



New Lawrence House, Manchester, M15 4TL

Daylight & Sunlight Assessment

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I Introduction

I.1 Introduction

- I.1.1 Daylight & Sunlight Solutions Ltd was instructed to prepare a Daylight and Sunlight Assessment for the proposed development at New Lawrence House, Manchester, M15 4TL.
- I.1.2 The purpose of this report is to assess the daylight and sunlight levels of the proposed development, and to assess the impact that the proposed development may have on the daylight and sunlight of the existing surrounding residential buildings, in accordance with guidance set out in *BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice, Second Edition, 2011 (BR 209)*, and *BS 8206-2 Code of Practice for Daylighting*.
- I.1.3 This report is not to be used to determine any right to light for existing building windows. This report has been carried out using guidelines set out in BR 209 and cannot be used to replace or satisfy the legal requirements surrounding the right to light. The assessment of loss of light in rights to light cases is carried out in a different way to the methods used in BR 209 and this report. It should not be assumed that if the guidelines in BR 209 are satisfied within this report that a proposed development will not infringe rights to light.

I.2 Development Description

- I.2.1 The proposed development comprises of 33 no. 1 and 2 bedroom apartments within a two storey rooftop extension.

I.3 3D Models

- I.3.1 Two 3D models have been developed. The first model is of the existing development and existing nearby buildings. The second model is of the proposed development with existing nearby buildings. These are shown in Figures 1 and 2.
- I.3.2 MBS Software, Daylight for SketchUp, a program developed to calculate daylight and sunlight levels in accordance with guidance provided in BR 209, has been used. Boundary fences have not been modelled in this assessment.
- I.3.3 For the purposes of the Average Daylight Factor (ADF) calculations, the area-weighted average reflectance of the room surfaces has been calculated on the assumption that the rooms have a white ceiling (0.85), light (pale cream) coloured walls (0.81) and light coloured carpet/light wood flooring (0.4). The maintenance factor has been calculated as 0.92 for the majority of windows and 0.76 for windows sheltered by balconies/canopies. The glass transmission factor has been assumed to be 0.68, and the effective net area glazing has been measured from drawings.

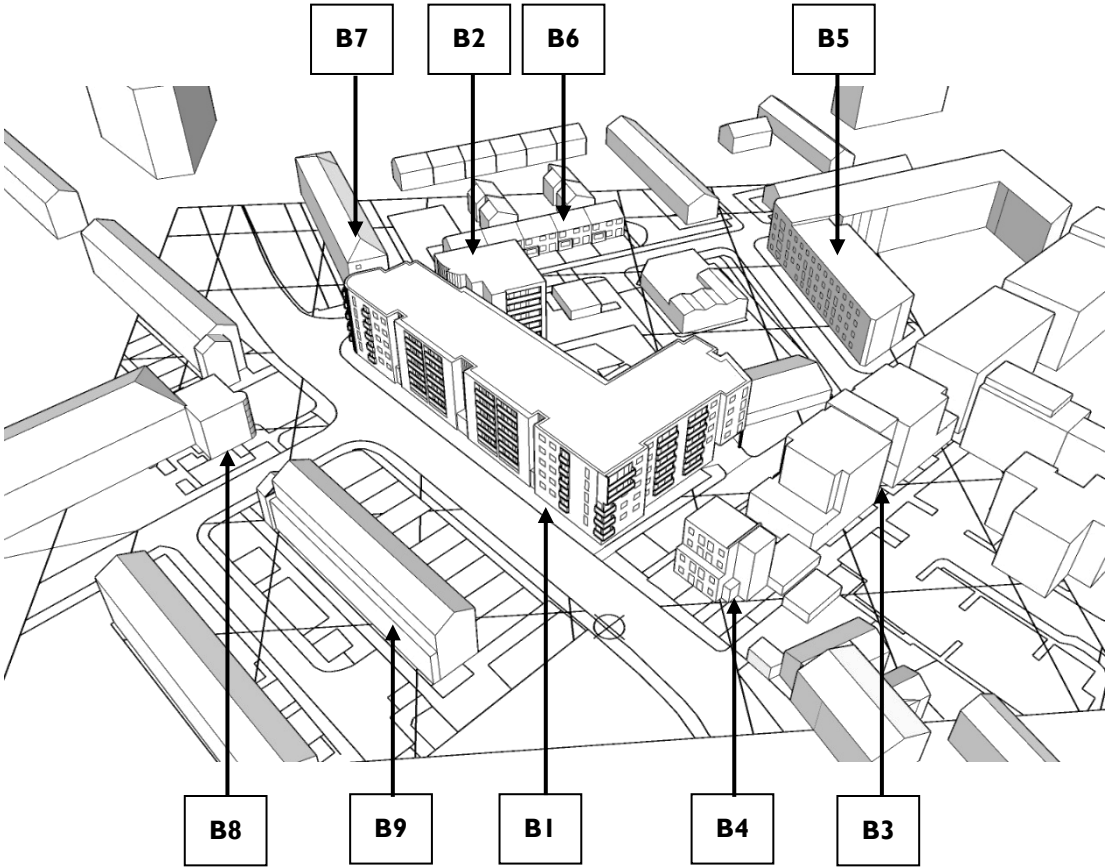


Figure 1 – Development area as existing with surrounding building reference

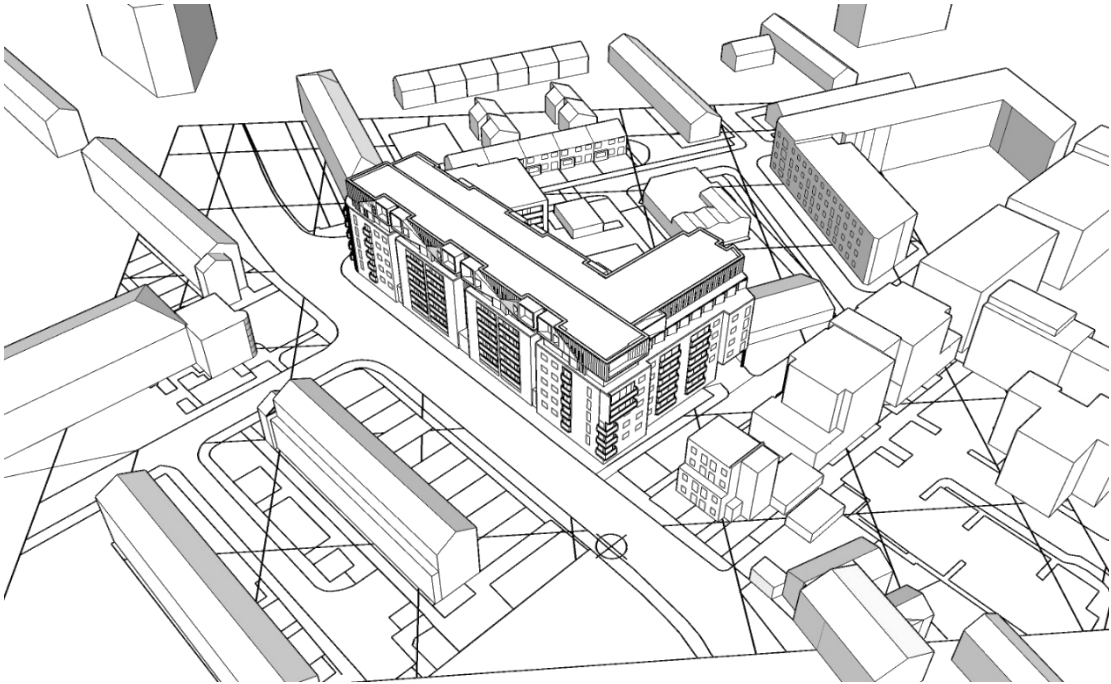


Figure 2 – Development area as proposed

2 Assessment

2.1 Daylight – Vertical Sky Component (VSC) – Existing Buildings

2.1.1 BR 209 paragraph 2.2.7 states:

If the VSC (of the window in an existing building) is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the VSC, with the new development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight.

2.1.2 Figures 3 to 15 provide a record of the assessment to the existing neighbouring residential windows, that may be affected by the proposed development. If the VSC indicator is green then it pass' BR 209 guidance. If the VSC dot in orange it only marginally falls outside BR 209 guidance, and if the indicator is red it does not meet BR 209 guidance.



Figure 3 – VSC to BI: east facing elevation to court yard



Figure 4 – VSC to B1: south facing elevation to court yard

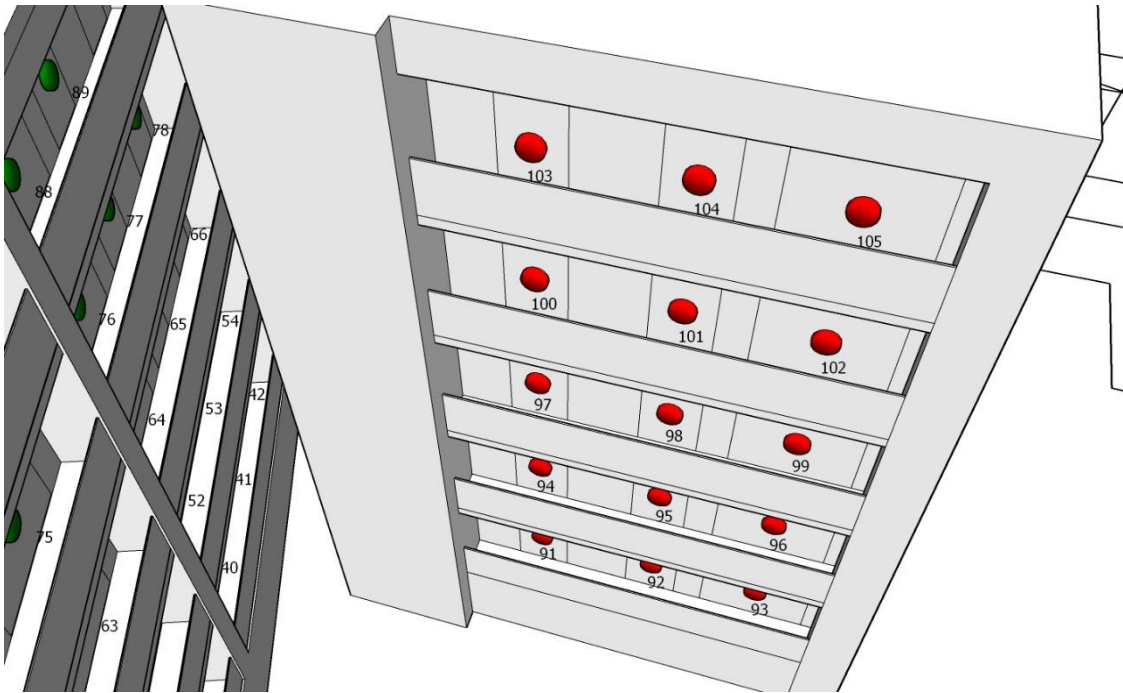


Figure 5 – VSC to B2: west facing elevation to court yard

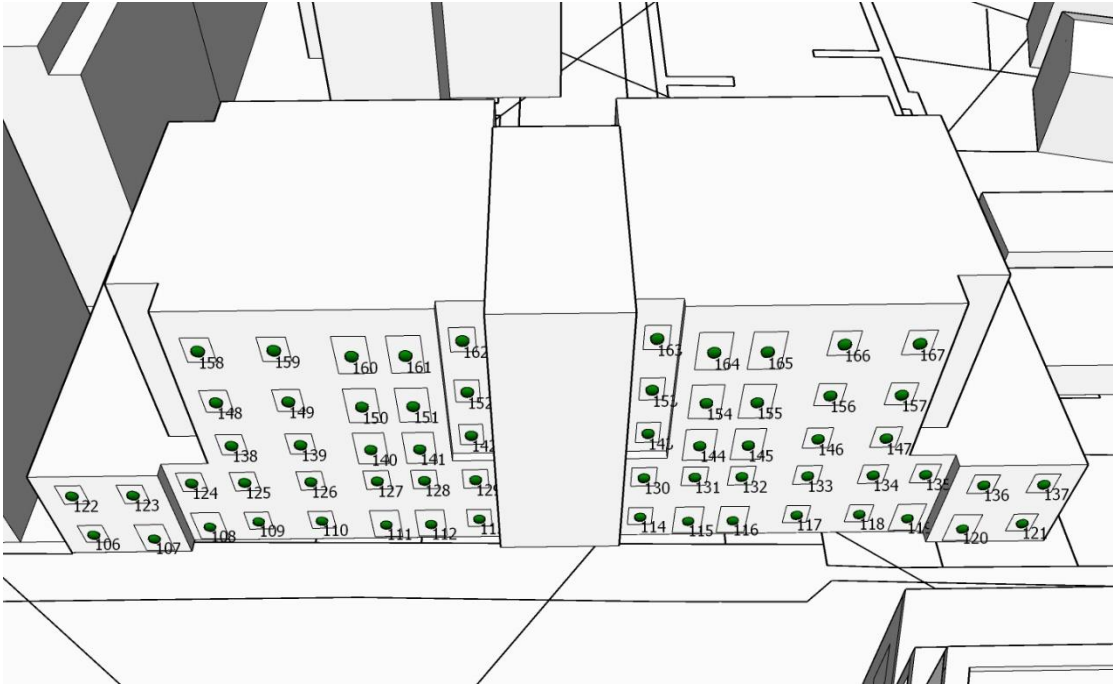


Figure 6 – VSC to B3: east facing elevation

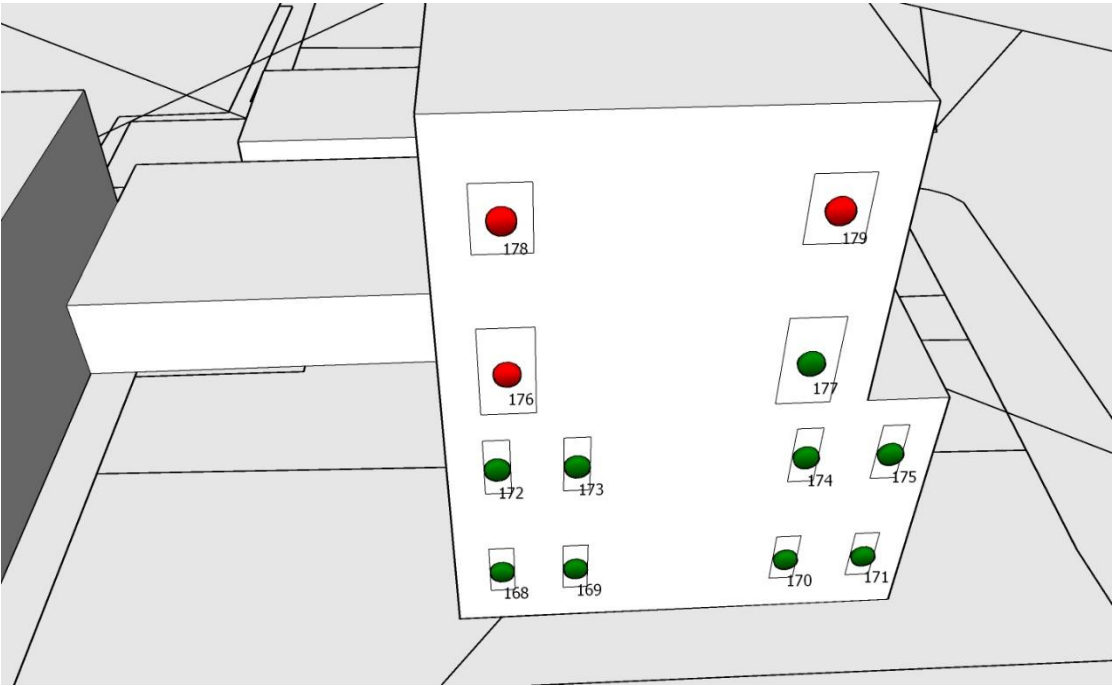


Figure 7 – VSC to B4: east facing elevation

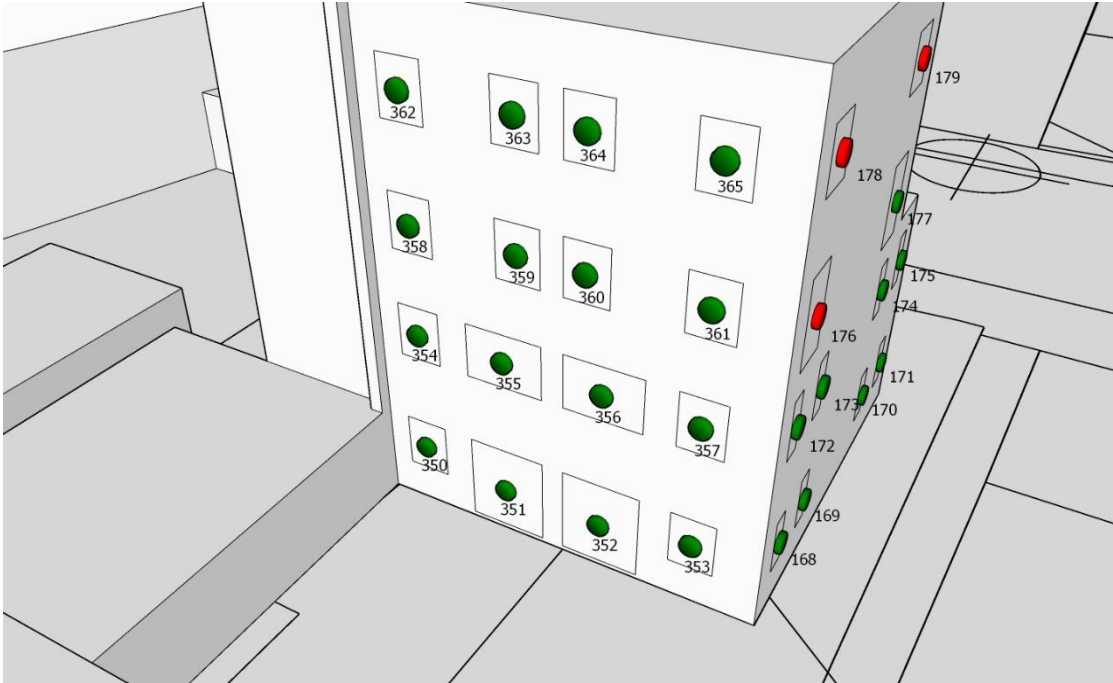


Figure 8 – VSC to B4: south facing elevation

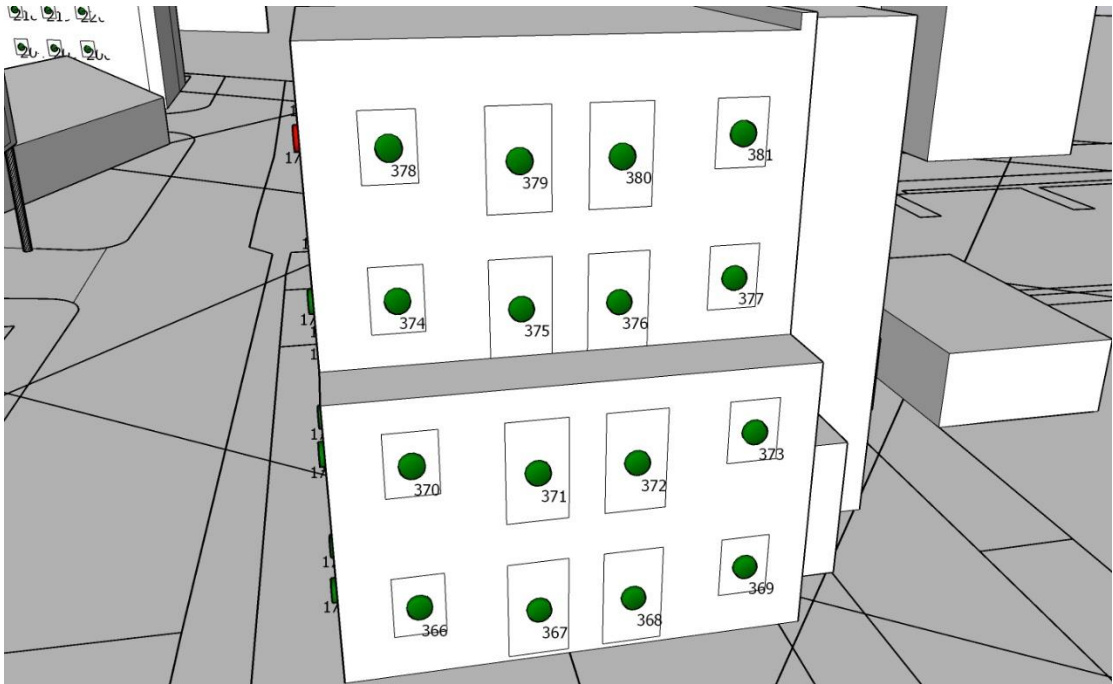


Figure 9 – VSC to B4: north facing elevation

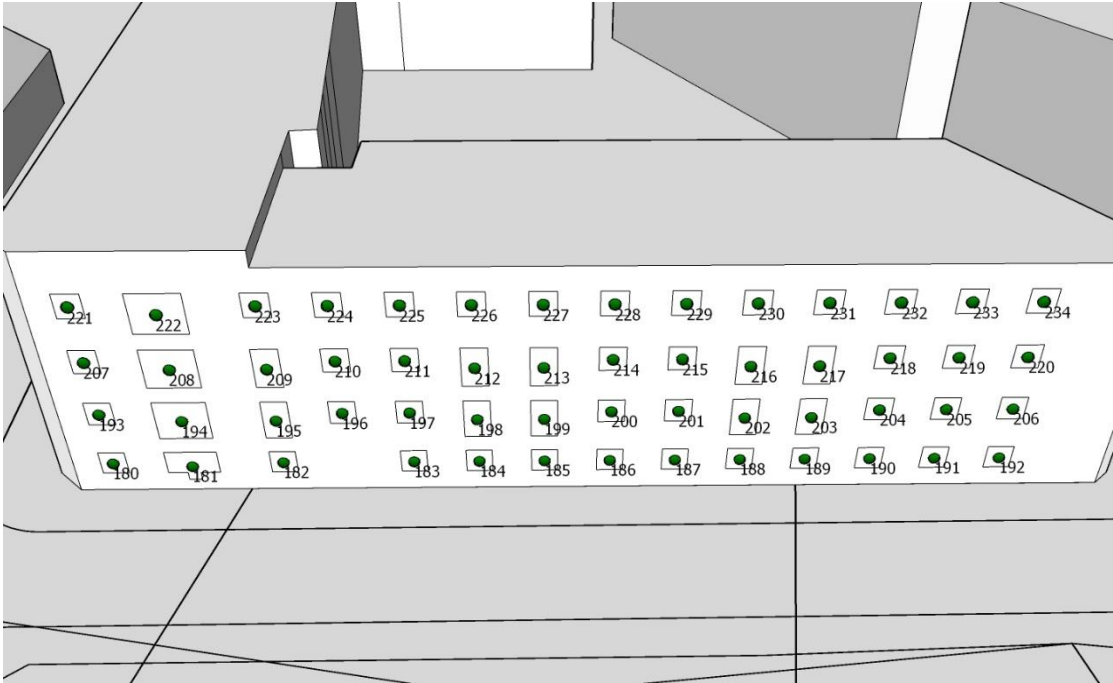


Figure 10 – VSC to B5: north facing elevation

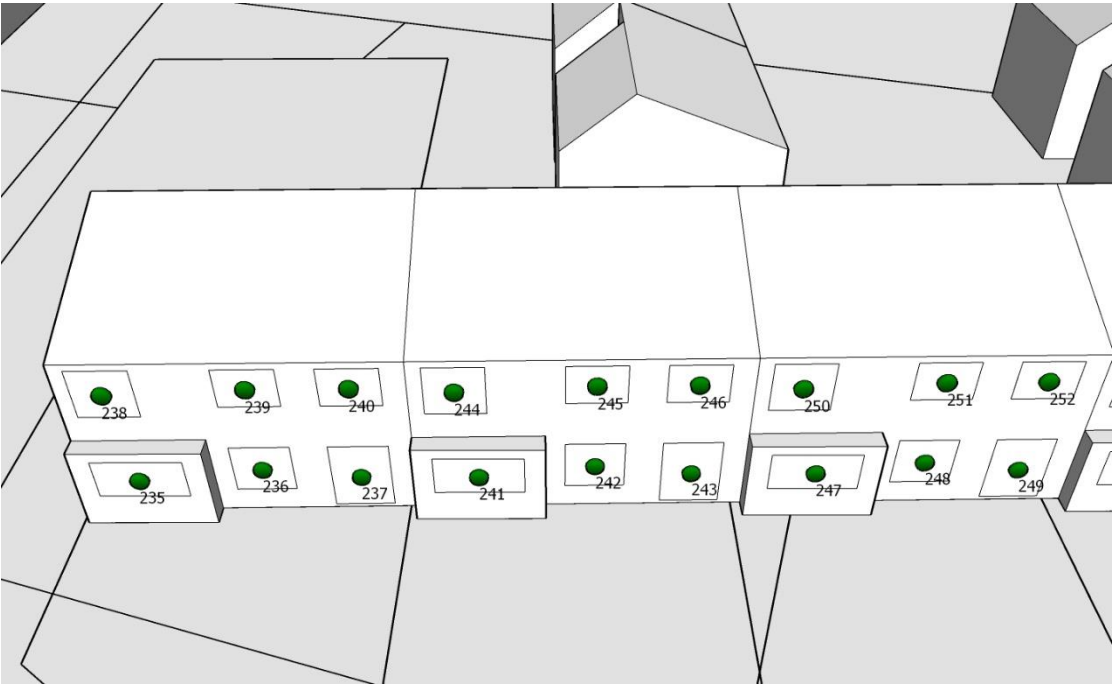


Figure 11 – VSC to B6: west facing elevation

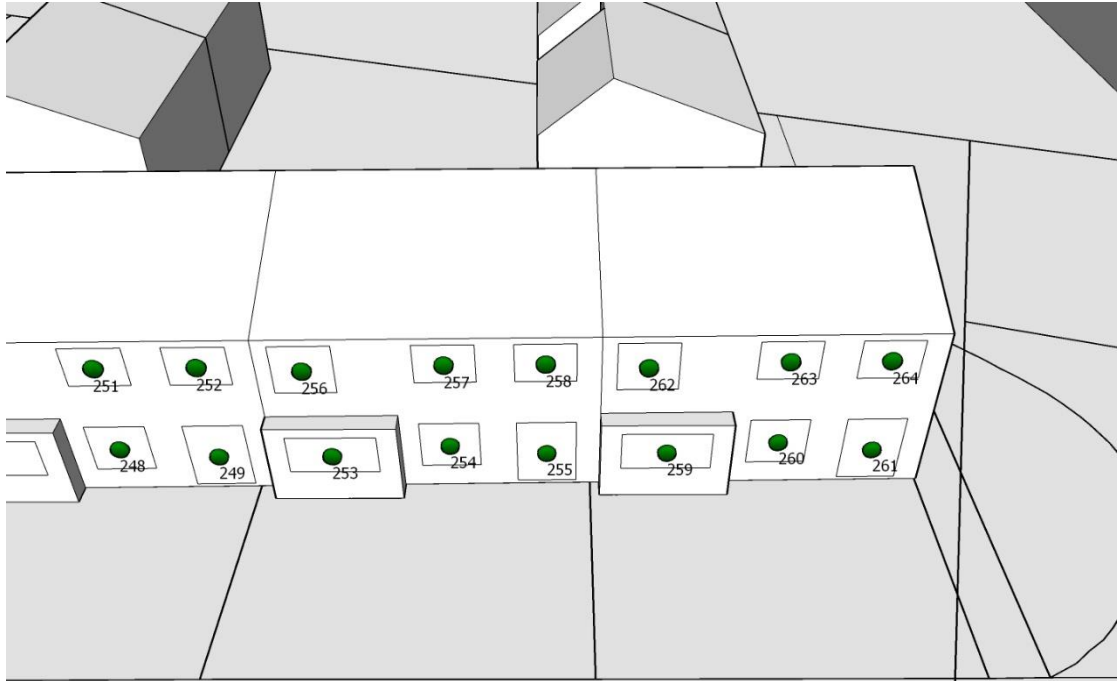


Figure 12 – VSC to B6: west facing elevation

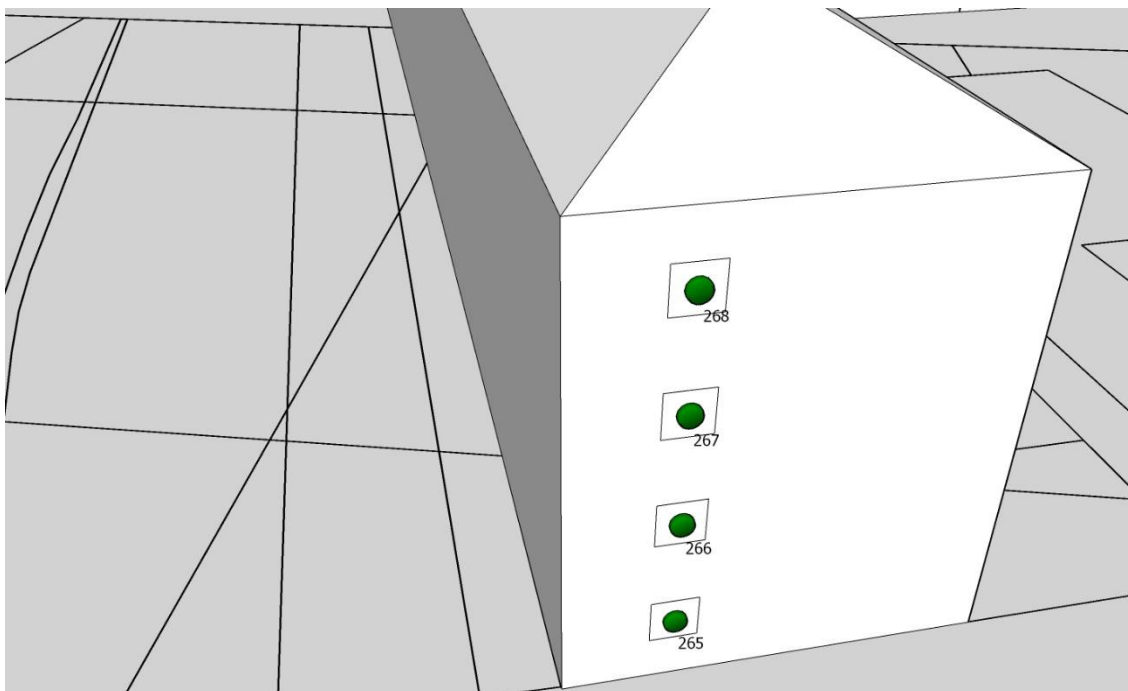


Figure 13 – VSC to B7: west facing elevation

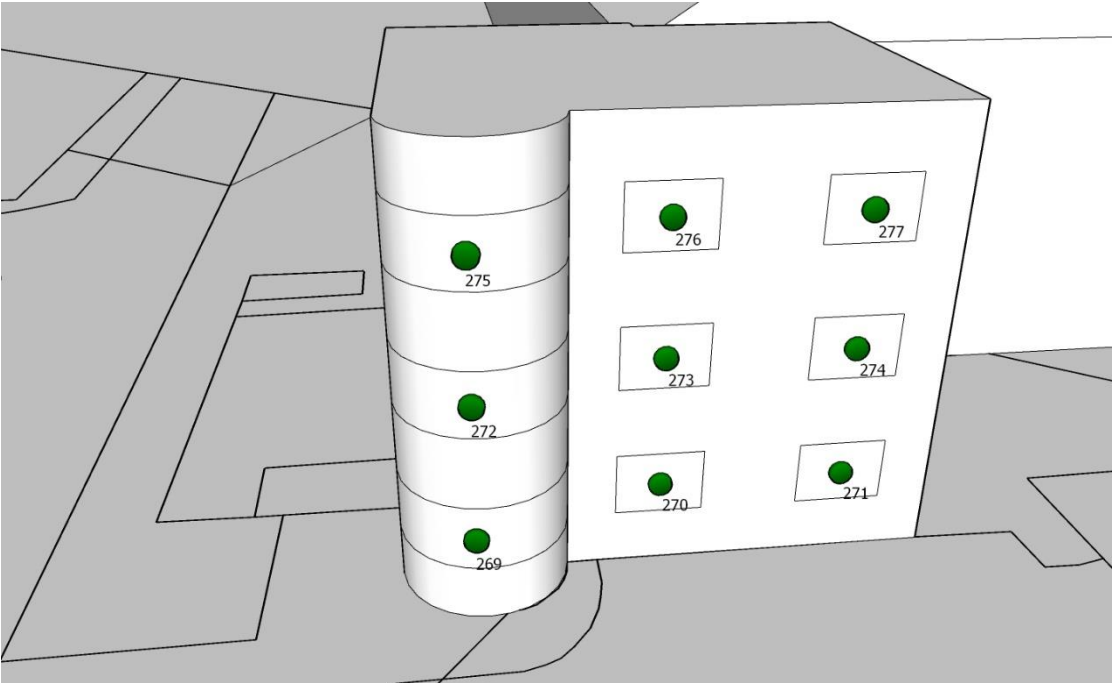


Figure I4 – VSC to B8: south facing elevation



Figure I5 – VSC to B9: south facing elevation

- 2.1.3 Table I provides a numerical record of the assessment of the VSC of windows to nearby existing residential buildings that may be affected by the proposed new development. Only windows that fall outside BR 209 guidance have been provided.

Table I: VSC – Existing Surrounding Buildings

Building	Window	Existing VSC	Proposed VSC	Fraction of former value
B1	W29	34.24	26.20	0.77
B1	W30	29.03	22.34	0.77
B2	W91	12.14	9.18	0.76
B2	W92	13.80	10.30	0.75
B2	W93	13.80	9.93	0.72
B2	W94	14.36	10.57	0.74
B2	W95	16.38	11.93	0.73
B2	W96	16.47	11.66	0.71
B2	W97	17.41	12.27	0.70
B2	W98	19.73	13.92	0.71
B2	W99	19.78	13.79	0.70
B2	W100	21.43	14.37	0.67
B2	W101	23.94	16.36	0.68
B2	W102	23.62	16.33	0.69
B2	W103	25.69	16.96	0.66
B2	W104	28.09	19.21	0.68
B2	W105	27.09	19.23	0.71
B4	W176	21.90	17.17	0.78
B4	W178	27.32	20.57	0.75
B4	W179	28.19	21.98	0.78

- 2.1.4 The proposed development would have an imperceptible impact on the daylight levels to 361 (95%) out of the 381 windows assessed of nearby existing residential buildings. It may have a noticeable impact on 20 (5%) windows.
- 2.1.5 The 20 windows that may be affected by the proposed development show that VSC's after proposals, are both less than 27% and less than 0.8 times its former value.

- 2.1.6 Windows W29 and W30 of B1 both serve bedrooms. Although bedrooms are a habitable room, they are considered less important to protect, according to BR 209 guidance compared to main living areas.
- 2.1.7 Windows W93, W96, W99, W102 and W105 of B2 are believed to serve a main living area. All other windows assessed at B2 serve bedrooms. It is believed that all properties to New Lawrence house are currently empty and all leases are with the freeholder. Therefore the rooms affected in B1 and B2 have no occupants or owners who would be affected by the proposed development. Any future occupant will not feel the difference in daylight to these rooms, therefore the significance of the reduction could be considered an acceptable loss for these windows.
- 2.1.8 Windows W176, W178 and W179 of B4 are believed to have additional windows that serve the same room, which are unaffected by the proposed development. These 3 windows are also secondary windows and not the main source of daylight that would serve these rooms. It is contested that the overall daylight distribution to these rooms would be unaffected and likely to still receive adequate daylight levels, and could be considered an acceptable loss in VSC.

Sunlight – Annual Probable Sunlight Hours – Existing Buildings

2.1.9 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.

2.1.10 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 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.

2.1.11 Table 2 provides a numerical record of the assessment of the annual probable sunlight hours (APSH) and the APSH in the winter months (WPSH) to windows of the neighbouring existing residential buildings, that may be affected by the proposed development. Only windows that face within 90° due South have been assessed. The closest Weather data has been used from BREEAM Location Manchester (53.5° N). The total annual unobstructed hours for Manchester are 1392h.

2.1.12 206 out of 381 windows have a window that faces within 90° due south. The proposed development would have an imperceptible impact on the sunlight levels to all windows assessed, complying with BR 209 guidance.

Table 2: APSH and WPSH - Existing Surrounding Buildings

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B1	31	32	30	0.94	6	6	1.00	✓
	32	36	36	1.00	8	8	1.00	✓
	33	41	38	0.93	11	10	0.91	✓
	34	42	39	0.93	12	12	1.00	✓
	35	41	38	0.93	12	12	1.00	✓
	36	45	42	0.93	16	14	0.88	✓
	37	35	35	1.00	16	16	1.00	✓
	38	35	34	0.97	17	16	0.94	✓
	39	33	32	0.97	16	15	0.94	✓
	40	24	24	1.00	13	13	1.00	✓
	41	13	12	0.92	8	7	0.88	✓
	42	4	2	0.50	4	2	0.50	✓
	43	34	31	0.91	6	6	1.00	✓
	44	39	36	0.92	8	8	1.00	✓
	45	44	38	0.86	11	10	0.91	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
BI	46	45	40	0.89	14	12	0.86	✓
	47	44	41	0.93	14	12	0.86	✓
	48	47	43	0.91	18	14	0.78	✓
	49	36	36	1.00	16	16	1.00	✓
	50	38	36	0.95	18	16	0.89	✓
	51	34	33	0.97	17	16	0.94	✓
	52	24	24	1.00	13	13	1.00	✓
	53	14	12	0.86	9	7	0.78	✓
	54	4	2	0.50	4	2	0.50	✓
	55	34	31	0.91	6	6	1.00	✓
	56	44	36	0.82	10	8	0.80	✓
	57	46	42	0.91	11	11	1.00	✓
	58	47	43	0.91	15	12	0.80	✓
	59	48	43	0.90	17	12	0.71	✓
	60	48	45	0.94	19	16	0.84	✓
	61	38	38	1.00	16	16	1.00	✓
	62	42	40	0.95	19	17	0.89	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B1	63	38	35	0.92	19	16	0.84	✓
	64	25	24	0.96	14	13	0.93	✓
	65	15	13	0.87	10	8	0.80	✓
	66	4	3	0.75	4	3	0.75	✓
	67	40	35	0.88	8	6	0.75	✓
	68	49	40	0.82	13	8	0.62	✓
	69	51	43	0.84	16	11	0.69	✓
	70	53	47	0.89	18	12	0.67	✓
	71	54	47	0.87	21	14	0.67	✓
	72	51	46	0.90	22	17	0.77	✓
	73	42	42	1.00	16	16	1.00	✓
	74	45	42	0.93	20	17	0.85	✓
	75	42	40	0.95	19	17	0.89	✓
	76	28	27	0.96	14	13	0.93	✓
	77	15	14	0.93	10	9	0.90	✓
	78	8	8	1.00	4	4	1.00	✓
	79	45	34	0.76	13	6	0.46	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B1	80	56	42	0.75	21	10	0.48	✓
	81	56	44	0.79	22	11	0.50	✓
	82	55	50	0.91	20	15	0.75	✓
	83	57	51	0.89	22	16	0.73	✓
	84	51	47	0.92	23	19	0.83	✓
	85	45	45	1.00	16	16	1.00	✓
	86	53	52	0.98	21	20	0.95	✓
	87	52	50	0.96	22	20	0.91	✓
	88	39	39	1.00	14	14	1.00	✓
	89	35	35	1.00	10	10	1.00	✓
	90	29	28	0.97	7	6	0.86	✓
B2	91	27	23	0.85	11	10	0.91	✓
	92	28	24	0.86	11	10	0.91	✓
	93	23	19	0.83	5	4	0.80	✓
	94	29	23	0.79	13	11	0.85	✓
	95	30	26	0.87	13	11	0.85	✓
	96	25	20	0.80	6	5	0.83	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B2	97	30	26	0.87	13	11	0.85	✓
	98	32	27	0.84	13	11	0.85	✓
	99	27	22	0.81	7	5	0.71	✓
	100	34	28	0.82	14	12	0.86	✓
	101	39	29	0.74	14	12	0.86	✓
	102	33	25	0.76	8	6	0.75	✓
	103	42	30	0.71	16	13	0.81	✓
	104	43	32	0.74	16	13	0.81	✓
	105	38	27	0.71	10	7	0.70	✓
B4	350	37	37	1.00	5	5	1.00	✓
	351	46	46	1.00	9	9	1.00	✓
	352	44	44	1.00	10	10	1.00	✓
	353	50	50	1.00	14	14	1.00	✓
	354	52	50	0.96	15	15	1.00	✓
	355	57	56	0.98	16	16	1.00	✓
	356	57	56	0.98	17	17	1.00	✓
	357	58	56	0.97	17	17	1.00	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B4	358	55	54	0.98	16	16	1.00	✓
	359	61	59	0.97	18	18	1.00	✓
	360	64	62	0.97	20	20	1.00	✓
	361	62	60	0.97	20	20	1.00	✓
	362	60	58	0.97	19	19	1.00	✓
	363	65	63	0.97	20	20	1.00	✓
	364	67	65	0.97	22	22	1.00	✓
	365	66	63	0.95	22	22	1.00	✓
B6	235	39	39	1.00	15	15	1.00	✓
	236	40	40	1.00	15	15	1.00	✓
	237	40	39	0.98	14	13	0.93	✓
	238	43	43	1.00	17	17	1.00	✓
	239	44	43	0.98	18	17	0.94	✓
	240	47	47	1.00	19	19	1.00	✓
	241	46	45	0.98	17	16	0.94	✓
	242	48	46	0.96	17	16	0.94	✓
	243	47	46	0.98	14	14	1.00	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B6	244	49	49	1.00	20	20	1.00	✓
	245	50	49	0.98	19	19	1.00	✓
	246	54	53	0.98	19	19	1.00	✓
	247	53	51	0.96	17	17	1.00	✓
	248	54	53	0.98	17	17	1.00	✓
	249	51	50	0.98	15	15	1.00	✓
	250	54	53	0.98	19	19	1.00	✓
	251	57	56	0.98	19	19	1.00	✓
	252	57	56	0.98	19	19	1.00	✓
	253	55	54	0.98	17	17	1.00	✓
	254	56	54	0.96	17	17	1.00	✓
	255	51	48	0.94	13	13	1.00	✓
	256	57	56	0.98	19	19	1.00	✓
	257	58	56	0.97	19	19	1.00	✓
	258	58	56	0.97	19	19	1.00	✓
	259	54	51	0.94	15	15	1.00	✓
	260	55	54	0.98	16	16	1.00	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B6	261	54	53	0.98	15	15	1.00	✓
	262	58	55	0.95	18	18	1.00	✓
	263	58	57	0.98	18	18	1.00	✓
	264	59	57	0.97	18	18	1.00	✓
B7	265	34	31	0.91	10	10	1.00	✓
	266	38	34	0.89	11	11	1.00	✓
	267	43	36	0.84	12	12	1.00	✓
	268	48	39	0.81	12	11	0.92	✓
B8	269	66	61	0.92	15	11	0.73	✓
	270	48	44	0.92	10	6	0.60	✓
	271	51	47	0.92	12	8	0.67	✓
	272	70	61	0.87	19	11	0.58	✓
	273	53	46	0.87	14	7	0.50	✓
	274	57	50	0.88	16	9	0.56	✓
	275	75	68	0.91	23	16	0.70	✓
	276	63	56	0.89	18	11	0.61	✓
	277	66	59	0.89	22	15	0.68	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B9	278	69	63	0.91	22	22	1.00	✓
	279	68	62	0.91	21	21	1.00	✓
	280	69	62	0.90	21	20	0.95	✓
	281	67	60	0.90	21	20	0.95	✓
	282	67	61	0.91	21	20	0.95	✓
	283	66	59	0.89	20	19	0.95	✓
	284	65	57	0.88	19	17	0.89	✓
	285	64	57	0.89	18	16	0.89	✓
	286	64	56	0.88	18	16	0.89	✓
	287	64	56	0.88	18	16	0.89	✓
	288	65	58	0.89	18	16	0.89	✓
	289	63	55	0.87	16	14	0.88	✓
	290	62	56	0.90	16	13	0.81	✓
	291	61	53	0.87	15	12	0.80	✓
	292	61	54	0.89	15	12	0.80	✓
	293	62	55	0.89	15	12	0.80	✓
	294	62	55	0.89	15	12	0.80	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B9	295	62	55	0.89	15	12	0.80	✓
	296	72	69	0.96	24	24	1.00	✓
	297	71	67	0.94	23	22	0.96	✓
	298	71	66	0.93	23	21	0.91	✓
	299	71	66	0.93	23	21	0.91	✓
	300	71	66	0.93	23	21	0.91	✓
	301	69	64	0.93	21	19	0.90	✓
	302	68	62	0.91	20	17	0.85	✓
	303	68	61	0.90	20	16	0.80	✓
	304	68	61	0.90	20	16	0.80	✓
	305	67	60	0.90	20	16	0.80	✓
	306	67	60	0.90	20	16	0.80	✓
	307	66	59	0.89	19	15	0.79	✓
	308	66	58	0.88	19	14	0.74	✓
	309	65	57	0.88	18	12	0.67	✓
	310	65	57	0.88	18	12	0.67	✓
	311	66	59	0.89	18	13	0.72	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B9	312	66	59	0.89	18	13	0.72	✓
	313	67	60	0.90	18	13	0.72	✓
	314	73	70	0.96	25	24	0.96	✓
	315	72	70	0.97	24	23	0.96	✓
	316	72	69	0.96	24	22	0.92	✓
	317	72	69	0.96	24	22	0.92	✓
	318	72	69	0.96	24	22	0.92	✓
	319	72	67	0.93	24	20	0.83	✓
	320	70	65	0.93	22	18	0.82	✓
	321	71	65	0.92	22	18	0.82	✓
	322	70	65	0.93	22	18	0.82	✓
	323	70	64	0.91	22	18	0.82	✓
	324	70	64	0.91	22	18	0.82	✓
	325	70	64	0.91	22	18	0.82	✓
	326	70	62	0.89	22	16	0.73	✓
	327	71	63	0.89	23	16	0.70	✓
	328	72	62	0.86	23	15	0.65	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B9	329	71	63	0.89	22	15	0.68	✓
	330	71	63	0.89	22	15	0.68	✓
	331	73	64	0.88	23	15	0.65	✓
	332	75	72	0.96	26	24	0.92	✓
	333	75	72	0.96	26	24	0.92	✓
	334	75	71	0.95	26	23	0.88	✓
	335	75	71	0.95	26	23	0.88	✓
	336	75	71	0.95	26	23	0.88	✓
	337	75	70	0.93	26	22	0.85	✓
	338	75	69	0.92	26	21	0.81	✓
	339	75	68	0.91	26	20	0.77	✓
	340	75	68	0.91	26	20	0.77	✓
	341	75	68	0.91	26	20	0.77	✓
	342	75	68	0.91	26	20	0.77	✓
	343	75	67	0.89	26	19	0.73	✓
	344	75	67	0.89	26	19	0.73	✓
	345	75	67	0.89	26	19	0.73	✓

Building	Window	APSH before development (%)	APSH after development (%)	Fraction of former value	WPSH before development (%)	WPSH after development (%)	Fraction of former value	Complies with BR 209 recommendations
B9	346	75	67	0.89	26	18	0.69	✓
	347	75	67	0.89	26	18	0.69	✓
	348	75	67	0.89	26	18	0.69	✓
	349	76	68	0.89	26	18	0.69	✓

2.2 Daylight – Average Daylight Factors (ADFs) – New Development

2.2.1 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. BS 8206-2 Code of practice for daylighting...gives minimum values of ADF of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

2.2.2 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%.

2.2.3 Appendix A provides a record of the assessment of the ADFs to all habitable rooms of the proposed development. Figures highlighted in green achieve the numerical target values stated in BR 209. Figures highlighted in orange fall below the numerical target values stated in BR 209. ADFs have been given to one decimal place in order to demonstrate whether the values stated in BR 209 have been met. However, when reviewing the ADFs, it is recommended that Peter Tregenza and Michael Wilson's observation below is taken into consideration.¹

We can say that there is a significant difference, in both the subjective character and the physical environment between a room with an average daylight factor of 2% and one with an average daylight factor of 5%. There may be a noticeable difference between rooms with daylight factors of 2% and 3%. However, not only would a difference between 2% and 2.1% be almost certainly subjectively unnoticeable, but such a distinction would be completely unjustified scientifically. The level of uncertainty in the parameters and the simplifying assumptions in the models preclude such pretensions to precision. Average daylight factor calculations have little absolute meaning beyond the decimal place.

2.2.4 All 91 habitable rooms assessed of the proposed development achieve the recommended ADF targets set out in BR 209 and BS 8206-2.

¹ Tregenza, P. and Wilson, M. (2011) *Daylighting: Architecture and Lighting Design*. Abingdon: Routledge.

2.3 Sunlight – Annual Probable Sunlight Hours (APSH) – New Development

2.3.1 BR 209 paragraph 3.1.15 states:

In general a dwelling, or non-domestic building, which has a particular requirement for sunlight will appear reasonably sunlit provided:

- At least one main window wall faces within 90° of due south and;
- The centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.

2.3.4 Table 3 provides a numerical record of the assessment of the annual probable sunlight hours (APSH) and the APSH in the winter months (WPSH) to all main living spaces of the apartments of the proposed development. The closest Weather data has been used from BREEAM Location: Manchester (53.5° N). The total annual unobstructed hours for Manchester are 1392h.

Table 3: APSH and WPSH

Apartment	Room	APSH	WPSH	Complies with BR 209 guidance
1	Living / Kitchen / Dining	44%	22%	✓
2	Living / Kitchen / Dining	15%	3%	✗
3	Living / Kitchen / Dining	18%	1%	✗
4	Living / Kitchen / Dining	10%	0%	✗
5	Living / Kitchen / Dining	10%	0%	✗
6	Living / Kitchen / Dining	10%	0%	✗
7	Living / Kitchen / Dining	10%	0%	✗
8	Living / Kitchen / Dining	17%	1%	✗
9	Living / Kitchen / Dining	46%	20%	✓
10	Living / Kitchen / Dining	59%	22%	✓
11	Living / Kitchen / Dining	59%	22%	✓

Apartment	Room	APSH	WPSH	Complies with BR 209 guidance
12	Living / Kitchen / Dining	59%	22%	✓
13	Living / Kitchen / Dining	18%	2%	✗
14	Living / Kitchen / Dining	19%	3%	✗
15	Living / Kitchen / Dining	46%	8%	✓
16	Living / Kitchen / Dining	66%	23%	✓
17	Living / Kitchen / Dining	68%	25%	✓
18	Living / Kitchen / Dining	68%	25%	✓
19	Living / Kitchen / Dining	62%	22%	✓
20	Living / Kitchen / Dining	20%	4%	✗
21	Living / Kitchen / Dining	11%	0%	✗
22	Living / Kitchen / Dining	4%	0%	✗
23	Living / Kitchen / Dining	11%	0%	✗
24	Living / Kitchen / Dining	4%	0%	✗
25	Living / Kitchen / Dining	11%	0%	✗
26	Living / Kitchen / Dining	4%	0%	✗
27	Living / Kitchen / Dining	62%	22%	✓
28	Living / Kitchen / Dining	22%	3%	✗
29	Living / Kitchen / Dining	22%	3%	✗
30	Living / Kitchen / Dining	43%	13%	✓
31	Living / Kitchen / Dining	50%	17%	✓

Apartment	Room	APSH	WPSH	Complies with BR 209 guidance
32	Living / Kitchen / Dining	52%	22%	✓
33	Living / Kitchen / Dining	50%	17%	✓

- 2.3.2 15 out of 33 apartments have a main room that has a window that faces within 90° of due south and achieves the annual probable sunlight hours (APSH), and the annual probable sunlight hours in the winter months (WPSH) recommended in BR 209, complying with BR 209 guidance.
- 2.3.3 The proposed development site is within the constraints of an existing building. Whilst it is recognised that it would be preferential for all living rooms to have south facing windows with good solar access, some units will have reduced access to sunlight that are unavoidable due to the form of the existing building. It is contested that the good daylighting levels and Annual Probable Sunlight Hours achieved within the site context, will still mean it should be bright, cheerful and a pleasant room. Therefore, the sunlight levels should be considered adequate for the proposed development.

3 Conclusions

- 3.1.1 An assessment of the daylight and sunlight levels of the proposed development, and the impact that the proposed development may have on the daylight and sunlight of the existing surrounding residential buildings, has been undertaken in accordance with guidance set out in *BRE report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice, Second Edition, 2011 (BR 209)*, and *BS 8206-2 Code of Practice for Daylighting*.
- 3.1.2 Whilst BR 209 gives numerical guidelines for assessing daylight and sunlight levels, it is important to bear in mind that the guidance is predicated on a suburban model of development and that the numerical guidelines should be interpreted flexibly. BR 209 Paragraph 1.6 states:

The guide (BR 209) is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be taken 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.

- 3.1.3 With this in mind, the following conclusions have been drawn:

- 1) The proposed development would have an imperceptible impact on the daylight levels to 361 (95%) out of the 381 windows assessed of nearby existing residential buildings. It may have a noticeable impact on 20 (5%) windows.

The 20 windows that may be affected by the proposed development show that VSC's after proposals, are both less than 27% and less than 0.8 times its former value.

Windows W29 and W30 of B1 both serve bedrooms. Although bedrooms are a habitable room, they are considered less important to protect, according to BR 209 guidance compared to main living areas.

Windows W93, W96, W99, W102 and W105 of B2 are believed to serve a main living area. All other windows assessed at B2 serve bedrooms. It is believed that all properties to New Lawrence house are currently empty and all leases are with the freeholder. Therefore the rooms affected in B1 and B2 have no occupants or owners who would be affected by the proposed development. Any future occupant will not feel the difference in daylight to these rooms, therefore the significance of the reduction could be considered an acceptable loss for these windows.

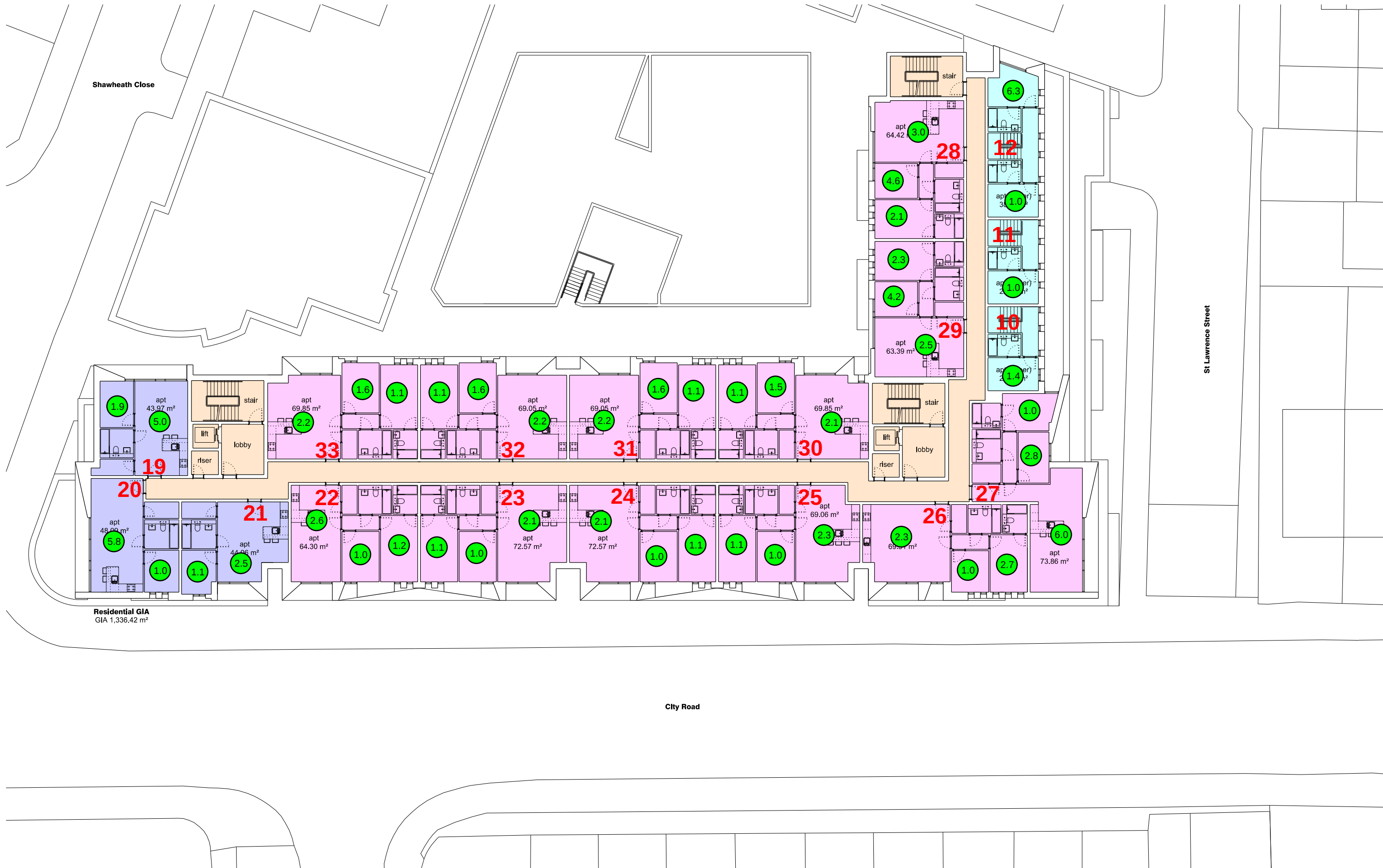
Windows W176, W178 and W179 of B4 are believed to have additional windows that serve the same room, which are unaffected by the proposed development. These 3 windows are also secondary windows and not the main source of daylight that would serve these rooms. It is contested that the overall daylight distribution to these rooms would be unaffected and likely to still receive adequate daylight levels, and could be considered an acceptable loss in VSC.

- 2) 206 out of 381 windows have a window that faces within 90° due south. The proposed development would have an imperceptible impact on the sunlight levels to all windows assessed, complying with BR 209 guidance.
- 3) All 91 habitable rooms assessed of the proposed development, achieve the recommended ADF targets set out in BR 209 and BS 8206-2.

- 4) 15 out of 33 apartments have a main room that has a window that faces within 90° of due south and achieves the annual probable sunlight hours (APSH), and the annual probable sunlight hours in the winter months (VPSH) recommended in BR 209, complying with BR 209 guidance.

The proposed development site is within the constraints of an existing building. Whilst it is recognised that it would be preferential for all living rooms to have south facing windows with good solar access, some units will have reduced access to sunlight that are unavoidable due to the form of the existing building. It is contested that the good daylighting levels and Annual Probable Sunlight Hours achieved within the site context, will still mean it should be bright, cheerful and a pleasant room. Therefore, the sunlight levels should be considered adequate for the proposed development.

Appendix A – Average Daylight Factors (ADFs) – New Development



revision:	date:	note:
P01	2021.07.21	preliminary first issue
P02	2021.08.11	updated
P03	2021.08.20	updated
P04	2021.11.12	window sizes increased



project
new lawrence house extension
job no.
7572
title
proposed 6th floor plan
scale
1:250 @ A3
drawing no.
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