



SIGNATURE PLANS
YOUR LOCAL ARCHITECTURE STUDIO

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**INTERNAL DAYLIGHT &
SUNLIGHT REPORT**

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1. 3D Models

The 3D model have been developed as shown in Figures 1. The following information has been used in the preparation of the 3D model:

Drawings of the proposed development prepared by SIGNATURE PLANS LTD.

Images of the site.

2. Software

The 3D model is drawn with Sketchup 2021. DL-Light plugging (De Luminæ) has been used for daylight assessments. This plugin accordance with guidance provided in BR 209.

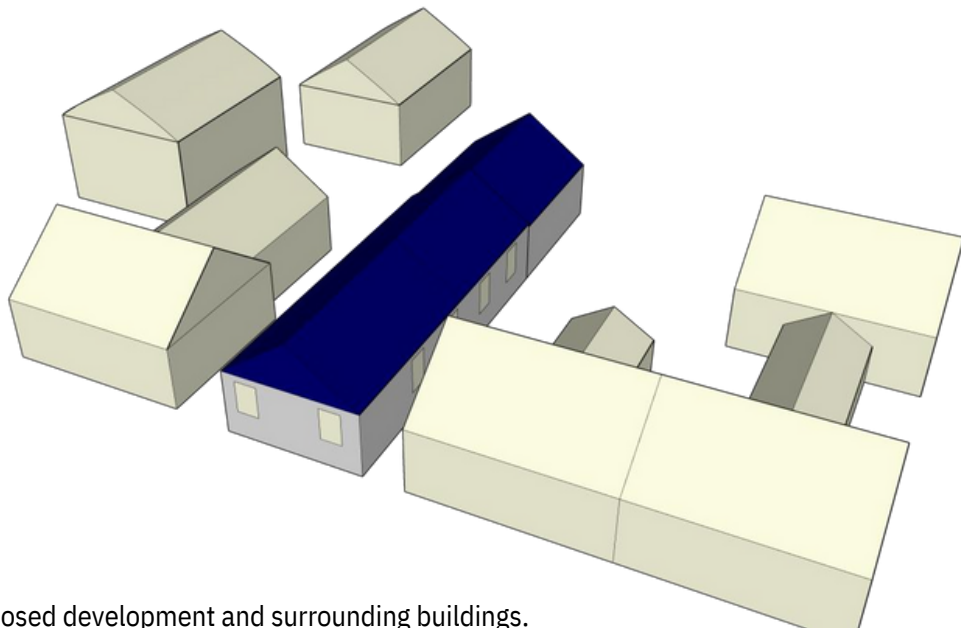


Figure1: proposed development and surrounding buildings.

3. Assessments

3.1 Sunlight - Annual Probable Sunlight Hours

3.1.1 BR 209 paragraph 3.2.3 states:

To assess the loss of sunlight to an existing building it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south.

3.1.2 BR 209 paragraph 3.2.11 states:

If a living room of an existing dwelling has a main window facing within 90° of due south... the sunlighting of the existing dwelling may be adversely affected....if the center of the window:

Receives less than 25% of annual probable sunlight hours.

Receives less than 0.8 times its former sunlight hours during either period and;

Has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

3.1.3 The locations of all the points assessed are shown in Figures 2 to 4.

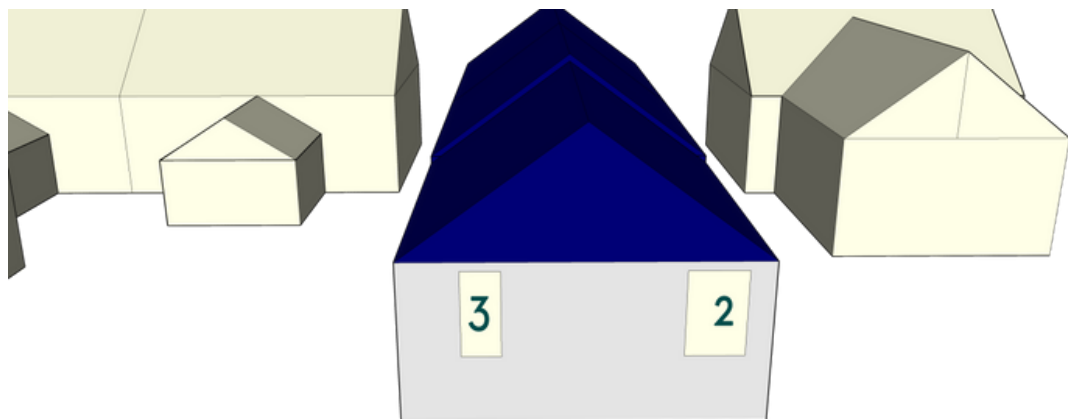


Figure2: Points assessed in the south elevation

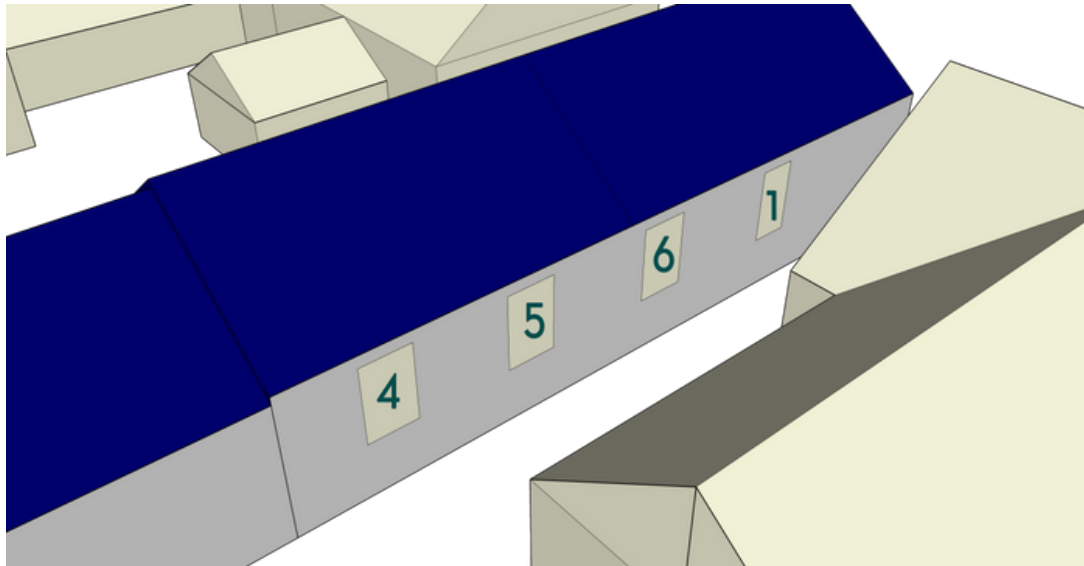


Figure3: Points assessed in the east elevation

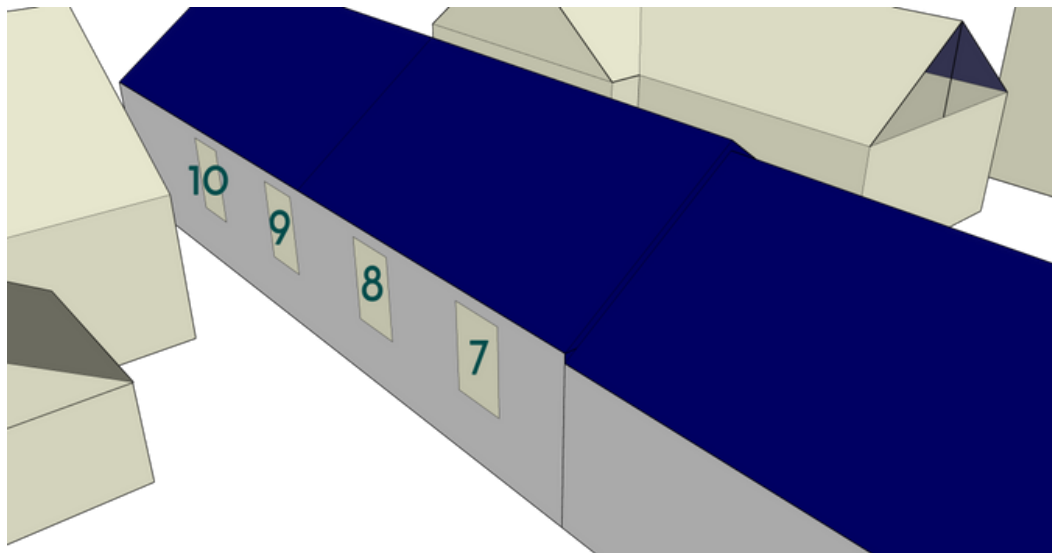


Figure4: Points assessed in the west elevation

3.1.4 Table 1 provides a record of the assessment of the annual probable sunlight hours (APSH) received by existing surrounding residential buildings. All the points 1 to 10 have been assessed. **3.1.5** Climate data from London.Gatwick between the years of 1991 and 2010 has been used.

Table1: Surface name	ASPH APSH [%]	21.6%	27.9%	34.1%	40.4%	46.7%	53.0%	59.3%	65.6%	71.9%	78.2%	Target ASPH [%]	Result (Pass mark if above recommended)
1	33.66		•									25	✓
2	82.13										•	25	✓
3	84.56										•	25	✓
4	47.51					•						25	✓
5	45.91				•							25	✓
6	44.11				•							25	✓
7	41.00				•							25	✓
8	40.72				•							25	✓
9	40.79				•							25	✓
10	21.61	•										25	x

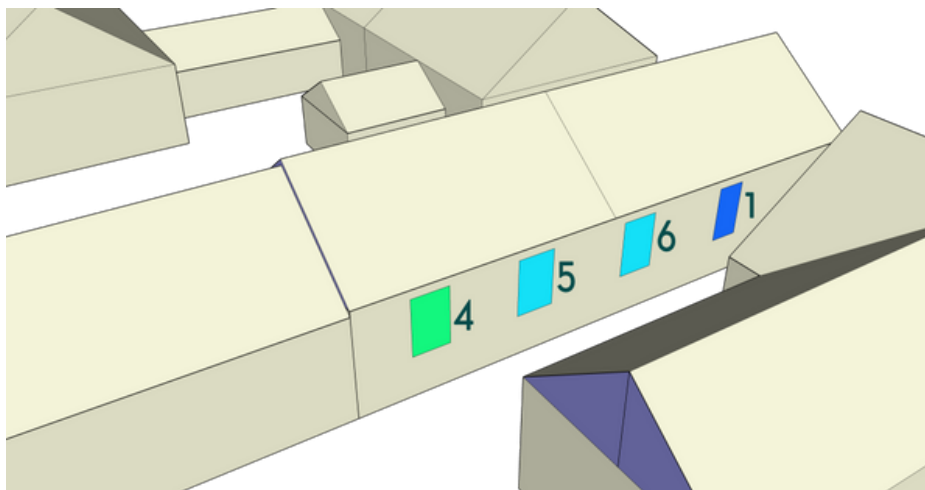


Figure5: ASPH assessment at points 1,4,5,6

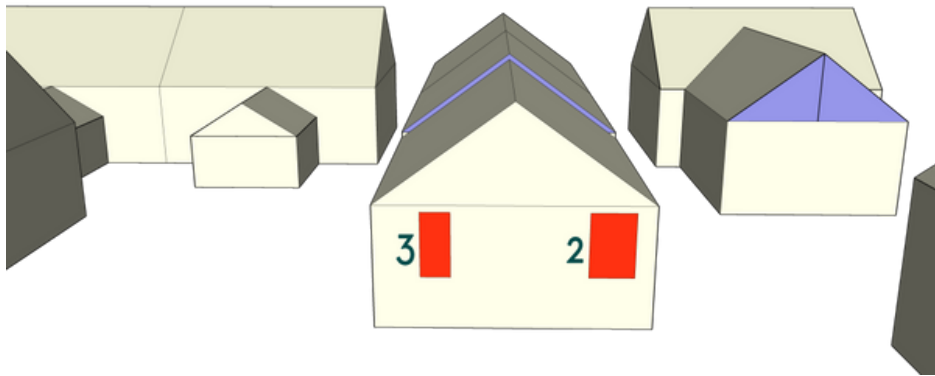


Figure6: ASPH assessment at points 2,3

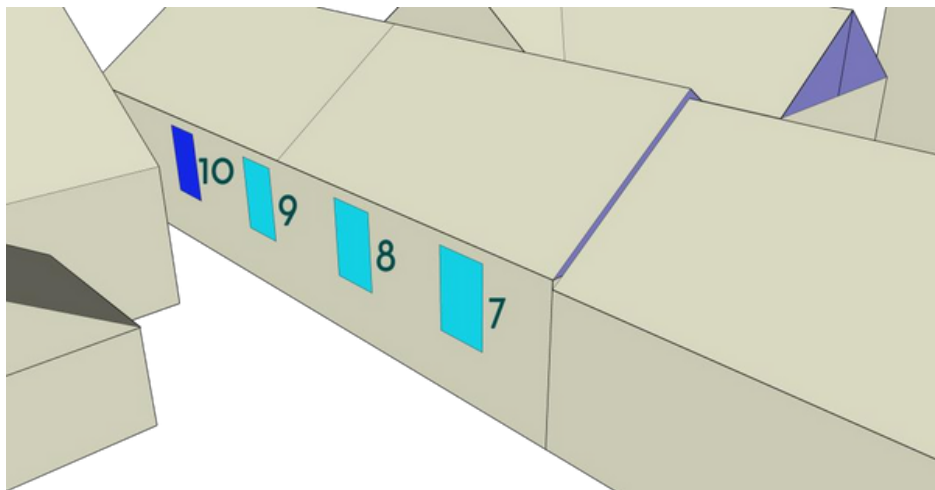


Figure6: ASPH assessment at points 7,8,9,10

3.2 Daylight – Average Daylight Factors (ADFs)

3.2.1 BR 209 Paragraph 2.1.8 states:

Daylight provision in new rooms may be checked using the average daylight factor (ADF). The ADF is a measure of the overall amount of daylight in a space. BS8206-2 Code of practice for daylighting recommends an ADF of 5% for a well daylit space and 2% for a partly daylit space. Below 2% the room will look dull and electric lighting is likely to be turned on. In housing BS8206-2 gives minimum values of ADF of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

3.2.2 BS 8206-2 Paragraph 5.6 further explains that:

Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value. For example, in a space which combines a living room and a kitchen the minimum average daylight factor should be 2%.

Table 2 provides a record of the assessment of the ADFs of the habitable rooms of the proposed residential dwellings. The locations of the rooms assessed are shown in the drawings provided in appendix A.

Table2: ADFs

Flat	Room	Recommended ADF %	ADF %	Result (Pass mark if above recommended)
3	Kitchen/ Living Room	2	2.69	✓
	Bedroom 1	1	2.7	✓
	Bedroom 2	1	2.69	✓
2	Kitchen/ Living Room	2	1.9	✗
	Bedroom	1	1.71	✓
1	Kitchen/ Living Room	2	0.76	✗
	Bedroom	1	0.87	✗

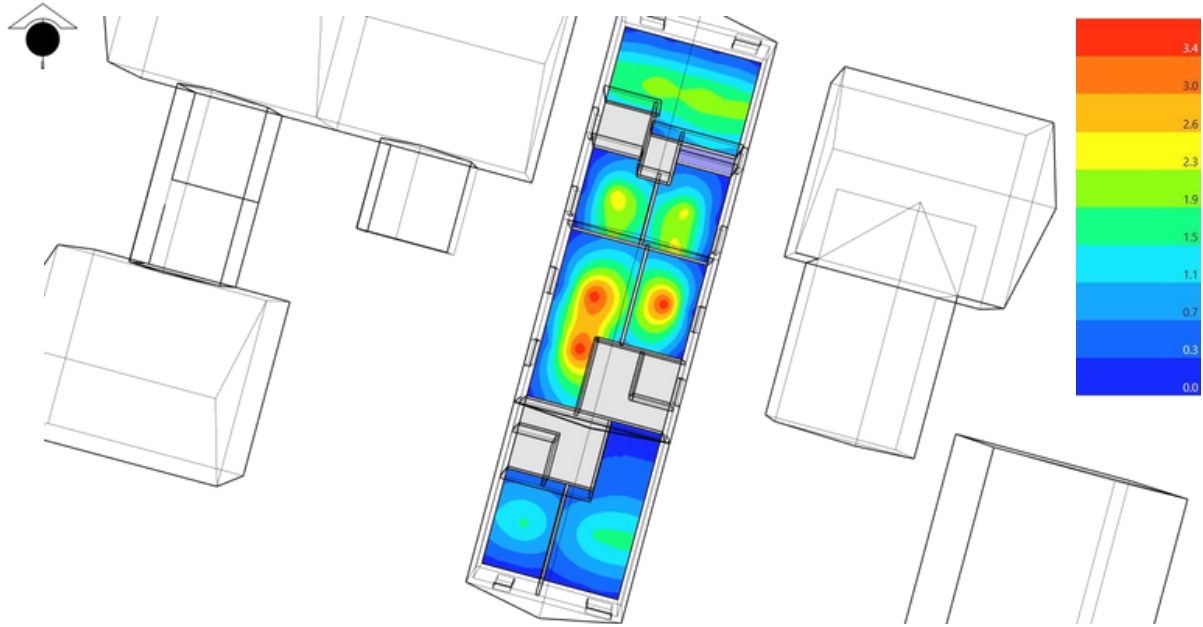
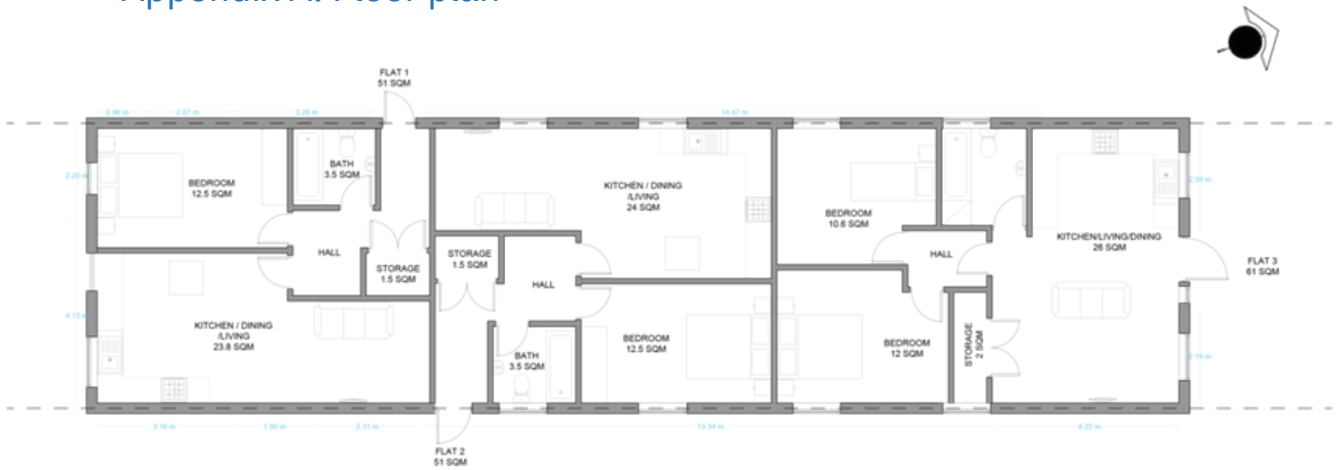


Figure7: ADFs assessment at plan view

Appendix A: Floor plan



Conclusion

In the APSh field, based on the BRE guideline, the target of windows facing within 90° of due south is 25%. According to table 1, it is clear that all the east, west and south windows of the building (except window No.10) pass this target. It should be noted that in the BRE guideline, this target is mentioned for the main spaces of the house, especially the living room. However, window No.10 is for the bathroom.

In the field of ADFs, based on BRE guidelines and BS 8206-2, the desired target is 2% for living room and kitchen and 1% for bedrooms. According to table 2, it is clear that the living room and kitchen of flat 2 and all spaces of flat 1 have not reached the desired target. The rest of the building spaces have passed this target.



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