



Kennet Place, 121 Kings Road, Reading Internal Daylight Assessment

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1.0 Introduction

- 1.1 This internal daylight assessment has been prepared in relation to an application for the proposed conversion of the site known as Kennet Place, 121 Kings Road, Reading.
- 1.2 The report assesses the proposals in respect of daylight matters within habitable rooms in the proposed scheme, having regard to industry standard guidance.
- 1.3 The report concludes that the proposal is acceptable and in accordance with planning policy requirements in relation to daylight for those rooms assessed.
- 1.4 There is no existing specific National Planning Policy relating to the prospective impacts of developments on daylight and sunlight on their surrounding environment.
- 1.5 However, the NPPF (Para 129) does refer to daylight and sunlight in relation to density, encouraging Local Planning Authorities to take a flexible approach to applying policies and guidance relating to the impacts of proposals where they would otherwise inhibit making effective use of the site.
- 1.6 The BRE Report 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (3rd Edition, 2022) is the established National guidance to aid the developer to prevent and/or minimise the impact of a new development on the availability of daylight and sunlight in the environs of the site and the assessment of light within proposed new dwellings.
- 1.7 It refers in turn to the daylight and sunlight recommendations in BS EN 17037: 2018+A1:2021 (with UK Annex): 'Daylight in Buildings'
- 1.8 These reference documents are accepted as the authoritative works in the field on daylight, sunlight and overshadowing and the BRE guidance specifically referred to in many Local Authorities' planning policy guidance for daylighting.
- 1.9 The methodology therein has been used in numerous lighting analyses and the standards of permissible reduction in light are accepted as the industry standards.

2.0 Project Summary

- 2.1 The site is at 121 Kings Road Reading and is currently occupied by a 5-storey building currently used as offices.
- 2.2 The proposal is for the conversion of the building into residential units, creating a total of 93 new dwellings.
- 2.3 The design team wish to ensure that habitable rooms in the development will receive sufficient daylight for their intended uses.
- 2.4 No increase in the massing of the building is proposed and so it is not necessary to assess the impacts of the proposal on existing neighbours.
- 2.5 2D CAD drawings have been provided to us by the design team. These have been used to construct a 3D analysis model in order to assess the internal daylight levels within each room.
- 2.6 Computer simulation modelling has been used to produce the results, presented below.



Site as Existing

3.0 Methodology

3.1 The BRE and BS EN 17037 guidance allows for two alternative methods to assess daylight within new dwellings. This report uses the following method:

- Target Daylight Factor (DF_T)

3.2 The DF_T method is a complex and representative calculation to determine natural internal luminance.

3.3 It takes into account such factors as window size, number of windows available to the room, room size and layout, room surface reflectance, and the angle of visible sky reaching the window.

3.4 The calculations have assumed a white ceiling, cream walls and mid-grey carpet or wooden floor using reflectance values taken from the BS EN 170437 Guidance.

3.5 As this is a conversion scheme, it falls under the category of "hard to light" dwellings and therefore an alternative target can be used.

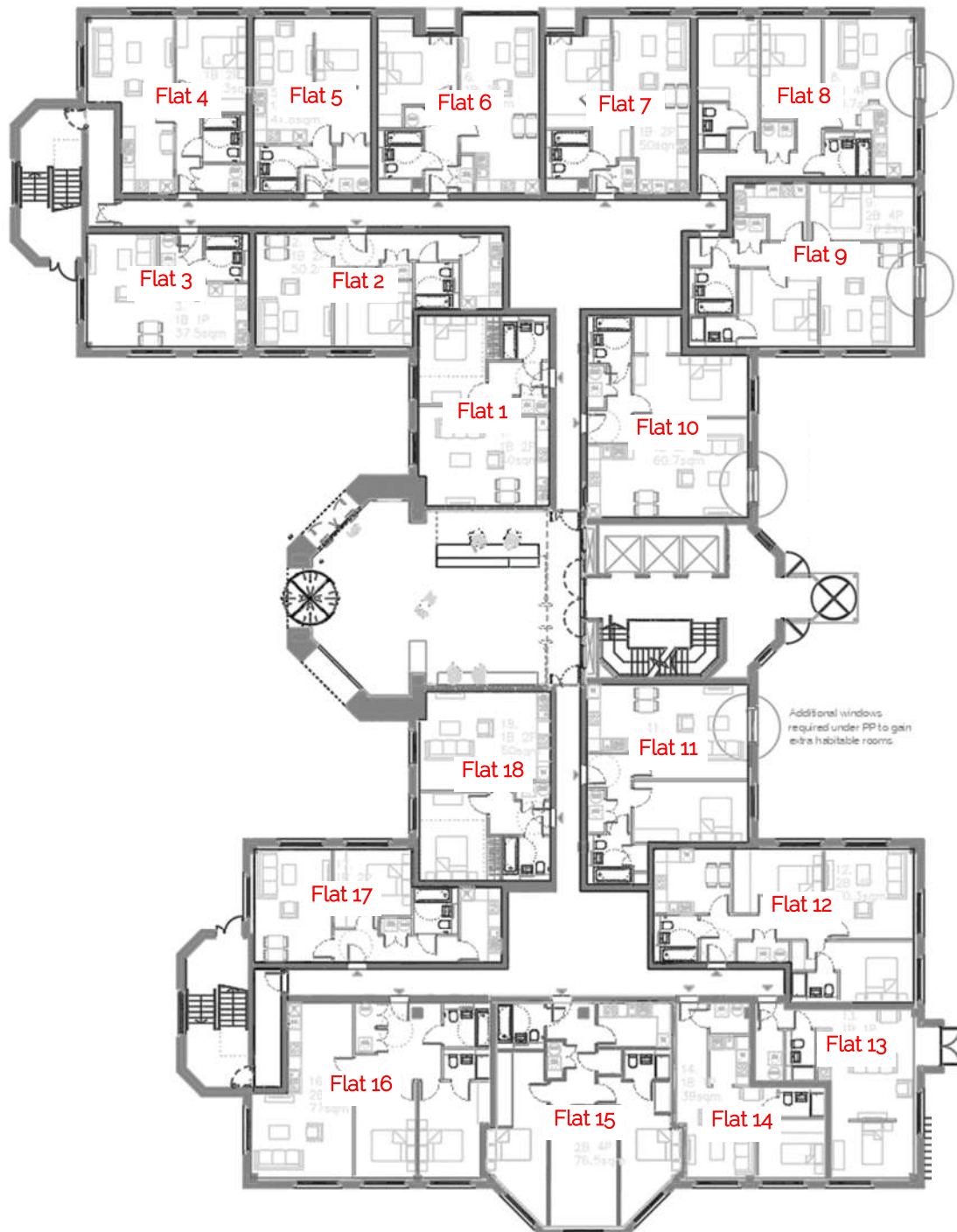
3.6 The minimum DF_T values for various UK locations and room types are provided below. The targets for London have been used for this site.

Table C3 – Target daylight factors (D_T) to achieve over at least 50% of the assessment grid in UK domestic habitable rooms with vertical and/or inclined daylight apertures

Location	D_T for 100 lx (Bedroom)	D_T for 150 lx (Living room)	D_T for 200 lx (Kitchen)
St Peter (Jersey)	0.6%	0.9%	1.2%
London (Gatwick Airport)	0.7%	1.1%	1.4%
Birmingham	0.6%	0.9%	1.2%
Hemsby (Norfolk)	0.6%	0.9%	1.3%
Finningley (Yorkshire)	0.7%	1.0%	1.3%
Aughton (Lancashire)	0.7%	1.1%	1.4%
Belfast	0.7%	1.0%	1.4%
Leuchars (Fife)	0.7%	1.1%	1.4%
Oban	0.8%	1.1%	1.5%
Aberdeen	0.7%	1.1%	1.4%

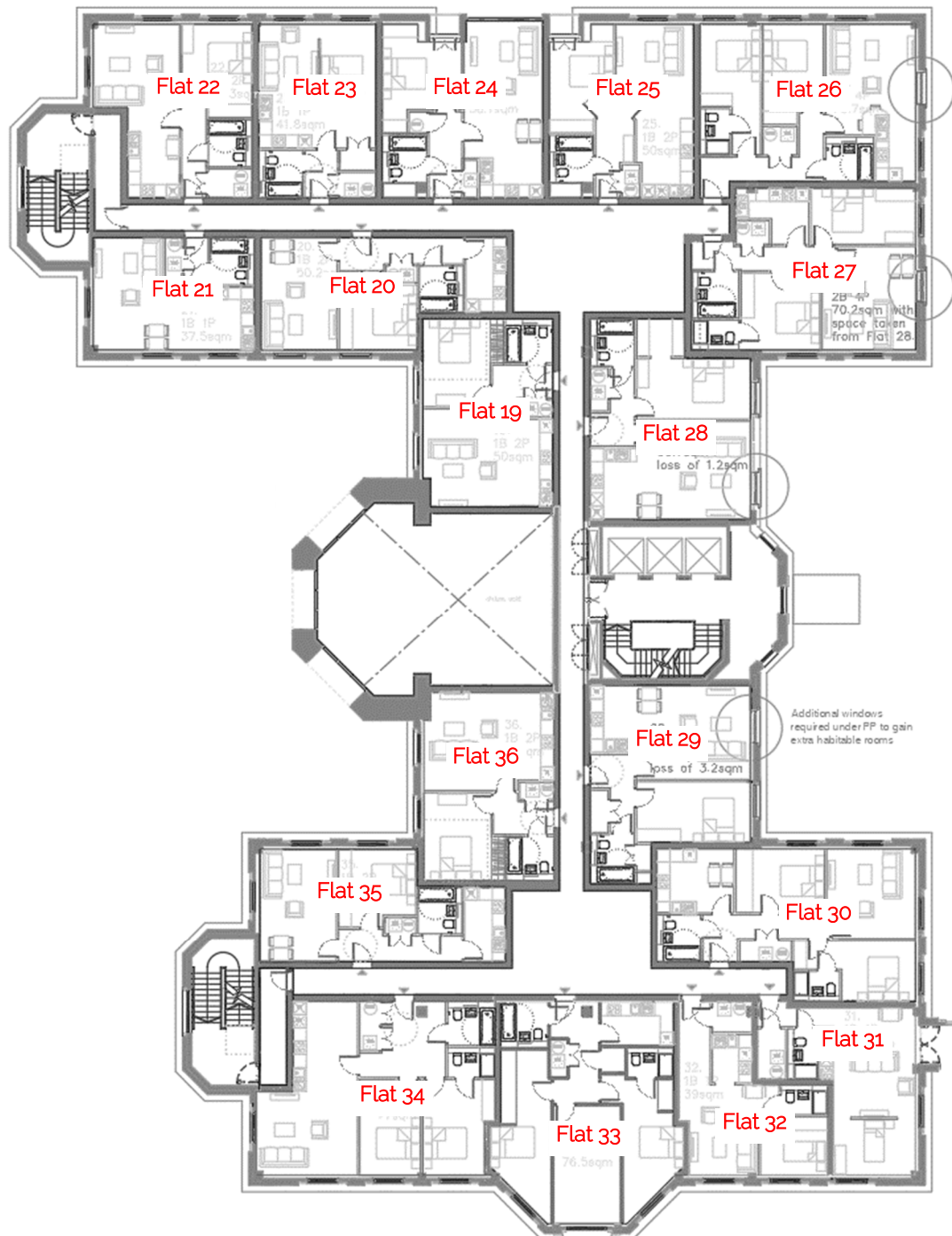
3.7 It is deemed by the guidance that if the minimum DF_T criteria are met, then the occupiers of the dwelling will have sufficient daylight. As can be seen from the results below that all assessed habitable rooms meet and exceed the minimum levels of internal daylight.

4.0 Room Schedules



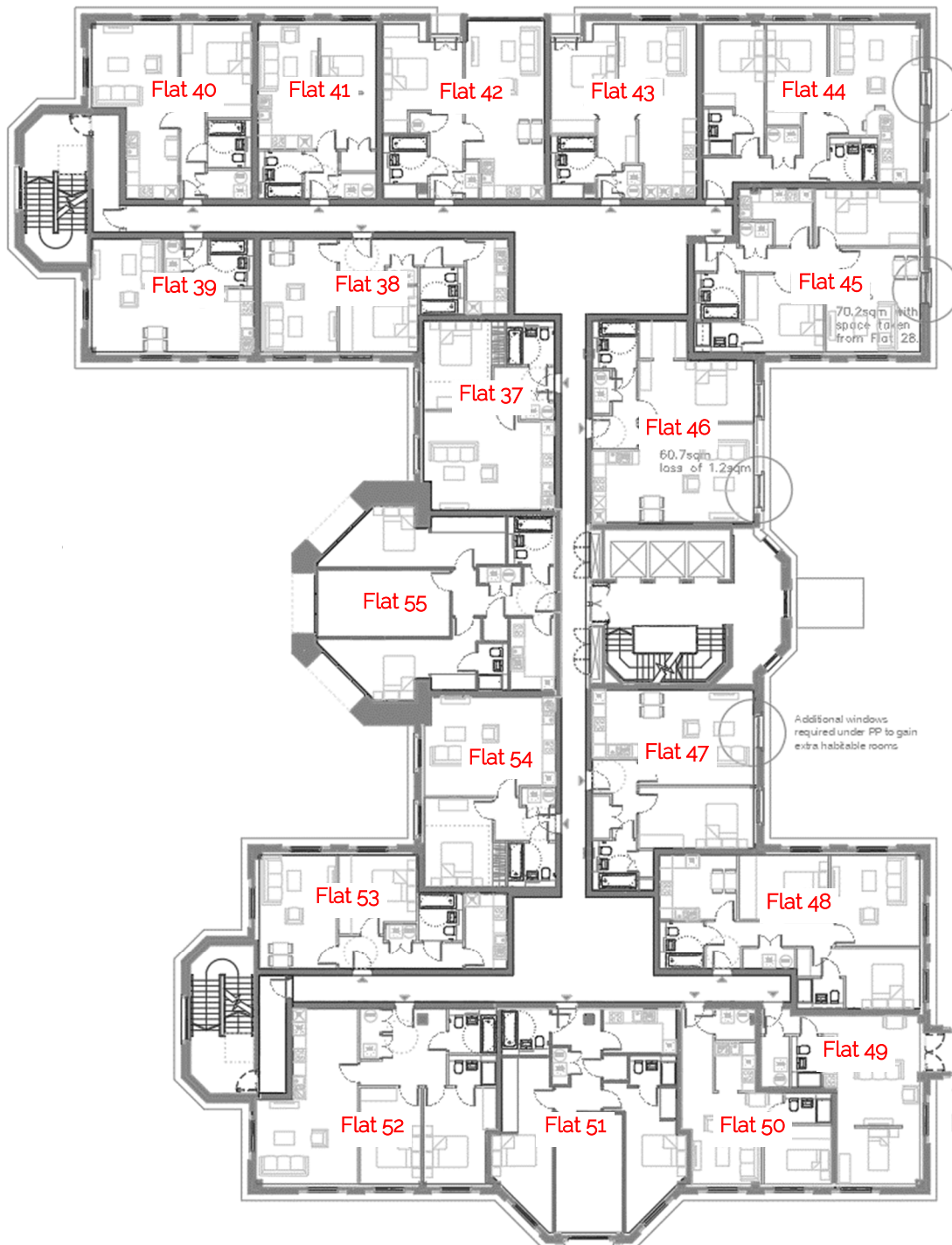
Ground Floor as Proposed

4.0 Room Schedules



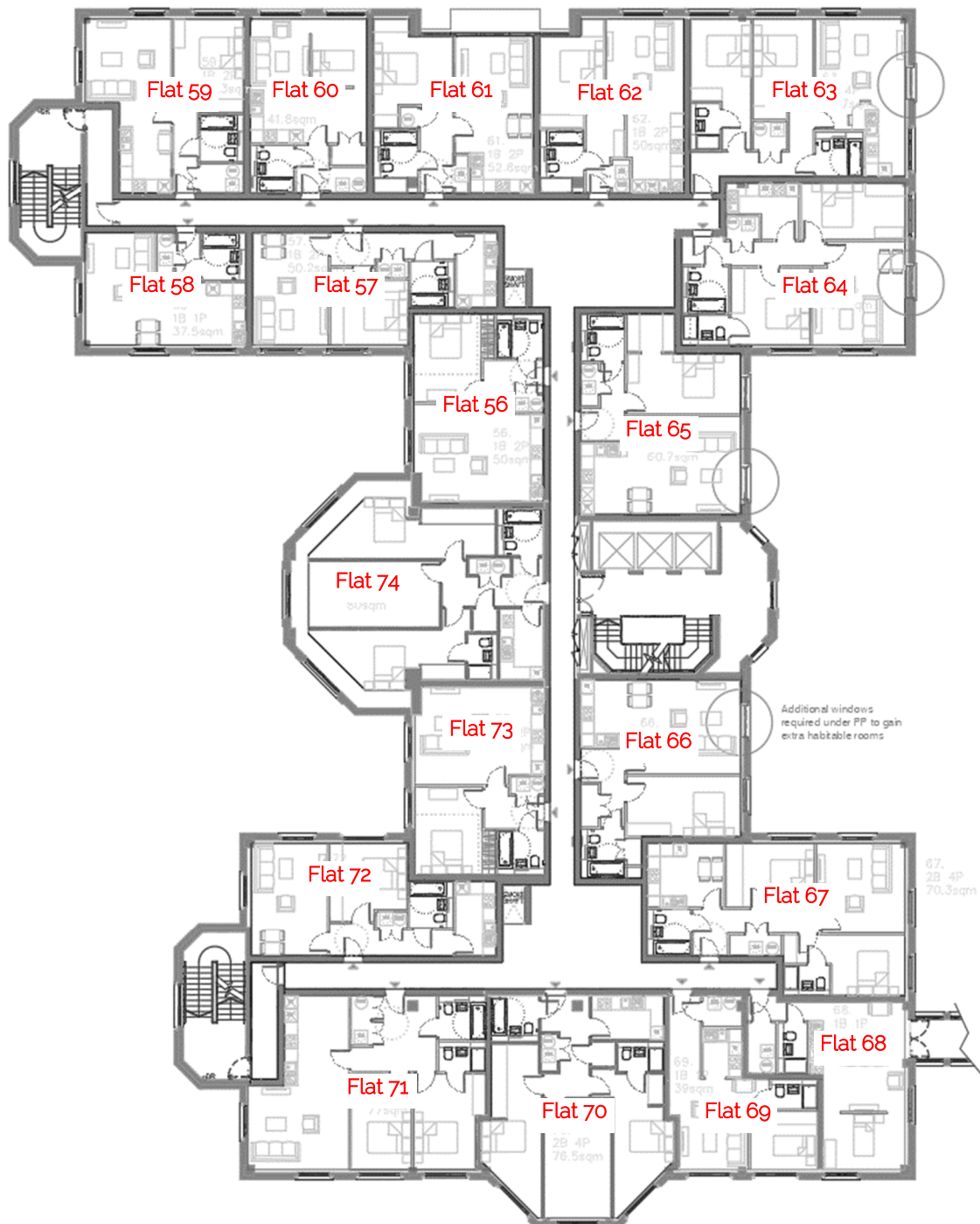
First Floor as Proposed

4.0 Room Schedules



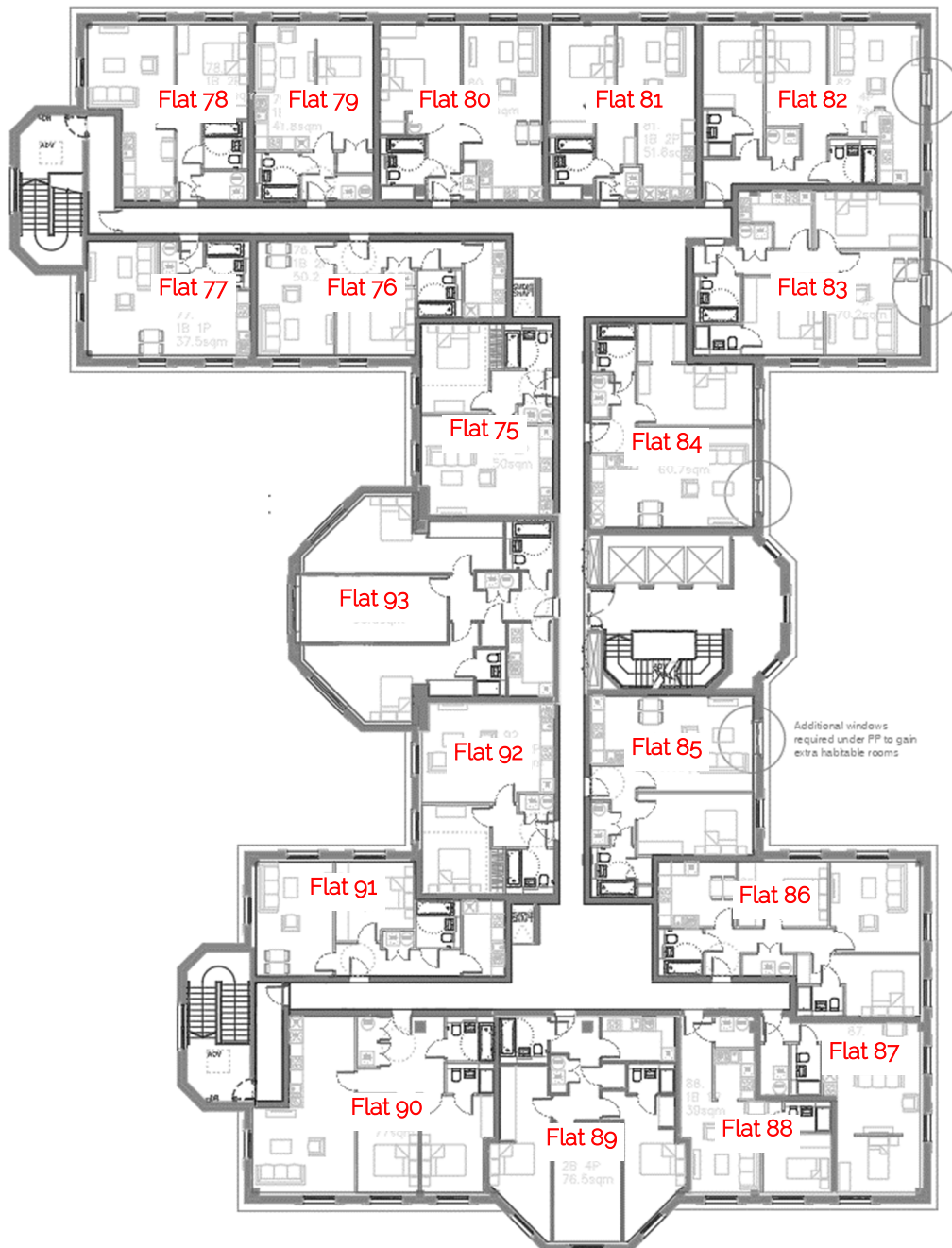
2nd Floor as Proposed

4.0 Room Schedules



3rd Floor as Proposed

4.0 Room Schedules



4th Floor as Proposed

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
1	Kitchen/Living/Dining	1.4%	58.1%	Yes
1	Bedroom 1	0.7%	67.3%	Yes
2	Living/Dining	1.1%	61.6%	Yes
2	Bedroom 1	0.7%	67.0%	Yes
3	Studio	1.4%	100.0%	Yes
4	Kitchen/Living/Dining	1.4%	80.7%	Yes
4	Bedroom 1	0.7%	88.9%	Yes
5	Studio	1.4%	86.3%	Yes
6	Kitchen/Living/Dining	1.4%	75.2%	Yes
6	Bedroom 1	0.7%	61.8%	Yes
7	Kitchen/Living/Dining	1.4%	75.6%	Yes
7	Bedroom 1	0.7%	62.2%	Yes
8	Kitchen/Living/Dining	1.4%	100.0%	Yes
8	Bedroom 1	0.7%	84.3%	Yes
8	Bedroom 2	0.7%	84.7%	Yes
9	Living/Dining	1.1%	96.3%	Yes
9	Bedroom 1	0.7%	87.9%	Yes
9	Bedroom 2	0.7%	90.5%	Yes
10	Kitchen/Living/Dining	1.4%	52.7%	Yes
10	Bedroom 1	0.7%	74.2%	Yes
11	Kitchen/Living/Dining	1.4%	51.6%	Yes
11	Bedroom 1	0.7%	69.9%	Yes
12	Living	1.1%	100.0%	Yes
12	Bedroom 1	0.7%	84.7%	Yes
12	Bedroom 2	0.7%	79.3%	Yes
13	Studio	1.4%	75.2%	Yes
14	Kitchen/Living/Dining	1.4%	64.7%	Yes
14	Bedroom 1	0.7%	100.0%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
15	Living/Dining	11%		Yes
15	Bedroom 1	0.7%	88.0%	Yes
15	Bedroom 2	0.7%	88.2%	Yes
16	Kitchen/Living/Dining	1.4%	80.3%	Yes
16	Bedroom 1	0.7%	98.8%	Yes
16	Bedroom 2	0.7%	98.6%	Yes
17	Living/Dining	11%	100.0%	Yes
17	Bedroom 1	0.7%	100.0%	Yes
18	Kitchen/Living/Dining	1.4%	58.4%	Yes
18	Bedroom 1	0.7%	67.5%	Yes
19	Kitchen/Living/Dining	1.4%	60.2%	Yes
19	Bedroom 1	0.7%	69.8%	Yes
20	Living/Dining	11%	63.9%	Yes
20	Bedroom 1	0.7%	69.4%	Yes
21	Studio	1.4%	100.0%	Yes
22	Kitchen/Living/Dining	1.4%	83.6%	Yes
22	Bedroom 1	0.7%	92.1%	Yes
23	Studio	1.4%	89.5%	Yes
24	Kitchen/Living/Dining	1.4%	77.9%	Yes
24	Bedroom 1	0.7%	64.1%	Yes
25	Kitchen/Living/Dining	1.4%	78.4%	Yes
25	Bedroom 1	0.7%	64.5%	Yes
26	Kitchen/Living/Dining	1.4%	100.0%	Yes
26	Bedroom 1	0.7%	87.4%	Yes
26	Bedroom 2	0.7%	87.8%	Yes
27	Living/Dining	11%	99.8%	Yes
27	Bedroom 1	0.7%	91.1%	Yes
27	Bedroom 2	0.7%	93.8%	Yes
28	Kitchen/Living/Dining	1.4%	54.6%	Yes
28	Bedroom 1	0.7%	76.9%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
29	Kitchen/Living/Dining	1.4%	53.5%	Yes
29	Bedroom 1	0.7%	72.5%	Yes
30	Living	1.1%	100.0%	Yes
30	Bedroom 1	0.7%	87.8%	Yes
30	Bedroom 2	0.7%	82.2%	Yes
31	Studio	1.4%	77.9%	Yes
32	Kitchen/Living/Dining	1.4%	67.1%	Yes
32	Bedroom 1	0.7%	100.0%	Yes
33	Living/Dining	1.1%	84.3%	Yes
33	Bedroom 1	0.7%	91.2%	Yes
33	Bedroom 2	0.7%	91.4%	Yes
34	Kitchen/Living/Dining	1.4%	83.2%	Yes
34	Bedroom 1	0.7%	100.0%	Yes
34	Bedroom 2	0.7%	100.0%	Yes
35	Living/Dining	1.1%	100.0%	Yes
35	Bedroom 1	0.7%	100.0%	Yes
36	Kitchen/Living/Dining	1.4%	60.5%	Yes
36	Bedroom 1	0.7%	70.0%	Yes
37	Kitchen/Living/Dining	1.4%	62.4%	Yes
37	Bedroom 1	0.7%	72.3%	Yes
38	Living/Dining	1.1%	66.2%	Yes
38	Bedroom 1	0.7%	72.0%	Yes
39	Studio	1.4%	100.0%	Yes
40	Kitchen/Living/Dining	1.4%	86.7%	Yes
40	Bedroom 1	0.7%	95.5%	Yes
41	Studio	1.4%	92.7%	Yes
42	Kitchen/Living/Dining	1.4%	80.8%	Yes
42	Bedroom 1	0.7%	66.4%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
43	Kitchen/Living/Dining	1.4%	81.2%	Yes
43	Bedroom 1	0.7%	66.8%	Yes
44	Kitchen/Living/Dining	1.4%	100.0%	Yes
44	Bedroom 1	0.7%	90.6%	Yes
44	Bedroom 2	0.7%	91.0%	Yes
45	Living/Dining	1.1%	100.0%	Yes
45	Bedroom 1	0.7%	94.4%	Yes
45	Bedroom 2	0.7%	97.2%	Yes
46	Kitchen/Living/Dining	1.4%	56.6%	Yes
46	Bedroom 1	0.7%	79.7%	Yes
47	Kitchen/Living/Dining	1.4%	55.4%	Yes
47	Bedroom 1	0.7%	75.1%	Yes
48	Living	1.1%	100.0%	Yes
48	Bedroom 1	0.7%	91.0%	Yes
48	Bedroom 2	0.7%	85.2%	Yes
49	Studio	1.4%	80.8%	Yes
50	Kitchen/Living/Dining	1.4%	69.5%	Yes
50	Bedroom 1	0.7%	100.0%	Yes
51	Living/Dining	1.1%	87.4%	Yes
51	Bedroom 1	0.7%	94.5%	Yes
51	Bedroom 2	0.7%	94.8%	Yes
52	Kitchen/Living/Dining	1.4%	86.3%	Yes
52	Bedroom 1	0.7%	100.0%	Yes
52	Bedroom 2	0.7%	100.0%	Yes
53	Living/Dining	1.1%	100.0%	Yes
53	Bedroom 1	0.7%	100.0%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
54	Kitchen/Living/Dining	1.4%	62.7%	Yes
54	Bedroom 1	0.7%	72.5%	Yes
55	Living/Dining	1.1%	87.9%	Yes
55	Bedroom 1	0.7%	92.2%	Yes
55	Bedroom 2	0.7%	92.4%	Yes
56	Kitchen/Living/Dining	1.4%	64.7%	Yes
56	Bedroom 1	0.7%	75.0%	Yes
57	Living/Dining	1.1%	68.6%	Yes
57	Bedroom 1	0.7%	74.6%	Yes
58	Studio	1.4%	100.0%	Yes
59	Kitchen/Living/Dining	1.4%	89.9%	Yes
59	Bedroom 1	0.7%	99.0%	Yes
60	Studio	1.4%	96.1%	Yes
61	Kitchen/Living/Dining	1.4%	64.3%	Yes
61	Bedroom 1	0.7%	59.8%	Yes
62	Kitchen/Living/Dining	1.4%	84.2%	Yes
62	Bedroom 1	0.7%	59.7%	Yes
63	Kitchen/Living/Dining	1.4%	100.0%	Yes
63	Bedroom 1	0.7%	93.9%	Yes
63	Bedroom 2	0.7%	94.3%	Yes
64	Living/Dining	1.1%	100.0%	Yes
64	Bedroom 1	0.7%	97.9%	Yes
64	Bedroom 2	0.7%	100.0%	Yes
65	Kitchen/Living/Dining	1.4%	58.7%	Yes
65	Bedroom 1	0.7%	82.6%	Yes
66	Kitchen/Living/Dining	1.4%	57.5%	Yes
66	Bedroom 1	0.7%	77.8%	Yes
67	Living	1.1%	100.0%	Yes
67	Bedroom 1	0.7%	94.3%	Yes
67	Bedroom 2	0.7%	88.3%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
68	Studio	1.4%	83.7%	Yes
69	Kitchen/Living/Dining	1.4%	72.1%	Yes
69	Bedroom 1	0.7%	100.0%	Yes
70	Living/Dining	1.1%	90.5%	Yes
70	Bedroom 1	0.7%	98.0%	Yes
70	Bedroom 2	0.7%	98.2%	Yes
71	Kitchen/Living/Dining	1.4%	89.4%	Yes
71	Bedroom 1	0.7%	100.0%	Yes
71	Bedroom 2	0.7%	100.0%	Yes
72	Living/Dining	1.1%	100.0%	Yes
72	Bedroom 1	0.7%	100.0%	Yes
73	Kitchen/Living/Dining	1.4%	65.0%	Yes
73	Bedroom 1	0.7%	75.2%	Yes
74	Living/Dining	1.1%	91.1%	Yes
74	Bedroom 1	0.7%	95.6%	Yes
74	Bedroom 2	0.7%	95.8%	Yes
75	Kitchen/Living/Dining	1.4%	62.4%	Yes
75	Bedroom 1	0.7%	72.3%	Yes
76	Living/Dining	1.1%	66.2%	Yes
76	Bedroom 1	0.7%	72.0%	Yes
77	Studio	1.4%	96.5%	Yes
78	Kitchen/Living/Dining	1.4%	86.7%	Yes
78	Bedroom 1	0.7%	95.5%	Yes
79	Studio	1.4%	92.7%	Yes
80	Kitchen/Living/Dining	1.4%	62.0%	Yes
80	Bedroom 1	0.7%	57.7%	Yes
81	Kitchen/Living/Dining	1.4%	81.2%	Yes
81	Bedroom 1	0.7%	57.6%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
82	Kitchen/Living/Dining	1.4%	96.5%	Yes
82	Bedroom 1	0.7%	90.6%	Yes
82	Bedroom 2	0.7%	91.0%	Yes
83	Living/Dining	1.1%	96.5%	Yes
83	Bedroom 1	0.7%	94.4%	Yes
83	Bedroom 2	0.7%	96.5%	Yes
84	Kitchen/Living/Dining	1.4%	56.6%	Yes
84	Bedroom 1	0.7%	79.7%	Yes
85	Kitchen/Living/Dining	1.4%	55.4%	Yes
85	Bedroom 1	0.7%	75.1%	Yes
86	Living	1.1%	96.5%	Yes
86	Bedroom 1	0.7%	91.0%	Yes
86	Bedroom 2	0.7%	85.2%	Yes
87	Studio	1.4%	80.8%	Yes
88	Kitchen/Living/Dining	1.4%	69.5%	Yes
88	Bedroom 1	0.7%	96.5%	Yes
89	Living/Dining	1.1%	87.4%	Yes
89	Bedroom 1	0.7%	94.5%	Yes
89	Bedroom 2	0.7%	94.8%	Yes
90	Kitchen/Living/Dining	1.4%	86.3%	Yes
90	Bedroom 1	0.7%	96.5%	Yes
90	Bedroom 2	0.7%	96.5%	Yes
91	Living/Dining	1.1%	96.5%	Yes
91	Bedroom 1	0.7%	96.5%	Yes
92	Kitchen/Living/Dining	1.4%	62.7%	Yes
92	Bedroom 1	0.7%	72.5%	Yes
93	Living/Dining	1.1%	93.5%	Yes
93	Bedroom 1	0.7%	98.1%	Yes
93	Bedroom 2	0.7%	98.3%	Yes

6.0 Conclusions

- 6.1 The proposed conversion of Kennet Place, 121 Kings Road, Reading, has been assessed for internal daylight levels using the Target Daylight Factor (DF_T) test as prescribed by the BRE guidance and BS EN 17037:2018.
- 6.2 The design team has endeavoured to ensure that the proposed habitable rooms have levels of natural light in excess of the minimum standards prescribed by the standards.
- 6.3 This has been successfully achieved, as demonstrated by the positive results presented within this report.
- 6.4 The assessed rooms meet the recommendations using the DF_T test.
- 6.5 This means the future occupants will enjoy a well-lit environment, with reduced reliance on artificial lighting.
- 6.6 It is therefore the conclusion of this report that the proposals meet the guidance levels for daylight and are therefore acceptable in planning terms.



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