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Daylight and Sunlight Report

47A Lower Mortlake Road London TW9 2LW



 Title
 Daylight/Sunlight
Report

 Address
 47A Lower Mortlake Road

 Client
 Westlake Property Limited

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Report Preface



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1.0 Introduction

TFT Consultants have been appointed by Westlake Property Limited to undertake a full technical review of the potential daylight and sunlight implications that may arise as a result of the potential redevelopment of the site known as 47A Lower Mortlake Road, Richmond.

The study has been undertaken by constructing a detailed 3D model and using our specialist computer software to simulate the light levels to the neighbouring residential properties.

2.0 Planning Policy and Guidance

The technical assessment has been undertaken in accordance with the methodology outlined in The Building Research Establishment Report *"Site Layout for Daylight and Sunlight 2011"* (BRE 209). The BRE document is the principle guidance when considering daylight, sunlight and overshadowing.

The aim of the guide is to ensure good conditions in the local environment. It is intended for buildings designers and their clients, consultants and planning officials. The advice given is not mandatory, although it gives numerical guidelines, these should be interpreted flexibly as 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.

National Planning Policy Framework: February 2019

The National Planning Policy Framework (NPPF) adopted in February 2019, sets out the Government's planning policies and how these are expected to be applied. It provides a framework that can be used by councils to produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

Section 4 of the NPPF relates to Decision-making setting out the principle to consider when determining applications. Paragraph 38 states that *"Local planning authorities should approach decisions on proposed development in a positive and creative way".*

Paragraph 123 (c) mentions daylight and sunlight stating that local planning authorities "when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight".

London Borough of Richmond Upon Thames Local Plan: July 2018

The Council's Local Plan will set out policies and guidance for the development of the borough over the next 15 years up to 2033. Policy LP8 Amenity and Living Condition states that *"The Council will ensure the design and layout enables good standards of daylight and sunlight to be achieved in new development and in existing properties affected by new development"*.

Paragraph 4.8.5 relates to daylight, sunlight and solar glare suggesting that "the Council will have regard to the most recent Building Research Establishment guidance".

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3.0 Daylight and Sunlight Methodology

Daylight to Neighbouring Buildings

When considering the impact on neighbouring buildings, the BRE report recommends that if any new development exceeds an angle of more than 25° from the centre point of the neighbouring window as shown in the diagram below, a more detailed check is needed to find the loss of skylight to the existing building.

25 Degree Angle Drawing



Where a proposed development exceeds the 25° angle, the BRE proposes two main methods for calculating daylight levels to neighbouring residential properties. These are the Vertical Sky Component (VSC), the No Sky Line (NSL) and the Average Daylight Factor (ADF) methods.

Vertical Sky Component (VSC)

The VSC quantifies that amount of skylight available at a reference point on the external face of the window (usually the centre point), it does not account for the size and shape of the room the window serves. The Standard CIE (Commission Internationale de L'Eclairage – International Commission on Illumination) overcast sky is used, and the ratio is expressed as a percentage.

The maximum potential VSC if unobstructed is marginally under 40%. The BRE suggests that if the VSC is less than 27%, and is less than 0.8% its former value, then the neighbouring buildings will experience a noticeable reduction in the amount of skylight they receive.

No Sky Line (NSL)

The NSL calculates the daylight distribution within a room by plotting the NSL. The NSL divides points on working plane (0.85m above FFL) which can or cannot see visible sky.

If following construction of a new development, a room is likely to experience a noticeable reduction if a significant area of the room is beyond the NSL or is less than 0.8 times its former value. It should be noted that consideration will need to be given to the depths of single aspect rooms. If the room is greater than 5m deep, then an adverse infringement may be unavoidable.

Both the VSC and NSL assessment methods have been used to evaluate the effect the proposed development may have on the neighbouring residential properties.



Daylight to Proposed Habitable Rooms

The BRE suggests that the ADF method of assessment should be used to measure the overall amount of daylight within proposed habitable spaces. The calculation considers the VSC value, the size and number of windows serving the space, the overall size of the room and its intended use to give an overall percentage value. BS 8206-2 *Code of practice for daylighting* recommends ADF values of 2% in kitchens, 1.5% in living rooms and 1% in bedrooms.

To calculate the ADF levels the following values have been applied:

- Diffuse glass transmission (T): 0.68 for clear double glazing;
- Maintenance factor for dirt on glass (M): 8% loss for vertical glazing;
- Window Aperture Area (Aw): 0.8% for frame correction factor;
- Area-weighted surface reflectance (R): Ceilings: 0.85, Walls: 0.81, Floors: 0.4.

Sunlight

When considering the impact on the amount of sunlight to neighbouring buildings, the BRE report recommends that all main living rooms should be considered if they have a window facing within 90⁰ of due south. Direct sunlight to kitchens and bedrooms is considered less important. To calculate this the BRE has produced sunlight templates for London, Manchester and Edinburgh establishing the Annual Probable Sunlight Hours (APSH) unobstructed light for these areas.

For this assessment, we have used the London template where the maximum APSH is 1,486 hours.

If following the construction of a new development, a living room window facing within 90⁰ due south will experience a noticeable reduction in direct sunlight if:

- Receives less than 20% 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.

Only the ground floors of 2 and 3 Blue Anchor Alley have been considered for the sunlight assessment, all other properties do not have any living rooms that will have an aspect of the development site and facing within 90^o due south.

The BRE states that the guidelines suggested should not be applied rigidly and the numerical values quoted are purely advisory. It is therefore appropriate to consider different values depending on the development type.

4.0 Source Information

The assessment has been undertaken using the following information:

- Existing and Surrounding Buildings: Lever Turner Cowdell: 170-0118-06 Topographical Survey, 170-0118-02A 03 04 05 Existing GA;
- Proposed Schemes: Lynas Smith Architects: 190726_Lower Mortlake_Basement, 190726_Lower Mortlake_Ground Floor, 190726_Lower Mortlake_First Floor, 190726_Lower Mortlake_Second Floor, 190726_Lower Mortlake_3D Model;
- 45 Lower Mortlake Road: survey plans;
- 4 Blue Anchor Alley: plans obtained from planning portal;

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5.0 Assumptions

Access has not been gained to any of the relevant neighbouring buildings to confirm the internal room arrangements. Where floor plans have been unavailable, notional internal room layouts of 4m have been used, unless the building outline dictates otherwise.

Room uses and floor levels have been based on external inspection.

6.0 Development Site

The development site is situated in a predominately residential location to the north of Lower Mortlake Road, with Blue Anchor Alley running along the western boundary. The site is currently vacant.

The existing condition is shown in the image below and in more detail on drawing 190629/SPT/200, which can be found in Appendix B.

Existing Buildings:



7.0 Proposed Scheme

The proposed scheme by Lynas Smith Architects will consist of constructing ground plus two storey co-living property on the site, with a basement level and sunken courtyard.

The proposed condition is shown in the image below and in more detail on drawing 190629/SPT/201, which can be found in Appendix B.



Lynas Smith Architects Scheme: August 2019



8.0 Scope of Assessment

The properties considered for assessment are shown on attached drawing 190629/LP/100, which can be found in Appendix A. The properties highlighted in red show the neighbouring residential properties which have been considered for assessment. The exact locations of the windows are shown on attached Based on the extent of the proposed massing the following properties have been assessed against the relevant daylight and sunlight assessment criteria.

- 43 Lower Mortlake Road
- 45 Lower Mortlake Road

- 2 8 Blue Anchor Alley
- New House, Blue Anchor Alley

All other properties are either commercial or are situated too far away to experience an adverse impact because of the proposed development.

9.0 Assessment Results

Daylight

The full VSC and NSL detailed results for the Lynas Smith Architects August 2019 massing can be found listed per property in the Daylight and Sunlight Summary table in Appendix C.

Daylight/Sunlight Report 47A Lower Mortlake Road, Richmond

43 Lower Mortlake Street

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This is the three-storey mid-terrace property situated to the west of Blue Anchor Alley, there are windows in the rear extension that directly face the development site.

The VSC results indicate that 3 of the 5 windows considered for assessment will fully comply with the BRE target values.

The NSL results indicate that 3 of the 4 rooms considered for assessment will fully comply with the BRE target values. The one room which falls marginally short of the suggested BRE benchmark, will maintain an NSL of around 68% indicating that this property will remain well lit in the proposed condition.

45 Lower Mortlake Street

This is the three-storey end of terrace property situated directly to the west of the development site across Blue Anchor Alley.

The VSC results indicate that 4 of the 6 windows considered will fully comply with the BRE target values. Of the 2 windows that fail, one is a secondary window to the Living Room, which is served by other windows that fully comply with the BRE guidelines and the other serves a bedroom. Bedroom is considered less important in daylight terms as is mainly occupied at night.

The NSL results indicate that all 3 rooms considered will fully comply with the BRE target values.

New House & 4-8 Blue Anchor Alley

These are the series of two-storey terraced properties situated to the west of the development site across Blue Anchor Alley.

The VSC results indicate that all 18 windows considered for assessment fully comply with the BRE target values.

The NSL results indicate that all 13 rooms considered for assessment fully comply with the BRE target values.

New House



4 Blue Anchor Alley



5 Blue Anchor Alley









6 Blue Anchor Alley



7 Blue Anchor Alley



8 Blue Anchor Alley



2 and 3 Blue Anchor Alley

These are the two-storey terraced properties located directly to the north of the development site.

The VSC results indicate that 10 of the 13 rooms considered for assessment will fully comply with the BRE target values. The two windows that fall below the suggested BRE benchmark are part of large bay windows and the third one is a secondary window above the entrance door, serving a room which benefits from other window that fully complies with BRE guidelines.

The NSL results indicate that all 6 rooms considered for assessment fully comply with the BRE target values.

2 Blue Anchor Alley

3 Blue Anchor Alley





Sunlight

Only the ground floors of 2 and 3 Blue Anchor Alley have windows/rooms that qualify for the sunlight method of assessment.

All 12 windows considered for the sunlight method of assessment fully comply with the BRE target values when assessed the APSH method.



Internal Daylight Adequacy Assessment

The full ADF detailed results are shown on attached drawing 190629/DA/400 and in tabular form in the accompanying summary table in Appendix C.

The main habitable rooms at basemen and ground floor level have been assessed to show compliance with the BRE target values. The ADF results indicate that all 8 rooms considered will fully comply with the BRE target values, and therefore the proposed habitable rooms will benefit from more than adequate levels of light.

10.0 Conclusions

The technical assessment has been undertaken in accordance with the methodology outlined in The Building Research Establishment Report *"Site Layout for Daylight and Sunlight 2011"* (BRE 209). The BRE document is the principle guidance when considering daylight, sunlight and overshadowing.

43 and 45 Lower Mortlake Road, 2-8 Blue Anchor Alley and New House, Blue Anchor Alley have been assessed to establish the effect the proposed scheme may have on the neighbouring residential properties in daylight and sunlight terms.

The proposed scheme by Lynas Smith Architects will consist of constructing a ground plus two storey co-living property on the site, with a basement level and sunken courtyard.

The Vertical Sky Component and No Sky Line methods of assessment have been used to evaluate the effect the proposed scheme may have on the neighbouring residential properties in daylight terms.

Only 2 and 3 Blue Anchor Alley have windows/rooms that qualify for the sunlight assessment.

The VSC results indicate that 35 (83.3%) of the 42 windows considered will fully comply with the BRE target values. 5 of the 7 windows falling below the suggested BRE benchmark are secondary windows serving rooms that have the benefit from receiving daylight from other windows.

The NSL results indicate that 25 (96.1%) of the 26 rooms considered will fully comply with the BRE target values. The only room that marginally falls below the suggested BRE benchmark, maintaining an NSL of over 68% indicating that the space will remain well-lit in the proposed condition.

When the VSC and NSL methods of assessment are evaluated, with the exception of a few isolated areas, the proposed scheme will only have a negligible effect on the quality and distribution of light the neighbouring properties receive. Therefore, when considering the constraints of developing in an urban location, the development will not be of an excessive scale for the immediate surrounding area in daylight terms and will meet the intentions of the BRE guide in daylight terms.

The proposed scheme will have a negligible effect to the sunlight the relevant neighbouring properties current receive.

The internal daylight adequacy assessment demonstrates that all habitable rooms within the proposed scheme will fully comply with the BRE target values.

Overall, the findings indicate that the development is appropriate on this site in daylight and sunlight terms and will meet the intentions of the BRE guide. Therefore, the Lynas Smith Architects scheme massing is in accordance with the aims of the London Borough of Richmond upon Thames planning policy in daylight and sunlight terms.

APPENØICES



APPENDIX A – WINDOW AND PROPERTY LOCATION DRAWINGS













APPENDIX B – SPOT HEIGHT DRAWINGS







APPENDIX C – DAYLIGHT AND SUNLIGHT RESULTS

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																Lynas Sinith Scheme Sur
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	Vertical Sky Component (VSC) No Sky Line (NSL)					ISL)	Sunlight									
Floor Level	Room Name	Room use	Window No.	Existing	Proposed	%age Difference	Room %age Difference	Existing	Proposed	%age Difference	APSH Existing	APSH Proposed	%age Difference	Winter Existing	Winter Proposed	%age Difference
							43	ower Mo	tlake Road							
Ground	R1	Linknown-Resi	W/1	20.14	12/13	-38 30%	-38 30%	03 77%	68 12%	-27 31%	N/A	N/A	N/A	N/A	N/A	N/A
Ground	P2	Unknown-Resi	W2	26.00	16.27	-37 //%	-20.66%	07 / 8%	07.48%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	112	OTIKITOWIT-Resi	W/2	20.00	27.20	2 0 00/	-20.0076	57.4070	57.4070	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
Elt	04	Under Deed	VV 5	26.40	27.50	-3.88%	0.50%	03 500/	04 5 40/	2.40%	N/A	N/A	N/A	N/A	N/A	N/A
First	RI	Unknown-Resi	W1	36.14	32.68	-9.56%	-9.56%	93.59%	91.54%	-2.19%	N/A	N/A	N/A	N/A	N/A	N/A
Second	R1	Unknown-Resi	W1	38.32	36.04	-5.96%	-5.96%	82.17%	80.05%	-2.58%	N/A	N/A	N/A	N/A	N/A	N/A
							45 I	ower Mo	rtlake Road	1						
Ground	R1	Living Room	W1	20.65	3.20	-84.48%	-42.24%	87.79%	79.39%	-9.57%	N/A	N/A	N/A	N/A	N/A	N/A
			W4	11.97	11.97	0.00%					N/A	N/A	N/A	N/A	N/A	N/A
	R2	Bedroom	W2	29.96	24.12	-19.50%	-9.75%	99.70%	99.58%	-0.12%	N/A	N/A	N/A	N/A	N/A	N/A
			W3	21.65	21.65	0.00%					N/A	N/A	N/A	N/A	N/A	N/A
Second	R1	Bedroom	W1	36.88	19.81	-46.29%	-26.45%	99.59%	97.95%	-1.64%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	88.12	82.29	-6.62%					N/A	N/A	N/A	N/A	N/A	N/A
2 Blue Anchor Alley																
Ground	R1	Living Room	W1	24.22	24.22	0.00%	-3.58%	99.29%	99.28%	0.00%	13	13	0.00%	2	2	0.00%
Ground		Living noom	W2	30.70	30.22	-1.86%	5.5676	55.2570	55.2070	0.0070	53	10	-7 55%	20	16	-20.00%
			W/2	30.75	25 12	0 0 00/					55	= 2	E 4E%	10	10	16 67%
		Living Deem	VV 3	27.30	23.13	-0.00/0	12 20%	00.21%	00 400/	0.020/	15	12	-3.43%	10	15	100.00%
	кэ	Living Room	VV5	27.56	27.50	-0.29%	-12.29%	99.21%	98.40%	-0.82%	10	15	-13.33%	2	0	-100.00%
			W6	31.32	28.30	-9.65%					48	37	-22.92%	16	5	-68.75%
			W7	25.55	18.67	-26.93%					53	42	-20.75%	15	4	-73.33%
First	R1	Bedroom	W1	36.87	36.70	-0.47%	-0.47%	96.62%	96.62%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	Bedroom	W2	36.94	36.38	-1.53%	-1.53%	96.41%	96.39%	-0.02%	N/A	N/A	N/A	N/A	N/A	N/A
							3	Blue Anc	nor Alley							
Ground	R1	Living Room	W1	26.26	25.79	-1.78%	-27.24%	97.37%	97.06%	-0.32%	34	30	-11.76%	6	2	-66.67%
			W2	30.08	24.51	-18.51%					52	31	-40.38%	14	1	-92.86%
			W3	22.70	11.52	-49.26%					49	29	-40.82%	11	1	-90.91%
			W4	33.19	20.10	-39.43%					N/A	N/A	N/A	N/A	N/A	N/A
First	R1	Bedroom	W1	36.93	35.25	-4.56%	-4.56%	95.42%	95.42%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
							4	Blue And	or Allev							· · · · · · · · · · · · · · · · · · ·
Ground	R1	Living Room	W/1	31.20	28.56	-8.46%	-7.43%	08 73%	96 73%	-2.03%	N/A	N/A	N/A	N/A	N/A	N/A
Ground	111	Living Room	W2	20 50	20.50	6 20%	-7.4570	50.7570	50.7570	-2.0370	N/A	N/A	N/A	N/A	N/A	N/A
Eirct	D1	Padroom	W/1	25.25	24.20	2 720/	2 72%	02.050/	02 9/10/	0.02%	N/A	N/A	N/A	N/A	N/A	N/A
FIISC	NI	Beuroom	VV1	33.35	34.35	-2.73/0	-2.73%	Blue And	93.04/0	-0.0278	N/A	N/A	N/A	N/A	N/A	N/A
							-	Diue Anci	tor Alley							
Ground	R1	Living Room	W1	30.22	29.06	-3.86%	-3.21%	98.60%	98.43%	-0.17%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	30.26	29.49	-2.55%					N/A	N/A	N/A	N/A	N/A	N/A
First	R1	Living Room	W1	35.25	34.80	-1.26%	-1.26%	93.93%	93.89%	-0.03%	N/A	N/A	N/A	N/A	N/A	N/A
							6	Blue Anc	10r Alley							
Ground	R1	Living Room	W1	24.45	24.37	-0.32%	-0.49%	93.70%	93.69%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	25.47	25.30	-0.66%					N/A	N/A	N/A	N/A	N/A	N/A
First	R1	Bedroom	W1	32.09	32.09	0.00%	0.00%	96.92%	96.92%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
							7	Blue Anc	nor Alley							
Ground	R1	Living Room	W1	19.32	19.08	-1.26%	-1.26%	52.69%	52.69%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
First	R1	Bedroom	W2	27.29	27.15	-0.54%	-0.54%	98.25%	98.25%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
							8	Blue And	or Alley							
First	R1	Linknown-Peri	W1	33.85	33.42	-1 29%	-1 29%	97 67%	97.67%	0.00%	55	55	0.00%	19	19	0.00%
	82	Unknown-Resi	W/2	35.00	34.54	-1 33%	-0.77%	00 73%	90 73%	0.00%	58	58	0.00%	22	22	0.00%
	nz.	GINIOWII-Resi	VV2	35.00	34.34	0.22%	-0.77%	33.13%	33.1370	0.00%	20	21	0.00%	44	24	25.00%
			vV 5	30.84	30.70	-0.22%		Nouth			22	21	-4.35%	4	3	-23.00%
C		the second second	14/2	20.04	26.00	42.2051	42.2001	New H	ouse op.com	2.00%		21/2				11/2
Ground	R2	Living Room	W2	30.81	26.99	-12.39%	-12.39%	85.89%	82.63%	-3.80%	N/A	N/A	N/A	N/A	N/A	N/A
First	R1	Bedroom	W1	30.38	29.04	-4.42%	-6.60%	99.65%	99.65%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.75	32.61	-8.78%					N/A	N/A	N/A	N/A	N/A	N/A
	R2	Bedroom	W3	35.31	33.20	-5.98%	-5.98%	99.01%	99.01%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A



	Average Daylight Factor (ADF)									
Floor Level	Room Name	Room use	Window No.	Proposed	Room Pass Rate					
Proposed Scheme										
Basement	R1	LKD	W1	2.79	2.00					
	R2	Living Room	W2	1.58	1.50					
	R3	Bedroom	W3	2.45	1.00					
Ground	R1	Bedroom	W1	1.21	1.00					
	R2	Bedroom	W2	1.31	1.00					
	R3	Bedroom	W3	1.27	1.00					
	R4	Bedroom	W4	1.07	1.00					
	R5	Bedroom	W5	6.03	1.00					
			W6							
			W7							







Development Built Assets Sustainability

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