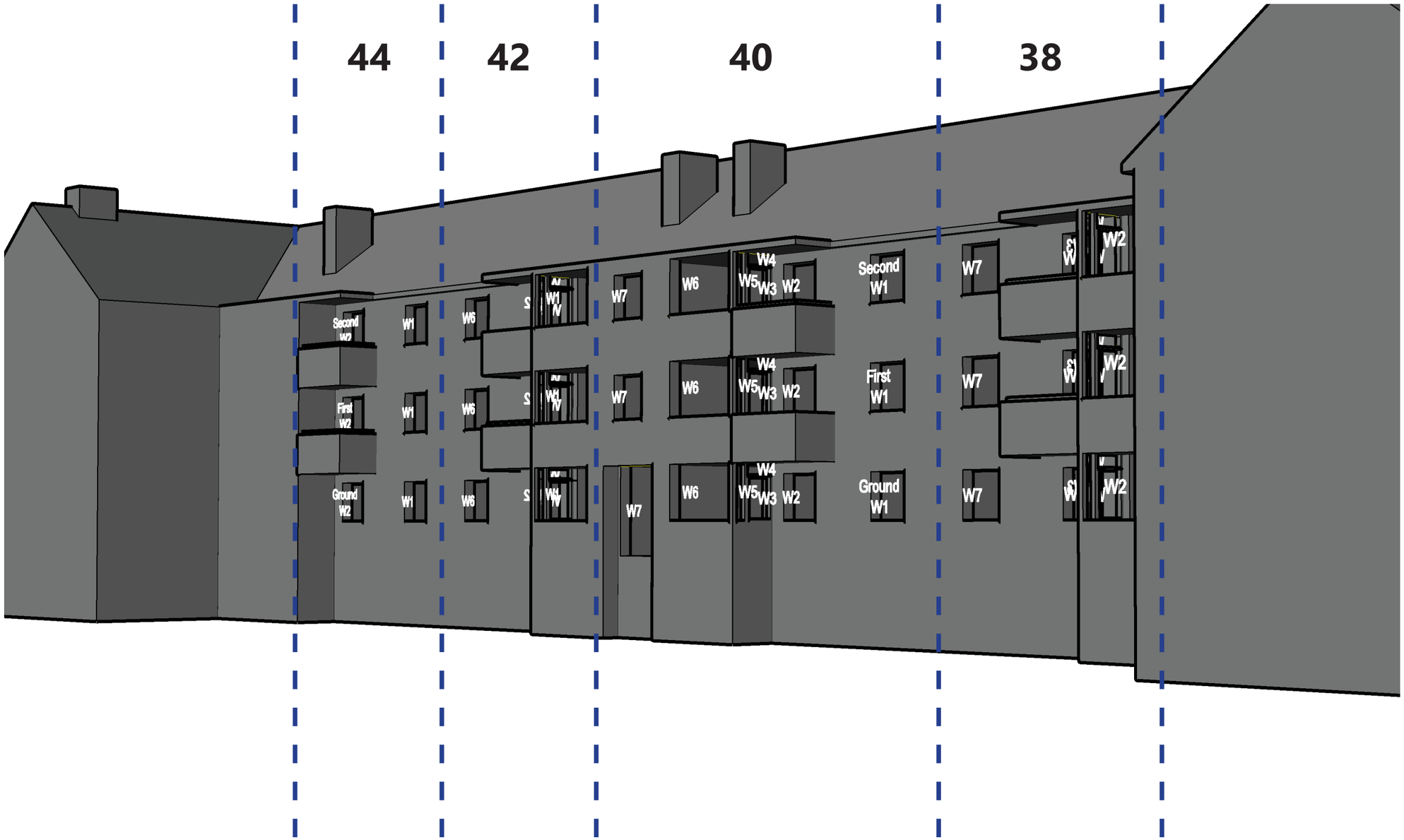

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Project	4724
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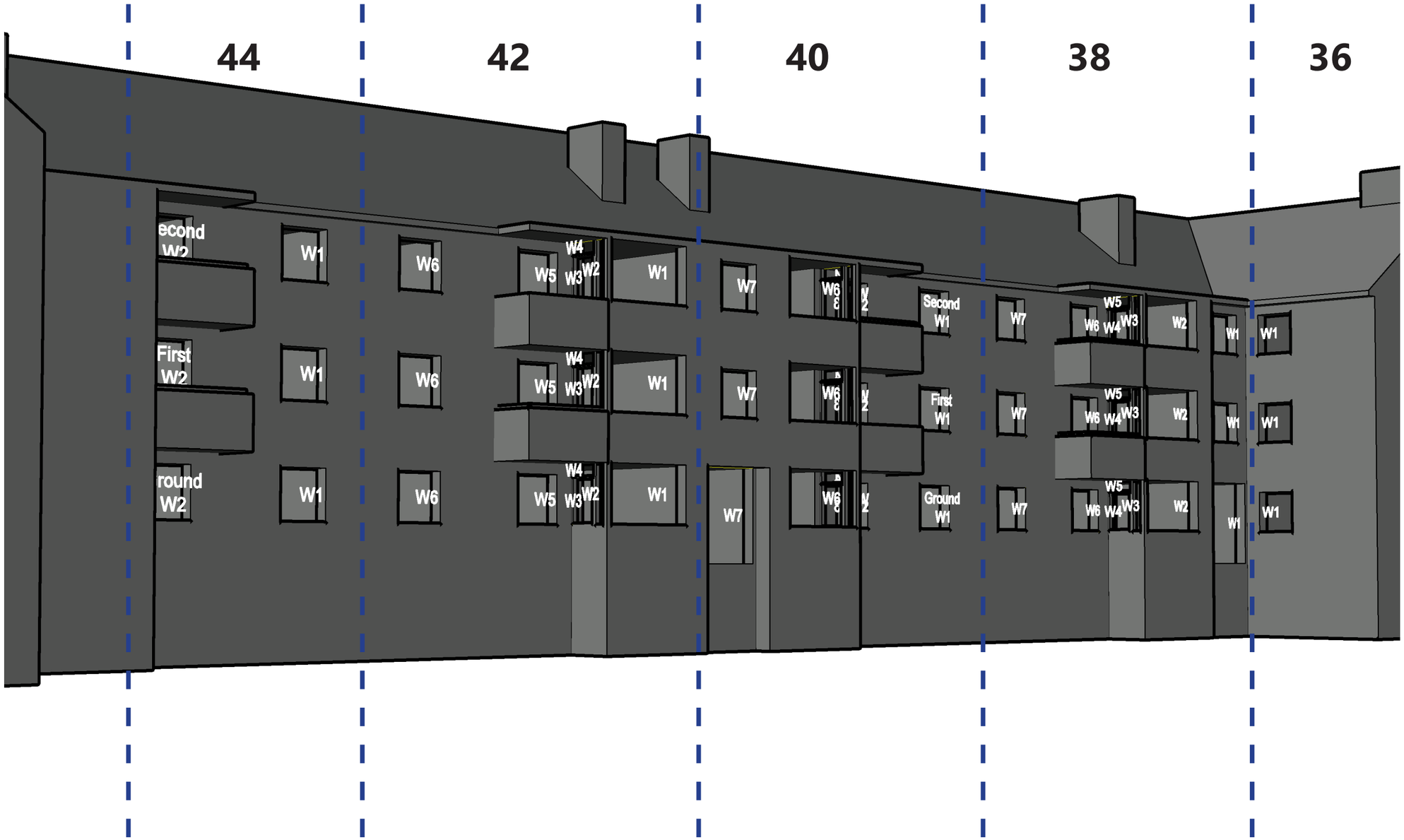

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Project: 117 Pinner Road Northwood Hills

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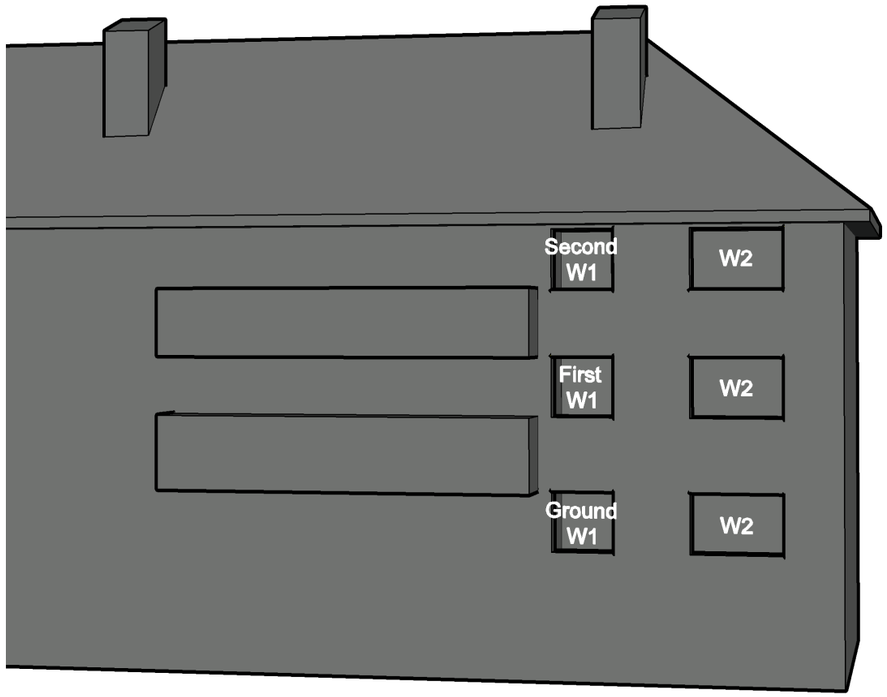

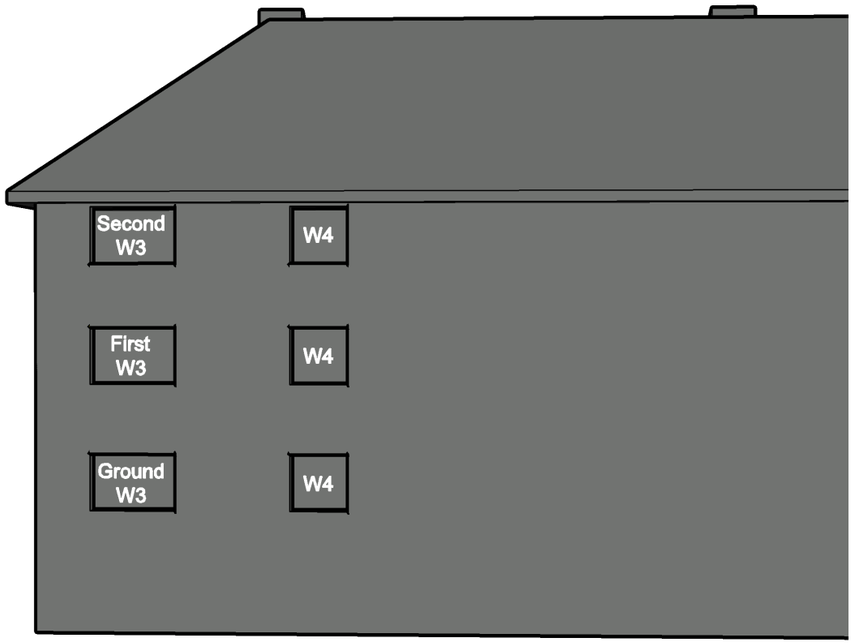

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Title: 121 Pinner Road
Window Map

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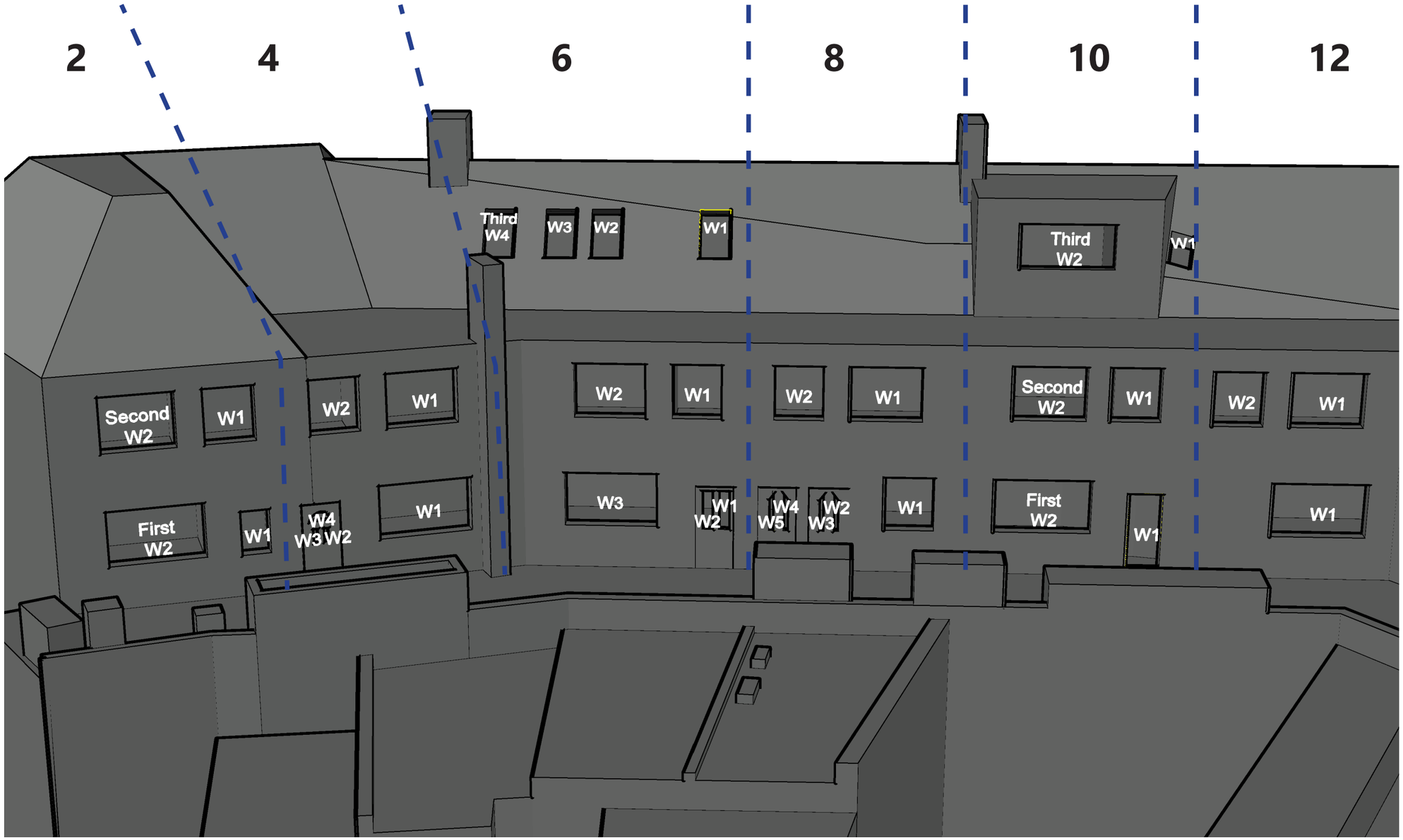

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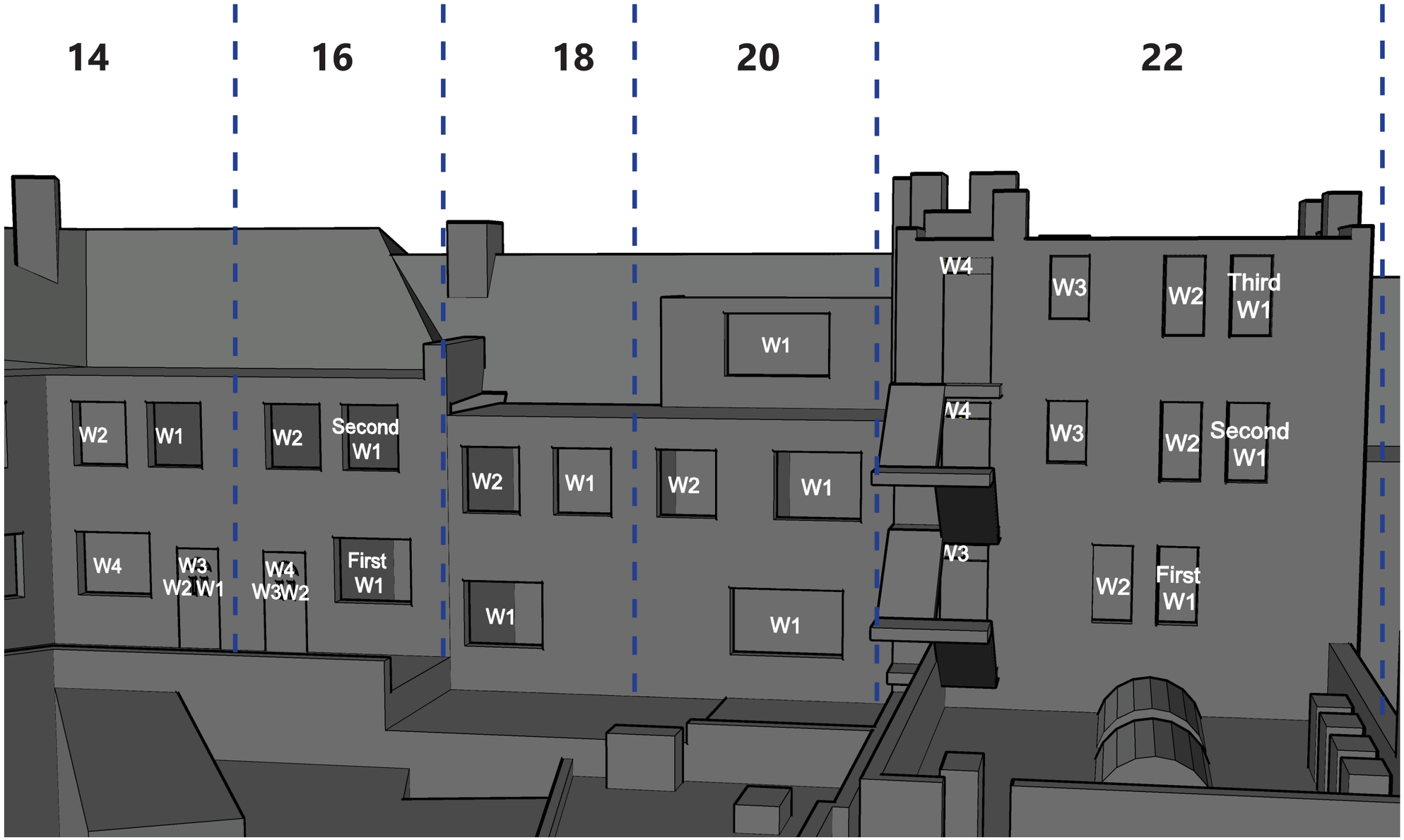

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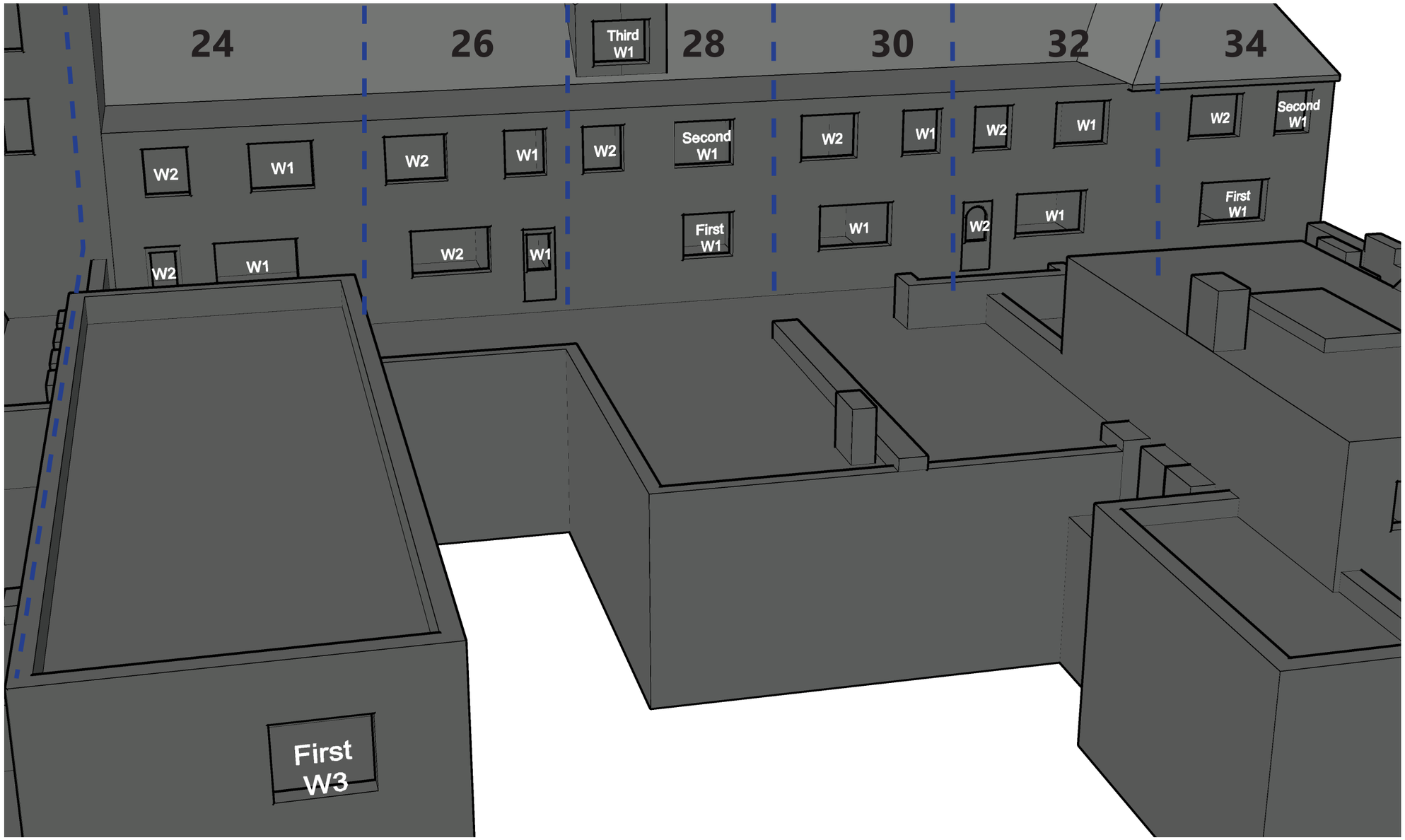

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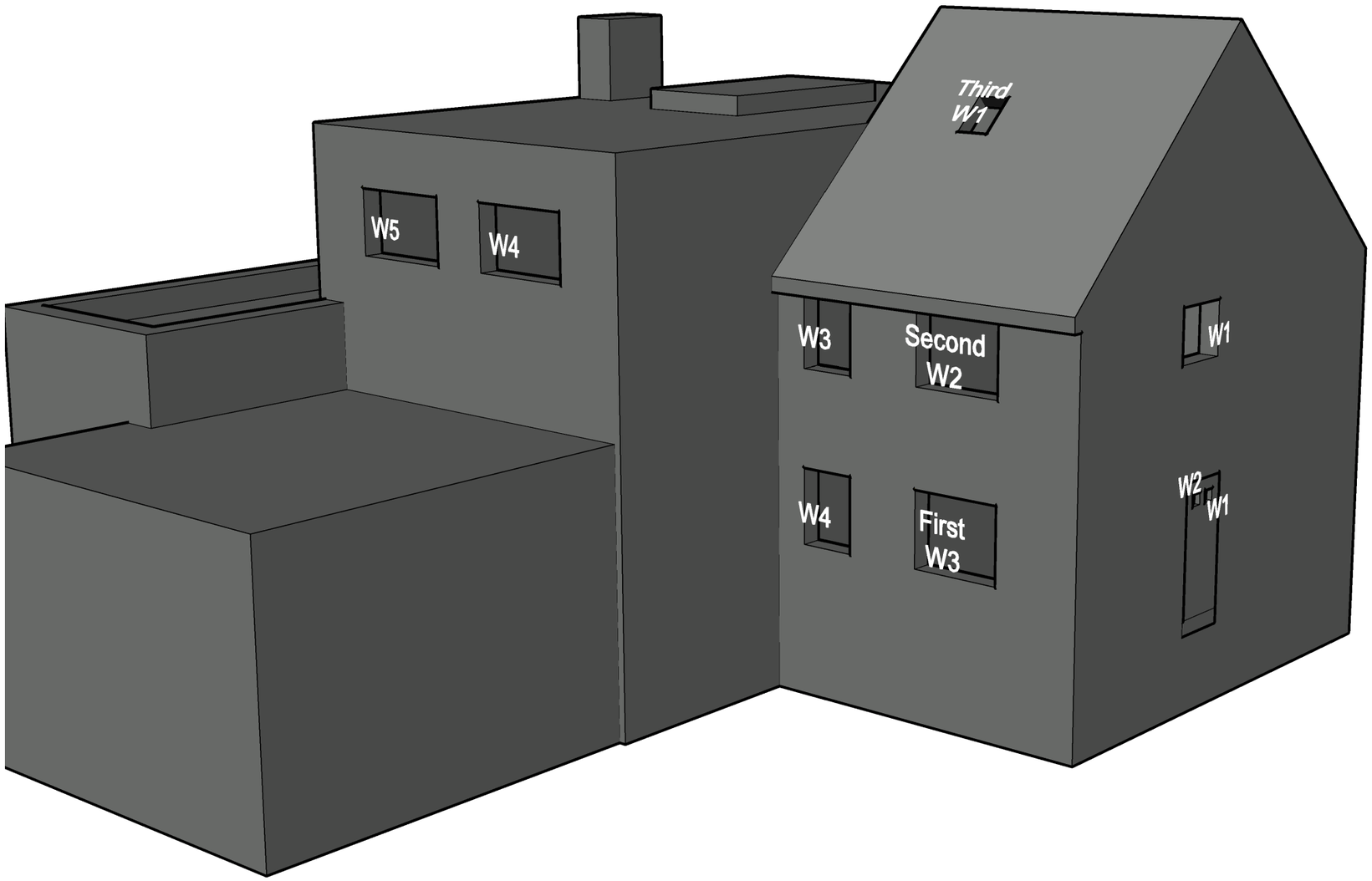

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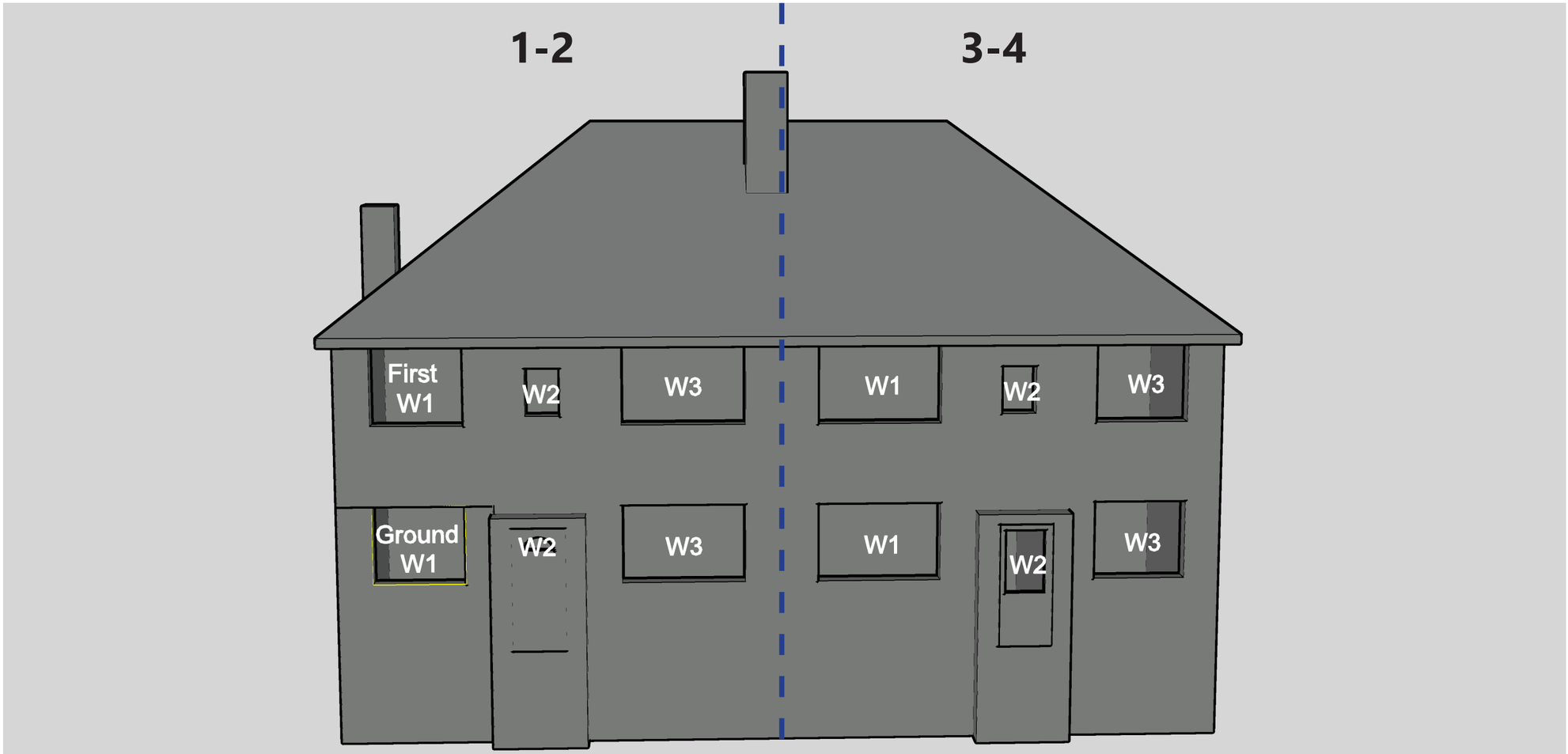
Project: 117 Pinner Road
Northwood Hills

Title: Land to the back of 34 Joel Road
Window Map

Drawn	MZ	Checked	--
Date	24/03/2021	Project	4724
Rel no.	Prefix: WM01	Page no.	07



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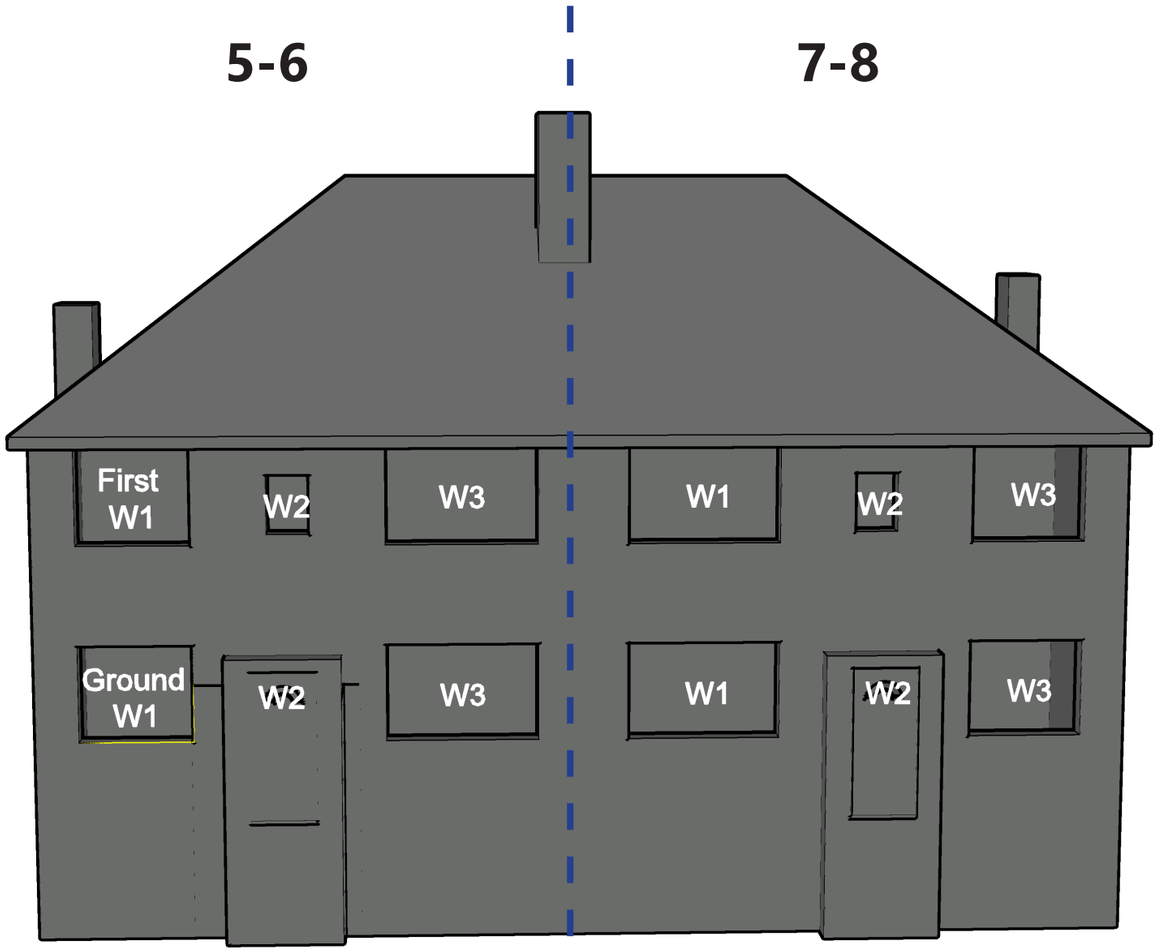

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Project	117 Pinner Road Northwood Hills
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Date	24/03/2021
Project	4724
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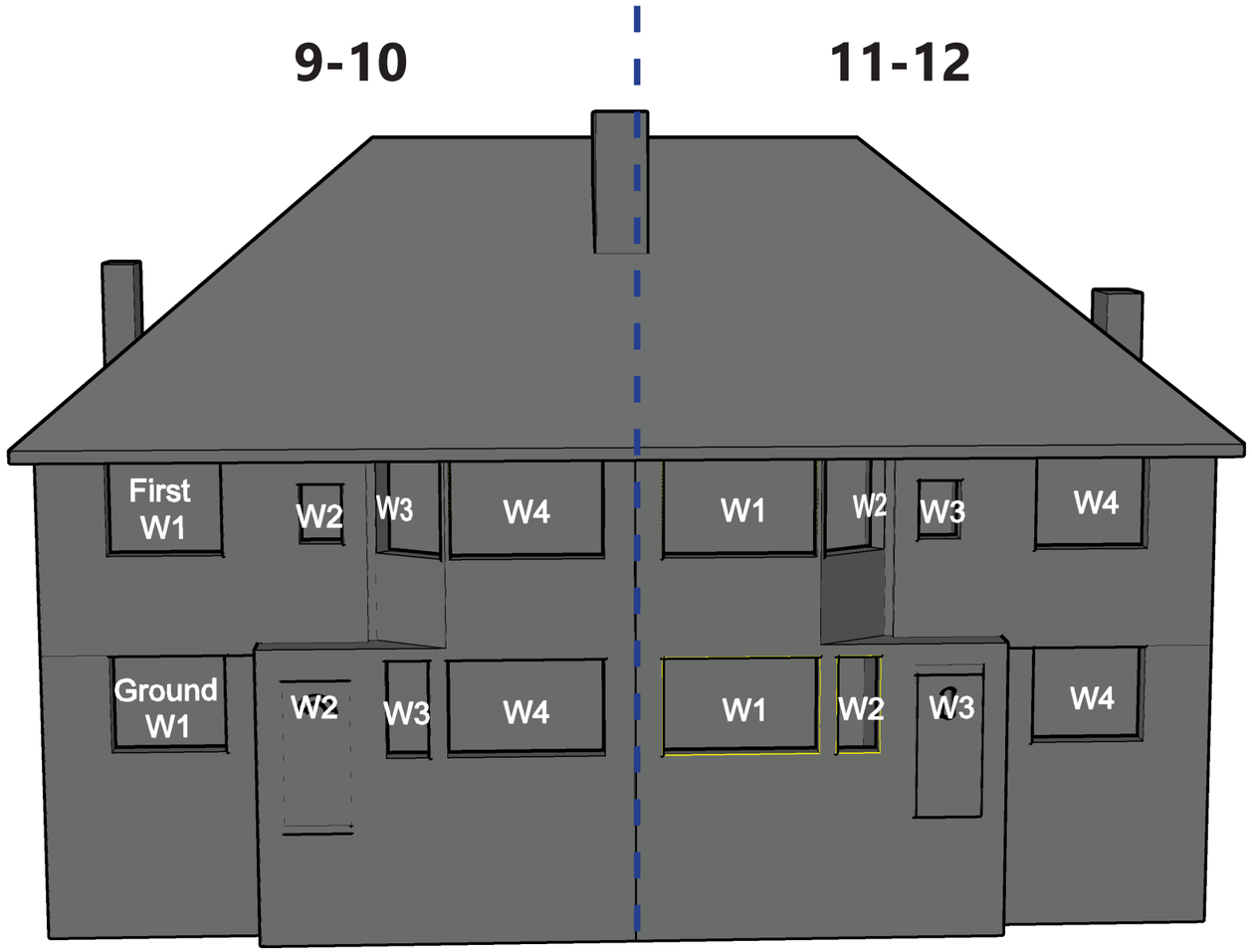

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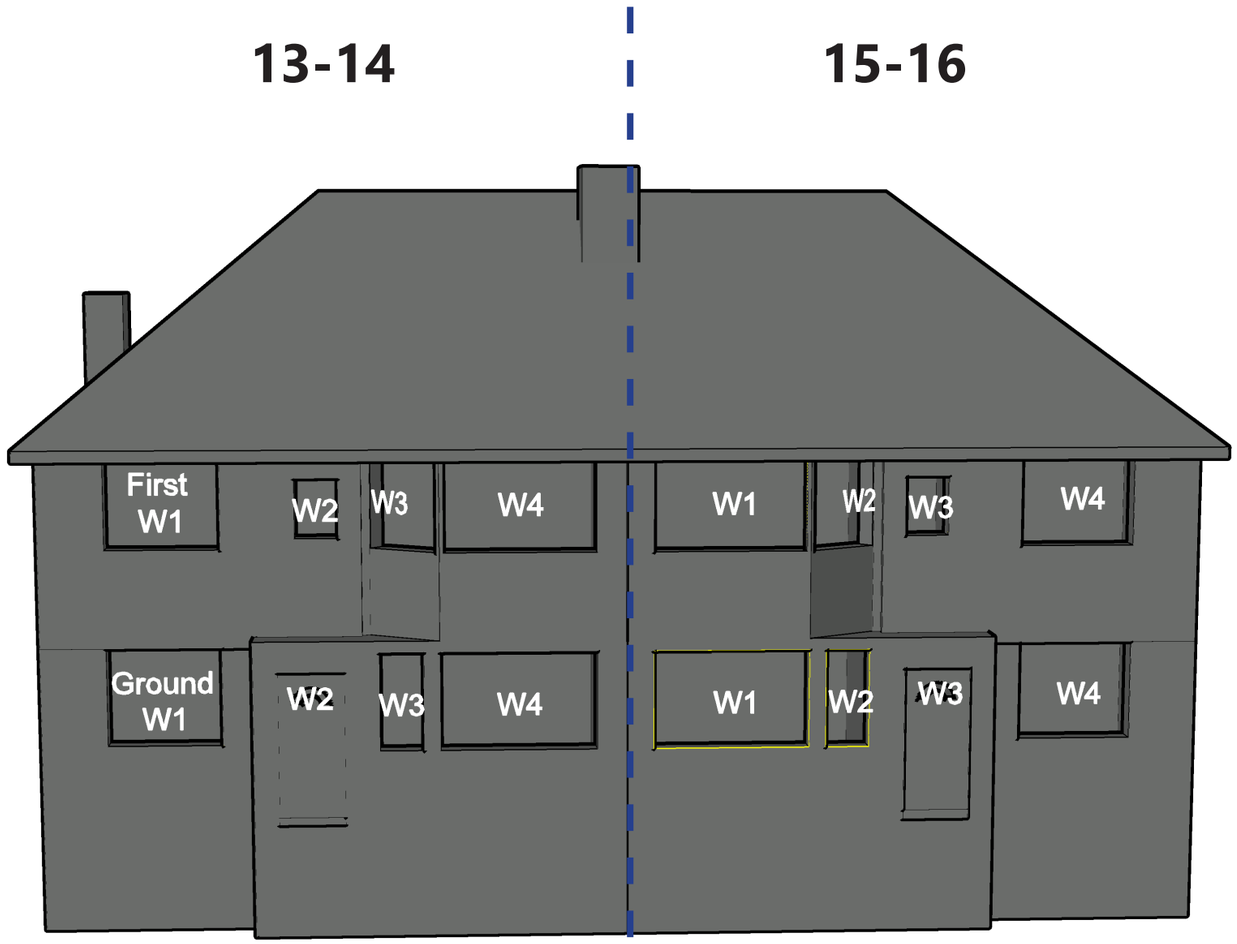

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Project: 117 Pinner Road Northwood Hills

Title: 13-14 and 15-16 Windsor Close Window Map

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Date: 24/03/2021 | Project: 4724

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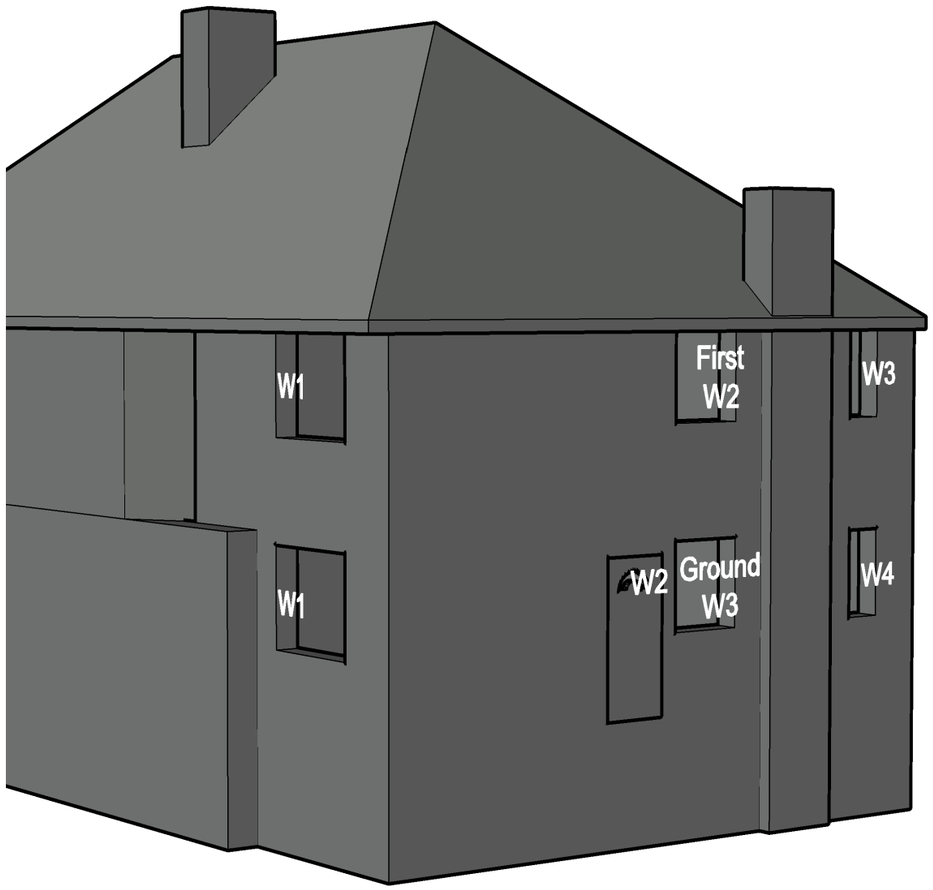

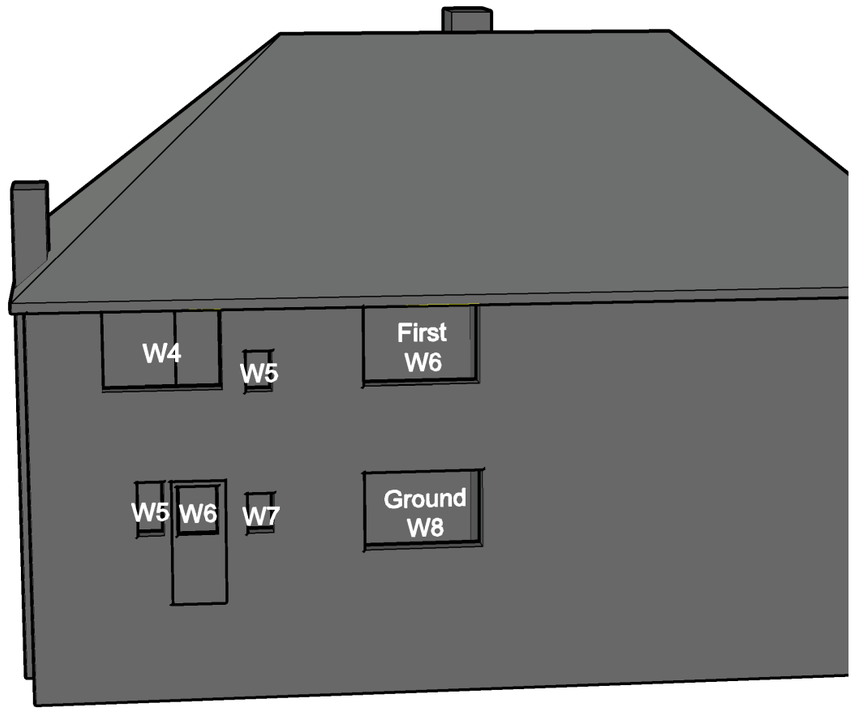

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Project: 117 Pinner Road Northwood Hills

Title: 39-40 Windsor Close Window Map

Drawn	MZ	Checked	--
Date	24/03/2021	Project	4724
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Appendix 2

Results of the daylight and sunlight assessments within neighbouring properties

Address	Room	Window	Room use	Vertical Sky Component (VSC)			No-Sky Line (NSL)					Annual Probable Sunlight Hours (APSH) by Room					
				Existing VSC	Proposed VSC	Proportion Retained	Room Area	Existing NSL		Proposed NSL		Proportion Retained	Existing APSH		Proposed APSH		Retained	
								m^2	%	m^2	%		Total	Winter	Total	Winter	Total	Winter
44 Pinner Road																		
Ground	R1	W1	Residential	31.2	29.4	0.94	13.0	12.8	98%	11.0	84%	0.86	67	24	62	19	0.93	0.79
Ground	R2	W2	Residential	11.4	9.8	0.86	13.5	12.6	94%	11.2	83%	0.88	21	19	16	14	0.76	0.74
First	R1	W1	Residential	33.1	31.4	0.95	13.0	12.8	98%	11.6	89%	0.90	71	27	67	23	0.94	0.85
First	R2	W2	Residential	12.9	11.3	0.88	13.5	12.8	95%	11.6	86%	0.90	24	21	20	17	0.83	0.81
Second	R1	W1	Residential	35.4	33.7	0.95	13.0	12.9	99%	12.6	96%	0.98	76	28	75	27	0.99	0.96
Second	R2	W2	Residential	14.3	12.7	0.89	13.5	12.8	95%	12.3	91%	0.96	25	22	24	21	0.96	0.95
42 Pinner Road																		
Ground	R1	W1	Residential	33.3	31.2	0.93												
		W2		11.8	11.8	0.99												
		W3		6.0	5.9	0.99												
		W4		0.1	0.1	1.00	10.8	10.8	100%	10.0	93%	0.93	78	25	74	21	0.95	0.84
Ground	R2	W5	Residential	10.8	8.8	0.82	12.4	11.3	91%	8.0	65%	0.71	21	15	18	12	0.86	0.80
Ground	R3	W6	Residential	30.8	29.0	0.94	13.0	12.8	98%	10.9	84%	0.85	61	22	57	18	0.93	0.82
First	R1	W1	Residential	35.2	33.0	0.94												
		W2		12.6	12.5	0.99												
		W3		6.7	6.6	0.99												
		W4		0.5	0.5	1.00	10.8	10.8	100%	10.5	97%	0.97	82	28	79	25	0.96	0.89
First	R2	W5	Residential	12.5	10.5	0.84	12.4	11.8	95%	8.8	71%	0.75	24	17	21	14	0.88	0.82
First	R3	W6	Residential	33.0	31.1	0.94	13.0	12.8	98%	11.5	88%	0.90	64	24	60	20	0.94	0.83
Second	R1	W1	Residential	37.0	34.8	0.94												
		W2		14.0	13.9	0.99												
		W3		8.1	8.0	0.99												
		W4		0.9	0.9	0.98	10.8	10.8	100%	10.8	100%	1.00	85	30	83	28	0.98	0.93
Second	R2	W5	Residential	14.0	12.1	0.86	12.4	11.8	95%	10.5	85%	0.89	28	18	27	17	0.96	0.94
Second	R3	W6	Residential	35.4	33.6	0.95	13.0	12.9	99%	12.5	96%	0.98	77	26	76	25	0.99	0.96
40 Pinner Road																		
Ground	R1	W1	Residential	30.1	28.0	0.93	12.5	12.3	98%	9.6	77%	0.78	64	22	60	18	0.94	0.82
Ground	R2	W2	Residential	10.6	8.5	0.80	11.8	10.8	91%	7.3	62%	0.68	20	18	16	14	0.80	0.78
Ground	R3	W3	Residential	5.9	5.7	0.97												
		W4		0.1	0.1	1.00												
		W5		11.8	11.6	0.98												
		W6		33.2	31.0	0.93	10.8	10.8	100%	10.2	94%	0.94	78	24	74	20	0.95	0.83
Ground	R4	W7-L W7-U	Circulation															
First	R1	W1	Residential	32.3	30.2	0.94	12.5	12.3	98%	10.3	83%	0.84	68	24	64	20	0.94	0.83
First	R2	W2	Residential	12.2	10.1	0.83	11.8	11.4	96%	8.0	68%	0.70	23	20	19	16	0.83	0.80
First	R3	W3	Residential	6.6	6.4	0.97												
		W4		0.4	0.4	1.00												
		W5		12.5	12.3	0.98												
		W6		35.1	32.8	0.94	10.8	10.8	100%	10.5	97%	0.97	80	25	76	21	0.95	0.84
First	R4	W7	Circulation															
Second	R1	W1	Residential	35.0	33.0	0.94	12.5	12.3	99%	11.9	95%	0.96	75	27	73	25	0.97	0.93
Second	R2	W2	Residential	13.8	11.8	0.85	11.8	11.4	96%	9.8	82%	0.86	24	21	22	19	0.92	0.90
Second	R3	W3	Residential	8.0	7.8	0.98												
		W4		0.8	0.7	0.92												
		W5		13.9	13.7	0.99												
		W6		36.9	34.7	0.94	10.8	10.8	100%	10.8	100%	1.00	85	29	81	25	0.95	0.86
Second	R4	W7	Circulation															
38 Pinner Road																		
Ground	R1	W1-L W1-U	Circulation															
Ground	R2	W2	Residential	28.3	26.4	0.93												
		W3		12.6	12.1	0.96												
		W4		6.8	6.3	0.92												
		W5		0.1	0.1	1.00	10.8	10.8	100%	10.5	98%	0.98	58	18	55	15	0.95	0.83
Ground	R3	W6	Residential	10.7	8.8	0.82	11.8	11.1	94%	8.8	74%	0.79	25	15	21	11	0.84	0.73
Ground	R4	W7	Residential	30.2	28.2	0.93	12.5	12.3	98%	9.7	78%	0.79	62	21	59	18	0.95	0.86
First	R1	W1	Circulation															
First	R2	W2	Residential	31.4	29.4	0.94												
		W3		13.3	12.7	0.96												
		W4		7.4	6.8	0.93												
		W5		0.4	0.4	1.00	10.8	10.8	100%	10.6	98%	0.98	66	19	64	17	0.97	0.89
First	R3	W6	Residential	12.3	10.4	0.84	11.8	11.4	96%	9.4	80%	0.83	25	15	22	12	0.88	0.80
First	R4	W7	Residential	32.2	30.2	0.94	12.5	12.3	98%	10.5	84%	0.85	63	22	60	19	0.95	0.86
Second	R1	W1	Circulation															
Second	R2	W2	Residential	35.0	33.1	0.95												

		W3		14.6	14.0	0.96											
		W4		8.6	8.1	0.94	10.8	10.8	100%	10.8	100%	1.00	78	23	77	22	0.99	0.96
Second	R3	W6	Residential	13.9	12.0	0.86	11.8	11.4	96%	10.6	89%	0.93	27	17	26	16	0.96	0.94
Second	R4	W7	Residential	34.9	33.0	0.94	12.5	12.3	99%	11.9	95%	0.97	76	24	74	22	0.97	0.92
36 Pinner Road																		
Ground	R1	W1	Residential	19.6	18.9	0.96	9.6	9.2	96%	9.2	96%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Residential	21.4	20.7	0.97	9.6	9.5	99%	9.5	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	25.8	25.1	0.97	9.6	9.5	99%	9.5	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
2 Joel Street																		
First	R1	W1	Circulation															
First	R2	W2	Residential	28.1	27.1	0.97	17.0	16.8	99%	16.8	99%	1.00	60	21	60	21	1.00	1.00
Second	R1	W1	Residential	34.0	32.7	0.96	8.6	8.5	99%	8.5	99%	1.00	70	23	69	22	0.99	0.96
Second	R2	W2	Residential	31.1	29.9	0.96	14.8	14.6	99%	14.6	99%	1.00	66	23	65	22	0.98	0.96
4 Joel Street																		
First	R1	W1	Residential	32.3	31.3	0.97	18.1	17.8	98%	17.6	97%	0.99	61	22	59	20	0.97	0.91
First	R2	W2 W3 W4	Circulation															
Second	R1	W1	Residential	34.7	33.6	0.97	14.8	14.5	98%	14.5	98%	1.00	64	23	62	21	0.97	0.91
Second	R2	W2	Residential	35.2	34.1	0.97	8.9	8.8	99%	8.7	99%	1.00	71	24	69	22	0.97	0.92
6 Joel Street																		
First	R1	W1 W2	Circulation															
First	R2	W3	Residential	32.6	31.2	0.96	19.1	19.0	99%	19.0	99%	1.00	67	24	65	22	0.97	0.92
Second	R1	W1	Residential	35.8	34.2	0.96	8.0	7.9	99%	7.9	99%	1.00	71	25	70	24	0.99	0.96
Second	R2	W2	Residential	35.0	33.5	0.96	17.7	17.5	99%	17.5	99%	1.00	71	25	70	25	0.99	1.00
Third	R1	W1	Residential	77.9	76.1	0.98	5.1	4.8	94%	4.8	94%	1.00	87	27	81	26	0.93	0.96
Third	R2	W2 W3	Residential	77.6 77.3	75.2 74.5	0.97 0.96	6.7	6.4	95%	6.4	95%	1.00	84	26	78	25	0.93	0.96
Third	R3	W4	Residential	76.4	73.0	0.96	3.5	3.4	96%	3.4	96%	1.00	84	26	77	25	0.92	0.96
8 Joel Street																		
First	R1	W1	Residential	34.4	33.1	0.96	10.5	10.4	99%	10.4	99%	1.00	68	23	68	23	1.00	1.00
First	R2	W2 W3	Circulation															
First	R3	W4 W5	Circulation															
Second	R1	W1	Residential	36.4	35.1	0.96	12.7	12.5	99%	12.5	99%	1.00	72	25	70	24	0.97	0.96
Second	R2	W2	Residential	36.2	34.7	0.96	8.5	8.4	99%	8.4	99%	1.00	72	25	70	24	0.97	0.96
10 Joel Street																		
First	R1	W1-L W1-U	Circulation															
First	R2	W2	Bedroom	34.5	33.3	0.97	10.4	10.4	100%	10.4	100%	1.00	67	20	66	19	0.99	0.95
Second	R1	W1	Bathroom															
Second	R2	W2	Bedroom	36.7	35.5	0.97	16.6	16.5	100%	16.5	100%	1.00	74	26	74	26	1.00	1.00
Third	R1	W1	Circulation															
Third	R2	W2 W3	Bedroom	38.5 82.2	37.4 82.2	0.97 1.00	17.0	17.0	100%	17.0	100%	1.00	100	30	97	29	0.97	0.97
12 Joel Street																		
First	R1	W1	Residential	31.9	31.0	0.97	15.7	15.5	99%	15.5	99%	1.00	51	13	50	12	0.98	0.92
Second	R1	W1	Residential	35.8	34.9	0.98	14.6	14.4	99%	14.4	99%	1.00	70	21	68	20	0.97	0.95
Second	R2	W2	Residential	36.5	35.6	0.97	8.0	8.0	99%	8.0	99%	1.00	72	25	71	24	0.99	0.96
14 Joel Street																		
First	R1	W1 W2 W3	Circulation															
First	R2	W4	Residential	30.1	28.4	0.94	16.0	15.9	99%	15.9	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	35.4	33.7	0.95	9.0	8.9	99%	8.9	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	34.2	32.5	0.95	13.4	13.3	99%	13.3	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
16 Joel Street																		
First	R1	W1	Residential	33.7	32.0	0.95	11.6	11.4	99%	11.4	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2 W3	Circulation															

		W4															
Second	R1	W1	Residential	36.1	34.4	0.95	9.8	9.6	98%	9.6	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	35.9	34.2	0.95	8.3	8.2	99%	8.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
18 Joel Street																		
First	R1	W1	Residential	33.1	31.5	0.95	15.3	15.0	98%	15.0	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	35.6	34.0	0.95												
		W2		35.6	34.0	0.95	15.3	15.2	100%	15.2	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
20 Joel Street																		
First	R1	W1	Residential	29.1	27.5	0.95	22.3	21.9	98%	21.9	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	31.5	30.0	0.95	11.6	11.5	100%	11.5	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	35.3	33.7	0.96	10.3	10.2	99%	10.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Third	R1	W1-L	Residential	33.0	31.7	0.96												
		W1-U					12.2	11.8	97%	11.8	97%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
22 Joel Street																		
First	R1	W1	Residential	34.2	32.7	0.96												
		W2		32.7	31.2	0.95	19.5	18.0	92%	18.0	92%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W3	Circulation															
Second	R1	W1	Residential	37.2	35.8	0.96												
		W2		37.0	35.6	0.96	17.0	16.6	97%	16.6	97%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W3	Residential	35.5	34.1	0.96												
		W4		4.8	3.9	0.81	17.8	16.1	90%	16.1	90%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Third	R1	W1	Residential	38.6	37.3	0.97												
		W2		38.6	37.2	0.96	17.0	16.6	97%	16.6	97%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Third	R2	W3	Residential	38.6	37.2	0.96												
		W4		38.7	37.3	0.96	17.8	17.2	97%	17.2	97%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
24 Joel Street																		
First	R1	W1	Residential	34.5	33.2	0.96	16.7	16.6	99%	16.6	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Circulation															
First	R3	W3	Residential	23.8	20.4	0.86	24.3	16.2	67%	15.4	63%	0.95	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	36.7	35.4	0.97	14.6	14.5	99%	14.5	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	36.3	35.0	0.96	12.0	11.8	99%	11.8	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
26 Joel Street																		
First	R1	W1	Circulation															
First	R2	W2	Residential	35.1	34.0	0.97	16.8	16.6	99%	16.6	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	37.1	36.0	0.97	10.0	9.9	99%	9.9	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	36.9	35.8	0.97	14.7	14.5	99%	14.5	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
28 Joel Street																		
First	R1	W1	Residential	35.4	34.5	0.97	18.2	17.8	98%	17.8	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	37.4	36.5	0.98	14.3	14.2	99%	14.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	37.2	36.2	0.97	10.0	9.9	99%	9.9	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Third	R1	W1-L	Residential	38.3	37.5	0.98												
		W1-U					7.3	7.1	98%	7.1	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
30 Joel Street																		
First	R1	W1	Residential	35.3	34.5	0.98	16.5	16.3	99%	16.3	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	37.7	36.9	0.98	10.0	9.9	99%	9.9	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	37.6	36.7	0.98	13.9	13.7	99%	13.7	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
32 Joel Street																		
First	R1	W1	Residential	35.4	34.7	0.98	15.0	14.9	99%	14.9	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Circulation															
Second	R1	W1	Residential	37.8	37.2	0.98	12.2	12.1	99%	12.1	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	37.8	37.1	0.98	9.7	9.6	99%	9.6	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
34 Joel Street																		
First	R1	W1	Residential	35.7	35.1	0.98	20.5	20.1	98%	20.1	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	36.0	35.5	0.99	10.2	10.1	99%	10.1	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	35.9	35.3	0.98	16.9	16.4	98%	16.4	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Land At The Back Of 34 Joel Street																		
Ground	R1	W1	Residential	33.8	33.8	1.00												
		W2		33.8	33.8	1.00												
		W3		28.3	28.3	1.00	10.1	9.6	96%	9.6	96%	1.00	86	26	86	26	1.00	1.00
Ground	R2	W4	Residential	21.6	21.6	1.00	8.5	7.5	88%	7.5	88%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Residential	35.8	35.8	1.00												

		W2		30.2	30.2	1.00	10.1	9.8	97%	9.8	97%	1.00	88	27	88	27	1.00	1.00
First	R2	W3	Residential	23.2	23.2	1.00	8.5	7.5	88%	7.5	88%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R3	W4	Residential	34.5	33.8	0.98	12.4	12.1	98%	12.1	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R4	W5	Residential	34.0	33.1	0.97	12.4	12.1	98%	12.1	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	79.5	78.9	0.99	6.7	5.5	81%	5.5	81%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
1-2 Windsor Close																		
Ground	R1	W1	Bedroom	32.2	31.7	0.98	10.3	10.3	100%	10.3	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	Circulation															
Ground	R3	W3	Living Room	32.6	32.1	0.99	14.4	14.2	99%	14.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	31.8	31.3	0.98	10.3	10.2	98%	10.2	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Storage	32.5	31.9	0.98	0.7	0.6	83%	0.6	83%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R3	W3	Living Room	31.8	31.3	0.98	14.4	14.1	98%	14.1	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
3-4 Windsor Close																		
Ground	R1	W1	Living Room	32.5	32.1	0.99	14.4	14.2	99%	14.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	Circulation															
Ground	R3	W3	Bedroom	31.9	31.8	1.00	10.3	10.3	100%	10.3	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Living Room	31.7	31.2	0.98	14.4	14.1	98%	14.1	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Storage															
First	R3	W3	Bedroom	31.5	31.2	0.99	10.3	10.2	99%	10.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
5-6 Windsor Close																		
Ground	R1	W1	Bedroom	31.2	31.2	1.00	7.5	7.5	100%	7.5	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	Circulation															
Ground	R3	W3	Living Room	30.7	30.6	1.00	14.2	13.9	98%	13.9	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	31.2	31.0	1.00	7.5	7.3	97%	7.3	97%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Storage															
First	R3	W3	Living Room	30.7	30.5	0.99	14.2	13.9	98%	13.9	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
7-8 Windsor Close																		
Ground	R1	W1	Living Room	30.1	30.0	1.00	14.2	14.0	99%	14.0	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	Circulation															
Ground	R3	W3	Bedroom	28.8	28.6	0.99	7.5	7.4	99%	7.4	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Living Room	30.4	30.1	0.99	14.2	13.9	98%	13.9	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Storage															
First	R3	W3	Bedroom	29.8	29.4	0.99	7.5	7.3	97%	7.3	97%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
9-10 Windsor Close																		
Ground	R1	W1	Bedroom	27.7	27.5	0.99	7.4	7.3	99%	7.3	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	Circulation															
Ground	R3	W3	Living Room	29.0	28.8	0.99												
		W4		29.1	28.8	0.99	15.2	13.1	86%	13.0	85%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	18.1	17.6	0.97	7.7	7.4	96%	7.4	96%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Storage															
First	R3	W3	Living Room	19.3	18.8	0.97												
		W4		32.2	31.6	0.98	14.7	14.7	100%	14.7	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
11-12 Windsor Close																		
Ground	R1	W1	Living Room	29.2	28.9	0.99												
		W2		29.3	29.0	0.99	15.2	13.4	88%	13.3	87%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W3	Circulation															
Ground	R3	W4	Bedroom	28.1	27.8	0.99	7.7	7.7	99%	7.7	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Living Room	32.4	31.8	0.98												
		W2		20.3	20.0	0.98	14.7	14.6	99%	14.6	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W3	Storage															
First	R3	W4	Bedroom	18.6	18.1	0.97	7.7	7.4	96%	7.4	96%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
13-14 Windsor Close																		
Ground	R1	W1	Bedroom	29.2	29.0	0.99	7.7	7.7	99%	7.7	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	Circulation															
Ground	R3	W3	Living Room	31.2	31.0	0.99												
		W4		31.3	31.1	0.99	15.4	15.4	100%	15.4	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	17.0	16.5	0.97	7.7	7.4	96%	7.4	96%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Storage															

First	R3	W3	Living Room	18.6	18.0	0.97											
		W4		33.9	33.3	0.98	14.9	14.8	100%	14.8	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
15-16 Windsor Close																		
Ground	R1	W1	Living Room	31.4	31.0	0.99											
		W2		31.5	31.1	0.99	15.4	15.4	100%	15.4	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W3	Circulation															
Ground	R3	W4	Bedroom	30.1	29.8	0.99	7.7	7.7	100%	7.7	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Living Room	34.0	33.3	0.98												
		W2		19.7	19.3	0.98	14.9	14.9	100%	14.9	100%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W3	Storage															
First	R3	W4	Bedroom	17.5	16.8	0.96	7.7	7.4	96%	7.4	96%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
40 Windsor Close																		
Ground	R1	W1	Bedroom	30.5	30.5	1.00	7.7	7.7	100%	7.7	100%	1.00	68	21	68	21	1.00	1.00
Ground	R2	W2	Circulation															
Ground	R3	W3	Bathroom	13.0	12.8	0.98	4.3	2.1	49%	2.1	49%	1.00	21	7	21	7	1.00	1.00
Ground	R4	W4	Kitchen	16.8	15.7	0.93												
		W5		32.2	31.1	0.97												
		W6		32.5	31.3	0.96												
		W7		32.6	31.3	0.96	8.5	8.3	97%	8.3	97%	1.00	28	4	27	4	0.96	1.00
Ground	R5	W8-L	Bedroom	31.2	30.0	0.96												
		W8-U					12.8	12.7	99%	12.7	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	26.1	26.1	1.00	7.7	7.4	97%	7.4	97%	1.00	58	24	58	24	1.00	1.00
First	R2	W2	Bathroom															
First	R3	W3	Kitchen	22.5	21.3	0.95												
		W4		34.5	33.0	0.96												
		W5		34.4	33.0	0.96	8.5	8.5	99%	8.5	99%	1.00	39	9	36	9	0.92	1.00
First	R4	W6	Bedroom	34.9	33.6	0.96	12.8	12.6	99%	12.6	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
121 Pinner Road																		
Ground	R1	W1	Residential	28.6	28.2	0.99	9.1	9.0	99%	9.0	99%	1.00	60	25	58	23	0.97	0.92
Ground	R2	W2	Residential	33.6	33.3	0.99	13.8	13.6	99%	13.6	99%	1.00	67	24	65	22	0.97	0.92
Ground	R3	W3	Residential	32.9	32.9	1.00	15.4	15.2	99%	15.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R4	W4	Residential	33.4	33.4	1.00	11.9	11.8	99%	11.8	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Residential	30.3	29.9	0.99	9.1	9.0	99%	9.0	99%	1.00	63	27	62	26	0.98	0.96
First	R2	W2	Residential	35.1	34.7	0.99	13.8	13.6	99%	13.6	99%	1.00	71	26	69	24	0.97	0.92
First	R3	W3	Residential	34.2	34.2	1.00	15.4	15.2	99%	15.2	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
First	R4	W4	Residential	34.6	34.6	1.00	11.9	11.8	99%	11.8	99%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	27.5	27.1	0.99	9.1	8.9	98%	8.9	98%	1.00	53	26	53	26	1.00	1.00
Second	R2	W2	Residential	27.2	26.8	0.99	13.8	13.5	98%	13.5	98%	1.00	53	26	53	26	1.00	1.00
Second	R3	W3	Residential	26.1	26.1	1.00	15.4	15.0	98%	15.0	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Second	R4	W4	Residential	26.3	26.3	1.00	11.9	11.7	98%	11.7	98%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
117 Pinner Road																		
Lower Grour	R1	W1-L	Bedroom	18.4	17.1	0.93												
		W1-U					8.3	7.1	86%	7.1	85%	0.99	N/F	N/F	N/F	N/F	N/F	N/F
Lower Grour	R2	W2-L	Bedroom	20.4	18.4	0.90												
		W2-U					9.2	5.7	62%	5.3	58%	0.93	N/F	N/F	N/F	N/F	N/F	N/F
Lower Grour	R3	W3-L	Bedroom	25.0	22.6	0.90												
		W3-U					13.0	11.3	86%	10.2	78%	0.90	N/F	N/F	N/F	N/F	N/F	N/F
Lower Grour	R4	W4-L	Bedroom	25.8	23.4	0.91												
		W4-U					10.0	8.3	83%	7.3	73%	0.89	N/F	N/F	N/F	N/F	N/F	N/F
Lower Grour	R5	W5-L	Bedroom	25.9	24.7	0.96												
		W5-U					8.7	8.0	92%	8.0	92%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Lower Grour	R6	W6-L	Bedroom	28.2	26.5	0.94												
		W6-U					8.8	8.3	94%	7.8	88%	0.94	N/F	N/F	N/F	N/F	N/F	N/F
Upper Grour	R1	W1-L	Bedroom	21.7	19.4	0.90												
		W1-U					8.3	7.4	89%	7.2	87%	0.98	N/F	N/F	N/F	N/F	N/F	N/F
Upper Grour	R2	W2-L	Bedroom	24.4	21.5	0.88												
		W2-U					9.2	6.6	72%	6.0	65%	0.91	N/F	N/F	N/F	N/F	N/F	N/F
Upper Grour	R3	W3-L	Bedroom	28.1	25.2	0.89												
		W3-U					13.0	12.3	95%	11.5	89%	0.94	N/F	N/F	N/F	N/F	N/F	N/F
Upper Grour	R4	W4-L	Bedroom	28.7	25.9	0.90												
		W4-U					10.0	9.4	94%	8.4	84%	0.89	N/F	N/F	N/F	N/F	N/F	N/F
Upper Grour	R5	W5-L	Bedroom	28.6	27.4	0.96												
		W5-U					8.7	8.0	92%	8.0	92%	1.00	N/F	N/F	N/F	N/F	N/F	N/F
Upper Grour	R6	W6-L	Bedroom	32.2	30.4	0.94												
		W6-U					8.8	8.3	94%	8.2	93%	0.99	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1-L	Bedroom	35.1	34.7	0.99												
		W1-U					10.5	10.0	95%	10.0	95%	1.00	55	21	55	21	1.00	1.00

Second	R2	W2-L	LKD	31.4	31.3	1.00							59	14	59	14	1.00	1.00
		W2-U					23.2	23.2	100%	23.2	100%	1.00						
Second	R3	W3-L	Bedroom	20.7	17.9	0.86							N/F	N/F	N/F	N/F	N/F	N/F
		W3-U					12.7	10.4	82%	10.4	82%	0.99						
Second	R4	W4-L	LKD	21.0	21.0	1.00							39	12	39	12	1.00	1.00
		W4-U					23.4	23.3	100%	23.3	100%	1.00						
Second	R5	W5-L	Bedroom	30.9	30.6	0.99							52	18	52	18	1.00	1.00
		W5-U					9.3	7.5	80%	7.5	80%	1.00						
Second	R6	W6-L	LKD	34.1	33.3	0.98							72	24	71	23	0.99	0.96
		W6-U					24.1	24.0	100%	24.0	100%	1.00						
Third	R1	W1-L	LKD	38.1	37.1	0.97							75	27	73	27	0.97	1.00
		W1-U					22.4	22.4	100%	22.4	100%	1.00						
Third	R2	W2-L	Bedroom	35.8	34.9	0.98							56	23	56	23	1.00	1.00
		W2-U					9.7	8.4	87%	8.4	87%	1.00						
Third	R3	W3-L	Bedroom	27.2	24.8	0.91												
		W3-U																
		W4-L		20.3	20.3	1.00												
		W4-U					9.1	8.7	96%	8.7	96%	1.00	51	7	51	7	1.00	1.00
Third	R4	W5-L	LKD	31.6	31.4	0.99												
		W5-U					22.0	22.0	100%	19.8	90%	0.90	69	22	69	22	1.00	1.00
Third	R5	W6-L	LKD	37.0	36.2	0.98												
		W6-U																
		W7-L		37.9	36.9	0.97												
		W7-U					26.9	26.7	99%	26.7	99%	1.00	76	27	75	26	0.99	0.96

Appendix 3

Results of the daylight and sunlight assessments within the proposed dwellings

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Sources of information

AccuCities
001697_117 Pinner Road, Northwood Hills_HD_MASTER.dwg
Received 22/02/2021

Studio V Architects
Proposed Drawings-Sheet - PL12 - Proposed Third Floor Plans - Pinner area.dwg
Proposed Drawings-Sheet - PL13 - Proposed Fourth Floor - Pinner Area.dwg
Proposed Drawings-Sheet - PL14 - Proposed Fifth Floor Plan - Pinner Side.dwg
Proposed Drawings-Sheet - PL15 - Proposed Elevations Pinner Area - 1 and 3.dwg
Proposed Drawings-Sheet - PL16 - Proposed Elevations Pinner - 2 and 4.dwg
Proposed Drawings-Sheet - PL17 - Proposed Elevation Piner - 5.dwg
Proposed Drawings-Sheet - PL18 - Proposed Sections C-C and D-D.dwg
Proposed Drawings-Sheet - PL19 - Proposed Section E-E and F-F.dwg
Proposed Drawings-Sheet - PL20 - Proposed Roof and Site Plan.dwg

Received 02/03/2022

EB7 Ltd
Site Photographs
Ordnance Survey

NORTH

Project: 117 Pinner Road
Northwood Hills

Title: Fourth Floor
Room & Window Layouts

Drawn	DF	Checked	--
Date	04/03/2022	Project	4724
Rel no.	03	Prefix	ID01
Page no.	01		

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Proposed Drawings-Sheet - PL16 - Proposed Elevations Pinner - 2 and 4.dwg
Proposed Drawings-Sheet - PL17 - Proposed Elevation Piner - 5.dwg
Proposed Drawings-Sheet - PL18 - Proposed Sections C-C and D-D.dwg
Proposed Drawings-Sheet - PL19 - Proposed Section E-E and F-F.dwg
Proposed Drawings-Sheet - PL20 - Proposed Roof and Site Plan.dwg

Received 02/03/2022

EB7 Ltd
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Ordnance Survey

NORTH

Project: 117 Pinner Road
Northwood Hills

Title: Fourth Floor
Room & Window Layouts

Drawn	DF	Checked	--
Date	04/03/2022	Project	4724
Rel no.	Prefix	Page no.	
03	ID01		02

Floor	Room	Window	Room Use	Average Daylight Factor (ADF)	Annual Probable Sunlight Hours (APSH) by Room	
				Room Total (%)	Annual APSH	Winter WPSH
Proposed						
Fourth	R1	W1-L	Studio			
		W1-U	Studio			
		W2-L	Studio			
		W2-U	Studio	**3.8**	74	27
Fourth	R2	W3-L	LKD			
		W3-U	LKD	**4.3**	76	28
Fourth	R3	W4-L	Bedroom			
		W4-U	Bedroom	**2.3**		
Fourth	R4	W5-L	Bedroom			
		W5-U	Bedroom	**2.9**		
Fourth	R5	W6-L	Bedroom			
		W6-U	Bedroom	**2.6**		
Fourth	R6	W7-L	Bedroom			
		W7-U	Bedroom	**2.7**		
Fourth	R7	W8-L	Bedroom			
		W8-U	Bedroom	**3.0**		
Fourth	R8	W9-L	Bedroom			
		W9-U	Bedroom	**2.2**		
Fourth	R9	W10-L	LKD			
		W10-U	LKD			
		W11-L	LKD			
		W11-U	LKD	**5.6**	79	30
Fourth	R10	W12-L	LKD			
		W12-U	LKD			
		W13-L	LKD			
		W13-U	LKD			
		W14-L	LKD			
		W14-U	LKD	**5.5**	87	30
Fourth	R11	W15-L	Bedroom			
		W15-U	Bedroom	**1.7**		
Fourth	R12	W16-L	LKD			
		W16-U	LKD	**4.1**	37	10

Fourth	R13	W17-L	LKD			
		W17-U	LKD	**4.1**	37	10
Fourth	R14	W18-L	Bedroom			
		W18-U	Bedroom			
		W19-L	Bedroom			
		W19-U	Bedroom	**3.4**		
Fifth	R1	W1-L	Studio			
		W1-U	Studio			
		W2-L	Studio			
		W2-U	Studio	**3.9**	75	27
Fifth	R2	W3-L	LKD			
		W3-U	LKD	**4.3**	76	28
Fifth	R3	W4-L	Bedroom			
		W4-U	Bedroom	**2.3**		
Fifth	R4	W5-L	Bedroom			
		W5-U	Bedroom	**2.9**		
Fifth	R5	W6-L	Bedroom			
		W6-U	Bedroom	**2.6**		
Fifth	R6	W7-L	Bedroom			
		W7-U	Bedroom	**2.7**		
Fifth	R7	W8-L	Bedroom			
		W8-U	Bedroom	**3.0**		
Fifth	R8	W9-L	Bedroom			
		W9-U	Bedroom	**2.2**		
Fifth	R9	W10-L	LKD			
		W10-U	LKD			
		W11-L	LKD			
		W11-U	LKD	**5.7**	79	30
Fifth	R10	W12-L	LKD			
		W12-U	LKD			
		W13-L	LKD			
		W13-U	LKD			
		W14-L	LKD			
		W14-U	LKD	**5.6**	87	30
Fifth	R11	W15-L	LKD			
		W15-U	LKD	**4.1**	37	10

Fifth	R12	W16-L	Bedroom		
		W16-U	Bedroom		
		W17-L	Bedroom		
		W17-U	Bedroom	**3.4**	

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