

Daylight and Sunlight Impact Assessment

Land adjacent to 2 Alroy Road



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Document information

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Daylight and Sunlight Impact Assessment

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Introduction

The aim of this daylight and sunlight impact assessment report is to support the planning application for the proposed development located on the land adjacent to 2 Alroy Road in the London Borough of Haringey. This report will evaluate the potential impact of the proposed development on the daylight and sunlight received by the neighbouring buildings. The proposal is to develop a three-storey single family dwelling on an empty park site.

The daylight and sunlight impact has been calculated and assessed according to the BRE guidance "Site layout planning for daylight and sunlight - A guide to good practice" (third edition, 2022).

The calculations are based on plans of the proposed development provided by GPAD in March 2023.

Best practice guidance

According to the BRE guidance "Site layout planning for daylight and sunlight - A guide to good practice" (second edition), the impact of the new development on the daylight and sunlight received by the neighbouring buildings has to be analysed according to the loss of light from the sky and the loss of sunlight. The loss of daylight and sunlight to existing neighbouring buildings needs to be analysed where:

- The distance of each part of the new development from the existing window is less than three times its height above the centre of the existing window.
- Or the angle from the centre of the existing window to the top of the new proposed building is more than 25°.

Light from the sky

The loss of light from sky to the living room, kitchen and bedroom of existing buildings has to be assessed.

Vertical Sky Component (VSC) - This is the ratio of the direct sky illuminance on the centre of the outside pane of a window, to the simultaneous illuminance on an unobstructed horizontal plane. This must be:

- Greater than 27%.
- Or more than 0.8 times its former value (before the new development).

No-Sky Line (NSL)- This is the outline of the area that has a direct view of the sky on a working plane. Where room layouts are known, in each of the main rooms, the area that receives direct light from the sky must be:

- More than 0.8 times its former value (before the new development).

Sunlight

The loss of sunlight to the living room of existing buildings that has a window facing within 90° of due south has to be assessed.

Annual Probable Sunlight Hours (APSH) - This is the average of total number of hours during a year in which direct sunlight reaches the centre of a window. This must be:

- More than 25% of the total Annual sunlight hours (unobstructed horizontal plane), including at least 5% of the total annual sunlight hours (unobstructed horizontal plane) in the winter months (21 September - 21 March).
- Or more than 0.8 times its former value for the whole year and the winter period (before the new development).

Sunlight on gardens and open spaces

- At least half of the garden space should receive at least 2 hours of sunlight on 21st March.
- The area that receives at least 2 hours of sunlight on 21st March is more than 0.8 times its former area (before the new development).
- Where a detailed calculation cannot be carried out, the centre of the garden should receive 2 hours of sunlight on 21st March.

Daylight and Sunlight Impact Assessment

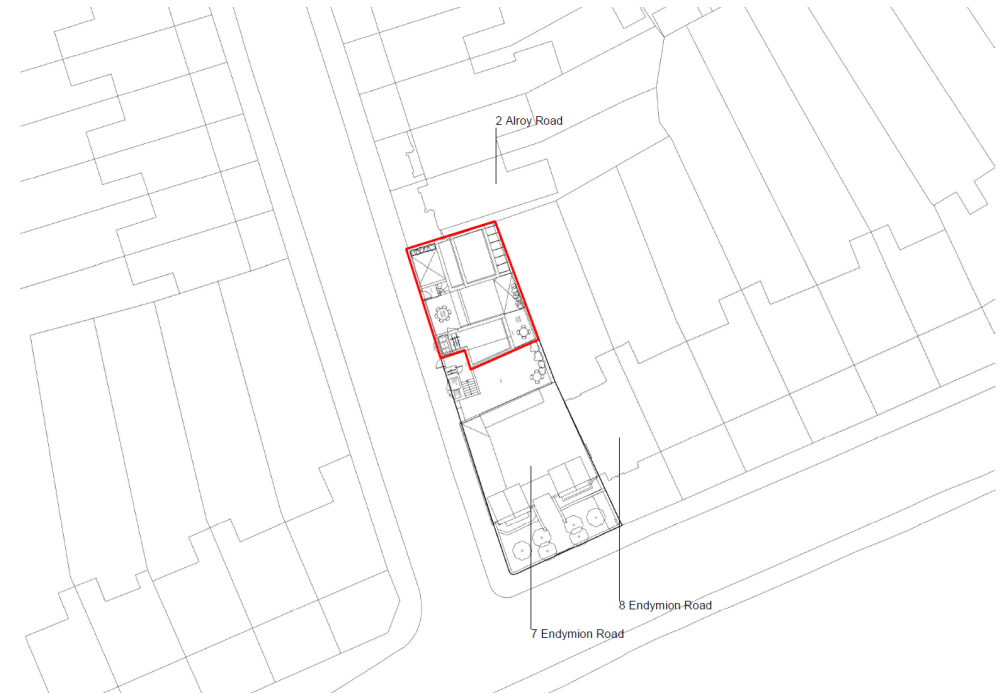
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Existing and Proposed

Site Layout

The figure below shows the site plan of the proposed development. The red outline indicates the boundary of the proposed development. The neighbouring buildings that could possibly experience impacts to their daylight and sunlight levels are:

- 8 Endymion Road
- 7 Endymion Road
- 2 Alroy Road



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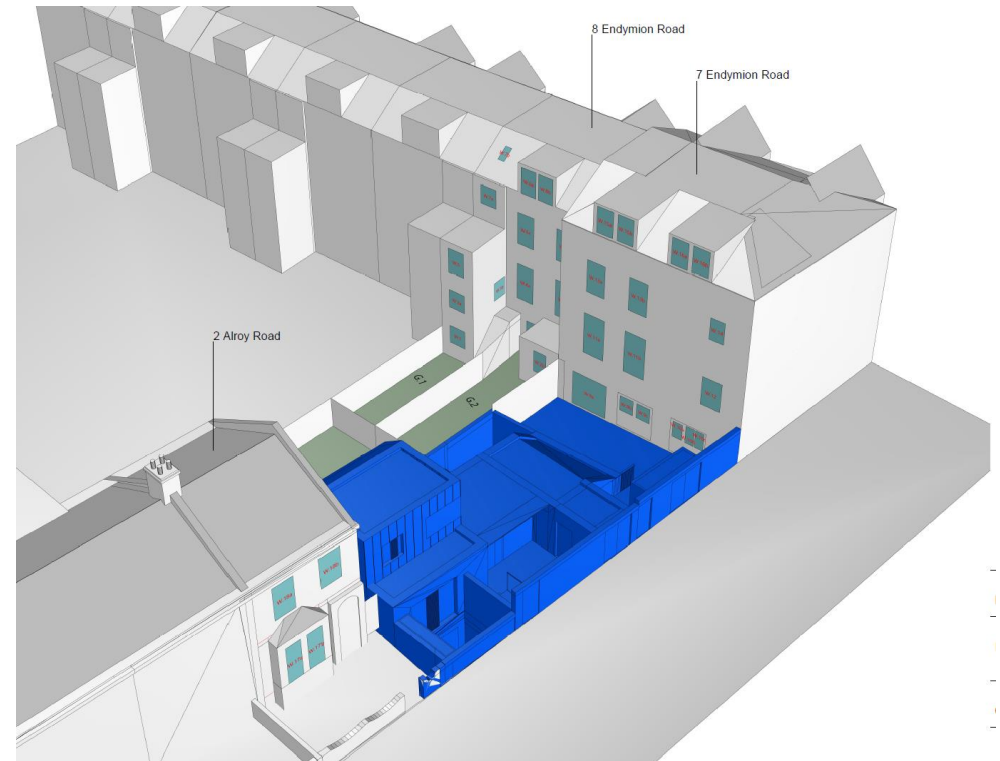
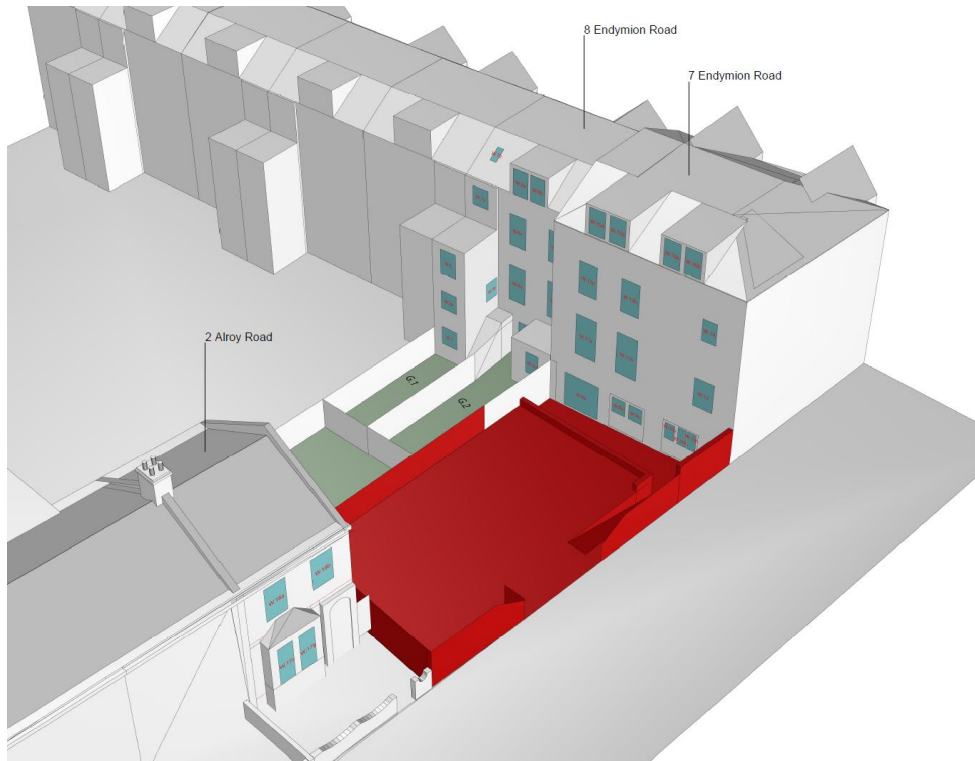
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Existing and proposed development

The daylight conditions of the assessed windows will be analysed with the existing car park (before) and with the proposed development (after). The figure below shows the two cases, before and after the proposed development. The existing is shown in red and the proposed development in blue.

Impact on neighbouring buildings

3D illustrations of the assessed properties and windows are presented in Appendix A.



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Light from the sky

Rationale and Methodology

According to the BRE guidance, the VSC and NSL must be calculated to assess the loss of light from the sky.

Vertical Sky Component (VSC)

According to BRE guidance, dwellings lit by windows with a VSC of less than 27% or less than 0.8 times its former value are likely to appear more gloomy and electric light will be needed more of the time. Please note that the room type and layout of each window is unknown. A table with the VSC results is presented in Appendix B. A summary of the results is presented below:

- 8 Endymion Road: All windows meet the VSC recommendations.
- 7 Endymion Road: All windows meet the VSC recommendations.
- 2 Alroy Road: All windows meet the VSC recommendations.

In summary, 100% of the assessed windows meet the recommendations for the VSC.

Property	Total No. of analysed windows	No. of windows that meet BRE guidance	No. of windows below BRE target		
			20-30% reduction (minor impact)	30-40% reduction (moderate impact)	>40% reduction (high impact)
8 Endymion Road	14	14	0	0	0
7 Endymion Road	16	16	0	0	0
2 Alroy Road	4	4	0	0	0
Total	34	34	0	0	0
Total (%)	100%	100%	0%	0%	0%

No-Sky Line (NSL)

According to BRE guidance, the area of the room that receives direct light from the sky must be more than 0.8 times its former value (before the new development). Please note that where the room layouts are unknown, reasonable room dimensions have been assumed.

A table with the full NSL results is presented in Appendix B. A summary of the results is presented below:

- 8 Endymion Road: All windows meet the NSL recommendations.
- 7 Endymion Road: All windows meet the NSL recommendations.
- 2 Alroy Road: All windows meet the NSL recommendations.

In summary, 100% of the assessed rooms meet the recommendations for the no-sky line.

Property	Total No. of analysed rooms	No. of rooms that meet BRE guidance	No. of rooms below BRE target		
			20-30% reduction (minor impact)	30-40% reduction (moderate impact)	>40% reduction (high impact)
8 Endymion Road	8	8	0	0	0
7 Endymion Road	8	8	0	0	0
2 Alroy Road	2	2	0	0	0
Total	18	18	0	0	0
Total (%)	100%	100%	0%	0%	0%

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Sunlight

Annual Probable Sunlight Hours (APSH)

The calculation of the APSH is only applicable for windows of living rooms that face 90° of due south. The room use is unknown and therefore, the APSH will be calculated for all south facing windows.

According to BRE guidance, where living rooms are lit by windows with APSH of at least 25% of the total annual sunlight hours (unobstructed horizontal plane) including at least 5% of the total annual sunlight hours (unobstructed horizontal plane) in the winter months (21 September – 21 March) or more than 0.8 times its former value for the whole year and the winter period (before the new development) then the room should still receive enough sunlight. A table with the full APSH results is presented in Appendix B. A summary of the results is presented below:

- 8 Endymion Road: One south facing rooflight, which meet the APSH recommendations.
- 7 Endymion Road: No south facing window is affected by the proposed development.
- 2 Alroy Road: All windows meet the APSH recommendations.

In summary, 100% of the analysed south facing windows meet the recommendations for the APSH.

Property	Total No. of analysed windows	No. of windows that meet BRE guidance	No. of windows below BRE target		
			20-30% reduction (minor impact)	30-40% reduction (moderate impact)	>40% reduction (high impact)
8 Endymion Road	1	1	0	0	0
7 Endymion Road	-	-	-	-	-
2 Alroy Road	4	4	0	0	0
Total	5	5	0	0	0
Total (%)	100%	100%	0%	0%	0%

Sunlight reaching gardens and open spaces

According to BRE guidance, gardens that receive less than 2 hours of daylight on 21 March at more than 50% of their area, or less than 0.8 times its former value will tend to look more heavily overshadowed. An illustration of the sunlight hours is presented in Appendix A. A table with the sunlight hours results is presented in Appendix B.

In summary, all gardens meet the recommendations for sunlight hours.

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Conclusions

Conclusions

Based on the results of this analysis and according to the recommendations provided in the BRE guidance "Site layout planning for daylight and sunlight - A guide to good practice" (second edition), the study concludes that:

- Vertical Sky Component (VSC): 100% of the existing windows could meet the BRE recommendation for VSC.
- No-Sky Line (NSL): 100% of the existing rooms could meet the BRE recommendation for NSL.
- Annual Probable Sunlight Hours (APSH): The APSH have been calculated for all existing south facing windows. 100% of the existing windows meet the APSH recommendations.
- The sunlight of all existing gardens would not be affected by the proposed development.

According to BRE report paragraph I6, the impact is assessed as 'minor' when only a small number of windows are affected, or the loss of light is only marginally outside the guidelines. The proposed development will have a 'minor' impact on the daylight and sunlight received by the neighbouring amenities.

Note: the BRE report is a guide for good practice and not an assessment of "Pass" and "Fail". Therefore, the failure to meet the recommended values for the VSC and APSH, do not indicate that the development is unsuitable. According to the BRE guidance the VSC does not include the light reflected by the ground and neighbouring buildings. Therefore, in reality, the reduction of the light would be less, and the neighbouring properties would receive more daylight and sunlight than numerically stated in this report.

Daylight and Sunlight Impact Assessment

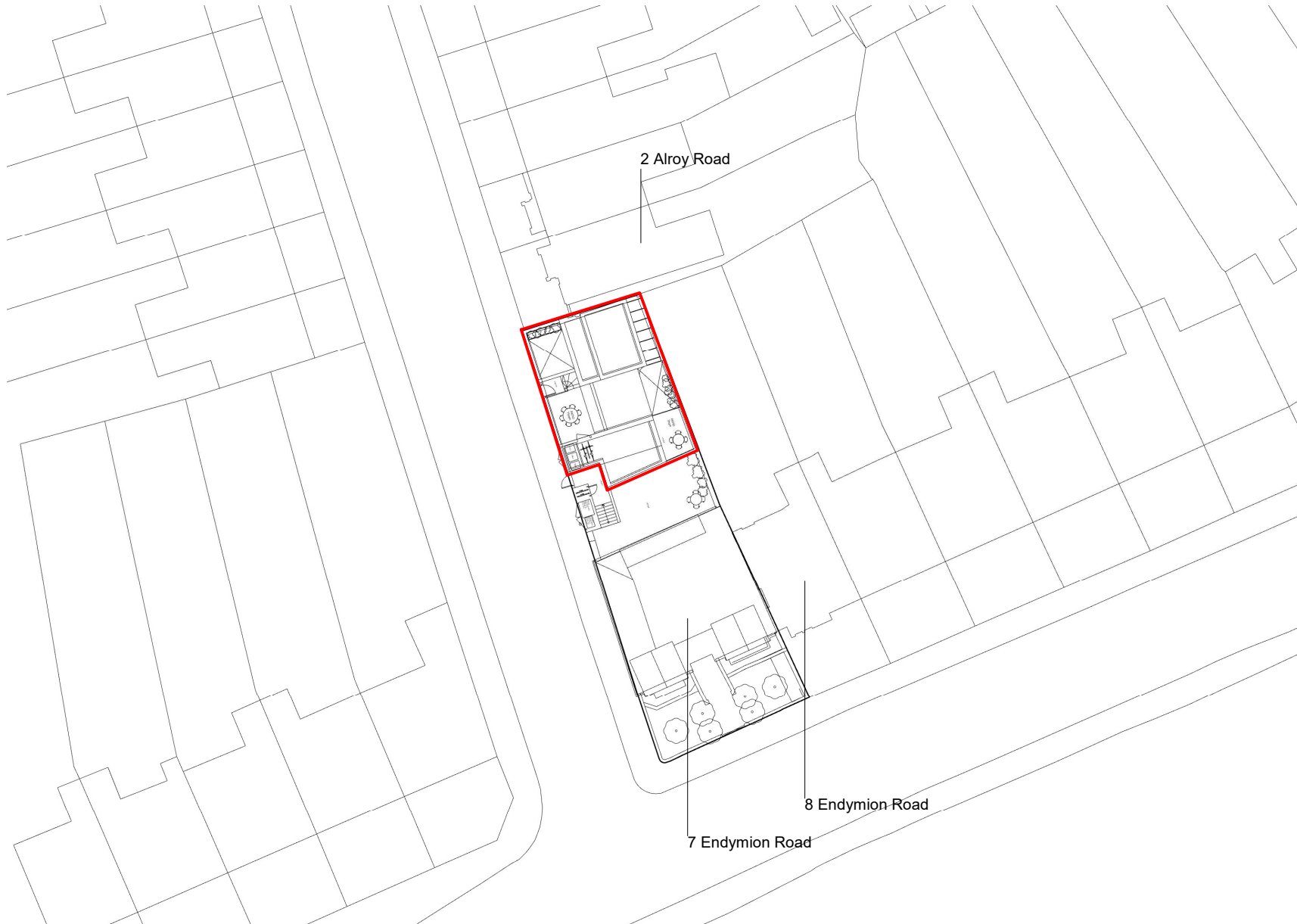
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Appendix A

3D Illustrations and Windows map



Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

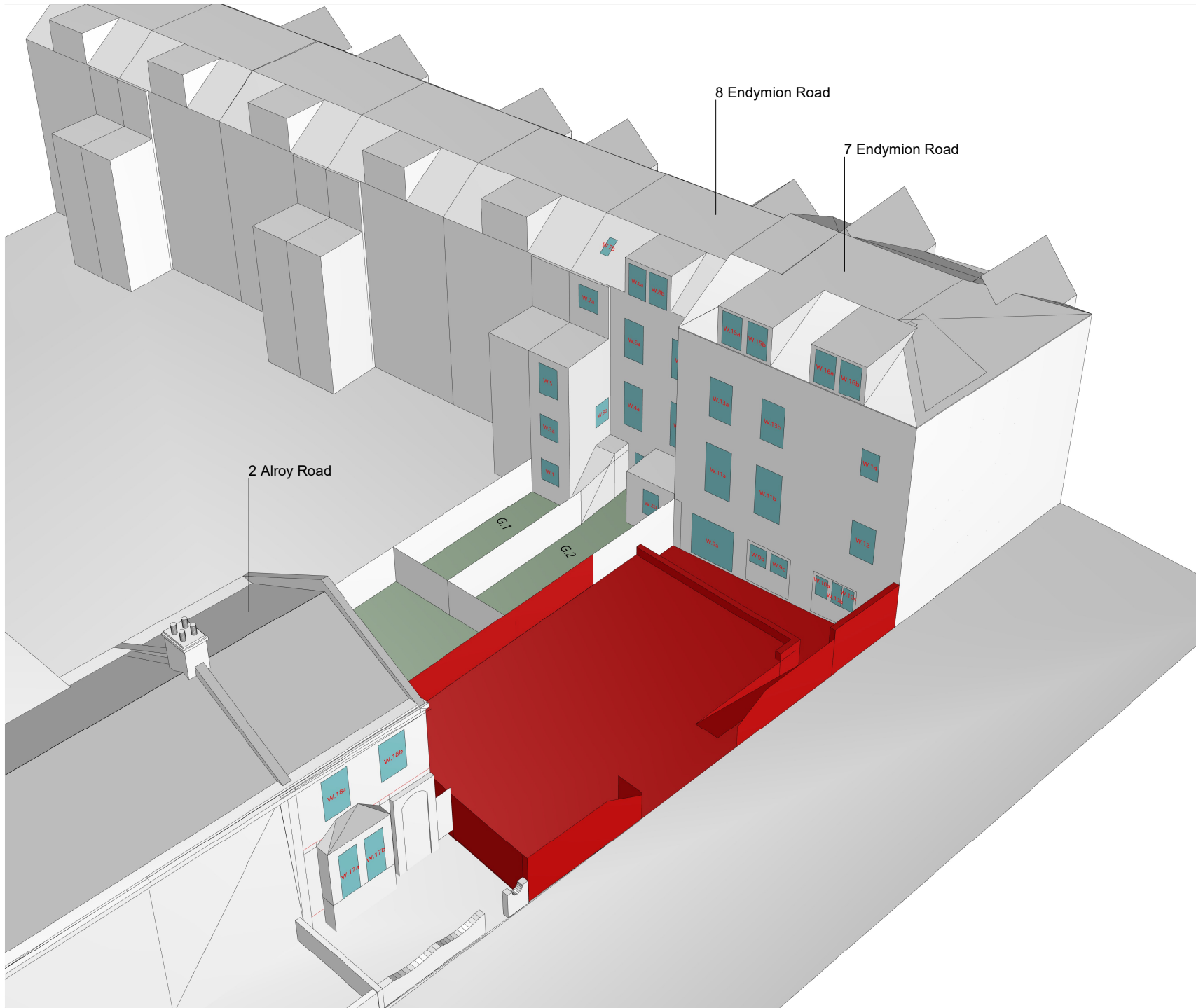
Site map

Date:

05/05/2023

Drawing Number:

10298_A_01



Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

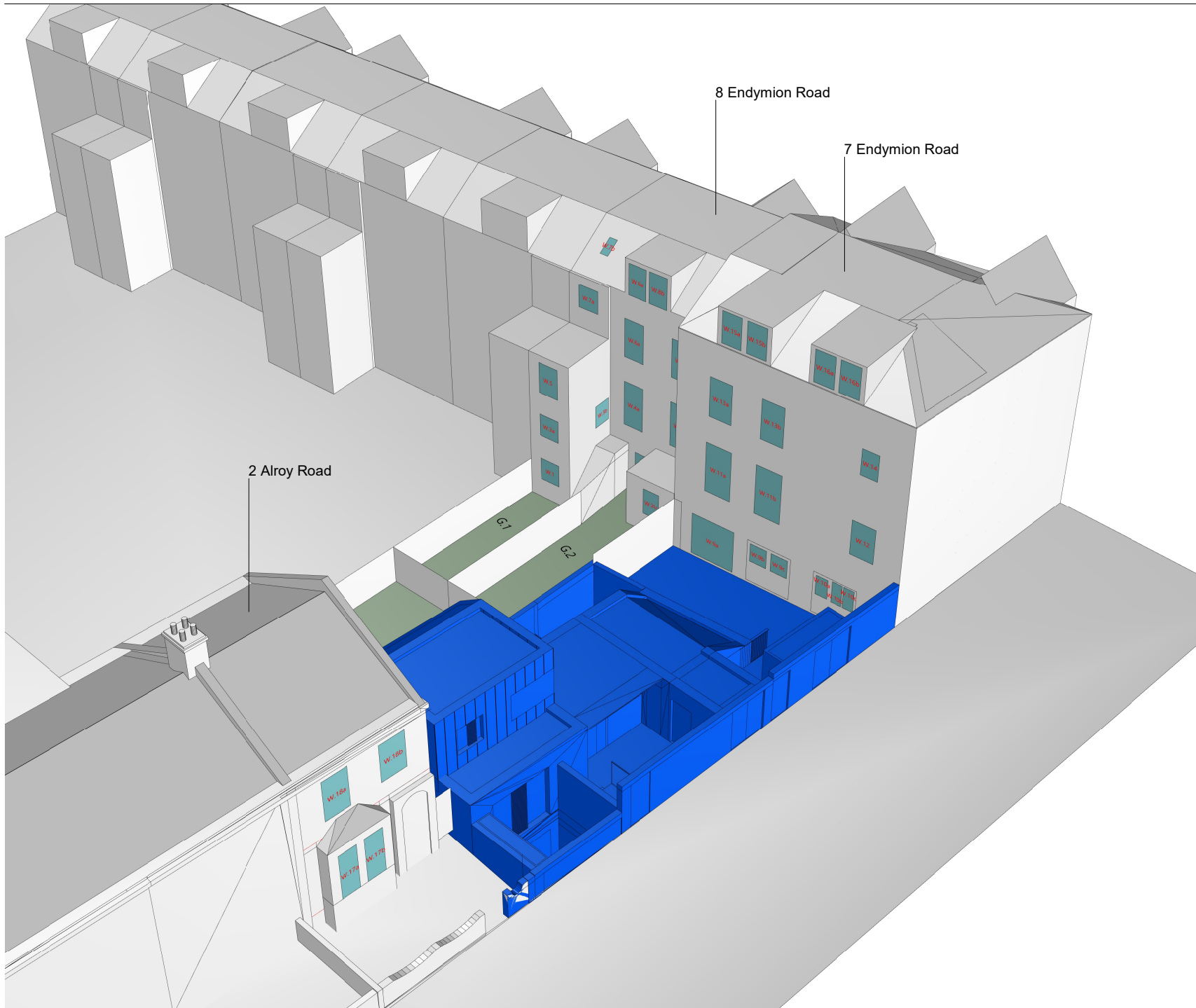
Existing development

Date:

05/05/2023

Drawing Number:

10298_A_02



Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

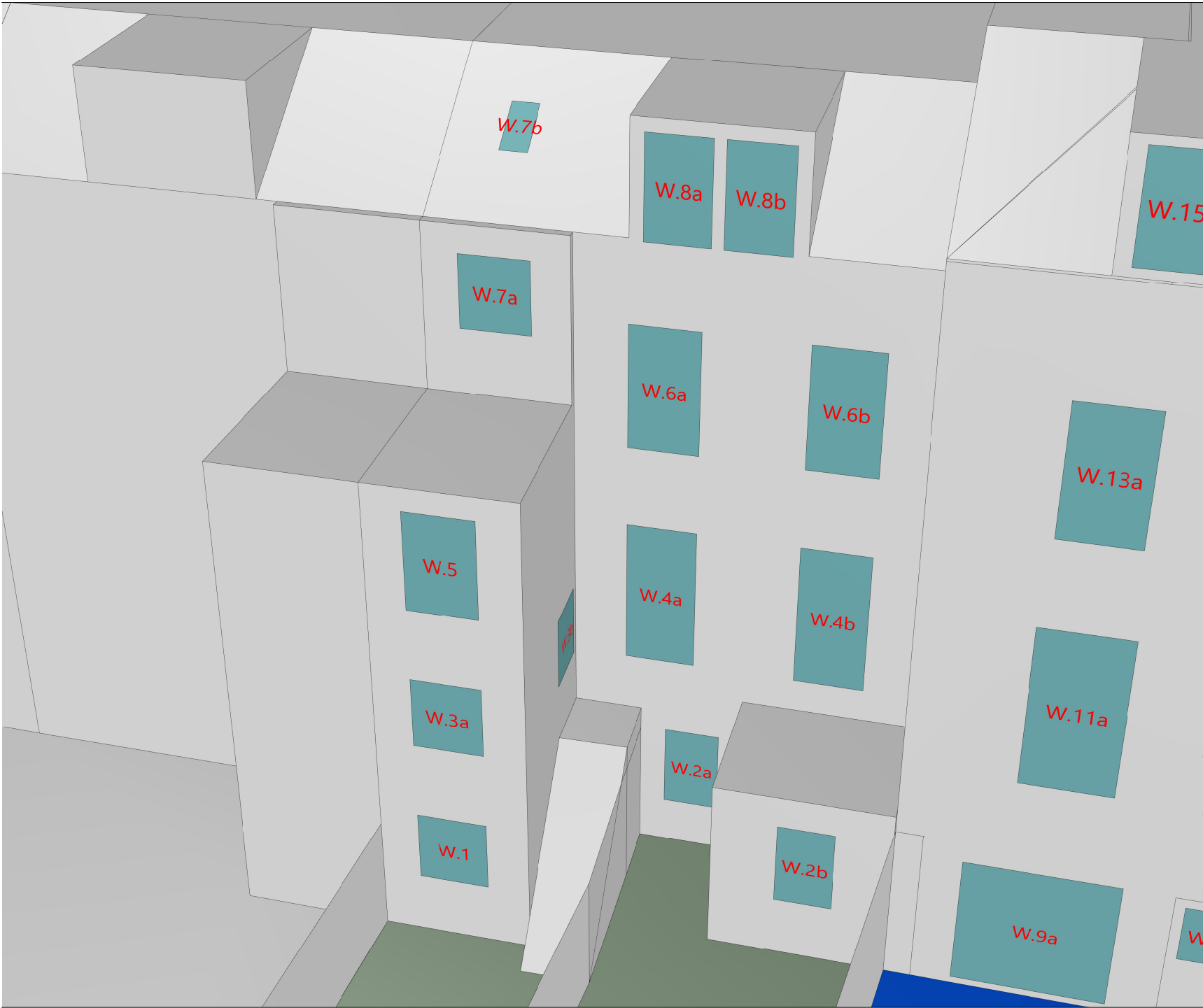
Proposed development

Date:

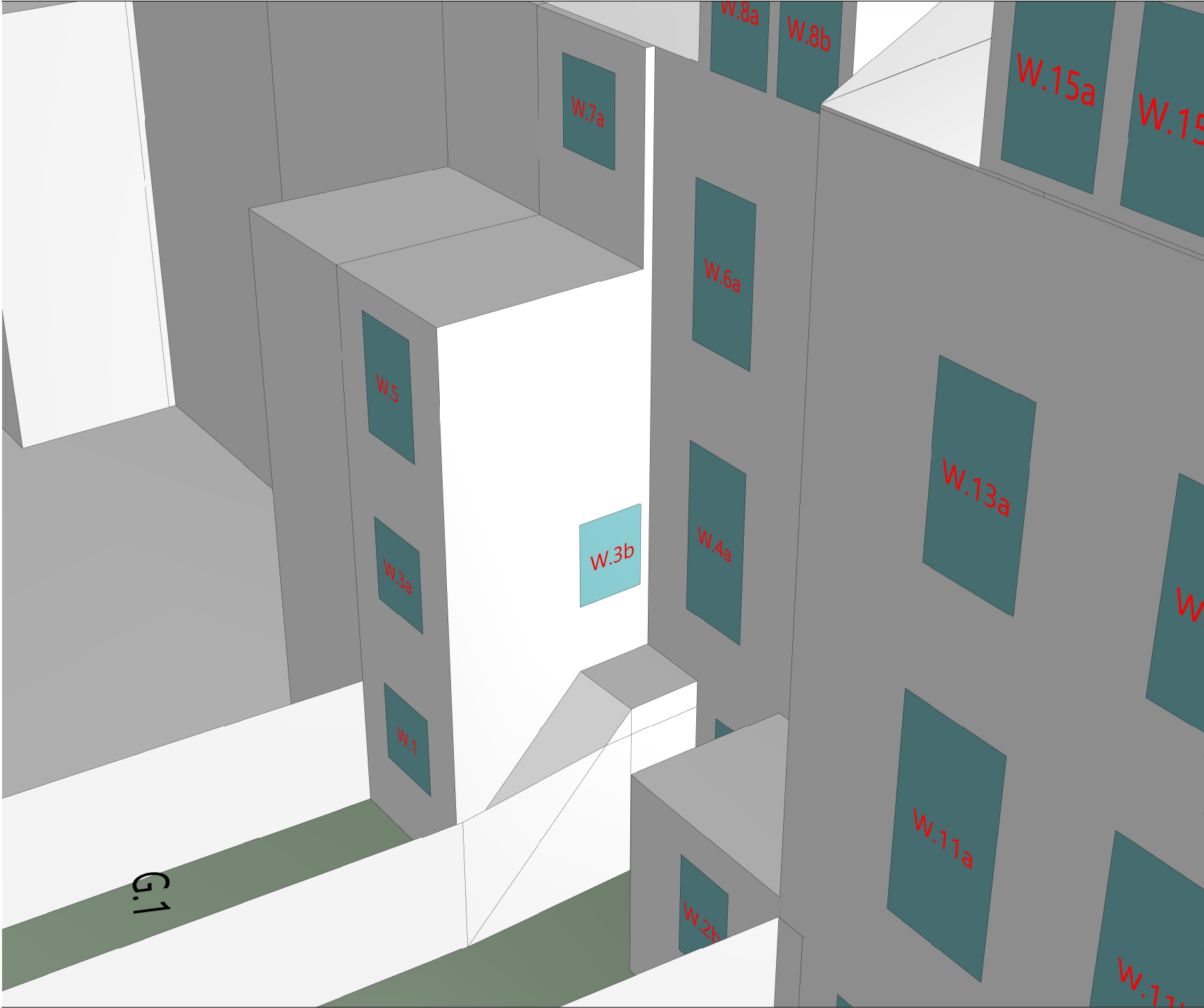
05/05/2023

Drawing Number:

10298_A_03



Project Name:	Land adjacent to 2 Alroy Road
Drawing Name	Windows Map 8 Endymion Road
Date:	05/05/2023
Drawing Number:	10298_B_01



Project Name:	Land adjacent to 2 Alroy Road
Drawing Name	Windows Map 8 Endymion Road
Date:	05/05/2023
Drawing Number:	10298_B_02



Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

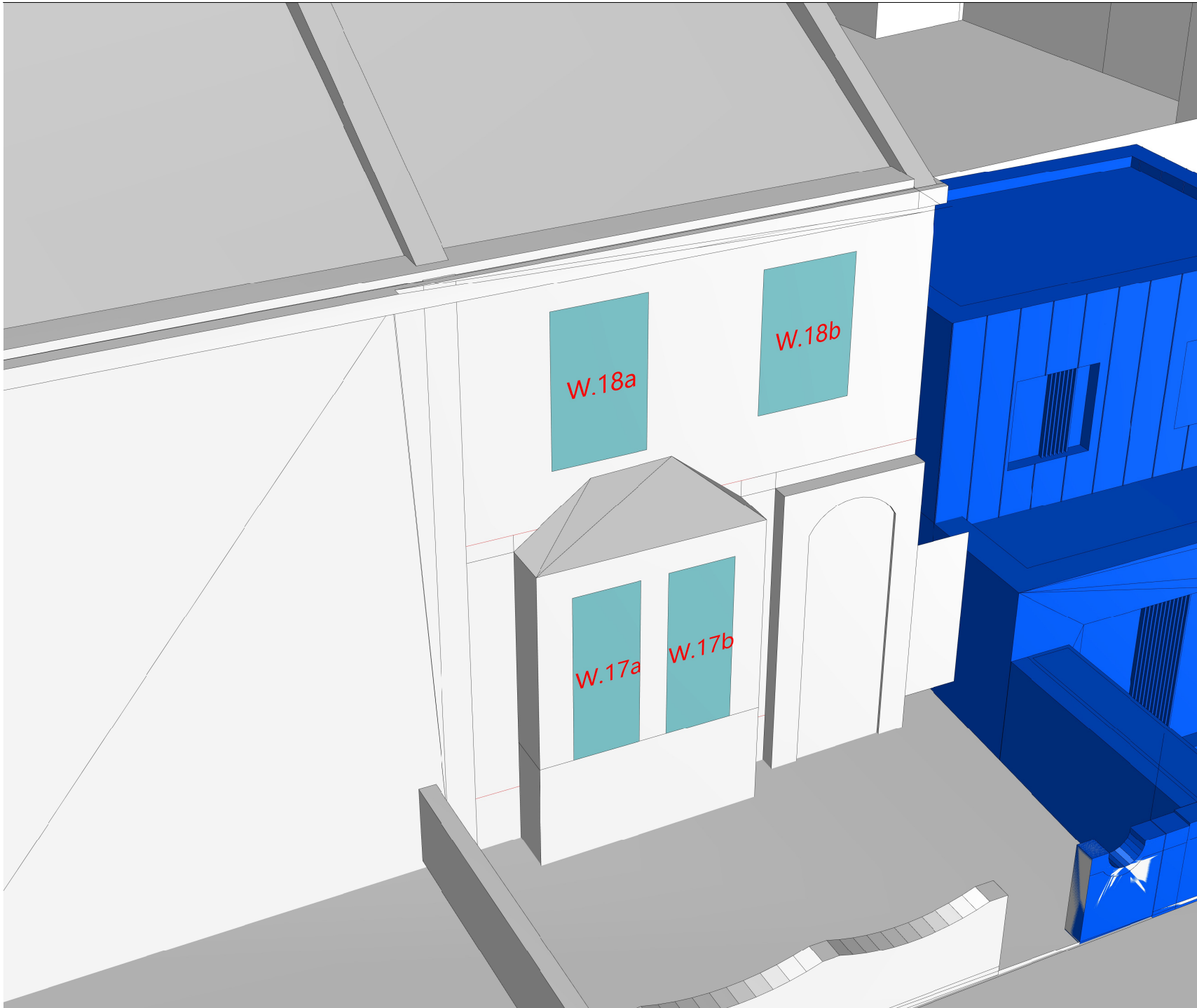
Windows Map
7 Endymion Road

Date:

05/05/2023

Drawing Number:

10298_B_03



Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

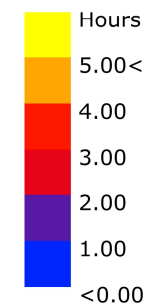
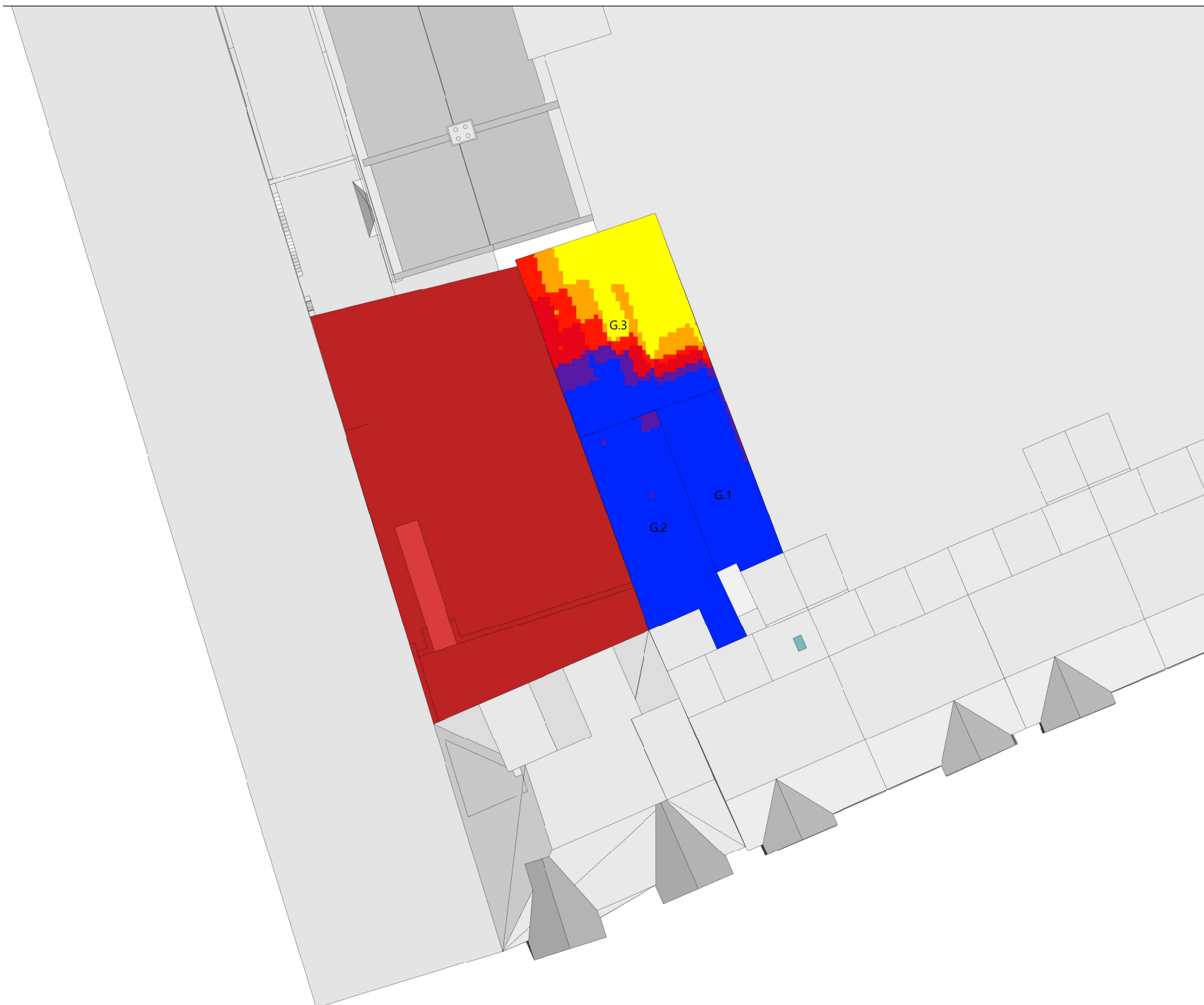
Windows Map
2 Alroy Road

Date:

05/05/2023

Drawing Number:

10298_B_04



SunlightHours

Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

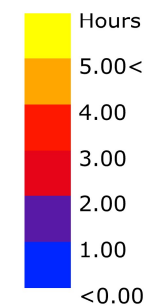
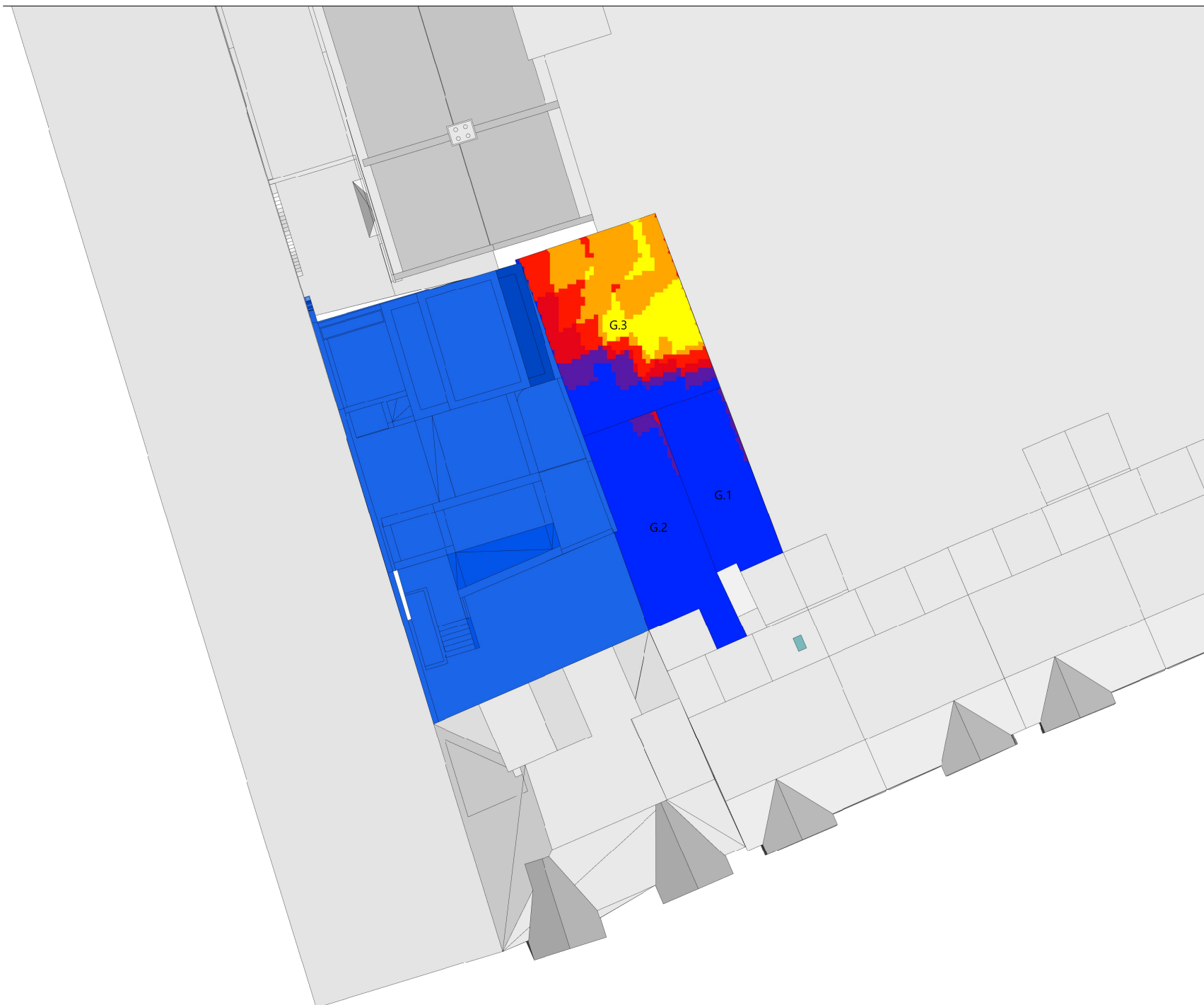
Garden - Sunlight Hours - Existing

Date:

05/05/2023

Drawing Number:

10298_C_01



SunlightHours

Project Name:

Land adjacent to 2 Alroy Road

Drawing Name

Garden - Sunlight Hours - Proposed

Date:

05/05/2023

Drawing Number:

10298_C_02

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Appendix B

Daylight and Sunlight results

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Property			VSC Calculations				APSH Calculations						
Property	Window	Room type	VSC (%)		Loss	Compliance	Year (%)			Winter (%)			Compliance
			Before	After			Before	After	Loss	Before	After	Loss	
8 Endymion Road	W.1	Unknown	32.55	32.08	1.4%	PASS	-	-	-	-	-	-	-
	W.2a	Unknown	15.26	15.24	0.1%	PASS	-	-	-	-	-	-	-
	W.2b	Unknown	28.74	28.72	0.1%	PASS	-	-	-	-	-	-	-
	W.3a	Unknown	36.53	36.26	0.7%	PASS	-	-	-	-	-	-	-
	W.3b	Unknown	14.84	14.74	0.7%	PASS	11.5	10.4	9.6	0.1	0.1	0.0	PASS
	W.4a	Unknown	24.5	24.41	0.4%	PASS	-	-	-	-	-	-	-
	W.4b	Unknown	25.95	25.85	0.4%	PASS	-	-	-	-	-	-	-
	W.5	Unknown	37.9	37.91	0.0%	PASS	-	-	-	-	-	-	-
	W.6a	Unknown	36.93	36.94	0.0%	PASS	-	-	-	-	-	-	-
	W.6b	Unknown	30.16	30.15	0.0%	PASS	-	-	-	-	-	-	-
	W.7a	Unknown	38.56	38.56	0.0%	PASS	-	-	-	-	-	-	-
	W.7b	Unknown	84.85	84.85	0.0%	PASS	-	-	-	-	-	-	-
	W.8a	Unknown	38.55	38.55	0.0%	PASS	-	-	-	-	-	-	-
	W.8b	Unknown	38.01	38.01	0.0%	PASS	-	-	-	-	-	-	-
7 Endymion Road	W.9a	Unknown	29.78	28.41	4.6%	PASS	-	-	-	-	-	-	-
	W.9b	Unknown	33.27	32.2	3.2%	PASS	-	-	-	-	-	-	-
	W.9c	Unknown	33.14	32.01	3.4%	PASS	-	-	-	-	-	-	-
	W.10a	Unknown	31.3	29.47	5.8%	PASS	-	-	-	-	-	-	-
	W.10b	Unknown	29.78	27.61	7.3%	PASS	-	-	-	-	-	-	-
	W.10c	Unknown	27.94	25.46	8.9%	PASS	-	-	-	-	-	-	-
	W.11a	Unknown	37.35	37.31	0.1%	PASS	-	-	-	-	-	-	-
	W.11b	Unknown	37.55	37.55	0.0%	PASS	-	-	-	-	-	-	-
	W.12	Unknown	37.8	37.81	0.0%	PASS	-	-	-	-	-	-	-
	W.13a	Unknown	38.8	38.8	0.0%	PASS	-	-	-	-	-	-	-
	W.13b	Unknown	38.82	38.81	0.0%	PASS	-	-	-	-	-	-	-
	W.14	Unknown	38.81	38.82	0.0%	PASS	-	-	-	-	-	-	-
	W.15a	Unknown	39.04	39.05	0.0%	PASS	-	-	-	-	-	-	-
	W.15b	Unknown	39.04	39.05	0.0%	PASS	-	-	-	-	-	-	-
	W.16a	Unknown	39.04	39.05	0.0%	PASS	-	-	-	-	-	-	-
	W.16b	Unknown	39.04	39.05	0.0%	PASS	-	-	-	-	-	-	-

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Property			VSC Calculations				APSH Calculations						
Property	Window	Room type	VSC (%)		Loss	Compliance	Year (%)			Winter (%)			Compliance
			Before	After			Before	After	Loss	Before	After	Loss	
2 Alroy Road	W.17a	Unknown	38.98	38.97	0.0%	PASS	55.6	55.6	0.0	22.6	22.6	0.0	PASS
	W.17b	Unknown	38.97	38.97	0.0%	PASS	55.5	55.5	0.0	22.5	22.5	0.0	PASS
	W.18a	Unknown	38.78	38.78	0.0%	PASS	55.7	55.7	0.0	23.0	23.0	0.0	PASS
	W.18b	Unknown	38.82	38.79	0.1%	PASS	55.6	55.6	0.0	22.7	22.7	0.0	PASS
			Total number of windows			34	Total number of windows						5
			Pass			34	Pass						5
						100.0%							100.0%
			Fail			0	Fail						0
						0.0%							0.0%

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Property			NSL Calculations			
Property	Window	Room type	NSL (%)		Loss	Compliance
			Before	After		
8 Endymion Road	R.1	Unknown	90.2	90.2	0.0%	PASS
	R.2	Unknown	100	100	0.0%	PASS
	R.3	Unknown	100	100	0.0%	PASS
	R.4	Unknown	98.3	98.3	0.0%	PASS
	R.5	Unknown	100	100	0.0%	PASS
	R.6	Unknown	99.4	99.4	0.0%	PASS
	R.7	Unknown	100	100	0.0%	PASS
	R.8	Unknown	88.9	88.9	0.0%	PASS
7 Endymion Road	R.9	Unknown	99.5	99.5	0.0%	PASS
	R.10	Unknown	91.9	89.6	2.5%	PASS
	R.11	Unknown	99.2	99.2	0.0%	PASS
	R.12	Unknown	98.8	98.8	0.0%	PASS
	R.13	Unknown	98.9	98.9	0.0%	PASS
	R.14	Unknown	99.6	99.6	0.0%	PASS
	R.15	Unknown	96.2	96.2	0.0%	PASS
	R.16	Unknown	93.2	93.2	0.0%	PASS
2 Alroy Road	R.17	Unknown	97.6	97.6	0.0%	PASS
	R.18	Unknown	99.6	99.6	0.0%	PASS
			Total number of rooms			18
			Pass			18
						100.0%
			Fail			0
						0.0%

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Garden					
Area with at least 2 hours of sunlight (%)				Loss	Compliance
Property	Garden	Before	After		
8A Endymion Road	G.1	2.6	2.6	0.0%	PASS
8 Endymion Road	G.2	1.9	3.1	0.0%	PASS
8 Endymion Road rear garden	G.3	68.8	67.9	1.3%	PASS
				Total number of gardens	
				3	
				Pass	
				100.0%	
				Fail	
				0	
				0.0%	