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Sunlight and Daylight Report

293 Mitcham Road, Tooting, London,
SW17 9JQ

Joel Bushaway

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About Abbey Consultants (Southern) Ltd

Abbey Consultants (Southern) Ltd is an established consultancy practice specialising in providing building solutions throughout the UK.

We offer a full range of independent energy and sustainability services from pre-planning through to completion for both residential and commercial buildings from small individual properties through to highly complex mixed-use developments.

We are an industry leader in delivering a professional, accredited and certified service to a wide range of clients including architects, developers, builders, housing associations, the public sector and private householders.

Employing highly qualified staff, our team comes from a variety of backgrounds within the construction industry with combined knowledge of building design, engineering, assessment, construction, development, research and surveying.

Abbey Consultants maintains its position at the forefront of changes in building regulations as well as technological advances. Our clients, large or small are therefore assured of a cost effective, cohesive and fully integrated professional service.

About the Authors

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Assessment Information

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2. GLOSSARY

Average daylight factors (ADF) - Ratio of total daylight flux incident on the working plane to the area of the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky. Thus a 1% ADF would mean that the average indoor illuminance would be one hundredth the outdoor unobstructed illuminance.

Daylight, natural light – Combined skylight and sunlight

Probable sunlight hours – The long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account)

CIE standard overcast sky – A completely overcast sky for which the ratio of its luminance L_y at an angle of elevation y above the horizontal to the luminance L_z at the zenith is given by:

$$L_y = L_z (1+2\sin y)/3$$

A CIE standard overcast sky is darkest at the horizon and brightest at the zenith (vertically overhead)

Vertical sky component (VSC) – Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of the sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings

Annual probable sunlight hours (APSH) – The number of annual sunlight hours an unobstructed area would receive.

Winter probable sunlight hours (APSH) – The number of winter sunlight hours an unobstructed area would receive.

No sky line – The outline on the working plane of the area from which no sky can be seen

Obstruction angle – The angular altitude of the top of an obstruction above the horizontal, measured from a reference point in a vertical plane in a section perpendicular to the vertical plane.

Sky Factor – Ratio of the parts of illuminance at a point on a given plane that would be received directly through unglazed openings from a sky of uniform luminance, to illuminance on a horizontal plane due to the unobstructed hemisphere of this sky. The sky factor does not include reflected light, either from outdoor or indoor surfaces.

Working Plane – Horizontal, vertical or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 0.85m above the floor in houses and factories, 0.7m above the floor in offices.

4. EXECUTIVE SUMMARY

Abbey Consultants (Southern) Ltd have been instructed by Joel Bushaway to review the Sunlight and Daylight impacts on the revised 293 Mitcham Road development to determine if the proposed scheme complies with good practice guidelines.

The following report reflects the revised scheme and has been informed by the drawings outlined in section 5.1 below.

The aim of the study is to assess how the proposals impact the external daylight available for 1-7 Links Road, 1-19 Ascot Road and 297-307 Mitcham Road. The study is based on the various numerical tests laid down in the Building Research Establishments (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice' by P J Littlefair 2011.

The VSC analysis to the existing dwellings concluded that 100% of the window casements to all the existing dwellings exceed the good practice figure of 0.8x the pre-development values, averaging 0.944x pre-development levels across the assessment, well in excess of good practice guidance and therefore satisfying the BRE daylight requirements

All windows which face within 90 degrees of due south (299-307 Mitcham Road, all other plots face either North East or North West) have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test with an average of 0.843x and 0.828x pre-development values respectively. The proposed development is therefore in full compliance with the BRE direct sunlight to windows requirements.

The overshadowing and annual sunlight analysis concludes that due to the location and massing of the proposed re-development, there would only be a small increase the overshadowing at the ends of the gardens to 1-19 Ascot Road late into the afternoon/evening. However the areas affected would have already achieved well in excess of the 2 hours of sunlight on March 21st in order to comply with good practice and therefore all the gardens are showing 100% compliance with pre-development levels and are therefore in full compliance with good practice.

The above numerical results confirm that the proposed development will have a low impact on the light receivable by its neighbouring properties and therefore the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

5. INFORMATION SOURCES

5.1 DOCUMENTS CONSIDERED

This report has been produced based on the following drawings:

Table 1: Documents Considered

Drawing Title	Issue Date/Revision	Drawing Number
021C Proposed Ground Floor Plan	26/02/21 – G	021
022C Proposed First Floor Plan	29/03/21 - H	022
023C Proposed Roof Plan	25/03/21 - E	023
030 Proposed front and rear street elevations	11/03/21 - C	030
031 Proposed Front and Rear Elevations	11/03/21 - D	031
032 Proposed Side Elevations	11/03/21 - B	032
040 Proposed Sections	11/03/21 - D	040
001 Existing Location Plan	/	001
002 Existing Ground Floor Plan	/	002
003 Existing First Floor Plan	/	003
005 Existing Elevations	/	005
006 Existing Elevations	/	006
007 Existing Sections	/	007

5.2 APPLICATION OF THE DAYLIGHT TESTS

The internal layouts of the existing dwellings adjacent to the proposed development are unknown at the time of writing this report, so have all been assumed to be servicing habitable rooms for the purposes of this report.

6. NATIONAL PLANNING POLICY FRAMEWORK

The BRE numerical guidelines should be considered in the context of the National Planning Policy Framework (NPPF) 2019, which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states in paragraph 123(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).”

7. METHODOLOGY OF THE STUDY

7.1 BRE GUIDE: SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT

The study is based on the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice' by P J Littlefair 2011. In general, the BRE tests are based on the requirements of the British Standard, BS 8206 Part 2.

The standards set out in the BRE guide are intended to be used flexibly. The following sentiments are taken from the BRE guide:

(Its) "main aim is... to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions." (Para 1.1)

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer." (Para 1.6)

"Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design." (Para 1.6)

The BRE guide is an advisory document, not a rigid set of rules. Care must therefore be taken to apply its recommendations in a manner fitting to the location of the proposed development.

In theory the BRE report's numerical guidelines may be applied to any setting, whether that is a city centre, suburban area or rural village. However, it notes, "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... The calculation methods...are entirely flexible in this respect." (Para 1.6)

At paragraph 2.2.3 it states "Note that numerical values given here are purely advisory. Different criteria may be used, based upon the requirements for daylighting in an area viewed against other site layout constraints." Appendix F of the BRE Guide gives advice on setting alternative target values for skylight access. At page 62 it states "different targets may be used, based on the special requirements of the proposed development or its location".

Rigid application of the numerical guidelines could well give rise to an inappropriate answer and form of development for city centre sites, in which case it may be appropriate to adopt lower target values that are more appropriate to the location concerned.

7.2 DAYLIGHT TO WINDOWS

Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.

Diffuse daylight calculations should be undertaken to all rooms where daylight is required, including living rooms, kitchens and bedrooms. Usually, if a kitchen is less than 13m² it is considered to be a non-habitable room and the daylight tests need not be applied. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

The BRE guide contains two tests which measure diffuse daylight:

7.2.1 Test 1 Vertical Sky Component

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. Diffuse daylight may be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.

7.2.2 Test 2 Daylight Distribution

The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the 'no sky line' in each of the main rooms. The no-sky line is a line which separates areas of the working plane that can and cannot have a direct view of the sky. Daylight may be adversely affected if after the development the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

7.3 SUNLIGHT AVAILABILITY TO WINDOWS

The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that kitchens and bedrooms are less important, although care should be taken not to block too much sunlight.

The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- 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

7.4 OVERSHADOWING TO GARDENS AND OPEN SPACES

The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:

- Gardens, usually the main back garden of a house
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting out areas, such as those between non-domestic buildings and in public squares
- Focal points for views such as a group of monuments or fountains.

The BRE guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21st March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

8. RESULTS

8.1 DAYLIGHT TO WINDOWS

Vertical Sky Component is a measure of the amount of sky visible from a centre point of a window. A window that achieves 27% or more is considered to provide good levels of light, but if with the proposed development in place the figure is both less than 27% and would be reduced by 20% or more than pre-development values, the loss would be noticeable.

Pre and post development VSC calculations have been undertaken for the following dwellings, adjacent to the proposed re-development to determine to what extent the existing dwellings would be affected by the proposals:

- 297-307 Mitcham Road (1st floor apartments above the commercial terrace)
- 1-7 Links Road
- 1-19 Ascot Road

In the paper by Paul Littlefair "Site Layout Planning for Daylight and Sunlight: A guide to good practice" (2011), good practice in relation to VSC calculations to existing dwellings is defined as the post-development VSC achieving a minimum of 0.8x the pre-development value, which would be unnoticeable to the human eye and therefore not have a significant effect on the existing dwellings.

The VSC analysis to the existing dwellings concluded that 100% of the window casements to all the existing dwellings exceed the good practice figure of 0.8x the pre-development values, averaging 0.943x pre-development levels across the assessment, well in excess of good practice guidance and therefore satisfying the BRE daylight requirements

As the internal layouts of the existing dwellings was unknown the daylight distribution test could not be applied.

8.2 SUNLIGHT TO WINDOWS

Probable sunlight hours refers to the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question.

BS8206-2 recommends that interiors where the occupants expect sunlight should receive at least 25% of annual probable sunlight hours (APSH); in addition to, in the winter months between 21st September and 21st March at least 5% of APSH, otherwise known as Winter Probable Sunlight Hours (WPSH)

All windows which face within 90 degrees of due south (299-307 Mitcham Road, all other plots face either North East or North West) have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test with an average of 0.843x and 0.828x pre-development values respectively. The proposed development is therefore in full compliance with the BRE direct sunlight to windows requirements.

8.3 OVERSHADOWING TO GARDENS

Annual sunlight analysis has been carried out for the rear gardens of 1-7 Links Road and 1-19 Ascot Road, which concluded (as per the results in appendix 6) that all of the gardens would be scoring well in excess of the 0.8x pre-development levels, as recommended within the BRE guidance.

In addition a shadow analysis has been carried out to assess any potential impact, with assessments being made on 3 dates spread throughout the year, March 21st, June 21st and September 21st and at 2 times, 10am and 4pm; to provide representative results for the entire year. Results prior to March and after September have not been included due to the low sun trajectory, as per the BRE guidance.

The overshadowing analysis concludes that due to the location and massing of the proposed re-development, there would only be a small increase the overshadowing at the ends of the gardens to 1-19 Ascot Road late into

the afternoon/evening. However the areas affected would have already achieved well in excess of the 2 hours of sunlight on March 21st in order to comply with good practice and therefore all the gardens are showing 100% compliance with pre-development levels and are therefore in full compliance with good practice.

9. CONCLUSION

Abbey Consultants (Southern) Ltd have been instructed by Joel Bushaway to review the Sunlight and Daylight impacts on the proposed 293 Mitcham Road development to determine if the proposed scheme complies with good practice guidelines.

The Sunlight and Daylight analysis reviews the scheme against the good practice guidance as set out in "Site Layout Planning for Daylight and Sunlight: A guide to good practice" by Paul Littlefair (2011), with regard to the existing dwellings available daylight.

The VSC analysis to the existing dwellings concluded that 100% of the window casements to all the existing dwellings exceed the good practice figure of 0.8x the pre-development values, averaging 0.944x pre-development levels across the assessment, well in excess of good practice guidance and therefore satisfying the BRE daylight requirements

All windows which face within 90 degrees of due south (299-307 Mitcham Road, all other plots face either North East or North West) have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test with an average of 0.843x and 0.828x pre-development values respectively. The proposed development is therefore in full compliance with the BRE direct sunlight to windows requirements.

The overshadowing and annual sunlight analysis concludes that due to the location and massing of the proposed re-development, there would only be a small increase the overshadowing at the ends of the gardens to 1-19 Ascot Road late into the afternoon/evening. However the areas affected would have already achieved well in excess of the 2 hours of sunlight on March 21st in order to comply with good practice and therefore all the gardens are showing 100% compliance with pre-development levels and are therefore in full compliance with good practice.

The above numerical results confirm that the proposed development will have a low impact on the light receivable by its neighbouring properties and therefore the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

APPENDIX 1: VERTICAL SKY COMPONENT ANALYSIS FOR THE PROPOSED DEVELOPMENT

Figure 1: 1-19 Ascot Road and 1-7 Links Road VSC Analysis

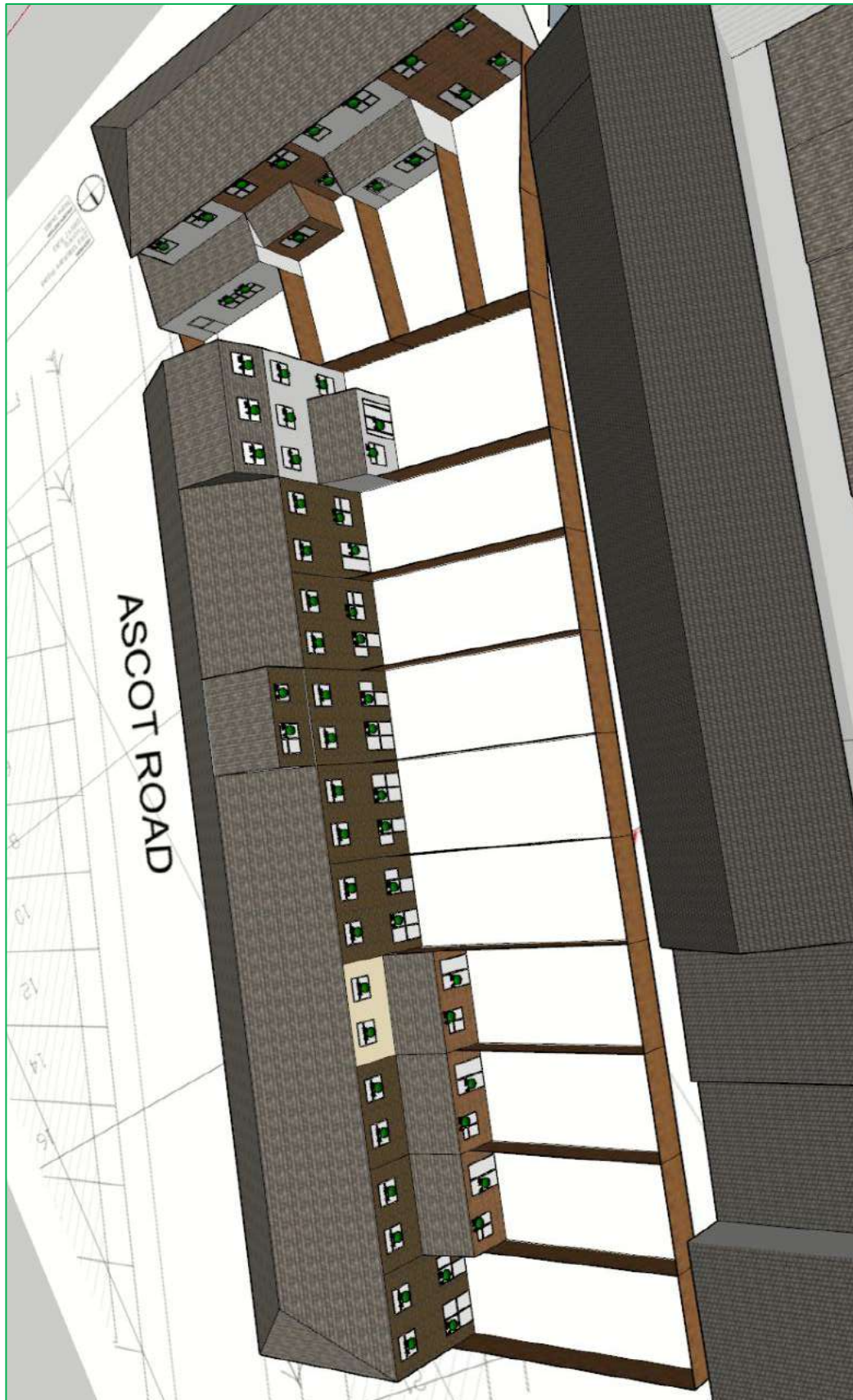
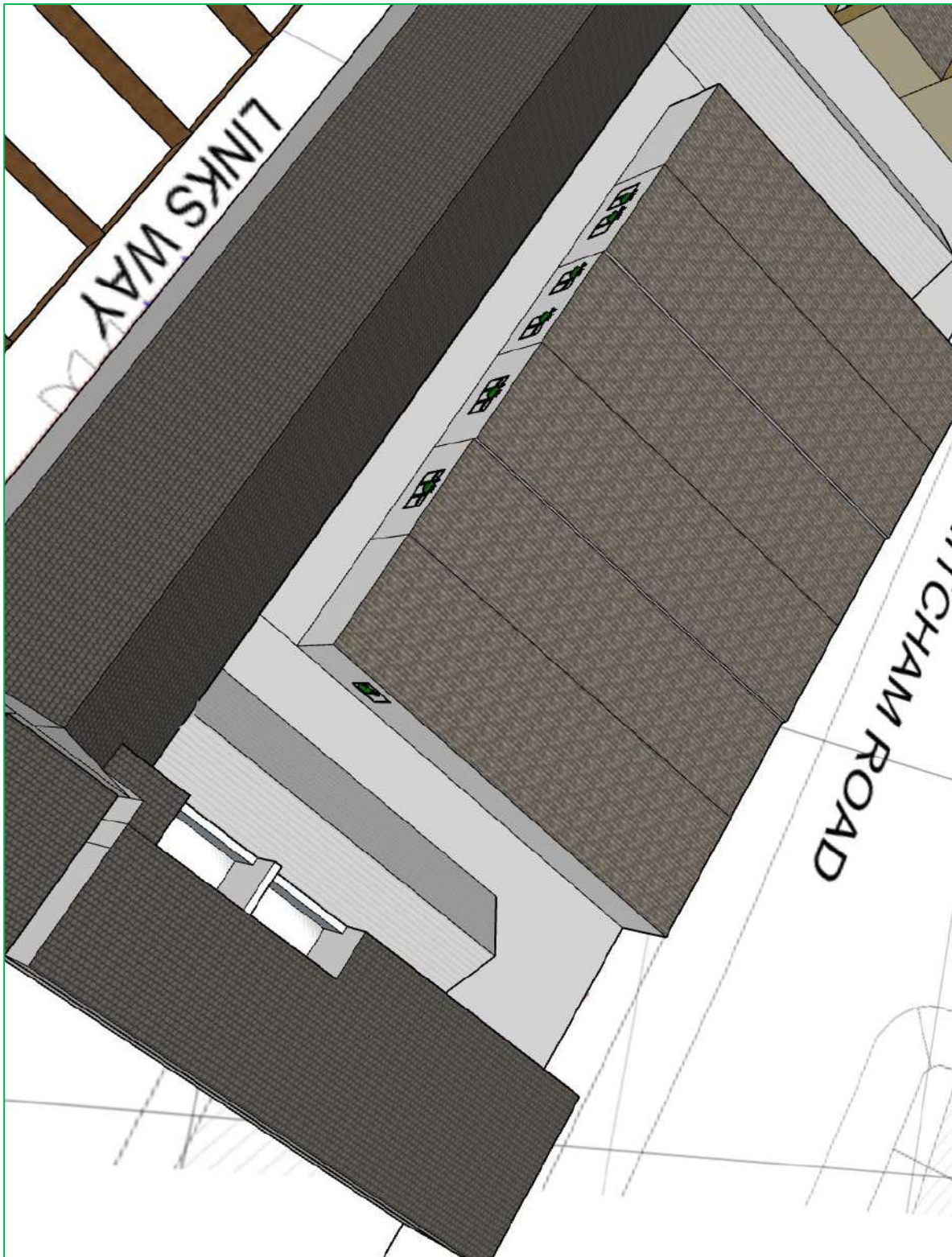


Figure 2: 297-307 Mitcham Road VSC Analysis



APPENDIX 2: VERTICAL SKY COMPONENT RESULTS FOR THE EXISTING PROPERTIES AT 297-307 MITCHAM ROAD, 1-7 LINKS ROAD AND 1-19 ASCOT ROAD

Table 2: VSC Results for the existing properties at 297-307 Mitcham Road, 1-7 Links Road and 1-19 Ascot Road

Dwelling	Dwelling	Window	Window Orientation	Floor	Pre-development VSC	Post-development VSC	Overall Compliance	Result
Mitcham Road	297	1	North East	First Floor	36.69	34.91	0.951	Pass
	299	2	South East	First Floor	36.51	29.56	0.810	Pass
	301	3	South East	First Floor	36.48	29.53	0.809	Pass
	303&305	4	South East	First Floor	36.45	29.51	0.810	Pass
		5	South East	First Floor	36.40	29.47	0.810	Pass
	307	6	South East	First Floor	36.29	29.50	0.813	Pass
		7	South East	First Floor	36.23	29.43	0.812	Pass
Links Road	1	1	North East	Ground Floor	29.53	26.70	0.904	Pass
		2	North East	Ground Floor	31.15	26.86	0.862	Pass
		3	North East	First Floor	33.44	31.76	0.950	Pass
		4	North East	First Floor	33.03	30.89	0.935	Pass
	3	1	North East	Ground Floor	32.33	30.59	0.946	Pass
		2	North East	Ground Floor	33.01	30.89	0.936	Pass
		3	North East	First Floor	32.58	31.59	0.970	Pass
		4	North East	First Floor	33.23	32.03	0.964	Pass
	5	1	North East	Ground Floor	27.58	26.41	0.958	Pass
		2	North East	Ground Floor	23.66	23.29	0.984	Pass
		3	North East	First Floor	32.19	31.47	0.978	Pass
		4	North East	First Floor	34.84	33.93	0.974	Pass
	7	1	North East	Ground Floor	23.28	22.64	0.973	Pass
		2	North East	Ground Floor	23.53	22.73	0.966	Pass
		3	North East	First Floor	33.11	32.66	0.986	Pass
		4	North East	First Floor	33.31	32.66	0.980	Pass
Ascot Road	1	1	North West	Ground Floor	34.07	30.71	0.901	Pass
		2	North West	Ground Floor	32.03	28.80	0.899	Pass
		3	North West	Ground Floor	28.67	26.82	0.935	Pass
		4	North West	First Floor	37.57	35.72	0.951	Pass
		5	North West	First Floor	37.40	35.58	0.951	Pass
		6	North West	First Floor	37.15	35.38	0.952	Pass
		7	North West	Second Floor	48.69	48.14	0.989	Pass
		8	North West	Second Floor	48.60	48.03	0.988	Pass
		9	North West	Second Floor	48.50	47.96	0.989	Pass
	3	1	North West	Ground Floor	31.36	28.89	0.921	Pass
		2	North West	Ground Floor	33.17	30.53	0.920	Pass
		3	North West	First Floor	37.92	36.05	0.951	Pass
		4	North West	First Floor	37.79	35.94	0.951	Pass
	5	1	North West	Ground Floor	34.67	31.84	0.918	Pass
		2	North West	Ground Floor	35.13	32.33	0.920	Pass
		3	North West	First Floor	38.14	36.25	0.950	Pass
		4	North West	First Floor	38.04	36.16	0.951	Pass
	7	1	North West	Ground Floor	34.79	32.15	0.924	Pass
		2	North West	Ground Floor	34.84	32.11	0.922	Pass
		3	North West	First Floor	38.33	36.51	0.953	Pass
		4	North West	First Floor	38.25	36.38	0.951	Pass
		5	North West	Second Floor	39.50	39.40	0.997	Pass
		6	North West	Second Floor	39.50	39.50	1.000	Pass
	9	1	North West	Ground Floor	34.77	32.51	0.935	Pass
		2	North West	Ground Floor	34.87	32.47	0.931	Pass
		3	North West	First Floor	38.45	36.84	0.958	Pass
		4	North West	First Floor	38.40	36.68	0.955	Pass
	11	1	North West	Ground Floor	31.84	30.19	0.948	Pass
2		North West	Ground Floor	34.21	32.33	0.945	Pass	
3		North West	First Floor	38.52	37.29	0.968	Pass	
4		North West	First Floor	38.50	37.08	0.963	Pass	
13	1	North West	Ground Floor	34.76	33.70	0.970	Pass	
	2	North West	Ground Floor	31.36	30.50	0.973	Pass	
	3	North West	First Floor	38.56	37.73	0.978	Pass	
	4	North West	First Floor	38.54	37.55	0.974	Pass	
15	1	North West	Ground Floor	34.60	34.17	0.988	Pass	
	2	North West	Ground Floor	37.19	31.04	0.835	Pass	
	3	North West	First Floor	38.57	38.06	0.987	Pass	
	4	North West	First Floor	38.56	37.94	0.984	Pass	
17	1	North West	Ground Floor	34.68	34.41	0.992	Pass	
	2	North West	Ground Floor	30.75	29.96	0.974	Pass	
	3	North West	First Floor	38.62	38.26	0.991	Pass	
	4	North West	First Floor	38.59	38.19	0.990	Pass	
19	1	North West	Ground Floor	34.24	34.04	0.994	Pass	
	2	North West	Ground Floor	31.52	30.52	0.968	Pass	
	3	North West	First Floor	38.78	38.55	0.994	Pass	
	4	North West	First Floor	38.68	38.39	0.993	Pass	

APPENDIX 3: ANNUAL PROBABLE SUNLIGHT HOURS RESULTS FOR THE EXISTING PROPERTIES AT 297-307 MITCHAM ROAD, 1-7 LINKS ROAD AND 1-19 ASCOT ROAD

Table 3: Annual Probable Sunlight Hours Results for 297-307 Mitcham Road, 1-7 Links Road and 1-19 Ascot Road

Dwelling	Dwelling	Window	Window Orientation	Floor	Pre-development APSH	Post-development APSH	Overall Compliance	Result
Mitcham Road	297	1	North East	First Floor	N/A	N/A		Pass
	299	2	South East	First Floor	59.00	50.00	0.847	Pass
	301	3	South East	First Floor	59.00	50.00	0.847	Pass
		4	South East	First Floor	59.00	50.00	0.847	Pass
	303&305	5	South East	First Floor	59.00	50.00	0.847	Pass
		6	South East	First Floor	60.00	50.00	0.833	Pass
		7	South East	First Floor	60.00	50.00	0.833	Pass
Links Road	1	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
	3	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
	5	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
	7	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
Ascot Road	1	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	Ground Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
		5	North West	First Floor	N/A	N/A		Pass
		6	North West	First Floor	N/A	N/A		Pass
		7	North West	Second Floor	N/A	N/A		Pass
		8	North West	Second Floor	N/A	N/A		Pass
		9	North West	Second Floor	N/A	N/A		Pass
	3	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	5	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	7	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
		5	North West	Second Floor	N/A	N/A		Pass
		6	North West	Second Floor	N/A	N/A		Pass
	9	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	11	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	13	1	North West	Ground Floor	N/A	N/A		Pass
2		North West	Ground Floor	N/A	N/A		Pass	
3		North West	First Floor	N/A	N/A		Pass	
4		North West	First Floor	N/A	N/A		Pass	
15	1	North West	Ground Floor	N/A	N/A		Pass	
	2	North West	Ground Floor	N/A	N/A		Pass	
	3	North West	First Floor	N/A	N/A		Pass	
	4	North West	First Floor	N/A	N/A		Pass	
17	1	North West	Ground Floor	N/A	N/A		Pass	
	2	North West	Ground Floor	N/A	N/A		Pass	
	3	North West	First Floor	N/A	N/A		Pass	
	4	North West	First Floor	N/A	N/A		Pass	
19	1	North West	Ground Floor	N/A	N/A		Pass	
	2	North West	Ground Floor	N/A	N/A		Pass	
	3	North West	First Floor	N/A	N/A		Pass	
	4	North West	First Floor	N/A	N/A		Pass	

APPENDIX 4: WINTER PROBABLE SUNLIGHT HOURS RESULTS FOR THE EXISTING PROPERTIES AT 297-307 MITCHAM ROAD, 1-7 LINKS ROAD AND 1-19 ASCOT ROAD

Table 4: Winter Probable Sunlight Hours Results for 297-307 Mitcham Road, 1-7 Links Road and 1-19 Ascot Road

Dwelling	Dwelling	Window	Window Orientation	Floor	Pre-development WPSH	Post-development WPSH	Overall Compliance	Result
Mitcham Road	297	1	North East	First Floor	N/A	N/A		Pass
	299	2	South East	First Floor	19.00	16.00	0.842	Pass
	301	3	South East	First Floor	19.00	16.00	0.842	Pass
	303&305	4	South East	First Floor	19.00	16.00	0.842	Pass
		5	South East	First Floor	19.00	16.00	0.842	Pass
	307	6	South East	First Floor	20.00	16.00	0.800	Pass
		7	South East	First Floor	20.00	16.00	0.800	Pass
Links Road	1	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
	3	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
	5	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
	7	1	North East	Ground Floor	N/A	N/A		Pass
		2	North East	Ground Floor	N/A	N/A		Pass
		3	North East	First Floor	N/A	N/A		Pass
		4	North East	First Floor	N/A	N/A		Pass
Ascot Road	1	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	Ground Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
		5	North West	First Floor	N/A	N/A		Pass
		6	North West	First Floor	N/A	N/A		Pass
		7	North West	Second Floor	N/A	N/A		Pass
		8	North West	Second Floor	N/A	N/A		Pass
		9	North West	Second Floor	N/A	N/A		Pass
	3	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	5	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	7	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
		5	North West	Second Floor	N/A	N/A		Pass
		6	North West	Second Floor	N/A	N/A		Pass
	9	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	11	1	North West	Ground Floor	N/A	N/A		Pass
		2	North West	Ground Floor	N/A	N/A		Pass
		3	North West	First Floor	N/A	N/A		Pass
		4	North West	First Floor	N/A	N/A		Pass
	13	1	North West	Ground Floor	N/A	N/A		Pass
2		North West	Ground Floor	N/A	N/A		Pass	
3		North West	First Floor	N/A	N/A		Pass	
4		North West	First Floor	N/A	N/A		Pass	
15	1	North West	Ground Floor	N/A	N/A		Pass	
	2	North West	Ground Floor	N/A	N/A		Pass	
	3	North West	First Floor	N/A	N/A		Pass	
	4	North West	First Floor	N/A	N/A		Pass	
17	1	North West	Ground Floor	N/A	N/A		Pass	
	2	North West	Ground Floor	N/A	N/A		Pass	
	3	North West	First Floor	N/A	N/A		Pass	
	4	North West	First Floor	N/A	N/A		Pass	
19	1	North West	Ground Floor	N/A	N/A		Pass	
	2	North West	Ground Floor	N/A	N/A		Pass	
	3	North West	First Floor	N/A	N/A		Pass	
	4	North West	First Floor	N/A	N/A		Pass	

APPENDIX 5: AMENITY ANALYSIS RESULTS FOR THE EXISTING PROPERTIES AT 1-7 LINKS ROAD AND 1-19 ASCOT ROAD

Table 5: Amenity Analysis Results

Dwelling	Predevelopment	Post-development	Overall	Result
1 Ascot Road	69.82	69.82	1.000	Pass
3 Ascot Road	48.36	48.36	1.000	Pass
5 Ascot Road	53.09	53.09	1.000	Pass
7 Ascot Road	54.18	54.18	1.000	Pass
9 Ascot Road	51.27	51.27	1.000	Pass
11 Ascot Road	52.36	52.36	1.000	Pass
13 Ascot Road	57.73	57.73	1.000	Pass
15 Ascot Road	57.27	57.27	1.000	Pass
17 Ascot Road	57.27	57.27	1.000	Pass
19 Ascot Road	50.55	50.55	1.000	Pass
1 Links Road	27.92	27.92	1.000	Pass
3 Links Road	36.55	36.55	1.000	Pass
5 Links Road	31.11	31.11	1.000	Pass
7 Links Road	35.49	35.49	1.000	Pass

APPENDIX 6: SHADOW ANALYSIS FOR THE PROPOSED DEVELOPMENT

Figure 3: Shadow Analysis for March 21st at 10am



Figure 4: Shadow Analysis for March 21st at 4pm



Figure 5: Shadow Analysis for June 21st at 10am



Figure 6: Shadow Analysis for June 21st at 4pm



Figure 7: Shadow Analysis for September 21st at 10am



Figure 8: Shadow Analysis for September 21st at 4pm

