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Joe Harding

Berkeley Homes (Oxford & Chiltern) Limited

Berkeley House,
Farnham Lane,
Farnham Royal,
SL2 3RQ

20 May 2020

Dear Joe,

Re: 53-55 Vastern Road - Daylight and Sunlight review response

Introduction

Eb7 have been instructed to respond to the comments in the BRE review of the daylight and sunlight report relating to the proposal at 53-55 Vastern Road. This review is dated 7th of April 2020 and responds to the Daylight and Sunlight report dated by eb7 dated the 19th December 2019.

This letter will consider effects that are greater than minor adverse in the BREs response only, as any effects less than this would be considered appropriate within an urban regeneration scheme such as this and therefore not require further discussion.

Daylight and Sunlight to neighbouring properties

2-28 Lynmouth Road

The effects for the majority of these properties is considered minor in the BRE Review. The BRE highlights that there are larger isolated losses to 2 and 24 Lynmouth Road, but these are driven by overhanging awnings which limit the light they receive, which the review states is a mitigating factor. We would agree with this analysis of the effects to these neighbours and considering this is a reasonably regular terrace, should these awnings not be in place, the daylight effects can be reasonably assumed to be similar to their neighbours and of a minor nature.

7-12 Lynmouth Court

The BRE considers the effect to these properties to be moderate. The level of effect, based on proportional reduction from existing light levels, is to be expected as these windows are currently unobstructed facing a flat car park on the site. This is shown by the high existing light levels, where all windows (bar one that is self-limited by a neighbouring flank wall), see VSC levels in excess of 35% and

Daylight Distribution over almost 100% of the rooms area on the ground and first floors. This is not mentioned in the BRE review but we feel is a pertinent point in this case.

As it was clear that proportional reductions beyond the BRE suggested levels were inevitable to this neighbour, in achieving a reasonable level of density on this site, we used retained VSC as a metric to inform the design of the proposal. All rooms on the ground and first floors (bar one that is limited by neighbouring flank wall) have at least one window that retains a VSC in excess of 22.3%, a level that we feel is entirely reasonable given the flexibility suggested on the BRE guidance for this emerging urban context. It is generally considered that the 27% VSC target set out in the BRE guidance is more appropriate for a suburban context. The design response to this property is visible in that buildings F and G of the proposal which sit directly in front of 7-12 Lynmouth Court have been limited to 2 to 3 storeys in height to allow light to reach this neighbour.

Moving to the 2nd floor, the BRE suggested that an eaves off assessment should be run, as it was likely that this is what was limiting the daylight to these rooms. This assessment has been run and the VSC results show that all rooms are served by primary windows that see BRE compliance (results in appendix 1). The NSC levels do not significantly change from the eaves on assessment, but as room layout is not known, these results may not be considered fully representative of the real world situation.

Whilst not fully BRE compliant, given the unusually high existing daylight levels, reasonable retained VSC levels with the proposal in place for this emerging urban context and considered design response, we feel the effect on this property is acceptable.

Daylight and Sunlight within the Proposed Development

The BRE have provided detailed consideration to the daylight within the proposed development. As a direct response, eb7 has worked with the architects to improve daylight levels where possible. The full results of this updated assessment are shown within appendix 2. It should be noted that this assessment presents a worst case with the proposed maximum extents Aviva application scheme in place, in order to future proof the design when a scheme comes forward on that site. The internal daylight levels would improve should the Aviva scheme not come forward, or reduce in size from the maximum extents assessed.

The changes that have been made, corresponding to the reference numbers in the original report, are:

- A08, A24, BC06, BC13 – Overhanging balconies removed
- BC09 and BC39 – Overhanging balconies removed and increased glazing to the room
- BC 50/51 – Rearranged layout – bedroom and living room have been flipped in order to maximise light to living room
- BC56 - Increased glazing
- EFG13 – Introduction of an additional window
- EFG18 – Massing rearranged to include a window

The resulting ADF levels are as follows:

- A08 (LKD) – 1.1%
- A24 (LKD) – 1.1%
- BC13 (LKD) – 1.3%
- BC39 (LKD) – 1.4%

Please note, the 4 rooms above have been assessed with the maximum extents proposed Aviva scheme in place, which they directly face. The results are likely to be in excess of 1.5% should that scheme not have been included within this assessment or if the massing of the scheme were to reduce from its maximum extents. We feel that we have gone as far as we can in our design to maximise light to these rooms considering other design factors and that the only further way for light levels to these rooms to be reasonable increased would be for the Aviva scheme to reduce from its maximum extents.

- BC06 (LKD) – 1.9%
- BC09 (LKD) – 0.9%
- BC50 (Bedroom) – 1%
- BC51 (LKD) - 1.2%
- BC56 (LKD) – 1.9%
- EFG13 (LKD) – 1.5%
- EFG18 (LKD) – 1.8%

With the alterations made, the overall internal compliance rate is now in excess of 95%. Whilst it has not been possible to achieve full compliance, the isolated low daylight levels have been improved with only one LKD seeing an ADF level below 1% (BC09 at 0.9%). We feel that the changes described above address the description of the lower daylight made in section 4 of the BRE review and that the daylight to the future occupiers would be acceptable.

Overshadowing to neighbouring properties

The BRE review suggests that the effect of the proposal on shadow to the garden of 2 Lynmouth Road would be Major Adverse and 4 Lynmouth Road would be Moderate Adverse. These neighbours sit next to each other to the north of block A. As stated in the BRE review, 2 Lynmouth Road is a small garden with walls around it that limit sun. This makes it very sensitive to overshadowing effects, especially where massing is proposed to the south.

This effect was a key consideration throughout the design and whilst it was not possible to fully mitigate it, significant changes were made to improve levels of direct sunlight to these gardens when they would be most used, in the summer months. The most notable design response was to block A which sits directly to the south of these gardens. A large section to the north east of block A was cutback to 2 storeys to maximise light to these gardens in the summer months. The building has been reoriented and made as efficient as possible to reflect the proposed cutback. Whilst this doesn't fully remedy the effect on the 21st of March when the BRE assessment is taken, it does significantly improve direct sunlight levels throughout the summer when the garden will be most used. The transient shadow study on the 21st of June shows

that the only material shadow to the garden of 4 Lynmouth Road would be in the early morning and very brief with no effect for the remainder of the day. For 2 Lynmouth Road, the effect would be at circa 2 – 4 pm in the afternoon only. With the proposal not causing additional shadow to these gardens at any other time during that day.

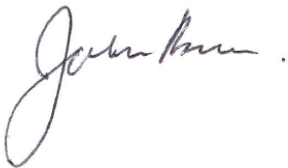
In addition to the standard tests in the BRE guidance, we have provided a further test in appendix 3 to show light levels to the gardens serving 2 and 4 Lynmouth Road on June 21st. This Sun on Ground test has been run to considers the area of these gardens that will see at least 4 hours of sunlight on this date with the proposal in place. The analysis shows that these gardens see 4 hours or sunlight on the 21st of June across 87.2% and 90.5% respectively. We feel that this demonstrates that the cutbacks to the scheme have been successful in maximising direct sunlight to these gardens when it would be most valued in the summer months.

Summary

The BRE has highlighted a small number of effects caused by the proposed development that would be considered greater than minor adverse. This letter highlights the design response undertaken during the evolution of the scheme to address these effects. Further to this, additional design changes have been put in place to improve internal daylight to the scheme as a direct response to the comments made in the BRE review.

Whilst we acknowledge that it has not been possible to fully remedy all adverse effects caused by the proposal, we feel that scheme responds appropriately to minimise these effects to a level which we feel is acceptable.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'John Barnes', followed by a period.

John Barnes
Director



Appendix 1

Results of the eaves off assessment

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Loss %	Room Area	Existing NSC	Proposed NSC	Loss	Loss %	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
7-12 Lynmouth Court																		
Second	R1	W1-L W1-U	Residential	38.6	28.4	10.1	26.3	155.8	154.1	98.4	55.7	36.2	66	23	56	20	0.8	0.9
Second	R2	W2-L W2-U	Residential	38.7	27.9	10.8	27.9	149.2	145.7	82.0	63.7	43.7	66	23	56	20	0.8	0.9
Second	R3	W3-L W3-U	Residential	38.6	27.1	11.5	29.8	149.2	145.5	74.4	71.1	48.9	66	23	53	20	0.8	0.9
Second	R4	W4-L W4-U	Residential	23.6	21.1	2.5	10.6											
		W5-L W5-U		38.8	26.2	12.6	32.5											
		W6-L W6-U		24.5	19.6	4.9	19.8											
		W7-L W7-U		24.3	16.2	8.1	33.4											
		W8-L W8-U		37.9	34.5	3.3	8.8											
		W9-L W9-U		24.6	24.6	0.0	0.0											
								183.7	181.7	180.8	0.9	0.5	71	23	57	20	0.8	0.9



Appendix 2

Internal daylight

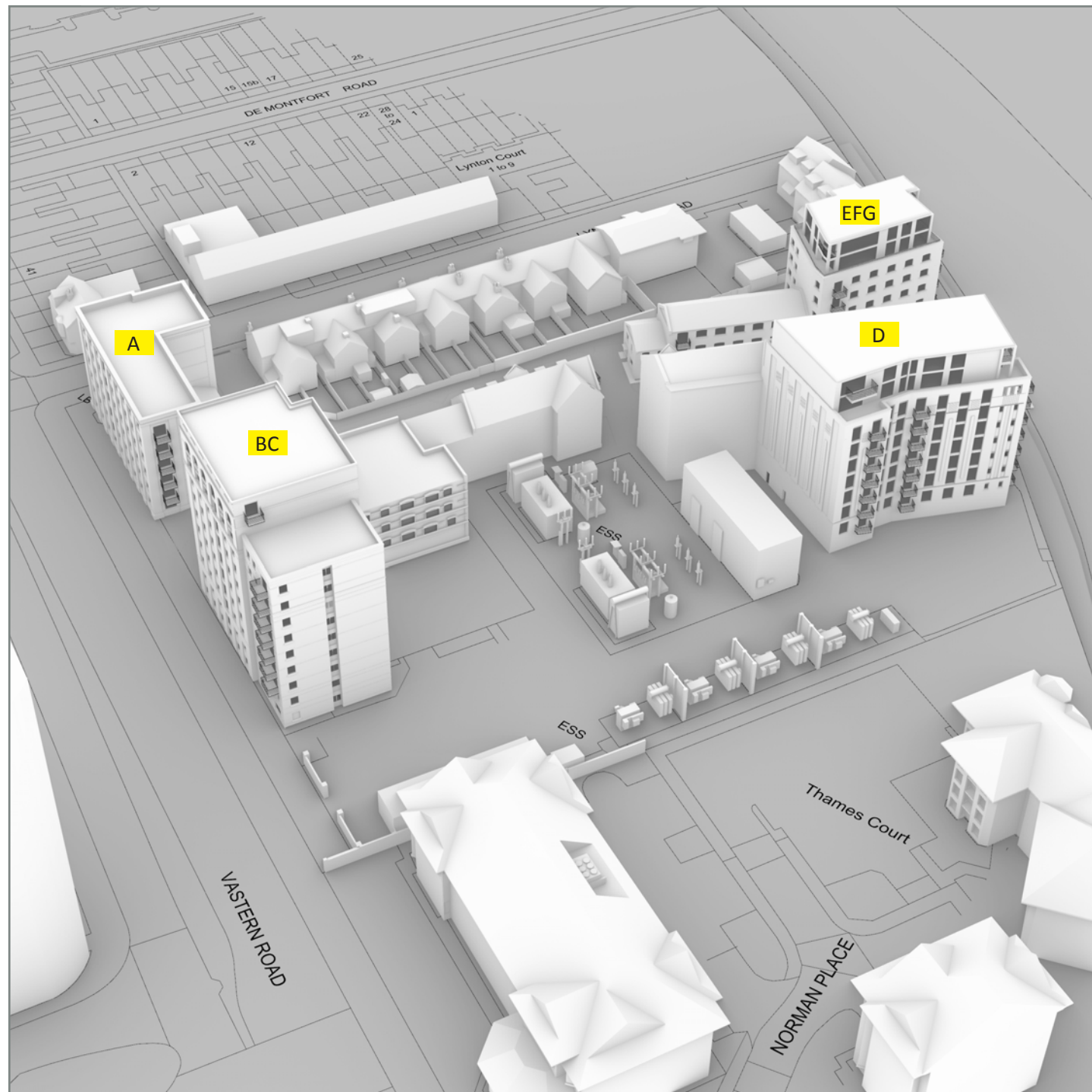


Fig. 1: Bird's Eye View



Fig. 2: Top View



Fig. 3: Ground Floor Plan

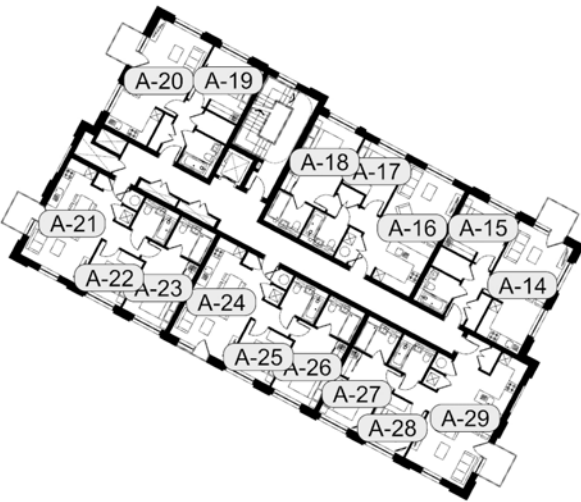


Fig. 4: First Floor Plan

		Daylight Quantum
Room ID	Room use	ADF
A - Floor GF		
A-01	LKD	2.6
A-02	Bedroom	3.5
A-03	Bedroom	3.1
A-04	LKD	3.6
A-05	LKD	1.8
A-06	Bedroom	3.0
A-07	Bedroom	1.9
A-08	LKD	1.1
A-09	Bedroom	2.8
A-10	Bedroom	1.8
A-11	Bedroom	1.8
A-12	Bedroom	2.7
A-13	LKD	1.0

		Daylight Quantum
Room ID	Room use	ADF
A - Floor 1F		
A-14	LKD	3.3
A-15	Bedroom	3.4
A-16	LKD	1.6
A-17	Bedroom	3.9
A-18	Bedroom	2.0
A-19	Bedroom	3.5
A-20	LKD	4.3
A-21	LKD	2.0
A-22	Bedroom	3.1
A-23	Bedroom	2.0
A-24	LKD	1.1
A-25	Bedroom	2.9
A-26	Bedroom	1.9
A-27	Bedroom	1.9
A-28	Bedroom	2.8
A-29	LKD	1.1

Table 1: Results



Fig. 5: Ground Floor Plan

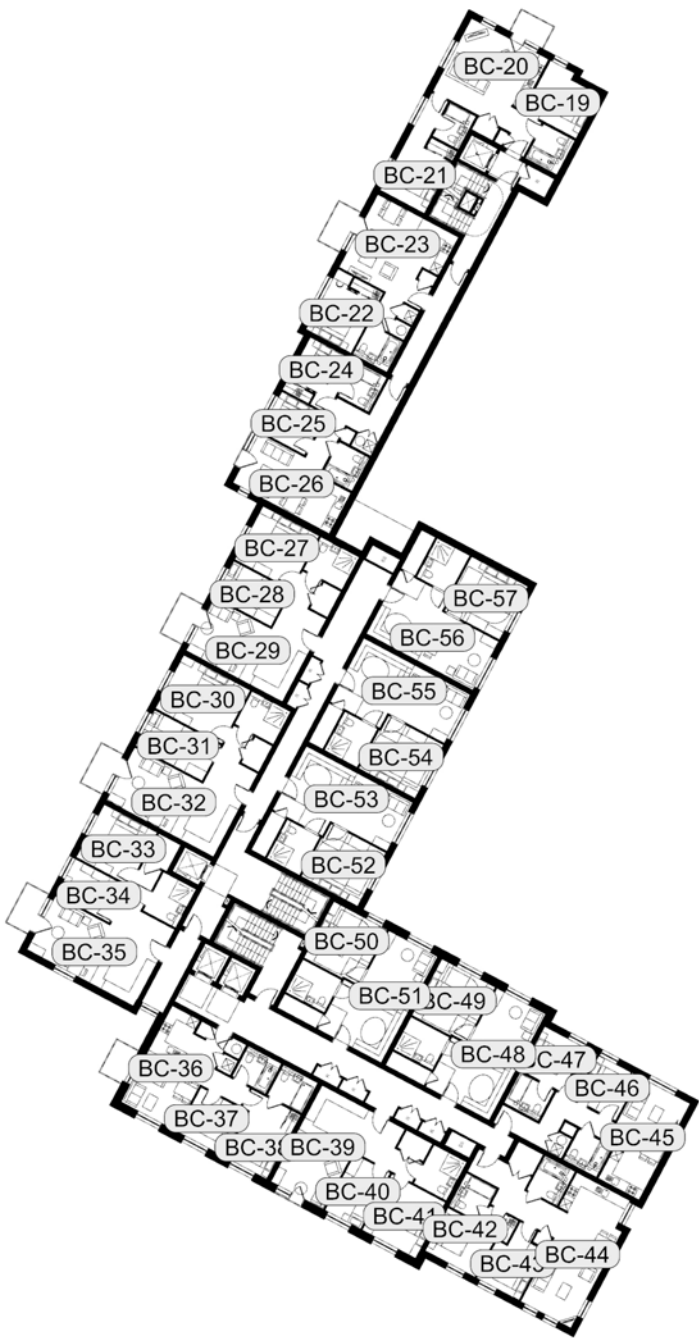


Fig. 6: First Floor Plan

		Daylight Quantum
Room ID	Room use	ADF
BC - Floor GF		
BC-01	Bedroom	0.9
BC-02	LKD	3.4
BC-03	Bedroom	3.0
BC-04	Bedroom	2.1
BC-05	Bedroom	2.6
BC-06	LKD	1.9
BC-07	Bedroom	2.0
BC-08	Bedroom	2.6
BC-09	LKD	0.9
BC-10	LKD	1.2
BC-11	Bedroom	2.0
BC-12	Bedroom	1.8
BC-13	LKD	1.2
BC-14	Bedroom	2.2
BC-15	Bedroom	1.6
BC-16	Bedroom	1.5
BC-17	Bedroom	1.6
BC-18	LKD	2.1

		Daylight Quantum
Room ID	Room use	ADF
BC - Floor 1F		
BC-19	Bedroom	1.0
BC-20	LKD	3.5
BC-21	Bedroom	3.2
BC-22	Bedroom	2.9
BC-23	LKD	2.2
BC-24	Bedroom	2.9
BC-25	Bedroom	2.9
BC-26	LKD	1.9
BC-27	Bedroom	1.8
BC-28	Bedroom	2.6
BC-29	LKD	2.0
BC-30	Bedroom	1.6
BC-31	Bedroom	2.1
BC-32	LKD	1.6
BC-33	Bedroom	1.4
BC-34	Bedroom	1.7
BC-35	LKD	1.1
BC-36	LKD	1.2
BC-37	Bedroom	2.0
BC-38	Bedroom	1.8
BC-39	LKD	1.4
BC-40	Bedroom	2.1
BC-41	Bedroom	1.6
BC-42	Bedroom	1.5
BC-43	Bedroom	1.6
BC-44	LKD	2.4
BC-45	LKD	2.6
BC-46	Bedroom	2.5
BC-47	Bedroom	2.4
BC-48	LKD	1.4
BC-49	Bedroom	2.1
BC-50	Bedroom	1.0
BC-51	LKD	1.2
BC-52	Bedroom	1.5
BC-53	LKD	1.5
BC-54	Bedroom	1.8
BC-55	LKD	1.7
BC-56	LKD	1.9
BC-57	Bedroom	2.0

Table 2: Results

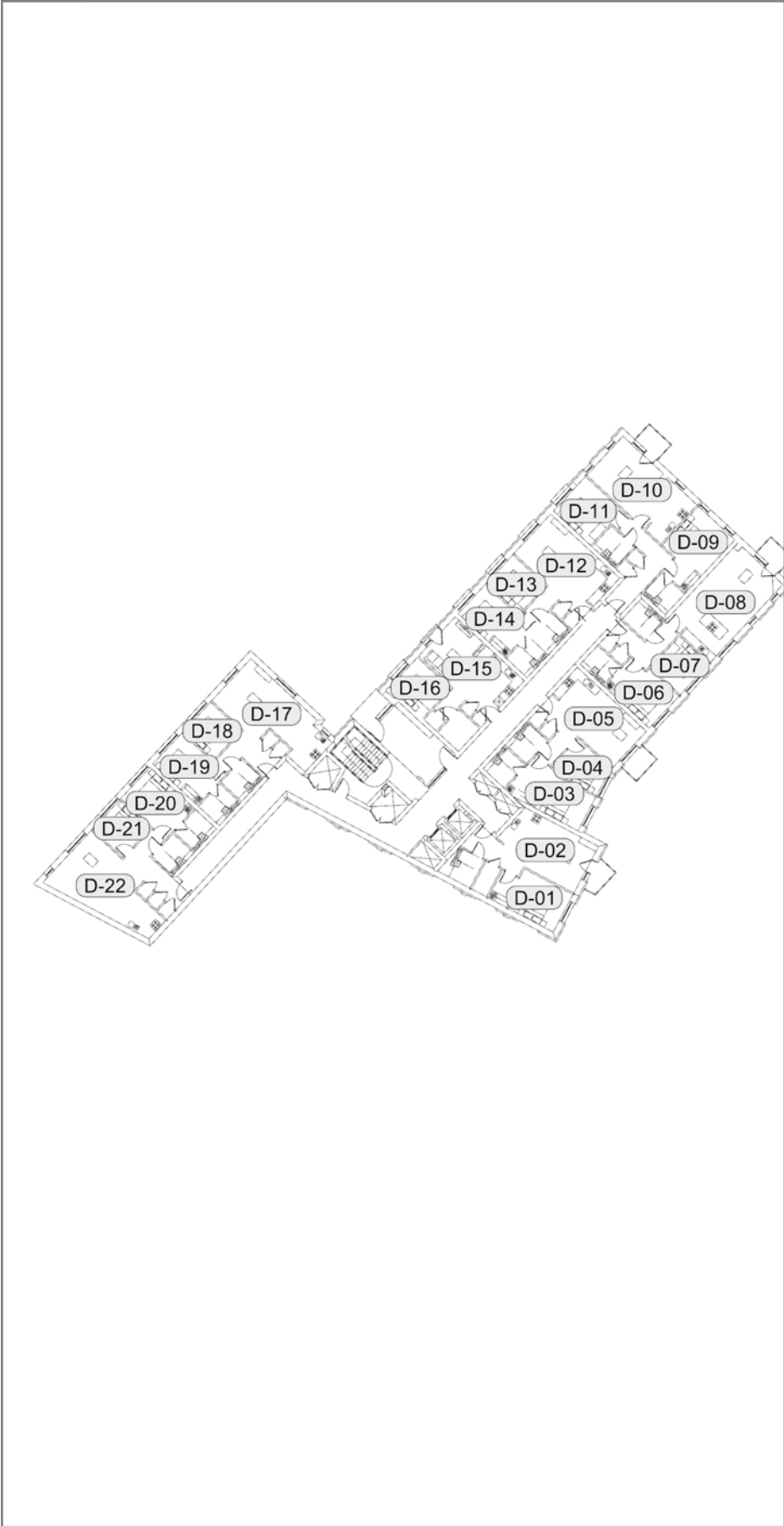


Fig. 7: First Floor Plan

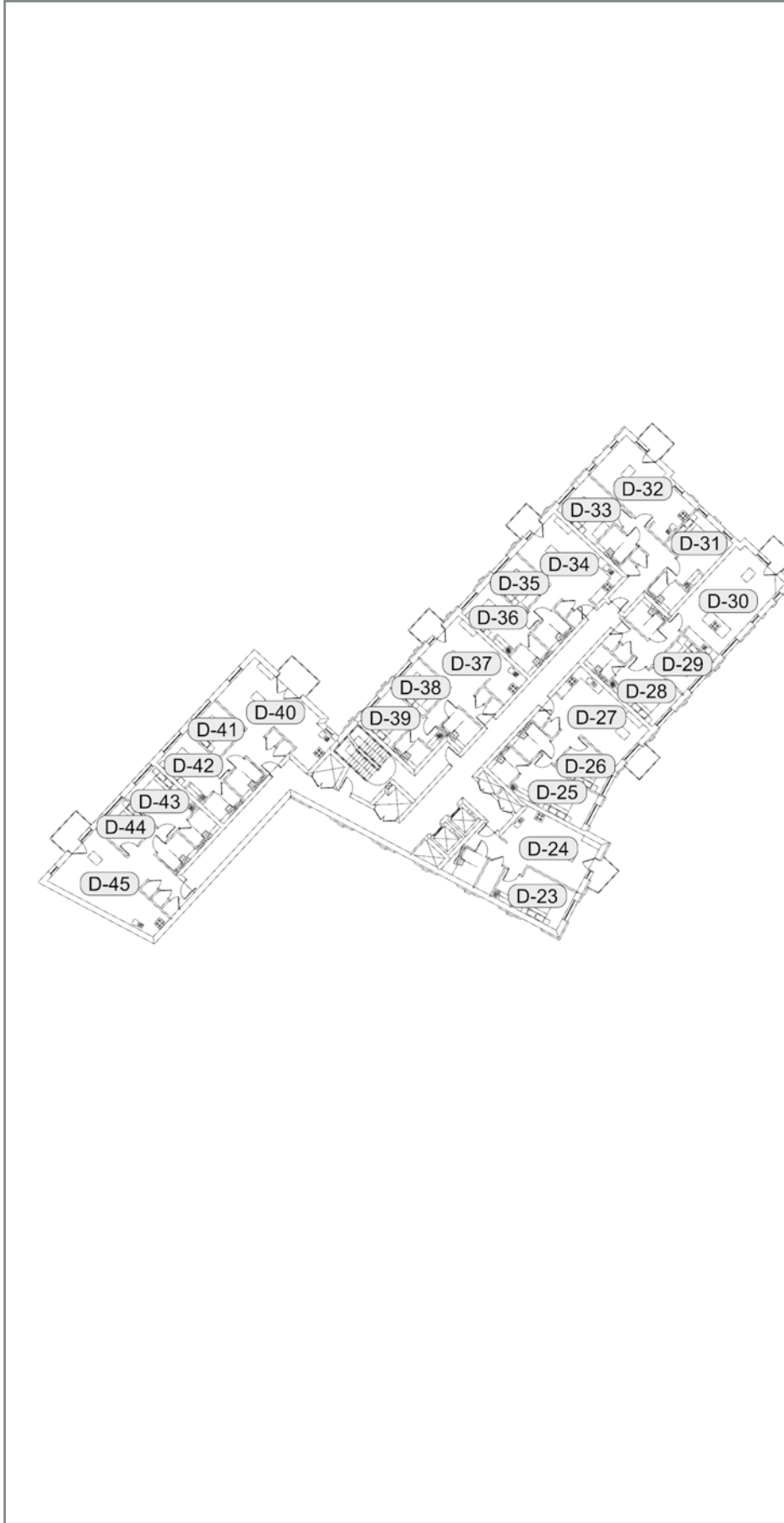


Fig. 8: Second Floor Plan

		Daylight Quantum
Room ID	Room use	ADF
D - Floor 1F		
D-01	Bedroom	4.2
D-02	LKD	2.1
D-03	Bedroom	3.3
D-04	Bedroom	5.5
D-05	LKD	2.1
D-06	Bedroom	5.0
D-07	Bedroom	6.8
D-08	LKD	5.5
D-09	Bedroom	3.8
D-10	LKD	4.1
D-11	Bedroom	3.9
D-12	LKD	1.5
D-13	Bedroom	4.8
D-14	Bedroom	3.9
D-15	LKD	1.4
D-16	Bedroom	4.2
D-17	LKD	1.8
D-18	Bedroom	3.6
D-19	Bedroom	2.8
D-20	Bedroom	2.9
D-21	Bedroom	3.8
D-22	LKD	1.6
D - Floor 2F		
D-23	Bedroom	5.0
D-24	LKD	2.3
D-25	Bedroom	3.9
D-26	Bedroom	6.6
D-27	LKD	2.1
D-28	Bedroom	5.6
D-29	Bedroom	7.8
D-30	LKD	6.2
D-31	Bedroom	4.8
D-32	LKD	5.0
D-33	Bedroom	4.8
D-34	LKD	1.6
D-35	Bedroom	5.9
D-36	Bedroom	4.6
D-37	LKD	1.6
D-38	Bedroom	5.5
D-39	Bedroom	4.5
D-40	LKD	2.2
D-41	Bedroom	4.0
D-42	Bedroom	3.1
D-43	Bedroom	3.2
D-44	Bedroom	4.2
D-45	LKD	1.8

Table 3: Results

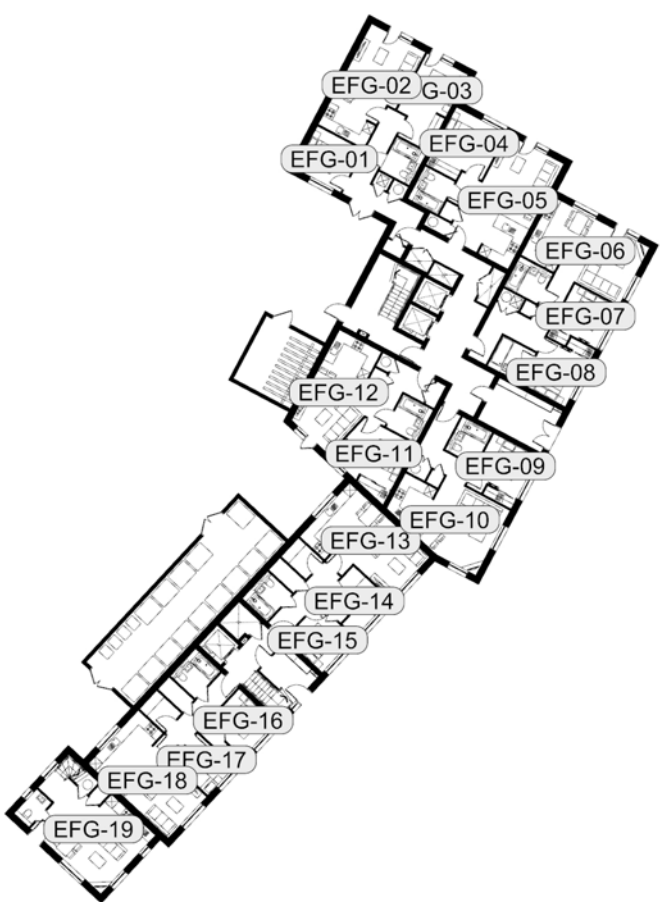


Fig. 9: Ground Floor Plan



Fig. 10: First Floor Plan

		Daylight Quantum
Room ID	Room use	ADF
EFG - Floor GF		
EFG-01	Bedroom	3.0
EFG-02	LKD	1.9
EFG-03	Bedroom	4.0
EFG-04	Bedroom	3.6
EFG-05	LKD	1.8
EFG-06	LKD	5.1
EFG-07	Bedroom	3.6
EFG-08	Bedroom	3.1
EFG-09	Bedroom	2.8
EFG-10	LKD	1.4
EFG-11	Bedroom	1.5
EFG-12	LKD	1.5
EFG-13	LKD	1.5
EFG-14	Bedroom	2.4
EFG-15	Bedroom	2.5
EFG-16	Bedroom	2.5
EFG-17	Bedroom	2.5
EFG-18	LKD	1.8
EFG-19	LKD	4.4

		Daylight Quantum
Room ID	Room use	ADF
EFG - Floor 1F		
EFG-20	Bedroom	3.1
EFG-21	LKD	1.9
EFG-22	Bedroom	4.1
EFG-23	Bedroom	3.6
EFG-24	LKD	1.8
EFG-25	LKD	5.2
EFG-26	Bedroom	3.8
EFG-27	Bedroom	3.1
EFG-28	Bedroom	2.9
EFG-29	Bedroom	3.1
EFG-30	LKD	1.8
EFG-31	Bedroom	1.7
EFG-32	LKD	2.9
EFG-33	LKD	2.3
EFG-34	Bedroom	2.7
EFG-35	Bedroom	2.7
EFG-36	Bedroom	2.7
EFG-37	Bedroom	2.8
EFG-38	LKD	3.1
EFG-39	Bedroom	3.5
EFG-40	Bedroom	2.4

Table 4: Results



Appendix 3

Sunlight on Ground Assessment – 4 hours on 21st March

Title
 SunlightAmenityAssessments
 Neighbouring Areas
 21st june
 Proposed

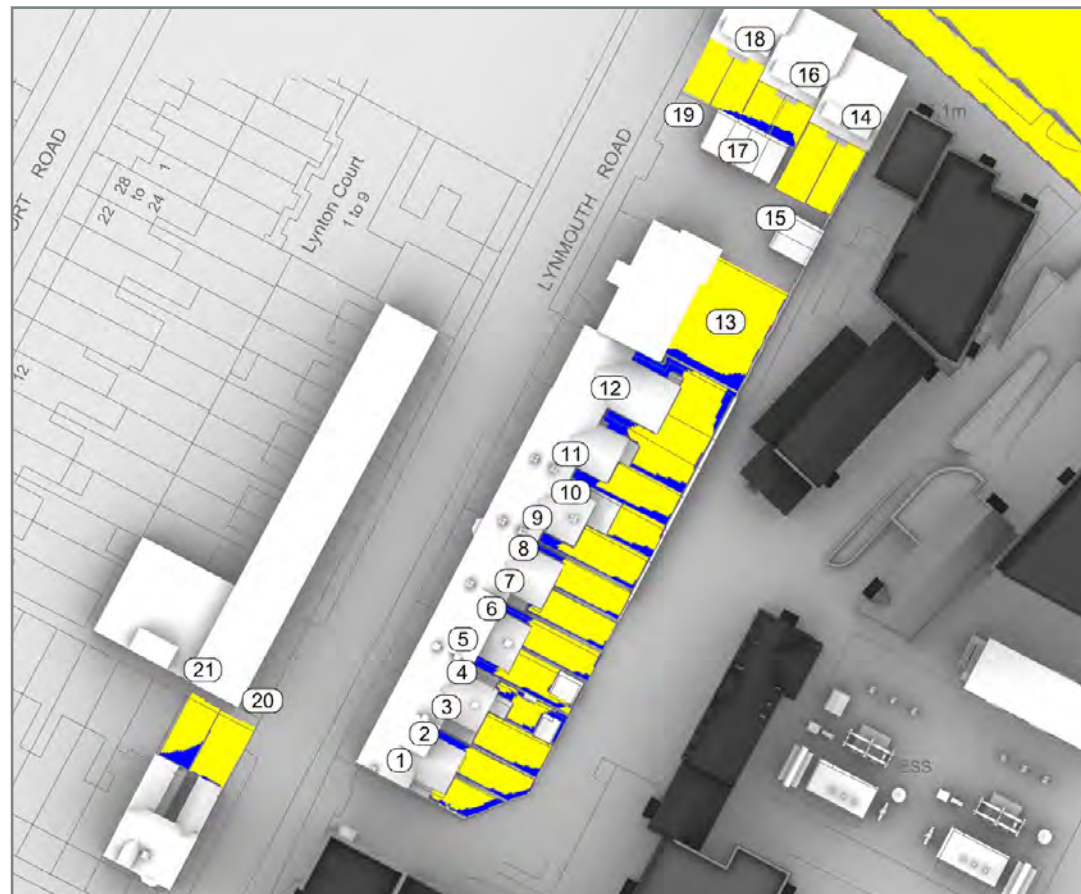


Fig. 7: BRE's Sun on Ground

YES BRE's Sun-on-ground
 Area seing at least
 four hours of sunlight

NO Day: 21st June
 Latitude: 51.4°N
 Effective day length: 14 hours
 *Min solar angle 10°
 (BR209 3.3.8)

Zone Name	Area (m2)	Sunlit Area * Proposed [%]
1	27.0	87.2
2	44.5	90.5
3	46.4	96.3
4	28.4	83.1
5	39.3	97.8
6	49.0	95.2
7	44.7	98.1
8	47.6	94.5
9	52.2	96.8
10	30.2	92.0
11	49.8	91.9
12	135.7	90.7
13	161.6	98.0
14	37.8	100.0
15	44.8	100.0
16	23.6	92.4
17	25.8	93.8
18	32.9	98.6
19	32.6	100.0
20	45.1	99.4
21	41.0	94.6

*Sunlit Area = Area receiving at least 4hrs. of sunlight on 21st June

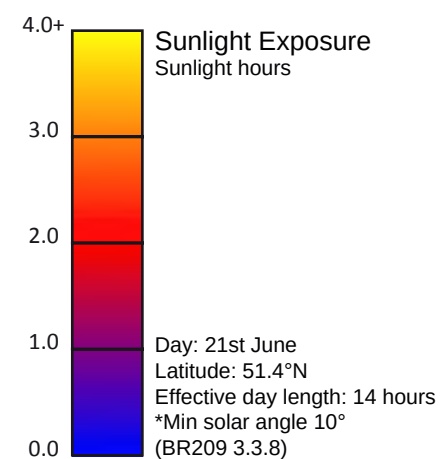
Table 2: Results



Fig. 9: Bird's Eye View



Fig. 8: Sunlight Exposure



Report Overshadowing Assessments
 Ref. 3591_R05_SA01

Project River Gate, Vastern Road
 Reading RG1 8BU

Drawn VL Rel no. 01

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