

DAYLIGHT REPORT

40 GANDER HILL
HAYWARDS HEATH

VERSION 01

MARCH 2026



Company Registration No: 10354408

CLIENT: Paynes Heating

CONSULTANT: XDA Consulting Ltd
Unit 2 Turner Dumbrell Workshops
Dumbrells Court Road
East Sussex
BN6 8GT

Tel: 01273 916904
Email: hello@xdaconsulting.co.uk
Website: www.xdaconsulting.co.uk

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1 INTRODUCTION

The design proposals for 40 Gander Hill in Haywards Heath include a first floor rear extension to create a bedroom, and a new porch and roof dormer to front elevation.

Objections to the proposed development have been raised regarding the potential for daylight and sunlight impact to 42 Gander Hill. This report has been prepared by XDA Consulting Ltd to evaluate any impact on the windows of the adjacent property.

The daylight study has been undertaken by Dr Dianne Bowles using dynamic modelling software IES Virtual Environment 2025.

2 ASSESSMENT CRITERIA

The criteria used for assessment of impacts on daylight, sunlight and overshadowing to existing dwellings of a proposed development are taken from the BRE Guidance document “BR 209: Site Layout Planning for Daylight and Sunlight, a Guide to Good Practice, 2022”.

2.1 DAYLIGHT

The BRE guidance includes a decision chart on the process for accessing daylight impacts, see Figure 2.1. This report shall assess the Vertical Sky Component of adjacent properties, and if necessary the No Sky Line.

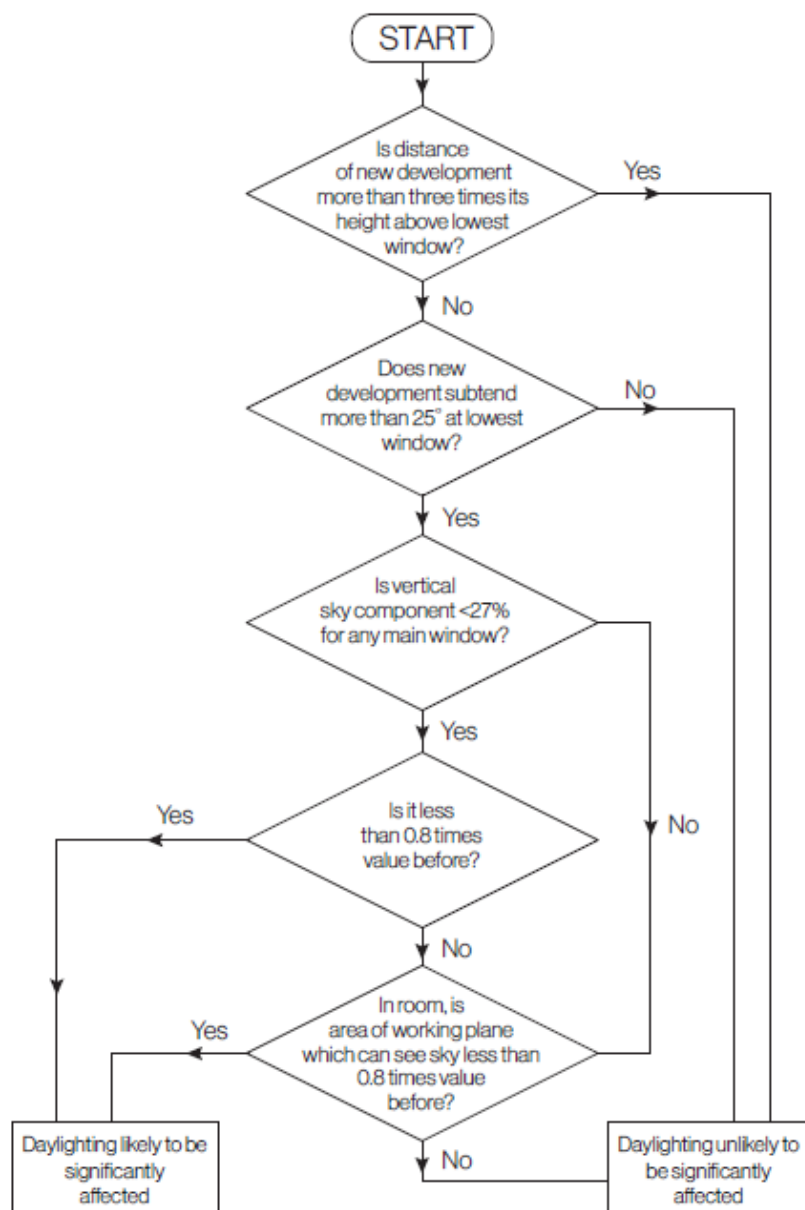


Figure 2.1 BRE Decision chart: diffuse daylight in existing buildings

2.1.1 Vertical Sky Component

The amount of skylight that reaches the windows is assessed by determining the Vertical Sky Component (VSC). The vertical sky component is the ratio of direct sky light that reaches a vertical plane (wall or window) to the amount of sky light that reaches the horizontal plane (the ground). This ratio is expressed as a percentage. The maximum VSC that could be achieved for a completely unobstructed window/wall is almost 40%.

When assessing the impact of a new development on existing buildings the BRE guidance suggests that if with a new development, an existing window has a VSC greater than 27% it should still receive sufficient skylight. If the VSC is reduced below 27% and less than 0.8 times its former value, then the occupants are likely to notice the loss of skylight.

2.1.2 No Sky Line

The impact on daylight distribution within existing rooms can be determined by plotting the No Sky Line (NSL) in each of the main rooms. Typically this includes living rooms, dining rooms and kitchens. Bedrooms can also be analysed although these are less important.

The NSL divides points on the working plane that can and cannot see the sky. The working plane in domestic properties is 0.85m high. The BRE guidance outlines that if with a new development the NSL moves so that the area of the existing room which does receive skylight is reduced to less than 0.8 times its former value this will be noticeable to the occupants and more of the room will appear poorly lit.

2.2 ANNUAL PROBABLE SUNLIGHT HOURS

The BRE guidance summarises that a dwelling shall appear reasonably sunlit if the centre of a main living room window can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in winter months between 21st September and 21st March.

When considering the impact of a development on an existing dwelling, the sunlight to the existing dwelling may be adversely affected if:

- receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and less than 0.80 times its former value during that period;
- and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

3 METHODOLOGY

IES Virtual Environment 2025 was used to produce 3D model geometry of the proposed development and surrounding buildings.

The Radiance module in the IES Virtual Environment (VE) software was used to calculate the Vertical Sky Component (VSC). The VSC calculation uses the standard CIE overcast sky.

The SunCast module in IES VE was utilised to produce a solar exposure calculation to determine the number of hours each day a window receives sunlight from the sky. These results were then used to calculate the Annual Probable Sunlight Hours.

FlucsDL module was used to determine the no sky line.

4 MODEL SETTINGS

4.1 3D MODEL

The 3D model geometry of the Proposed Development was constructed based on the following architectural drawings provided by Edgware Architecture:

- EA0147.PL1 - Existing Plans & Elevations
- EA0147.PL2B – Proposed Plans & Elevations
- EA0147.PL4 – Roof Plans
- EA0147.PL5 – 42 Gander Hill

Axonometric images of the model are presented in Figure 4.1 to Figure 4.5 with the site orientation presented in Figure 4.6. The adjacent buildings have been taken into consideration within the calculations in order to account for any light obstructions.

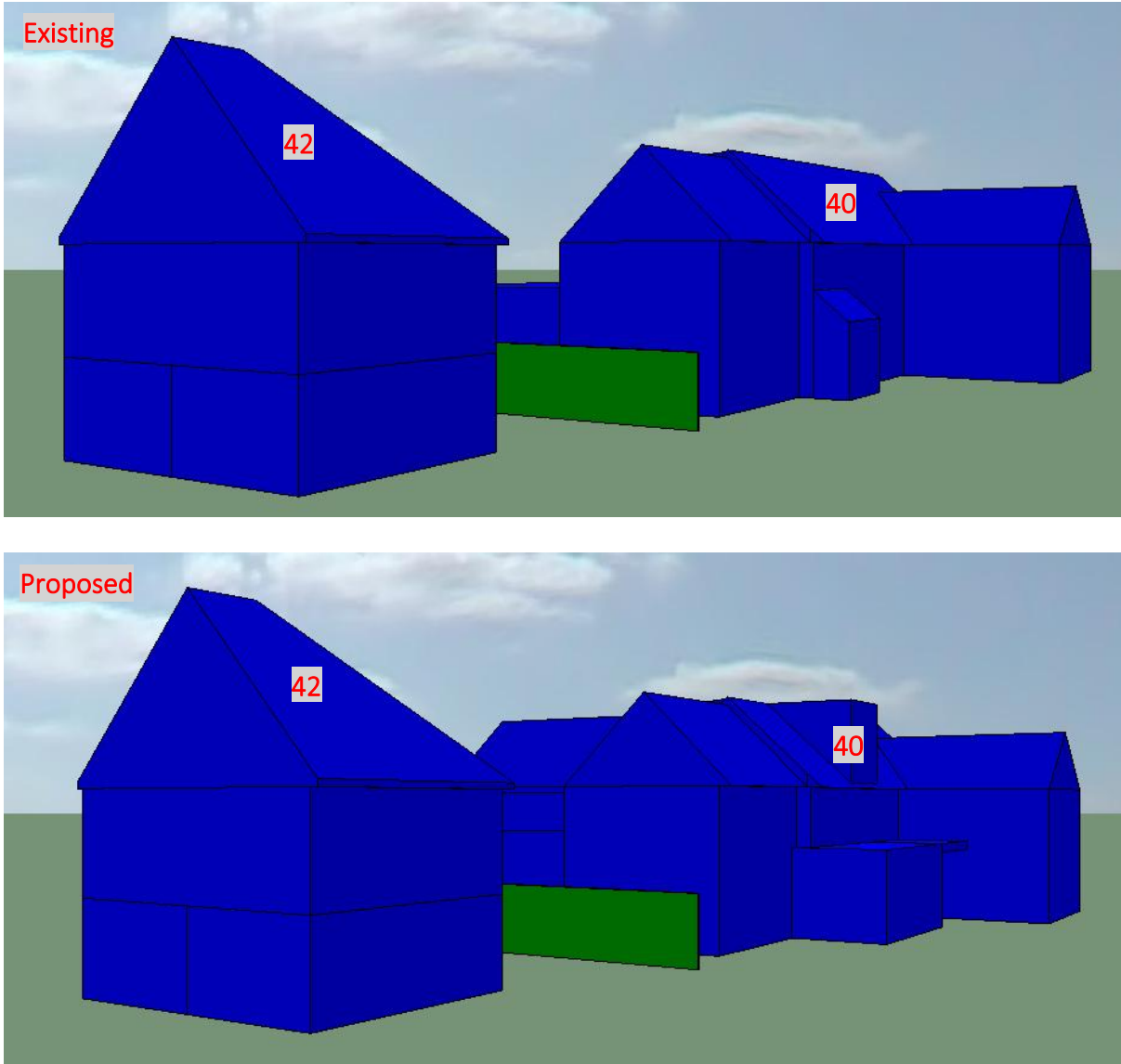


Figure 4.1 Existing & proposed development with adjacent property – view from north

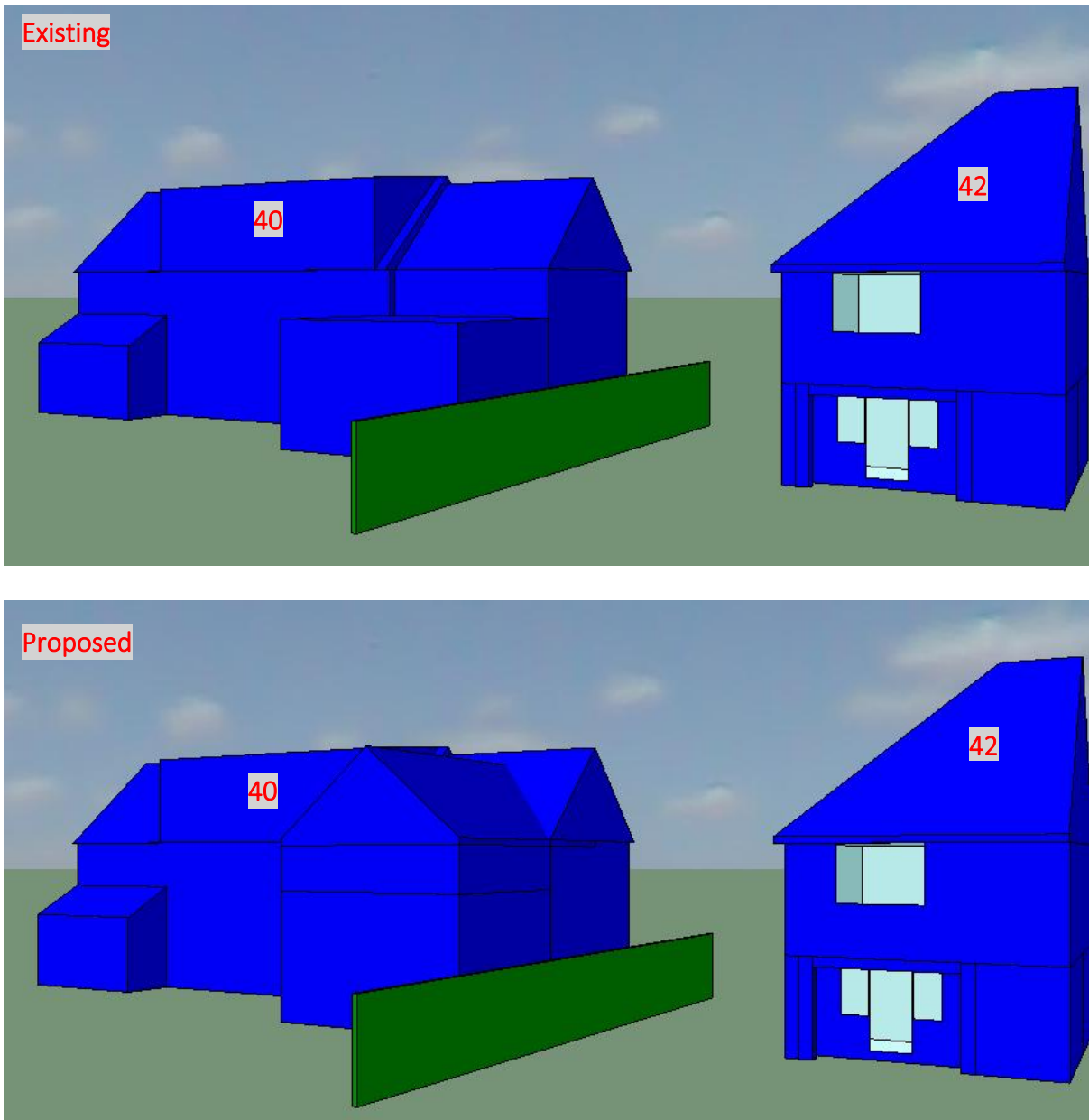


Figure 4.2 Existing & proposed development with adjacent property – view from east

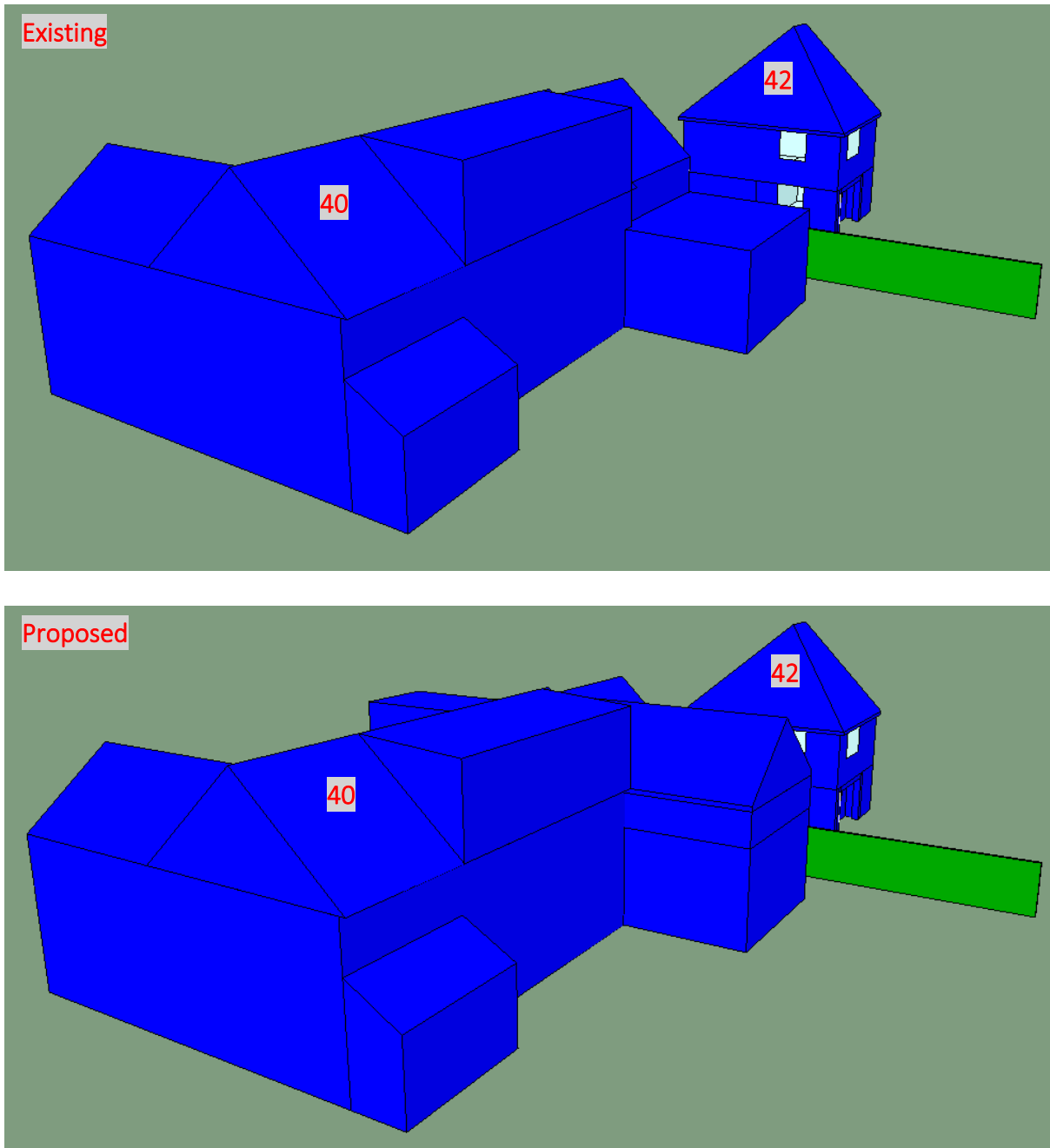


Figure 4.3 Existing & proposed development with adjacent properties – view from south

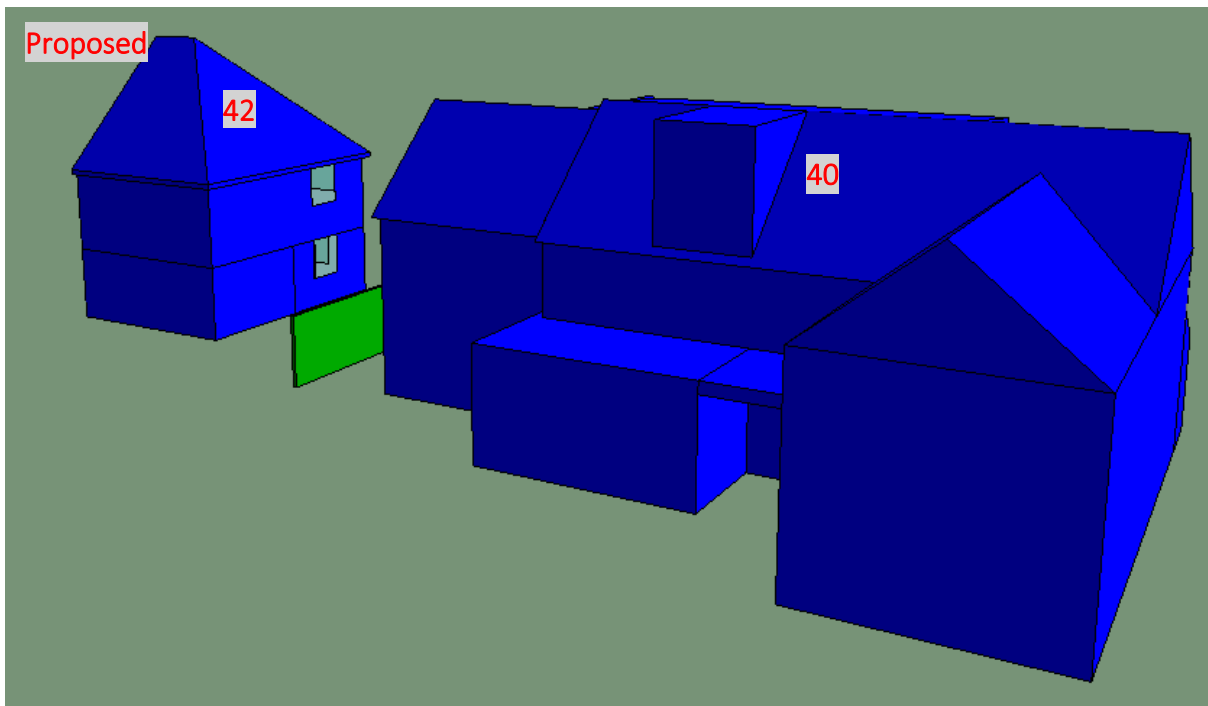
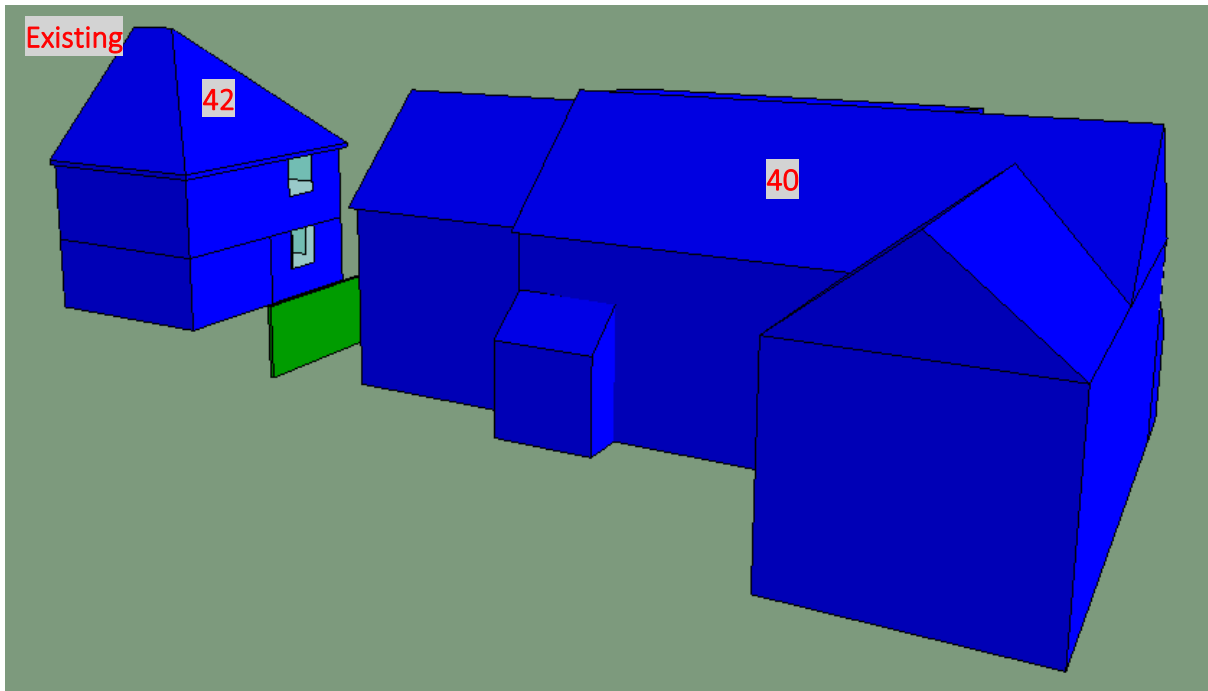


Figure 4.4 Existing & proposed development with adjacent property – view from west

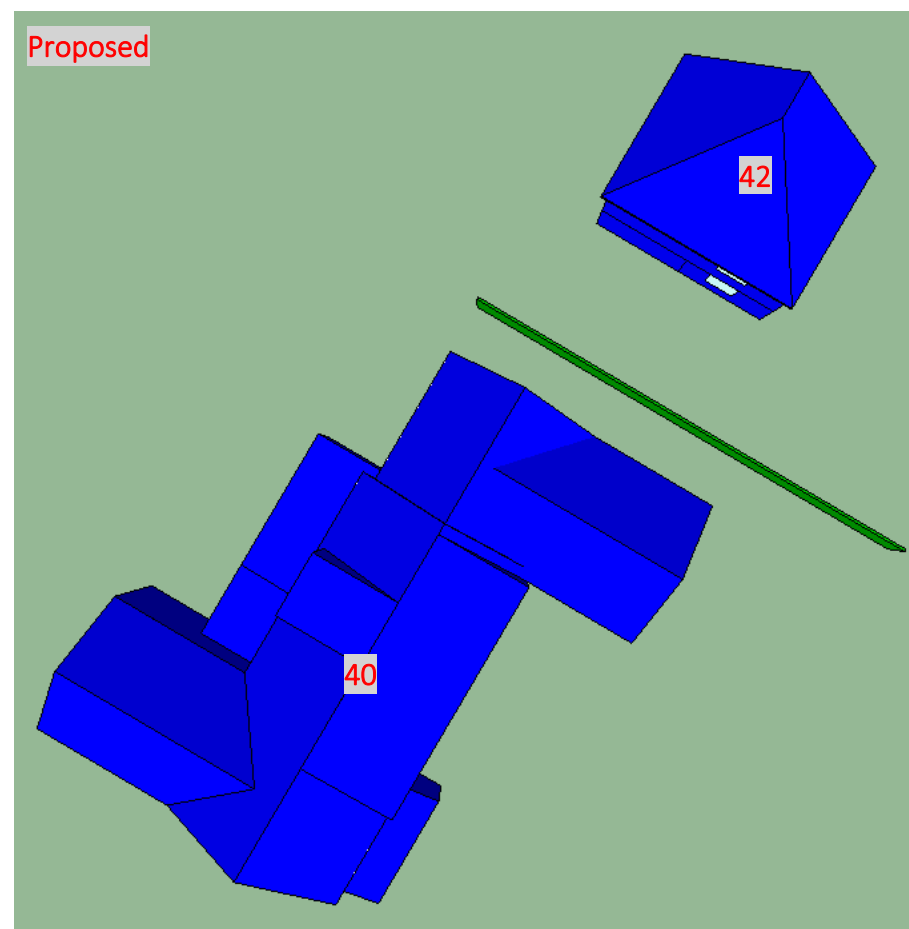
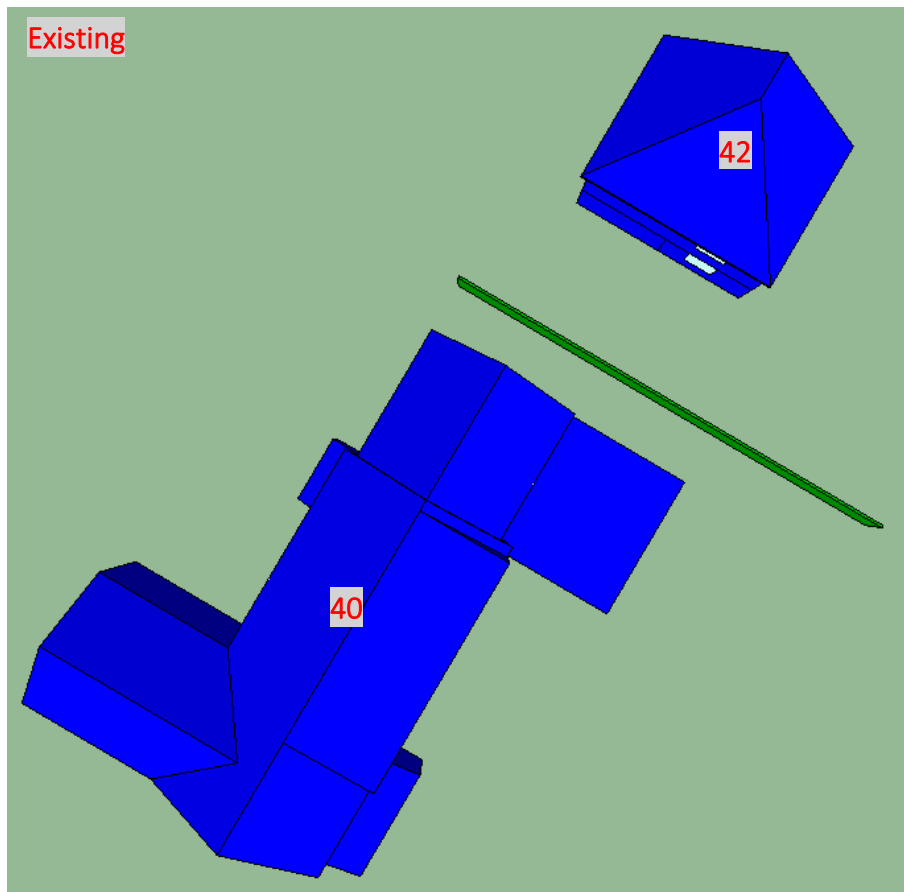


Figure 4.5 Existing & proposed development with adjacent property – view from above

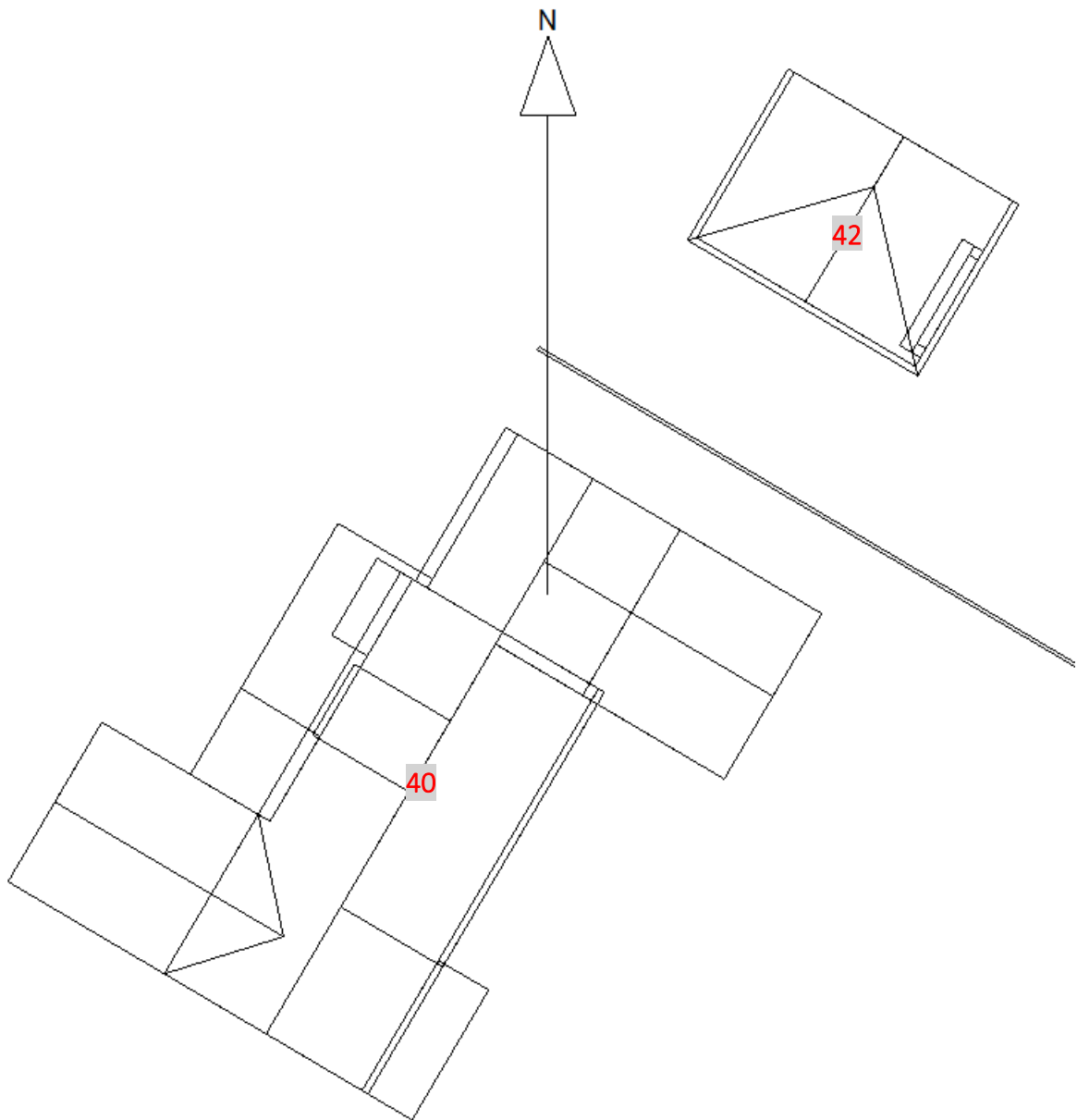


Figure 4.6 Site plan showing orientation of building model – note existing & proposed are overlaid

5 RESULTS & DISCUSSION

5.1 DAYLIGHT

5.1.1 Vertical Sky Component

The BRE guidance states that if with a new development, an existing window has a VSC greater than 27% it should still receive sufficient skylight. If the VSC is reduced below 27% and less than 0.8 times its former value, then the occupants are likely to notice the loss of skylight.

The VSC results are presented in Table 5.1 with the window references given in Appendix 1.

Property	Window No.	Existing VSC	Guidance met currently?	80% VSC Threshold	Proposed VSC	Reduced below 27%?	Reduced beyond threshold?	BRE guidance met
42 Gander Hill - southwest elevation	1	32.1	✓	25.7	30.1	No	No	✓
42 Gander Hill - southwest elevation	2	35.0	✓	28.0	32.3	No	No	✓
42 Gander Hill - southeast elevation	3	18.2	✗	14.6	18.4	N/A	No	✓
42 Gander Hill - southeast elevation	4	27.3	✓	21.8	27.3	No	No	✓
42 Gander Hill - southeast elevation	5	17.8	✗	14.3	18.3	N/A	No	✓
42 Gander Hill - southeast elevation	6	38.1	✓	30.5	37.9	No	No	✓

Table 5.1 VSC results

The results demonstrate the windows to 42 Gander Hill shall not be noticeably impacted by the proposed extension at 40 Gander Hill.

5.1.2 No Sky Line

The NSL divides points on the working plane that can and cannot see the sky. The working plane in domestic properties is 0.85m high. The BRE guidance outlines that if with a new development the NSL moves so that the area of the existing room which does receive skylight is reduced to less than 0.8 times its former value this will be noticeable to the occupants and more of the room will appear poorly lit.

A NSL calculation has been undertaken for the ground floor room the residents of 42 Gander Hill are concerned with. As the internal dimensions are unknown, an assumed room dimension of 5.6m wide by 3m deep has been assumed.

The no sky line calculation has been carried out for the ground floor spaces and the results are shown in Table 5.2. The results in the table are the proportion of the room that receives light directly from the sky.

Dwelling	Window no's of room	Existing Skylight	80% Threshold	Proposed Skylight	Reduced beyond threshold?	BRE compliant
42 Gander Hill	1, 3, 4, 5	0.88	0.7	0.88	No	✓

Table 5.2 No sky line results

The results demonstrate there will no change in the amount of light the room receives from the sky with the proposed extension at no. 40. Therefore, the no sky line shall remain unchanged.

5.2 ANNUAL PROBABLE SUNLIGHT HOURS

The BRE guidance outlines that the sunlight to an existing dwelling may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and less than 0.80 times its former value during that period;
- and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

BRE guidance suggests that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south.

The results for all windows that serve the ground floor room are presented in Table 5.3 and demonstrate the sunlight to the windows assessed will remain unchanged for the annual and winter scenarios with the proposed development.

Property	Window No.	Existing APSH %		80% Threshold		Proposed APSH %		BRE Guidance met?
		Annual	Winter	Annual	Winter	Annual	Winter	
42 Gander Hill - southwest elevation	1	19.15	2.84	15.32	2.27	19.15	2.84	✓
42 Gander Hill - southeast elevation	3	7.74	1.59	6.19	1.27	7.74	1.59	✓
42 Gander Hill - southeast elevation	4	11.19	2.44	8.95	1.95	11.19	2.44	✓
42 Gander Hill - southeast elevation	5	7.52	2.18	6.02	1.74	7.52	2.18	✓

Table 5.3 Annual Probable Sunlight Hours results

6 CONCLUSIONS

This report has assessed the potential impact of the proposed extension at 40 Gander Hill on the adjacent property at 42 Gander Hill.

The overall environmental impact to the adjacent property 42 Gander Hill considering daylight and sunlight is classed as negligible impact.

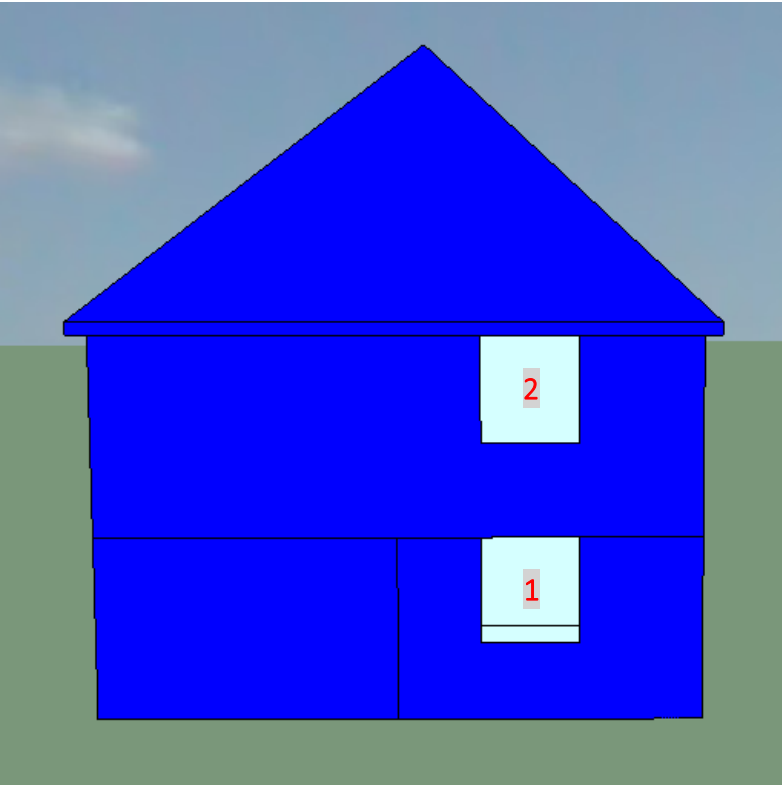
As the study has demonstrated negligible impact to the adjacent property daylight impacts should not be a reason for refusal on this scheme.

This study has been undertaken following the process outlined in the BRE Guidance document “BR 209: Site Layout Planning for Daylight and Sunlight, a Guide to Good Practice, 2022. The guidance states: *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.*

7 APPENDIX 1: WINDOW REFERENCES

Below are window references for the assessed buildings in this study.

42 Gander Hill – southwest elevation



42 Gander Hill – southeast elevation

