09

DAYLIGHT & WIND STUDY

09. DAYLIGHT & WIND STUDY

09.1 INTERNAL DAYLIGHT ANALYSIS - APARTMENTS

A comprehensive report has been prepared by OCSC Engineering Consulting to verify that the proposed residential development at Fortfield Road achieves the minimum recommended daylight factors.

The analysis confirms that across the entire development excellent levels of internal daylight are achieved. The results show a 98.7% compliance rate has been achieved when compared against Criterion I of the BRE Guide 3rd Edition standard for daylight. Against Criterion II, a 98.3% compliance rate has been achieved. A secondary daylight analysis was completed using the targets set out in Appendix 16 of the Dublin City Council (DCC) Development Plan, and a 99.7% compliance rate was achieved against this standard. The units which fall short of daylight recommendations features various compensatory measures, as detailed in Section 5 of OCSC's report.

Please refer to the full report prepared from OCSC Engineering Consulting for details.

NOTE:
This document is for discussion purpose only. All figures shown are an approximate estimation and are subject to further design development, accurate site survey and services (drainages, ESB, gas, etc.) and potential existing site restrictions (flooding, trees preservation, traffic, fire etc.). Please note also that any proposed concept layout in this document is subject to full planning permission being granted.

Table 4. BRE Guide 3rd Edition Daylight Results – Block A First Floor

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
2	Bedroom	100%	Y	98%	Y	100	100%	Y
3	Bedroom	100%	Y	99%	Y	100	100%	Y
4	Living/ Kitchen	100%	Y	75%	Y	200	79%	Y
5	Bedroom	100%	Y	100%	Y	100	100%	Y
6	Bedroom	100%	Y	100%	Y	100	100%	Y
7	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
8	Living/ Kitchen	99%	Y	71%	Y	200	99%	Y
9	Bedroom	100%	Y	100%	Y	100	100%	Y
10	Bedroom	100%	Y	100%	Y	100	100%	Y
11	Living/ Kitchen	100%	Y	67%	Y	200	80%	Y
12	Bedroom	100%	Y	100%	Y	100	100%	Y
13	Studio	99%	Y	98%	Y	100	98%	Y
14	Living/ Kitchen	100%	Y	72%	Y	200	100%	Y
15	Bedroom	100%	Y	99%	Y	100	100%	Y
16	Living/ Kitchen	100%	Y	70%	Y	200	70%	Y
17	Bedroom	100%	Y	100%	Y	100	100%	Y
18	Bedroom	100%	Y	99%	Y	100	100%	Y
19	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
20	Bedroom	100%	Y	98%	Y	100	100%	Y
21	Living/ Kitchen	100%	Y	83%	Y	200	100%	Y
22	Bedroom	100%	Y	100%	Y	100	100%	Y
23	Bedroom	100%	Y	100%	Y	100	100%	Y
24	Bedroom	99%	Y	99%	Y	100	99%	Y
25	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
26	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
27	Bedroom	100%	Y	100%	Y	100	100%	Y
28	Bedroom	100%	Y	100%	Y	100	100%	Y
29	Bedroom	100%	Y	98%	Y	100	100%	Y
30	Living/ Kitchen	100%	Y	92%	Y	200	100%	Y
31	Bedroom	100%	Y	96%	Y	100	100%	Y
32	Bedroom	100%	Y	100%	Y	100	100%	Y
33	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
34	Living/ Kitchen	100%	Y	67%	Y	200	100%	Y
35	Bedroom	100%	Y	94%	Y	100	100%	Y
36	Bedroom	100%	Y	96%	Y	100	100%	Y
37	Living/ Kitchen	100%	Y	56%	Y	200	74%	Y
38	Bedroom	100%	Y	52%	Y	100	100%	Y
39	Living/ Kitchen	100%	Y	62%	Y	200	98%	Y
40	Bedroom	98%	Y	98%	Y	100	98%	Y
41	Bedroom	100%	Y	100%	Y	100	100%	Y
42	Living/ Kitchen	79%	N	39%	N	200	52%	Y
43	Bedroom	100%	Y	77%	Y	100	100%	Y
44	Bedroom	100%	Y	92%	Y	100	100%	Y
45	Living/ Kitchen	100%	Y	62%	Y	200	78%	Y
46	Bedroom	100%	Y	97%	Y	100	100%	Y
47	Living/ Kitchen	100%	Y	53%	Y	200	66%	Y
48	Bedroom	100%	Y	92%	Y	100	100%	Y
49	Bedroom	100%	Y	97%	Y	100	100%	Y
50	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y

Table 8. BRE Guide 3rd Edition Daylight Results – Block B First Floor

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
2	Bedroom	100%	Y	99%	Y	100	100%	Y
3	Bedroom	100%	Y	98%	Y	100	100%	Y
4	Living/ Kitchen	100%	Y	63%	Y	200	79%	Y
5	Bedroom	100%	Y	100%	Y	100	100%	Y
6	Bedroom	100%	Y	100%	Y	100	100%	Y
7	Living/ Kitchen	100%	Y	97%	Y	200	100%	Y
8	Living/ Kitchen	99%	Y	61%	Y	200	97%	Y
9	Bedroom	100%	Y	100%	Y	100	100%	Y
10	Bedroom	100%	Y	95%	Y	100	100%	Y
11	Living/ Kitchen	100%	Y	58%	Y	200	80%	Y
12	Bedroom	100%	Y	62%	Y	100	100%	Y
13	Living/ Kitchen	100%	Y	78%	Y	200	95%	Y
14	Living/ Kitchen	99%	Y	55%	Y	200	67%	Y
15	Bedroom	100%	Y	97%	Y	100	100%	Y
16	Bedroom	100%	Y	98%	Y	100	100%	Y
17	Living/ Kitchen	100%	Y	57%	Y	200	75%	Y
18	Bedroom	100%	Y	100%	Y	100	100%	Y
19	Bedroom	100%	Y	100%	Y	100	100%	Y
20	Bedroom	100%	Y	100%	Y	100	100%	Y
21	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
22	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
23	Bedroom	100%	Y	98%	Y	100	100%	Y
24	Bedroom	100%	Y	94%	Y	100	100%	Y
25	Bedroom	100%	Y	98%	Y	100	100%	Y
26	Living/ Kitchen	100%	Y	67%	Y	200	86%	Y
27	Bedroom	100%	Y	61%	Y	100	100%	Y
28	Living/ Kitchen	97%	Y	95%	Y	200	99%	Y
29	Bedroom	100%	Y	77%	Y	100	100%	Y
30	Bedroom	100%	Y	63%	Y	100	100%	Y
31	Living/ Kitchen	100%	Y	54%	Y	200	95%	Y
32	Bedroom	100%	Y	100%	Y	100	100%	Y
33	Bedroom	100%	Y	99%	Y	100	100%	Y
34	Living/ Kitchen	73%	N	38%	N	200	50%	Y
35	Bedroom	100%	Y	71%	Y	100	100%	Y
36	Bedroom	100%	Y	77%	Y	100	100%	Y
37	Living/ Kitchen	100%	Y	64%	Y	200	78%	Y
38	Bedroom	100%	Y	95%	Y	100	100%	Y
39	Living/ Kitchen	96%	Y	51%	Y	200	62%	Y
40	Bedroom	100%	Y	94%	Y	100	100%	Y
41	Bedroom	100%	Y	90%	Y	100	100%	Y
42	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y

Table 13. BRE Guide 3rd Edition Daylight Results – Block C First Floor

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
2	Bedroom	100%	Y	100%	Y	100	100%	Y
3	Bedroom	100%	Y	96%	Y	100	100%	Y
4	Living/ Kitchen	98%	Y	54%	Y	200	66%	Y
5	Bedroom	100%	Y	98%	Y	100	100%	Y
6	Bedroom	100%	Y	93%	Y	100	100%	Y
7	Living/ Kitchen	100%	Y	72%	Y	200	91%	Y
8	Living/ Kitchen	100%	Y	43%	N	200	64%	Y
9	Bedroom	100%	Y	98%	Y	100	100%	Y
10	Bedroom	100%	Y	95%	Y	100	100%	Y
11	Living/ Kitchen	99%	Y	54%	Y	200	67%	Y
12	Bedroom	100%	Y	99%	Y	100	100%	Y
13	Living/ Kitchen	100%	Y	69%	Y	200	95%	Y
14	Living/ Kitchen	79%	N	42%	N	200	53%	Y
15	Bedroom	100%	Y	95%	Y	100	100%	Y
16	Bedroom	100%	Y	74%	Y	100	100%	Y
17	Living/ Kitchen	100%	Y	72%	Y	200	98%	Y
18	Bedroom	100%	Y	98%	Y	100	100%	Y
19	Living/ Kitchen	100%	Y	53%	Y	200	68%	Y
20	Bedroom	100%	Y	98%	Y	100	100%	Y
21	Bedroom	100%	Y	91%	Y	100	100%	Y
22	Bedroom	99%	Y	98%	Y	100	99%	Y
23	Living/ Kitchen	100%	Y	99%	Y	200	99%	Y
24	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
25	Bedroom	100%	Y	99%	Y	100	100%	Y
26	Bedroom	100%	Y	98%	Y	100	100%	Y
27	Bedroom	100%	Y	99%	Y	100	100%	Y
28	Living/ Kitchen	100%	Y	57%	Y	200	97%	Y
29	Bedroom	100%	Y	79%	Y	100	100%	Y
30	Bedroom	100%	Y	89%	Y	100	100%	Y
31	Living/ Kitchen	100%	Y	61%	Y	200	95%	Y
32	Bedroom	100%	Y	97%	Y	100	100%	Y
33	Bedroom	100%	Y	99%	Y	100	100%	Y
34	Living/ Kitchen	72%	N	33%	N	200	45%	N
35	Bedroom	100%	Y	55%	Y	100	100%	Y
36	Bedroom	100%	Y	73%	Y	100	99%	Y
37	Living/ Kitchen	99%	Y	56%	Y	200	69%	Y
38	Bedroom	100%	Y	53%	Y	100	87%	Y
39	Living/ Kitchen	85%	N	44%	N	200	56%	Y
40	Bedroom	100%	Y	91%	Y	100	96%	Y
41	Bedroom	100%	Y	93%	Y	100	98%	Y
42	Living/ Kitchen	100%	Y	99%	Y	200	100%	Y

Table 19. BRE Guide 3rd Edition Daylight Results – Block D First Floor

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Living/ Kitchen	100%	Y	99%	Y	200	100%	Y
2	Bedroom	95%	Y	80%	Y	100	95%	Y
3	Bedroom	99%	Y	96%	Y	100	99%	Y
4	Living/ Kitchen	83%	N	54%	Y	200	65%	Y
5	Bedroom	100%	Y	95%	Y	100	100%	Y
6	Bedroom	100%	Y	91%	Y	100	100%	Y
7	Living/ Kitchen	100%	Y	87%	Y	200	100%	Y
8	Living/ Kitchen	100%	Y	63%	Y	200	100%	Y
9	Bedroom	100%	Y	99%	Y	100	100%	Y
10	Bedroom	100%	Y	90%	Y	100	100%	Y
11	Living/ Kitchen	77%	N	36%	N	200	51%	Y
12	Bedroom	100%	Y	46%	N	100	82%	Y
13	Living/ Kitchen	100%	Y	76%	Y	200	90%	Y
14	Bedroom	100%	Y	78%	Y	100	100%	Y
15	Bedroom	100%	Y	73%	Y	100	100%	Y
16	Bedroom	100%	Y	97%	Y	100	100%	Y
17	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
18	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
19	Bedroom	100%	Y	100%	Y	100	100%	Y
20	Bedroom	100%	Y	98%	Y	100	100%	Y
21	Bedroom	100%	Y	100%	Y	100	100%	Y
22	Living/ Kitchen	100%	Y	70%	Y	200	100%	Y
23	Bedroom	100%	Y	100%	Y	100	100%	Y
24	Bedroom	100%	Y	100%	Y	100	100%	Y
25	Living/ Kitchen	99%	Y	99%	Y	200	99%	Y
26	Bedroom	100%	Y	100%	Y	100	100%	Y
27	Living/ Kitchen	100%	Y	84%	Y	200	100%	Y
28	Bedroom	100%	Y	98%	Y	100	100%	Y
29	Bedroom	100%	Y	98%	Y	100	100%	Y
30	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y

09. DAYLIGHT & WIND STUDY

09.2 INTERNAL DAYLIGHT ANALYSIS - HOUSES

In relation to the BRE Guide 3rd Edition recommendations, all the houses meet the minimum recommendation. A 100% compliance rate can be assumed across the development.

Please refer to the full report prepared from OCSC Engineering Consulting for details.

NOTE:
This document is for discussion purpose only. All figures shown are an approximate estimation and are subject to further design development, accurate site survey and services (drainages, ESB, gas, etc.) and potential existing site restrictions (flooding, trees preservation, traffic, fire etc.). Please note also that any proposed concept layout in this document is subject to full planning permission being granted.

Figure 27. Houses – Ground floor

Figure 28. Houses – First floor

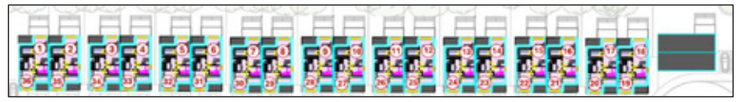

Figure 29. Houses – Second floor

Table 24. BRE 3rd Edition Daylight Results – Ground Floor of Houses

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance at ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance at ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
2	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
3	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
4	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
5	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
6	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
7	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
8	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
9	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
10	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
11	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
12	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
13	Living/ Kitchen	100%	Y	99%	Y	200	100%	Y
14	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
15	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
16	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
17	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
18	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
19	Living Room	100%	Y	100%	Y	150	100%	Y
20	Living/ Kitchen	100%	Y	100%	Y	200	100%	Y
21	Living Room	100%	Y	100%	Y	150	100%	Y
22	Living Room	100%	Y	100%	Y	150	100%	Y
23	Living Room	100%	Y	100%	Y	150	100%	Y
24	Living Room	100%	Y	100%	Y	150	100%	Y
25	Living Room	100%	Y	99%	Y	150	100%	Y
26	Living Room	100%	Y	99%	Y	150	100%	Y
27	Living Room	100%	Y	99%	Y	150	100%	Y
28	Living Room	100%	Y	99%	Y	150	100%	Y
29	Living Room	100%	Y	99%	Y	150	100%	Y
30	Living Room	100%	Y	100%	Y	150	100%	Y
31	Living Room	100%	Y	98%	Y	150	98%	Y
32	Living Room	100%	Y	100%	Y	150	100%	Y
33	Living Room	100%	Y	100%	Y	150	100%	Y
34	Living Room	100%	Y	100%	Y	150	100%	Y
35	Living Room	100%	Y	100%	Y	150	100%	Y
36	Living Room	100%	Y	100%	Y	150	100%	Y
37	Living Room	100%	Y	100%	Y	150	100%	Y
38	Living Room	100%	Y	100%	Y	150	100%	Y

Table 25. BRE 3rd Edition Daylight Results – First Floor of Houses

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance at ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance at ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Bedroom	100%	Y	98%	Y	100	100%	Y
2	Bedroom	100%	Y	98%	Y	100	100%	Y
3	Bedroom	100%	Y	71%	Y	100	100%	Y
4	Bedroom	100%	Y	73%	Y	100	100%	Y
5	Bedroom	100%	Y	98%	Y	100	100%	Y
6	Bedroom	100%	Y	98%	Y	100	100%	Y
7	Bedroom	100%	Y	74%	Y	100	100%	Y
8	Bedroom	100%	Y	66%	Y	100	100%	Y
9	Bedroom	100%	Y	98%	Y	100	100%	Y
10	Bedroom	100%	Y	72%	Y	100	100%	Y
11	Bedroom	100%	Y	85%	Y	100	100%	Y
12	Bedroom	100%	Y	99%	Y	100	100%	Y
13	Bedroom	100%	Y	98%	Y	100	100%	Y
14	Bedroom	100%	Y	54%	Y	100	100%	Y
15	Bedroom	100%	Y	72%	Y	100	100%	Y
16	Bedroom	100%	Y	73%	Y	100	100%	Y
17	Bedroom	100%	Y	98%	Y	100	100%	Y
18	Bedroom	100%	Y	98%	Y	100	100%	Y
19	Bedroom	100%	Y	73%	Y	100	100%	Y
20	Bedroom	100%	Y	71%	Y	100	100%	Y
21	Bedroom	100%	Y	97%	Y	100	100%	Y
22	Bedroom	100%	Y	59%	Y	100	100%	Y
23	Bedroom	100%	Y	73%	Y	100	100%	Y
24	Bedroom	100%	Y	67%	Y	100	100%	Y
25	Bedroom	100%	Y	97%	Y	100	100%	Y
26	Bedroom	100%	Y	51%	Y	100	100%	Y
27	Bedroom	100%	Y	73%	Y	100	100%	Y
28	Bedroom	100%	Y	69%	Y	100	100%	Y
29	Bedroom	100%	Y	97%	Y	100	100%	Y
30	Bedroom	100%	Y	98%	Y	100	100%	Y
31	Bedroom	100%	Y	70%	Y	100	100%	Y
32	Bedroom	100%	Y	68%	Y	100	100%	Y
33	Bedroom	100%	Y	97%	Y	100	100%	Y
34	Bedroom	100%	Y	67%	Y	100	100%	Y
35	Bedroom	100%	Y	75%	Y	100	100%	Y
36	Bedroom	100%	Y	78%	Y	100	100%	Y
37	Bedroom	100%	Y	100%	Y	100	100%	Y
38	Bedroom	100%	Y	100%	Y	100	100%	Y
39	Bedroom	100%	Y	100%	Y	100	100%	Y
40	Bedroom	100%	Y	100%	Y	100	100%	Y
41	Bedroom	100%	Y	100%	Y	100	100%	Y
42	Bedroom	100%	Y	100%	Y	100	100%	Y
43	Bedroom	100%	Y	100%	Y	100	100%	Y
44	Bedroom	100%	Y	100%	Y	100	100%	Y
45	Bedroom	100%	Y	100%	Y	100	100%	Y
46	Bedroom	100%	Y	100%	Y	100	100%	Y
47	Bedroom	100%	Y	100%	Y	100	100%	Y
48	Bedroom	100%	Y	100%	Y	100	100%	Y
49	Bedroom	100%	Y	100%	Y	100	100%	Y
50	Bedroom	100%	Y	100%	Y	100	100%	Y
51	Bedroom	100%	Y	100%	Y	100	100%	Y
52	Bedroom	100%	Y	100%	Y	100	100%	Y
53	Bedroom	100%	Y	100%	Y	100	100%	Y
54	Bedroom	100%	Y	100%	Y	100	100%	Y
55	Bedroom	100%	Y	100%	Y	100	100%	Y
56	Bedroom	98%	Y	97%	Y	100	98%	Y
57	Bedroom	100%	Y	100%	Y	100	100%	Y
58	Bedroom	100%	Y	100%	Y	100	100%	Y

Table 26. BRE 3rd Edition Daylight Results – Second Floor of Houses

Unit Ref.	Space	2022 Methodology Criterion I (%) (Compliance at ≥ 95% @100lux)	2022 Methodology Criterion I Compliance	2022 Methodology Criterion II (%) (Compliance at ≥ 50% @300lux)	2022 Methodology Criterion II Compliance	Room Specific Target Illuminance (lux)	(%) (Compliance at ≥ 50% @ room specific illuminance)	Room Specific Target Compliance
1	Bedroom	100%	Y	100%	Y	100	100%	Y
2	Bedroom	100%	Y	99%	Y	100	100%	Y
3	Bedroom	100%	Y	99%	Y	100	100%	Y
4	Bedroom	100%	Y	100%	Y	100	100%	Y
5	Bedroom	100%	Y	100%	Y	100	100%	Y
6	Bedroom	100%	Y	100%	Y	100	100%	Y
7	Bedroom	100%	Y	100%	Y	100	100%	Y
8	Bedroom	100%	Y	100%	Y	100	100%	Y
9	Bedroom	100%	Y	100%	Y	100	100%	Y
10	Bedroom	100%	Y	100%	Y	100	100%	Y
11	Bedroom	100%	Y	100%	Y	100	100%	Y
12	Bedroom	100%	Y	100%	Y	100	100%	Y
13	Bedroom	100%	Y	100%	Y	100	100%	Y
14	Bedroom	100%	Y	99%	Y	100	100%	Y
15	Bedroom	100%	Y	100%	Y	100	100%	Y
16	Bedroom	100%	Y	99%	Y	100	100%	Y
17	Bedroom	100%	Y	100%	Y	100	100%	Y
18	Bedroom	100%	Y	100%	Y	100	100%	Y
19	Living	100%	Y	100%	Y	150	100%	Y
20	Living	100%	Y	100%	Y	150	100%	Y
21	Living	100%	Y	100%	Y	150	100%	Y
22	Living	100%	Y	100%	Y	150	100%	Y
23	Living	100%	Y	100%	Y	150	100%	Y
24	Living	100%	Y	100%	Y	150	100%	Y
25	Living	100%	Y	100%	Y	150	100%	Y
26	Living	100%	Y	100%	Y	150	100%	Y
27	Living	100%	Y	100%	Y	150	100%	Y
28	Living	100%	Y	100%	Y	150	100%	Y
29	Living	100%	Y	100%	Y	150	100%	Y
30	Living	100%	Y	100%	Y	150	100%	Y
31	Living	100%	Y	100%	Y	150	100%	Y
32	Living	100%	Y	100%	Y	150	100%	Y
33	Living	100%	Y	100%	Y	150	100%	Y
34	Living	100%	Y	100%	Y	150	100%	Y
35	Living	100%	Y	100%	Y	150	100%	Y
36	Living	100%	Y	100%	Y	150	100%	Y

09. DAYLIGHT & WIND STUDY

09.3 SUNLIGHT ANALYSIS TO AMENITY SPACES

The BRE Guide 3rd Edition recommends that for external amenity spaces to appear adequately sunlit throughout the year, at least half of the garden or amenity space should receive at least two hours of sunlight on March 21st.
In order to show that sunlight levels within the development achieve compliance with current BRE Guide 3rd Edition recommendations a sunlight study has been carried out for the proposed development.
The red squares in Figure 30 and Figure 31 below illustrate the areas that receive a minimum of 2 hours of sunlight on the 21st of March for the proposed development. It is clear that the majority of the amenity spaces receive 2 hours or more of sunlight on March 21st. Therefore, compliance with BRE Guide 3rd Edition is achieved with regards to amenity space sunlight.

Please refer to the full report prepared from OCSC Engineering Consulting for details.

Table 27: Amenity Space Sunlight Results

Unit Ref.	Area (m^2)	Area Required for Compliance (%)	Portion of Amenity Space receiving ≥ 2 hours Sunlight on 21st March (%)	Compliance
A	6621	50%	100%	Y
B	526	50%	100%	Y
C	951	50%	76%	Y
D	565	50%	100%	Y
E	977	50%	96%	Y
F	565	50%	100%	Y
G	1012	50%	86%	Y
H	487	50%	86%	Y
I	7057	50%	100%	Y

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Figure 30: Amenity Space Sunlight – Main Spaces - Hours of Sunlight on March 21st

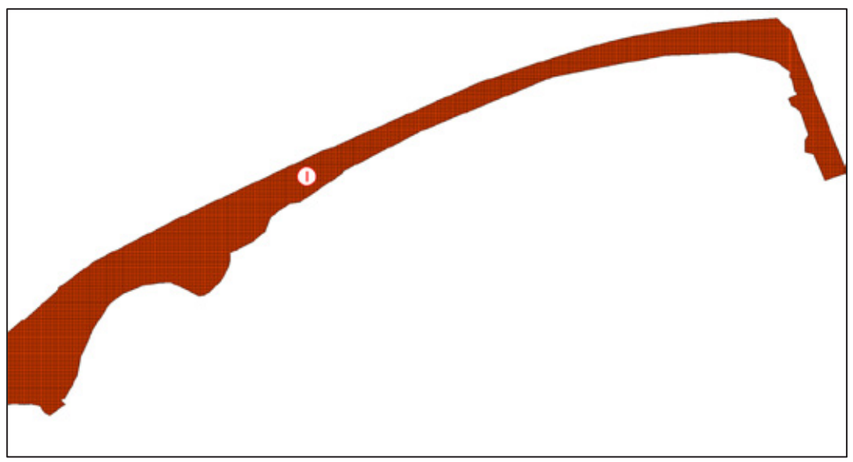

Figure 31: Amenity Space Sunlight – Woodlands Area - Hours of Sunlight on March 21st(Trees excluded from calculation)

09. DAYLIGHT & WIND STUDY

09.4 SUNLIGHT IMPACT TO EXISTING SURROUNDING PROPERTIES

As per the BRE Guide 3rd Edition, it is important to safeguard the daylight to nearby buildings, from a proposed development, where a reasonable expectation of daylight is required. The flow matrix below outlines the criteria to be assessed, as per the BRE Guide 3rd Edition, to ascertain any potential impact to adjacent buildings from the proposed development.

Of the two properties which fall within the 25° line of the proposed development, one of these properties does not have windows facing the development, therefore it's VSC does not need to be analysed. The second building does have 14 windows facing the development, therefore the VSC to these windows does need to be analysed. The windows which require VSC analysis are shown in Figure 40. The results from the VSC analysis, as can be seen in Table 32, show that all 14 windows are compliant, as their VSC following the introduction of the proposed development is greater than 27%, therefore daylighting is unlikely to be significantly affected.

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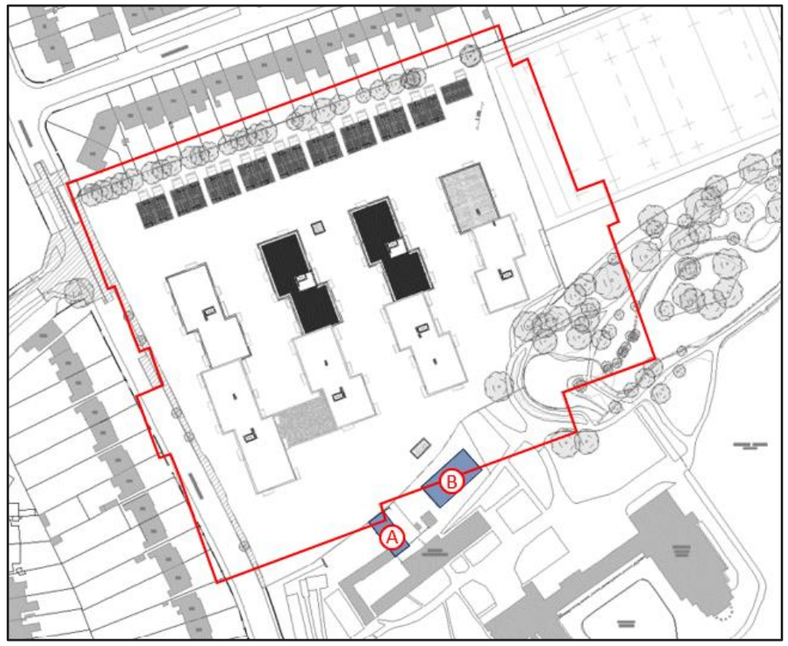

Figure 39: Impact to Adjacent Buildings - 25° Line

09. DAYLIGHT & WIND STUDY

09.5 SUNLIGHT IMPACT TO EXISTING SURROUNDING AMENITY SPACES

BRE Guide 3rd Edition recommends that for external amenity spaces to appear adequately sunlit throughout the year, at least half of the space should receive at least two hours of sunlight on March 21st. March 21st is chosen as the test date by BRE as it is the equinox and represents the average level of shading across the year.

The back gardens to the houses to the north of the proposed development fall within the 25° line shown in Figure 39, therefore the sunlight to these gardens should be assessed, to determine what impact, if any, the proposed development will have on these gardens

The red squares in the figure on the right illustrate the areas that receive 2 hours or more of sunlight on the 21st of March for the existing gardens to the north of the proposed development.

Compliance with BRE Guide 3rd Edition is achieved.

The proposed new development does not have a perceptible impact on sunlight in the existing garden spaces to the north.

Please refer to the full report prepared from OCSC Engineering Consulting for details.

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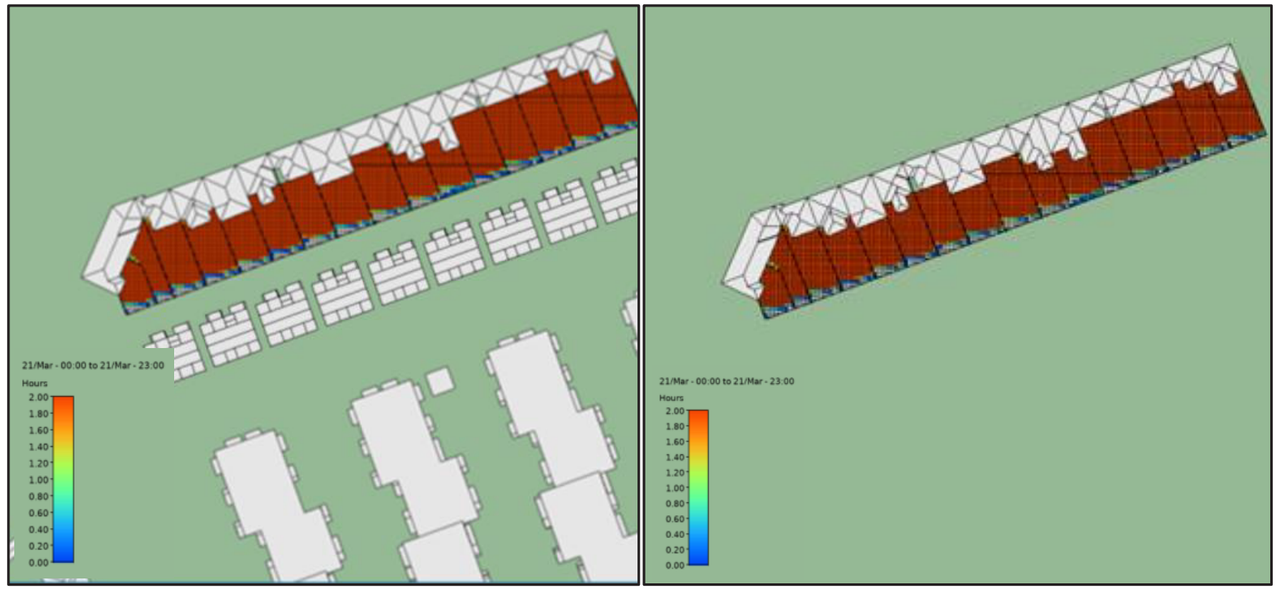

Figure 41: Adjacent Amenity Space Sunlight Analysis March 21st, After (left) and Before (right)

09. DAYLIGHT & WIND STUDY

09.6 OVERSHADOWING ANALYSIS

The overshadowing impact on the existing surrounding properties from the proposed development has been analysed. The overshadowing images in the following figures illustrate the overshadowing impact of the proposed development on March 21st, June 21st and December 21st.
The images demonstrate that the overshadowing impact of the proposed development on the surrounding properties will be limited to shading properties only at select times during the day and year.

Please refer to the full report prepared from OCSC Engineering Consulting for details.

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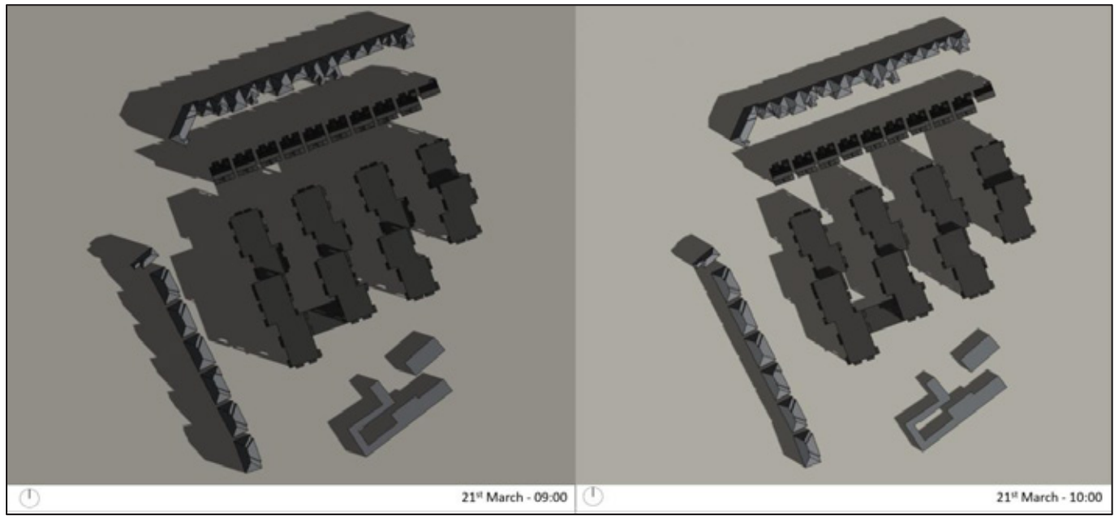

Figure 42: Overshadowing Images on March 21st at 9am and 10am

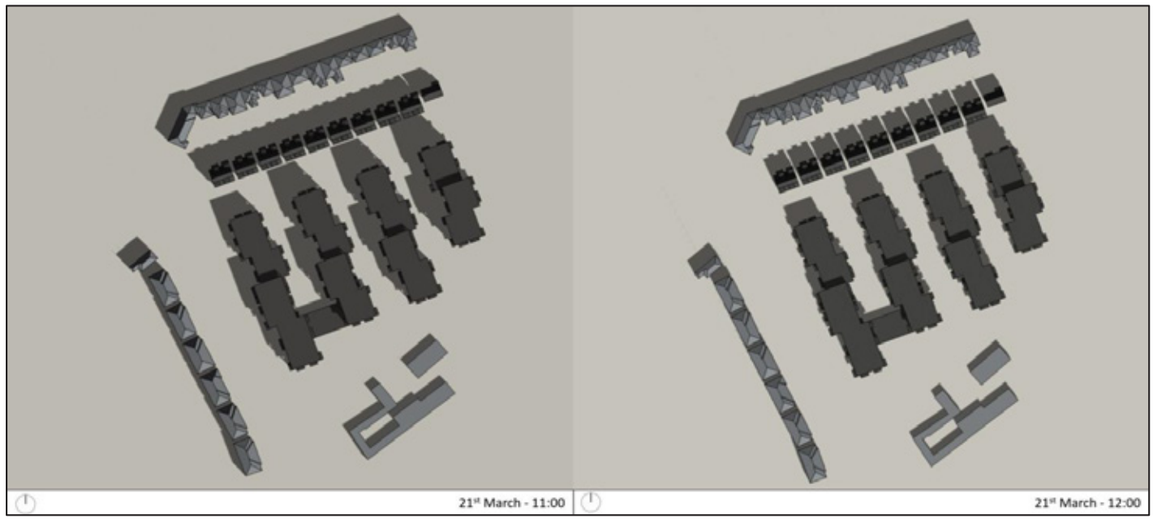

Figure 43: Overshadowing Images on March 21st at 11am and 12pm

09. DAYLIGHT & WIND STUDY

09.6 WIND/MICROCLIMATE STUDY

The Wind/Microclimate Study Report prepared by OCSC outlines the predicted climatic wind conditions experienced within and surrounding the proposed development on Fortfield Road, Terenure, Dublin 6.

A conscious effort was made by the design team during the design stages to mitigate the risk of localised increased wind speed conditions due to the proposed development. The introduction of mitigation measures such as the corridor spaces between buildings, building line, façade protrusions, solid balcony balustrades, as well as the strategic location of extensive landscaping, all assist in reducing the potential development of local increased wind speed and the negative impact on local climatic conditions.

Based on the CFD modelling results, the proposed development will be a comfortable environment for occupants. Certain areas have been highlighted as experiencing minor discomfort for a limited period of time, such as certain areas at ground floor level. However, these concerns have been largely addressed through the incorporation of detailed landscaping which will mitigate excessive wind speeds in these areas.
Overall, the proposed development may be classified as a high-quality, comfortable environment for occupants throughout the year.

Please refer to the full report prepared from OCSC Engineering Consulting for details.

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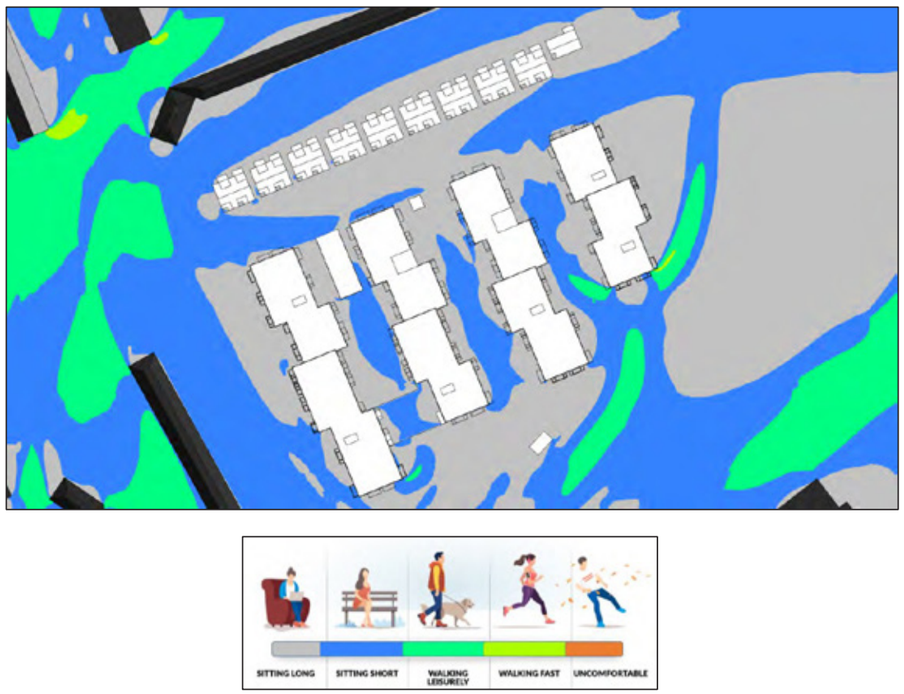

Figure 13: Wind/ Microclimate Comfort Results – Ground Floor

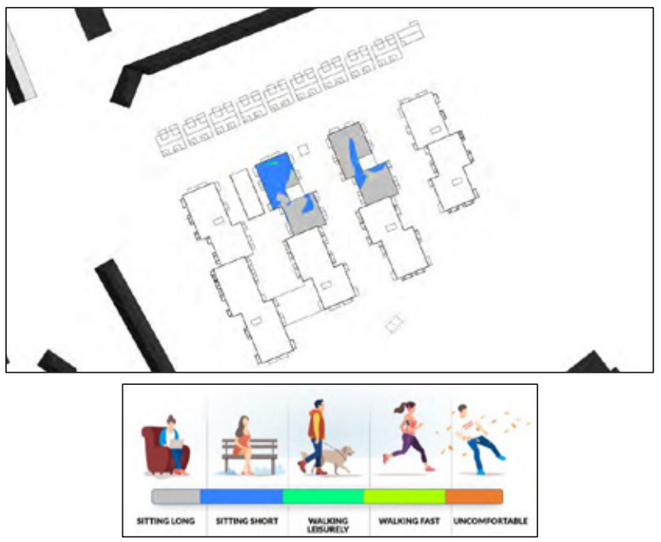

Figure 14: Wind/ Microclimate Comfort Results – Rooftop Terraces

10

PERFORMANCE MANAGEMENT CRITERIA

DCC Development Plan, Appendix 3

10. PERFORMANCE MANAGEMENT CRITERIA

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10.1 PERFORMANCE MANAGEMENT CRITERIA

1. To promote development with a sense of place and character
Enhanced density and scale should:
- respect and/or complement existing and established surrounding urban structure, character and local context, scale and built and natural heritage and have regard to any development constraints,
- have a positive impact on the local community and environment and contribute to 'healthy placemaking',
- create a distinctive design and add to and enhance the quality design of the area,
- be appropriately located in highly accessible places of greater activity and land use intensity,
- have sufficient variety in scale and form and have an appropriate transition in scale to the boundaries of a site/adjacent development in an established area,
- not be monolithic and should have a well-considered design response that avoids long slab blocks,
- ensure that set back floors are appropriately scaled and designed.

2. To provide appropriate legibility
Enhanced density and scale should:
- make a positive contribution to legibility in an area in a cohesive manner,
- reflect and reinforce the role and function of streets and places and enhance permeability.

3. To provide appropriate continuity and enclosure of streets and spaces
Enhanced density and scale should:
- enhance the urban design context for public spaces and key thoroughfares,
- provide appropriate level of enclosure to streets and spaces,
- not produce canyons of excessive scale and overbearing of streets and spaces,
- generally be within a human scale and provide an appropriate street width to building height ratio of 1:1.5 – 1:3,
- provide adequate passive surveillance and sufficient doors, entrances and active uses to generate street-level activity, animation and visual interest.

4. To provide well connected, high quality and active public and communal spaces
Enhanced density and scale should:
- integrate into and enhance the public realm and prioritises pedestrians, cyclists and public transport,
- be appropriately scaled and distanced to provide appropriate enclosure/exposure to public and communal spaces, particularly to residential courtyards,
- ensure adequate sunlight and daylight penetration to public spaces and communal areas is received throughout the year to ensure that they are useable and can support outdoor recreation, amenity and other activities – see Appendix 16,
- ensure the use of the perimeter block is not compromised and that it utilised as an important typology that can include courtyards for residential development,
- ensure that potential negative microclimatic effects (particularly wind impacts) are avoided and or mitigated,
- provide for people friendly streets and spaces and prioritise street accessibility for persons with a disability.

5. To provide high quality, attractive and useable private spaces
Enhanced density and scale should:
- not compromise the provision of high quality private outdoor space,
- ensure that private space is usable, safe, accessible and inviting,
- ensure windows of residential units receive reasonable levels of natural light, particularly to the windows of residential units within courtyards – see Appendix 16,
- assess the microclimatic effects to mitigate and avoid negative impacts,
- retain reasonable levels of overlooking and privacy in residential and mixed use development.

6. To promote mix of use and diversity of activities
Enhanced density and scale should:
- promote the delivery of mixed use development including housing, commercial and employment development as well as social and community infrastructure,
- contribute positively to the formation of a 'sustainable urban neighbourhood',
- include a mix of building and dwelling typologies in the neighbourhood,
- provide for residential development, with a range of housing typologies suited to different stages of the life cycle.

7. To ensure high quality and environmentally sustainable buildings
Enhanced density and scale should:
- be carefully modulated and orientated so as to maximise access to natural daylight, ventilation, privacy, noise and views to minimise overshadowing and loss of light – see Appendix 16,
- not compromise the ability of existing or proposed buildings and nearby buildings to achieve passive solar gain,
- ensure a degree of physical building adaptability as well as internal flexibility in design and layout,
- ensure that the scale of plant at roof level is minimised and have suitable finish or screening so that it is discreet and unobtrusive,
- maximise the number of homes enjoying dual aspect, to optimise passive solar gain, achieve cross ventilation and for reasons of good street frontage,
- be constructed of the highest quality materials and robust construction methodologies,
- incorporate appropriate sustainable technologies, be energy efficient and climate resilient,
- apply appropriate quantitative approaches to assessing daylighting and sun lighting proposals. In exceptional circumstances compensatory design solutions may be allowed for where the meeting of sun lighting and daylighting requirements is not possible in the context of a particular site (See Appendix 16),
- incorporate an Integrated Surface Water Management Strategy to ensure necessary public surface water infrastructure and nature based SUDS solutions are in place – see Appendix 13,
- include a flood risk assessment – see SFRA Volume 7.
- include an assessment of embodied energy impacts – see Section 15.7.1.

8. To secure sustainable density, intensity at locations of high accessibility
Enhanced density and scale should:
- be at locations of higher accessibility well served by public transport with high capacity frequent service with good links to other modes of public transport,
- look to optimise their development footprint; accommodating access, servicing and parking in the most efficient ways possible integrated into the design.

9. To protect historic environments from insensitive development
Enhanced density and scale should:
- not have an adverse impact on the character and setting of existing historic environments including Architectural Conservation Areas, Protected Structures and their curtilage and National Monuments – see section 6 below.
- be accompanied by a detailed assessment to establish the sensitives of the existing environment and its capacity to absorb the extent of development proposed,
- assess potential impacts on keys views and vistas related to the historic environment.

10. To ensure appropriate management and maintenance
Enhanced density and scale should:
- Include an appropriate management plan to address matters of security, management of public/communal areas, waste management, servicing etc.

10. PERFORMANCE MANAGEMENT CRITERIA

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10.2 PERFORMANCE MANAGEMENT CRITERIA RESPONSE

1. To promote development with a sense of place and character

Enhanced density and scale should:

- respect and/or complement existing and established surrounding urban structure, character and local context, scale and built and natural heritage and have regard to any development constraints,
- have a positive impact on the local community and environment and contribute to 'healthy placemaking',
- create a distinctive design and add to and enhance the quality design of the area,
- be appropriately located in highly accessible places of greater activity and land use intensity,
- have sufficient variety in scale and form and have an appropriate transition in scale to the boundaries of a site/adjacent development in an established area,
- not be monolithic and should have a well-considered design response that avoids long slab blocks,
- ensure that set back floors are appropriately scaled and designed.

Response

The Fortfield Road development has been thoughtfully designed to enhance density and scale while ensuring harmonious integration with the existing urban fabric and character of the surrounding area. By drawing inspiration from the local built and natural heritage, the design respects development constraints and aims to strengthen community ties through thoughtful outdoor spaces and amenities, contributing to a healthy placemaking environment. Its distinctive architectural features and varied building heights create visual interest without overwhelming the area, allowing for an appropriate transition in scale that blends seamlessly with adjacent structures. The project prioritizes accessibility, situating residences in a vibrant location that supports diverse land uses. A good public transport network is available at this site. In particular a bus stop is located 40m from the site and another one with bus lines servicing City center at 498m. Please refer to "Public Transport Capacity Study" report, part of this application, for more details about all the bus routes. Moreover, the design avoids monolithic structures by incorporating features that promote variety and delineates setbacks that are proportionately scaled to enhance both aesthetics and functionality, positioning Fortfield Road as a model for future residential developments.

Moreover, the site, currently closed to the public, will be transformed into a geen and accessible open space that offers a variety of recreational areas for residents, catering to diverse activities suitable for all age groups. This public open space situated on the south side of the site, will be also linked to the green area around the lake which features a enjoyable1-kilometer exercise trail.

3. To provide appropriate continuity and enclosure of streets and spaces

Enhanced density and scale should:

- enhance the urban design context for public spaces and key thoroughfares,
- provide appropriate level of enclosure to streets and spaces,
- not produce canyons of excessive scale and overbearing of streets and spaces,
- generally be within a human scale and provide an appropriate street width to building height ratio of 1:1.5 – 1:3,
- provide adequate passive surveillance and sufficient doors, entrances and active uses to generate street-level activity, animation and visual interest.

Response

The proposed development adheres to the outlined criteria by skillfully enhancing the urban design context through thoughtful architectural integration and urban planning. By ensuring that building heights are balanced with appropriate street widths, maintaining an appropriate ratio (under 1:1.5) with Fortfield Rd, the development avoids the creation of towering canyons that overwhelm pedestrian experiences, instead fostering a sense of human scale.

The design incorporates varied facade treatments and strategically placed entrances to promote active uses at street level, enhancing passive surveillance and inviting community interaction.

Furthermore, public spaces are designed with careful consideration of enclosure and connectivity, creating vibrant thoroughfares that encourage social engagement while ensuring safety and visual interest, all of which significantly elevate the overall urban landscape.

The streets , as well as public spaces are designed to provide continuity.

4. To provide well connected, high quality and active public and communal spaces

Enhanced density and scale should:

- integrate into and enhance the public realm and prioritises pedestrians, cyclists and public transport,
- be appropriately scaled and distanced to provide appropriate enclosure/exposure to public and communal spaces, particularly to residential courtyards,
- ensure adequate sunlight and daylight penetration to public spaces and communal areas is received throughout the year to ensure that they are useable and can support outdoor recreation, amenity and other activities – see Appendix 16,
- ensure the use of the perimeter block is not compromised and that it utilised as an important typology that can include courtyards for residential development,
- ensure that potential negative microclimatic effects (particularly wind impacts) are avoided and or mitigated,
- provide for people friendly streets and spaces and prioritise street accessibility for persons with a disability.

Response

The proposed development on Fortfield Road effectively addresses the outlined criteria by creating a well-integrated urban environment that prioritizes pedestrian, cyclist, and public transport accessibility.

Access to the basement car park is conveniently located beyond the first building, effectively directing main traffic away from the core of the development. The design incorporates appropriate scaling and distances (minimum 22m) to ensure ample sunlight and daylight throughout the year for outdoor activities. Refer to "Daylight, Sunlight, Overshodowing Assessment" prepared by OCSC for details.

Mitigation strategies for potential negative microclimatic effects, such as wind, are incorporated, enhancing comfort in public and private areas. The shape of the developments massing and building façade plays a key role in helping to mitigate excessive wind speed around the proposed development. The positioning of the apartment blocks allows for wind to gently move and eventually dissipate while a combination of protrusions and set backs of key locations between the apartment blocks further encourages the dissipation of wind speeds. Furthermore, careful consideration of

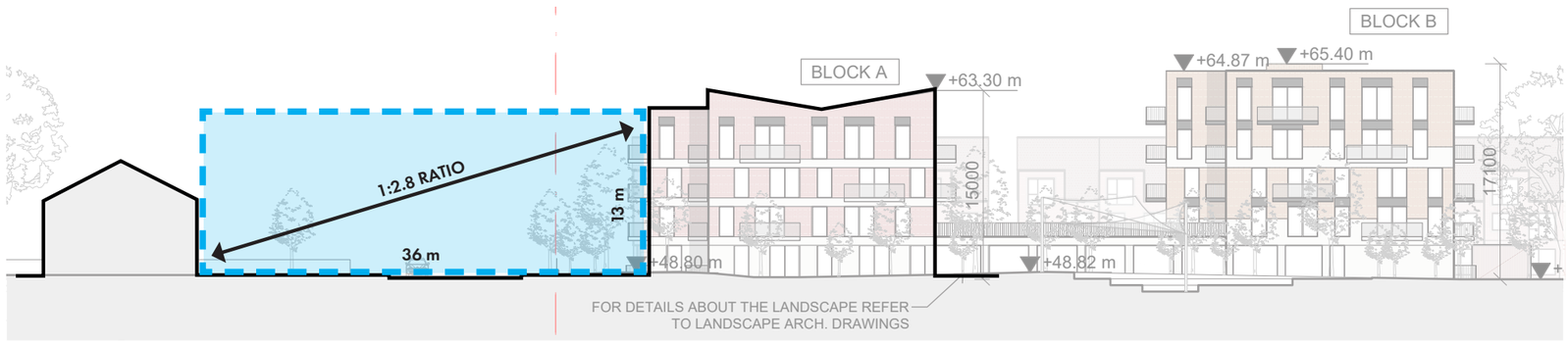
2. To provide appropriate legibility

Enhanced density and scale should:

- make a positive contribution to legibility in an area in a cohesive manner,
- reflect and reinforce the role and function of streets and places and enhance permeability.

Response

The new development on Fortfield Road enhances density and scale, contributing positively to legibility by creating a more cohesive urban environment that ties together surrounding streets and the new public spaces. This increased density encourages vibrant street activity and supports local comunity, while the thoughtful architectural design and layout reinforce the area's character and purpose. By improving sight lines and connectivity, it enhances permeability, allowing for easier navigation throughout the neighborhood, thus fostering a sense of community and ensuring that both residents and visitors can engage with the spaces more intuitively.



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landscape elements along the South of the development help to reduce the speed of the wind as it comes from the predominant South West wind direction.
The design emphasizes people-friendly streets, ensuring that all spaces are accessible, particularly for persons with disabilities, thus promoting an inclusive community environment.
Lastly, he good public transport in the area together with the provision of a large amount of bike parking spaces, make the site particularly attractive for pedestrians, by reducing the amount of the cars.

5. To provide high quality, attractive and useable private spaces

Enhanced density and scale should:
- not compromise the provision of high quality private outdoor space,
- ensure that private space is usable, safe, accessible and inviting,
- ensure windows of residential units receive reasonable levels of natural light, particularly to the windows of residential units within courtyards – see Appendix 16,
- assess the microclimatic effects to mitigate and avoid negative impacts,
- retain reasonable levels of overlooking and privacy in residential and mixed use development.

Response

The proposed development meets the outlined requirements by incorporating thoughtfully designed private outdoor spaces that ensure high-quality usability and safety.
Careful attention has been given to the orientation and placement of windows to maximize natural light for residential units. There are no units with a single north-facing aspect, and most feature a desirable double-aspect layout.
Moreover, the generous size of the windows, especially in the living/dining rooms, combined with the strategic staggered position of the balconies, guarantee an abundance of natural light in all the apartments. The project includes a comprehensive microclimatic analysis, allowing for the mitigation of potential negative impacts, while ensuring that residential and mixed-use areas maintain an acceptable balance of privacy and overlooking through strategic layout and screening measures. Overall, the development focuses on creating a welcoming and functional environment that prioritizes the well-being of its residents.

6. To promote mix of use and diversity of activities

Enhanced density and scale should:
- promote the delivery of mixed use development including housing, commercial and employment development as well as social and community infrastructure,
- contribute positively to the formation of a 'sustainable urban neighbourhood',
- include a mix of building and dwelling typologies in the neighbourhood,
- provide for residential development, with a range of housing typologies suited to different stages of the life cycle.

Response

The proposed development aligns with the goals of promoting a mix of use and diversity of activities by integrating residential, art/cultural areas and community spaces within a cohesive urban framework. By incorporating a variety of dwelling typologies (houses, studio, 1bed, 2bed, 3bed apartments), the design ensures that it accommodates residents at different life stages, fostering inclusivity. This residential development will also provide to the supply of accommodation required by workers based in town and Tallaght in respect of which there are good transport links. Additionally, the development enhances density and scale through interconnected public spaces and infrastructure, supporting a vibrant, sustainable urban neighborhood that encourages social interaction, reduces reliance on cars, and enhances local employment opportunities. Overall, it creates a dynamic environment that meets diverse community needs while promoting sustainability.

7. To ensure high quality and environmentally sustainable buildings

Enhanced density and scale should:
- be carefully modulated and orientated so as to maximise access to natural daylight, ventilation, privacy, noise and views to minimise overshadowing and loss of light – see Appendix 16,
- not compromise the ability of existing or proposed buildings and nearby buildings to achieve passive solar gain,
- ensure a degree of physical building adaptability as well as internal flexibility in design and layout,
- ensure that the scale of plant at roof level is minimised and have suitable finish or screening so that it is discreet and unobtrusive,
- maximise the number of homes enjoying dual aspect, to optimise passive solar gain, achieve cross ventilation and for reasons of good street frontage,
- be constructed of the highest quality materials and robust construction methodologies,
- incorporate appropriate sustainable technologies, be energy efficient and climate resilient,
- apply appropriate quantitative approaches to assessing daylighting and sun lighting proposals. In exceptional circumstances compensatory design solutions may be allowed for where the meeting of sun lighting and daylighting requirements is not possible in the context of a particular site (See Appendix 16),
- incorporate an Integrated Surface Water Management Strategy to ensure necessary public surface water infrastructure and nature based SUDS solutions are in place – see Appendix 13,
- include a flood risk assessment – see SFRA Volume 7.
- include an assessment of embodied energy impacts – see Section 15.7.1.

Response

The development on Fortfield Road aligns with the outlined features by incorporating thoughtful architectural design that maximizes natural daylight and ventilation, ensuring optimal orientation to minimize overshadowing and maintain privacy. The buildings exhibit flexibility in layout to adapt to varying needs. The majority of the homes enjoy dual aspect, enhancing passive solar gain and cross ventilation, which contributes to overall energy efficiency. High-quality, durable materials are employed in construction, complemented by sustainable technologies that bolster climate resilience.
A detailed assessment of daylight and sunlight was conducted by OSCS, in accordance with the requirements of Appendix 16 and that as an exception for a number of units high quality compensatory measures are proposed where the context of the site creates constraints. Furthermore, an Integrated Surface Water Management Strategy, along with a flood risk assessment and evaluation of embodied energy impacts, has been integrated into the planning process to ensure environmental sustainability and compliance with infrastructure requirements.
The Lifecycle Report conducted by GAA is an integral component of this application, detailing the technologies and materials utilized in the proposed buildings and landscaping. A primary objective during the development's design was to prioritize sustainability and minimize long-term costs. In particular, Section 3.2 of the GAA report outlines various measures implemented in the Fortfield Road development aimed at reducing energy consumption and carbon emissions.
Additionally, the project seeks to reduce reliance on private car travel by promoting sustainable alternatives, such as a car-sharing service, access to a robust public transport network, and ample cycling facilities.
Most mechanical and electrical systems are strategically located in the basement to preserve the aesthetics of the rooftops and their views.
The apartments have been thoughtfully designed for physical adaptability, allowing for seamless future reconfiguration to accommodate changing needs while still adhering to minimum design standards. Additionally, the amenity space features a spacious, open layout that permits easy reimagining and redesign without affecting the building's structural integrity.

8. To secure sustainable density, intensity at locations of high accessibility

Enhanced density and scale should:
- be at locations of higher accessibility well served by public transport with high capacity frequent service with good links to other modes of public transport,
- look to optimise their development footprint; accommodating access, servicing and parking in the most efficient ways possible integrated into the design.

Response

The development effectively addresses the criteria by strategically positioning itself in a high-accessibility area that boasts robust public transport options, including frequent services and seamless connections to other transit modes. Please refer to "Public Transport Capacity Study" report, part of this application, for more details about all the bus routes. This ensures that increased density aligns with sustainable transportation practices, encouraging public transit use and reducing reliance on private vehicles.
The proposed site is also located adjacent to one of Bus Connects Core Bus Corridor preferred routes 'Tallaght to Terenure', so that the proposed development is connected with the Luas in Tallaght.
Furthermore, the design optimizes the development footprint by integrating access, servicing, and parking solutions within the layout, thereby minimizing land use while enhancing operational efficiency and contributing to a more sustainable urban environment.

9. To protect historic environments from insensitive development

Enhanced density and scale should:

10. PERFORMANCE MANAGEMENT CRITERIA

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• not have an adverse impact on the character and setting of existing historic environments including Architectural Conservation Areas, Protected Structures and their curtilage and National Monuments – see section 6 below.
• be accompanied by a detailed assessment to establish the sensitives of the existing environment and its capacity to absorb the extent of development proposed,
• assess potential impacts on keys views and vistas related to the historic environment.

Response
To ensure the development aligns with the requirements for protecting historic environments, a detailed assessment has been prepared, evaluating the character and setting of nearby Architectural Conservation Areas, Protected Structures, and National Monuments. This assessment identifies any sensitivities and determines the extent to which the environment can accommodate new density and scale without adverse effects.
Additionally, careful analysis has been performed on potential impacts to key views and vistas, ensuring that development enhances rather than detracts from the historical context. By integrating these measures, the project aims to maintain and respect the integrity of the historic environment throughout the development process.

10. To ensure appropriate management and maintenance

Enhanced density and scale should:
• Include an appropriate management plan to address matters of security, management of public/communal areas, waste management, servicing etc.

Response
A management plan has been prepared by GAA and it's part of this submission. It provides an overview of the operational management requirements and considerations for the site, and how this will work between the different residential types and public/private spaces. GAA also provides insights to guide the type and composition of the purpose-built residential development to be pursued.
This report sets out the long-term outline management strategy of the proposed residential development, and associated public realm, at Fortfield Road (hereafter referred to as "the development").
The report sets out the management strategies for the development and provides detail to the 'resident services and amenities', as well as the 'resident support facilities'.

11

12 KEY CRITERIA

Sustainable Residential Development in Urban Areas

11. 12 KEY CRITERIA

NOTE:
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11.1 NEIGHBOURHOOD

1. CONTEXT

The proposed development will improve on the existing situation whilst maintaining sensitivity to its context. The scheme is underpinned by the principles of high quality urban design, responding to the existing urban character of the area and also creating a sense of place with distinctive character and street frontages.
This design seeks to integrate with the existing residences along Fortfield Road and Greenlea Road in the vicinity. Building heights have thus been gradated so they step down as they approach Fortfield Road and Greenlea Road. From here, they gradually increase in height with an appropriate transition, reaching a maximum of 6-storeys.
The public open space to the south and south-east of the development site forges a green route across the site, from the more urban north-west corner towards the school campus and open playing fields to the south. This enhances the permeability through the site, maintains the adjacent natural features and forms a greenway that is currently blocked by the site boundary wall along Fortfield Road. The boundary conditions are thus improved, creating a more activate frontage.
The façade materials will be in keeping with surrounding development and with the distinctive character of the school. While distinctive in design, the proposed buildings will thus share a cohesive material aesthetic with the architecture of the greater area.

2. CONNECTIONS

The development is located at a reasonable distance from the city centre (approx. 5.4km away), equating to an approx. 20 minute commute from Dublin City centre to the proposed development.
Served well by public transport, the development is in close proximity to numerous existing Dublin Bus routes in addition to privately operated Air Coach services. Within 500m from Bus Stop 1159 on Templeogue Road, residents of the proposed development will be able to avail of a number of high frequency bus routes.
There is large-scale existing cycle network across the city and suburbs. Dedicated bicycle lanes run along Templeogue Road to the south of the development, and a network of urban cycle routes surround the development, thus facilitating sustainable transportation. A large number of bicycle spaces and the provision of a shared bike scheme will facilitate this convenient form of commute.
The development closely connected to a number of local amenities with Terenure Village, cafes, restaurants and shops located approximately 1.5 km from the site.

3. INCLUSIVITY

The design of the new development will meet the needs of all users, regardless of age, race and sensory and mobility abilities. The development will include provision for housing of different types and sizes (studio, 1bed, 2bed, 3bed, 4bed units) and will enable people from different backgrounds to benefit from the opportunity afforded by the development. This range of availability will aid the formation of a balanced, sustainable community.
The layout of the houses and the apartments has been designed based on the part M Irish Regulation, in order to avoid any kind of barriers and unnecessary changes in level. Furthermore, 77 no. units are designed following the Universal Design.
Also the amenities and facilities created by the development have been designed to provide safe areas for children to play. Welcoming for all age groups, the development offers also areas where adults can congregate.
While the development allows for a good permeability in the area, a strong distinction between public and private or communal open space is ensured to provide residents with choice.

4. VARIETY

The development promotes a healthy mix of activities, including both spaces reserved for residents, and spaces open to the wider community. At the ground floor between block A and B a series of amenities will animate the area, such as a tenants coffee dock area, a co-working, a relax zone, and other related spaces (refer to the Arch. Set Drawings for more details).
Outside, the green park hosts different open air activities which are explained in the Landscape Architect Drawings and Report.
Children, teenagers, adults and older people will easily find their favourite activity within the development.

11. 12 KEY CRITERIA

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11.2 SITE

5. EFFICIENCY

The development include a total of 284 residential units, resulting in a density of 107 units per hectare based on a development site area of 2.64 hectares. The proposal increases the density in the area, taking into account appropriate accessibility by public transport and all other objectives of good design. Refer to the Mobility Management plan report prepared from Punch for details.
As this Design Statement and the Landscape report state, amenities have been provided and biodiversity promoted with particular attention paid to the existing green open space.
The buildings and all related spaces, including gardens and amenities are laid out to capture the best solar orientation.

6. DISTINCTIVENESS

As already mentioned in this Design Statement, the scheme design is underpinned by the principles of high quality urban design to create a sense of place with distinctive character and street frontages.
The proposed façade materials are in keeping with surrounding development and with the historic character of the school. They are simultaneously applied in a distinctive way to add character to the building facade.
The proposal makes a positive contribution to the area. The building frontage along Fortfield Road will provide an enhanced urban presence on the street in accordance with the principles of high-quality urban design. In this way, the development of the site can integrate into and improve upon the area.
The proposed development will contribute positively towards place-making due to the large spaces and streets provided throughout the scheme as set out in detail below. These large open spaces will instil a sense of place while the various routes outlined in the scheme act as wayfinding tools that encourage residents and the wider public to move through, and therefore, animate the site.

7. LAYOUT

Currently, the public realm along Fortfield Road is of very poor quality, with dead frontage formed by a 180m solid boundary wall running along the site Area. It is proposed that the full wall be lowered and opened where necessary in order to make the new "Ecological park" more accessible to the public from Fortfield Road. This will render an active frontage and more porous site. The scheme proposes a soft edge, formed by green verges, trees and set back buildings along Fortfield Rd. Inside the development, the streets are designed as welcoming places instead of car-oriented roads, helping to create a more balanced hierarchy of space, with less busy routes having surfaces shared by pedestrians and cyclists. While cars are allowed to drive on the north side road in front of the houses, only emergency vehicles are permitted between the buildings.
The layout designates green areas and verges, placing a green buffer zone in front of the buildings and between the building A and Fortfield Rd.

8. PUBLIC REALM

The development is designed to provide active street frontage and vitality to Fortfield Road with a thoughtfully designed public space to the west side of the area.
The large green area comes by the lake (part of the site area) offers a well designed public open space for people to walk through and enjoy. This is overlooked by surrounding homes, engaging passive surveillance which heightens the safety of its users.
Children's play areas are similarly situated where there is maximal passive surveillance, contributing to a safe and family-friendly neighbourhood.

11. 12 KEY CRITERIA

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11.3 HOME

9. ADAPTABILITY

The proposed buildings will be constructed from concrete, finished in traditional materials and have internal layouts that can be easily adapted in the future to meet the needs of the residents subject to the necessary statutory consents being sought.
In particular, pairs of 1 bed apartments can be merged easily to form a 3 bed apartment, that meets the minimum floor area and rooms width. Also the opposite can be done. Most of the 4 bed houses have an additional room that may be used as a studio, or as a bedroom in the future.
The amenity space has been designed as a big open space, meaning that all zones can be easily rethought and redesigned without impacting on the structure.

10. PRIVACY AND AMENITY

The apartments have been designed in compliance with the guidelines set out in Sustainable Urban Housing Design Standards for New Apartments. Please refer to the Housing Quality Assessment included in this application for details of apartment sizes and room areas. Each apartment unit has their own dedicated balcony, garden or terrace, with a private open space provision as outlined in the HQA. The majority of apartments overlook a high quality landscaped courtyard area. Windows are placed in such a way that prevent direct views into other apartments and adequate privacy is afforded to ground floor units.
The units are designed to provide adequate storage. Please refer to the HQA for further details.

11. PARKING

The car parking within the development (associated with the apartments) is based primarily within the basement parking facilities. At-grade parking is also distributed throughout the site, including the in-curtilage parking associated with the housing units.
A total of 165 car parking spaces (including 2 drop-off spaces for the Creche and 1 delivery/service loading bay) are provided in the development. 117 No are located in the basement, the remaining 47 are at-grade. These include 7 disable parking. 19 no. parking spaces are provided for the housing component in-curtilage.
Adequate secure facilities are provided for bicycle storage also, and a total of 611 No of Bikes parking have been provided.
For further details, please refer to the Car Parking Management Plan prepared by Punch Engineering

12. DETAILED DESIGN

The buildings and the landscape have been designed to an accurate and comprehensive level so that nothing is left to chance. Particular consideration has been given from the outset to items such as how the balconies are incorporated into the elevations. The buildings avoid long, uninterrupted walls and modulation and building fabric have been well considered. The scheme has been designed to ensure interesting and variated facades which reduce the perceived mass and scale of the blocks to ensure that the scheme will not represent a monolithic form. The window configurations have been carefully detailed to ensure the living spaces get large framed views of the adjacent open spaces whilst also contributing to a dynamic facade.
The material choices for the finishes will ensure the buildings proposed are durable as well as being of a high visual quality.

12

VISUALIZATION

12. VIEW 01

12.1 REFUSED APPLICATION

12. VIEW 01

12.2 NEW PROPOSAL

12. VIEW 02

12.3 REFUSED APPLICATION

12. VIEW 02

12.4 NEW PROPOSAL

12. VIEW 03

12.5 REFUSED APPLICATION

12. VIEW 03

12.6 NEW PROPOSAL

12. VIEW 04

12.7 REFUSED APPLICATION

12. VIEW 04

12.8 NEW PROPOSAL

12. VIEW 05

12.9 REFUSED APPLICATION

12. VIEW 05

12.10 NEW PROPOSAL

12. VIEW 06

12.11 REFUSED APPLICATION

12. VIEW 06

12.12 NEW PROPOSAL

12. VIEW 07

12.13 REFUSED APPLICATION

12. VIEW 07

12.14 NEW PROPOSAL

12. VIEW 08

12.15 NEW PROPOSAL

12. VIEW 09

12.16 NEW PROPOSAL

12. VIEW 10

12.14 NEW PROPOSAL

13

DEVELOPMENT SUMMARY

13. DEVELOPMENT SUMMARY

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13.1 SCHEDULE OF ACCOMMODATION - BLOCK A

BUILDING A

FLOOR	UNIT NUMBER	UNIT TYPE	UNIT TYPOLOGY	REQUIRED INTERNAL AREA (sqm)	INTERNAL AREA (sqm)	DUAL ASPECT UNIT	+10% UNIT	PART V UNIT
Gr.	A-01	3B/5P	C	90.0	100.5		▪	
	A-02	3B/5P	A	90.0	100.5	▪	▪	
	A-03	STUDIO	A	37.0	41.6	▪	▪	
	A-04	1B/2P	C	45.0	51.4		▪	
	A-05	2B/4P	F	73.0	81.2		▪	
	A-06	1B/2P	C	45.0	51.4		▪	
	A-07	2B/4P	E	73.0	74.8			
	A-08	1B/2P	B	45.0	47.7	▪		
1st	A-09	2B/4P	D	73.0	81.2	▪	▪	
	A-10	2B/4P	D	73.0	81.2	▪	▪	
	A-11	1B/2P	A	45.0	47.7			
	A-12	1B/2P	A	45.0	47.7			
	A-13	1B/2P	F	45.0	47.7	▪		
	A-14	1B/2P	C	45.0	51.4		▪	
	A-15	1B/2P	E	45.0	50.2	▪	▪	
	A-16	2B/4P	A	73.0	76.0			
	A-17	2B/4P	B	73.0	76.0	▪		
	A-18	STUDIO	A	37.0	41.6	▪	▪	
	A-19	1B/2P	C	45.0	51.4		▪	
	A-20	2B/4P	F	73.0	81.2		▪	
	A-21	1B/2P	C	45.0	51.4		▪	
	A-22	1B/2P	D	45.0	50.2		▪	
	A-23	1B/2P	B	45.0	47.7	▪		
	A-24	1B/2P	A	45.0	47.7			
	A-25	1B/2P	F	45.0	47.7	▪		
	A-26	2B/4P	A	73.0	76.0			
	A-27	2B/4P	A	73.0	76.0			
	A-28	2B/4P	D	73.0	81.2	▪	▪	
	A-29	2B/4P	D	73.0	81.2	▪	▪	
2nd	A-30	2B/4P	D	73.0	81.2	▪	▪	
	A-31	2B/4P	D	73.0	81.2	▪	▪	
	A-32	1B/2P	A	45.0	47.7			
	A-33	1B/2P	A	45.0	47.7			
	A-34	1B/2P	F	45.0	47.7	▪		
	A-35	1B/2P	C	45.0	51.4		▪	
	A-36	1B/2P	E	45.0	50.2	▪	▪	
	A-37	2B/4P	A	73.0	76.0			
	A-38	2B/4P	B	73.0	76.0	▪		
	A-39	STUDIO	A	37.0	41.6	▪	▪	
	A-40	1B/2P	C	45.0	51.4		▪	
	A-41	2B/4P	F	73.0	81.2		▪	
	A-42	1B/2P	C	45.0	51.4	▪	▪	
	A-43	1B/2P	D	45.0	50.2		▪	
	A-44	1B/2P	B	45.0	47.7	▪		
	A-45	1B/2P	A	45.0	47.7			
	A-46	1B/2P	F	45.0	47.7	▪		
	A-47	2B/4P	A	73.0	76.0			
	A-48	2B/4P	A	73.0	76.0			
	A-49	2B/4P	D	73.0	81.2	▪	▪	
	A-50	2B/4P	D	73.0	81.2	▪	▪	
3rd	A-51	3B/5P	B	90.0	95.3	▪		
	A-52	3B/5P	B	90.0	95.3	▪		
	A-53	1B/2P	C	45.0	51.4		▪	
	A-54	1B/2P	D	45.0	50.2		▪	
	A-55	1B/2P	B	45.0	47.7	▪		
	A-56	1B/2P	A	45.0	47.7			
	A-57	1B/2P	F	45.0	47.7	▪		
	A-58	2B/4P	A	73.0	76.0			
	A-59	2B/4P	A	73.0	76.0			
	A-60	2B/4P	D	73.0	81.2	▪	▪	
	A-61	2B/4P	D	73.0	81.2	▪	▪	
TOTAL					3883.6			

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	3	5%
1B/2P	30	49%
2B/4P	24	39%
3P/5P	4	7%
TOTAL	**61**	**100%**

DUAL ASPECT	**30**	**49%**
+10% UNITS	**32**	**52%**
PART V UNITS	**0**	**0%**

13. DEVELOPMENT SUMMARY

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13.2 SCHEDULE OF ACCOMMODATION - BLOCK B

BUILDING B

FLOOR	UNIT NUMBER	UNIT TYPE	UNIT TYPOLOGY	REQUIRED INTERNAL AREA (sqm)	INTERNAL AREA (sqm)	DUAL ASPECT UNIT	+10% UNIT	PART V UNIT
Gr.	B-01	2B/4P	C	73.0	81.2	▪	▪	
	B-02	2B/4P	C	73.0	81.2	▪	▪	
	B-03	1B/2P	A	45.0	47.7			
	B-04	1B/2P	A	45.0	47.7			
	B-05	1B/2P	F	45.0	47.7	▪		
	B-06	1B/2P	C	45.0	51.4		▪	
	B-07	2B/4P	A	73.0	76.0			
	B-08	2B/4P	B	73.0	76.0	▪		
1st	B-09	2B/4P	D	73.0	81.2	▪	▪	
	B-10	2B/4P	D	73.0	81.2	▪	▪	
	B-11	1B/2P	A	45.0	47.7			
	B-12	1B/2P	A	45.0	47.7			
	B-13	1B/2P	F	45.0	47.7	▪		
	B-14	1B/2P	C	45.0	51.4		▪	
	B-15	1B/2P	G	45.0	50.2	▪	▪	
	B-16	2B/4P	A	73.0	76.0			
	B-17	2B/4P	B	73.0	76.0	▪		
	B-18	STUDIO	A	37.0	41.6	▪	▪	
	B-19	1B/2P	C	45.0	51.4		▪	
	B-20	2B/4P	F	73.0	81.2		▪	
	B-21	2B/4P	B	73.0	76.0	▪		
	B-22	2B/4P	E	73.0	74.8			
	B-23	1B/2P	F	45.0	47.7	▪		
	B-24	2B/4P	D	73.0	81.2	▪	▪	
	B-25	2B/4P	D	73.0	81.2	▪	▪	
2nd	B-26	2B/4P	D	73.0	81.2	▪	▪	
	B-27	2B/4P	D	73.0	81.2	▪	▪	
	B-28	1B/2P	A	45.0	47.7			
	B-29	1B/2P	A	45.0	47.7			
	B-30	1B/2P	F	45.0	47.7	▪		
	B-31	1B/2P	C	45.0	51.4		▪	
	B-32	1B/2P	G	45.0	50.2	▪	▪	
	B-33	2B/4P	A	73.0	76.0			
	B-34	2B/4P	B	73.0	76.0	▪		
	B-35	STUDIO	A	37.0	41.6	▪	▪	
	B-36	1B/2P	C	45.0	51.4		▪	
	B-37	2B/4P	F	73.0	81.2		▪	
	B-38	2B/4P	B	73.0	76.0	▪		
	B-39	2B/4P	E	73.0	74.8			
	B-40	1B/2P	F	45.0	47.7	▪		
	B-41	2B/4P	D	73.0	81.2	▪	▪	
	B-42	2B/4P	D	73.0	81.2	▪	▪	
3rd	B-43	2B/4P	D	73.0	81.2	▪	▪	
	B-44	2B/4P	D	73.0	81.2	▪	▪	
	B-45	1B/2P	A	45.0	47.7			
	B-46	1B/2P	A	45.0	47.7			
	B-47	1B/2P	F	45.0	47.7	▪		
	B-48	1B/2P	C	45.0	51.4		▪	
	B-49	1B/2P	G	45.0	50.2	▪	▪	
	B-50	2B/4P	A	73.0	76.0			
	B-51	2B/4P	B	73.0	76.0	▪		
	B-52	STUDIO	A	37.0	41.6	▪	▪	
	B-53	1B/2P	C	45.0	51.4		▪	
	B-54	2B/4P	F	73.0	81.2		▪	
	B-55	2B/4P	B	73.0	76.0	▪		
	B-56	2B/4P	E	73.0	74.8			
	B-57	1B/2P	F	45.0	47.7	▪		
	B-58	2B/4P	D	73.0	81.2	▪	▪	
	B-59	2B/4P	D	73.0	81.2	▪	▪	
4th	B-60	3B/5P	B	90.0	95.3	▪		
	B-61	3B/5P	B	90.0	95.3	▪		
	B-62	2B/4P	B	73.0	76.0	▪		
	B-63	2B/4P	E	73.0	74.8			
	B-64	1B/2P	F	45.0	47.7	▪		
	B-65	2B/4P	C	73.0	81.2	▪	▪	
	B-66	2B/4P	C	73.0	81.2	▪	▪	
TOTAL					4343.0			

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	3	5%
1B/2P	26	39%
2B/4P	35	53%
3P/5P	2	3%
TOTAL	**66**	**100%**

DUAL ASPECT	**40**	**61%**

+10% UNITS	**32**	**48%**

PART V UNITS	**0**	**0%**

13. DEVELOPMENT SUMMARY

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13.3 SCHEDULE OF ACCOMMODATION - BLOCK C

BUILDING C

FLOOR	UNIT NUMBER	UNIT TYPE	UNIT TYPOLOGY	REQUIRED INTERNAL AREA (sqm)	INTERNAL AREA (sqm)	DUAL ASPECT UNIT	+10% UNIT	PART V UNIT
Gr.	C-01	2B/4P	C	73.0	81.2	▪	▪	
	C-02	2B/4P	C	73.0	81.2	▪	▪	
	C-03	1B/2P	A	45.0	47.7			
	C-04	1B/2P	A	45.0	47.7			
	C-05	1B/2P	F	45.0	47.7	▪		
	C-06	1B/2P	C	45.0	51.4		▪	
	C-07	2B/4P	A	73.0	76.0			
	C-08	2B/4P	B	73.0	76.0	▪		
	C-09	STUDIO	A	37.0	41.6	▪	▪	
	C-10	1B/2P	C	45.0	51.4		▪	
	C-11	2B/4P	F	73.0	81.2		▪	
	C-12	1B/2P	F	45.0	47.7	▪		
	C-13	1B/2P	D	45.0	50.2		▪	
	C-14	2B/4P	B	73.0	76.0	▪		
	C-15	2B/4P	C	73.0	81.2	▪	▪	
	C-16	2B/4P	C	73.0	81.2	▪	▪	
1st	C-17	2B/4P	D	73.0	81.2	▪	▪	
	C-18	2B/4P	D	73.0	81.2	▪	▪	
	C-19	1B/2P	A	45.0	47.7			
	C-20	1B/2P	A	45.0	47.7			
	C-21	1B/2P	F	45.0	47.7	▪		
	C-22	1B/2P	C	45.0	51.4		▪	
	C-23	1B/2P	G	45.0	50.2	▪	▪	
	C-24	2B/4P	A	73.0	76.0			
	C-25	2B/4P	B	73.0	76.0	▪		
	C-26	STUDIO	A	37.0	41.6	▪	▪	
	C-27	1B/2P	C	45.0	51.4		▪	
	C-28	2B/4P	F	73.0	81.2		▪	
	C-29	1B/2P	F	45.0	47.7	▪		
	C-30	2B/4P	E	73.0	74.8			
	C-31	2B/4P	B	73.0	76.0	▪		
	C-32	2B/4P	D	73.0	81.2	▪	▪	
	C-33	2B/4P	D	73.0	81.2	▪	▪	
2nd	C-34	2B/4P	D	73.0	81.2	▪	▪	
	C-35	2B/4P	D	73.0	81.2	▪	▪	
	C-36	1B/2P	A	45.0	47.7			
	C-37	1B/2P	A	45.0	47.7			
	C-38	1B/2P	F	45.0	47.7	▪		
	C-39	1B/2P	C	45.0	51.4		▪	
	C-40	1B/2P	G	45.0	50.2	▪	▪	
	C-41	2B/4P	A	73.0	76.0			
	C-42	2B/4P	B	73.0	76.0	▪		
	C-43	STUDIO	A	37.0	41.6	▪	▪	
	C-44	1B/2P	C	45.0	51.4		▪	
	C-45	2B/4P	F	73.0	81.2		▪	
	C-46	1B/2P	F	45.0	47.7	▪		
	C-47	2B/4P	E	73.0	74.8			
	C-48	2B/4P	B	73.0	76.0	▪		
	C-49	2B/4P	D	73.0	81.2	▪	▪	
	C-50	2B/4P	D	73.0	81.2	▪	▪	
3rd	C-51	2B/4P	D	73.0	81.2	▪	▪	
	C-52	2B/4P	D	73.0	81.2	▪	▪	
	C-53	1B/2P	A	45.0	47.7			
	C-54	1B/2P	A	45.0	47.7			
	C-55	1B/2P	F	45.0	47.7	▪		
	C-56	1B/2P	C	45.0	51.4		▪	
	C-57	1B/2P	G	45.0	50.2	▪	▪	
	C-58	2B/4P	A	73.0	76.0			
	C-59	2B/4P	B	73.0	76.0	▪		
	C-60	STUDIO	A	37.0	41.6	▪	▪	
	C-61	1B/2P	C	45.0	51.4		▪	
	C-62	2B/4P	F	73.0	81.2		▪	
	C-63	1B/2P	F	45.0	47.7	▪		
	C-64	2B/4P	E	73.0	74.8			
	C-65	2B/4P	B	73.0	76.0	▪		
	C-66	2B/4P	D	73.0	81.2	▪	▪	
	C-67	2B/4P	D	73.0	81.2	▪	▪	
4th	C-68	3B/5P	B	90.0	95.3	▪		
	C-69	3B/5P	B	90.0	95.3	▪		
	C-70	1B/2P	F	45.0	47.7	▪		
	C-71	2B/4P	E	73.0	74.8			
	C-72	2B/4P	B	73.0	76.0	▪		
	C-73	2B/4P	C	73.0	81.2	▪	▪	
	C-74	2B/4P	C	73.0	81.2	▪	▪	
TOTAL					**4853.5**			

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	4	5%
1B/2P	29	39%
2B/4P	39	53%
3P/5P	2	3%
TOTAL	**74**	**100%**

DUAL ASPECT	**45**	**61%**

+10% UNITS	**38**	**51%**

13. DEVELOPMENT SUMMARY

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13.4 SCHEDULE OF ACCOMMODATION - BLOCK D

BUILDING D

FLOOR	UNIT NUMBER	UNIT TYPE	UNIT TYPOLOGY	REQUIRED INTERNAL AREA (sqm)	INTERNAL AREA (sqm)	DUAL ASPECT UNIT	+10% UNIT	PART V UNIT
Gr.	D-01	2B/4P	C	73.0	81.2	▪	▪	▪
	D-02	1B/2P	A	45.0	47.7			▪
	D-03	1B/2P	F	45.0	47.7	▪		▪
	D-04	1B/2P	C	45.0	51.4		▪	▪
	D-05	1B/2P	D	45.0	50.2		▪	▪
	D-06	3B/5P	A	90.0	100.5	▪	▪	▪
	D-07	1B/2P	F	45.0	47.7	▪		▪
	D-08	2B/4P	C	73.0	81.2	▪	▪	▪
	D-09	2B/4P	C	73.0	81.2	▪	▪	▪
1st	D-10	2B/4P	D	73.0	81.2	▪	▪	▪
	D-11	2B/4P	D	73.0	81.2	▪	▪	▪
	D-12	1B/2P	A	45.0	47.7			▪
	D-13	1B/2P	H	45.0	60.4		▪	▪
	D-14	1B/2P	F	45.0	47.7	▪		▪
	D-15	1B/2P	C	45.0	51.4		▪	▪
	D-16	1B/2P	E	45.0	50.2	▪	▪	▪
	D-17	2B/4P	A	73.0	76.0			▪
	D-18	2B/4P	B	73.0	76.0	▪		▪
	D-19	1B/2P	F	45.0	47.7	▪		▪
	D-20	2B/4P	D	73.0	81.2	▪	▪	▪
	D-21	2B/4P	D	73.0	81.2	▪	▪	▪
2nd	D-22	2B/4P	D	73.0	81.2	▪	▪	▪
	D-23	2B/4P	D	73.0	81.2	▪	▪	▪
	D-24	1B/2P	A	45.0	47.7			▪
	D-25	1B/2P	H	45.0	60.4		▪	▪
	D-26	1B/2P	F	45.0	47.7	▪		▪
	D-27	1B/2P	C	45.0	51.4		▪	▪
	D-28	1B/2P	E	45.0	50.2	▪	▪	▪
	D-29	2B/4P	A	73.0	76.0			▪
	D-30	2B/4P	B	73.0	76.0	▪		▪
	D-31	1B/2P	F	45.0	47.7	▪		▪
	D-32	2B/4P	D	73.0	81.2	▪	▪	▪
	D-33	2B/4P	D	73.0	81.2	▪	▪	▪
3rd	D-34	2B/4P	D	73.0	81.2	▪	▪	▪
	D-35	2B/4P	D	73.0	81.2	▪	▪	▪
	D-36	1B/2P	A	45.0	47.7			▪
	D-37	1B/2P	H	45.0	60.4		▪	▪
	D-38	1B/2P	F	45.0	47.7	▪		▪
	D-39	1B/2P	C	45.0	51.4		▪	▪
	D-40	1B/2P	E	45.0	50.2	▪	▪	▪
	D-41	2B/4P	A	73.0	76.0			▪
	D-42	2B/4P	B	73.0	76.0	▪		▪
	D-43	1B/2P	F	45.0	47.7	▪		▪
	D-44	2B/4P	D	73.0	81.2	▪	▪	▪
	D-45	2B/4P	D	73.0	81.2	▪	▪	▪
	D-46	2B/4P	D	73.0	81.2	▪	▪	▪
	D-47	2B/4P	D	73.0	81.2	▪	▪	▪
	D-48	1B/2P	A	45.0	47.7			▪
	D-49	1B/2P	H	45.0	60.4		▪	▪
4th	D-50	1B/2P	F	45.0	47.7	▪		▪
	D-51	1B/2P	C	45.0	51.4		▪	▪
	D-52	1B/2P	E	45.0	50.2	▪	▪	▪
	D-53	2B/4P	A	73.0	76.0			▪
	D-54	2B/4P	B	73.0	76.0	▪		▪
	D-55	1B/2P	F	45.0	47.7	▪		▪
	D-56	2B/4P	D	73.0	81.2	▪	▪	▪
	D-57	2B/4P	D	73.0	81.2	▪	▪	▪
5th	D-58	1B/2P	C	45.0	51.4	▪	▪	
	D-59	1B/2P	E	45.0	50.2	▪	▪	
	D-60	2B/4P	A	73.0	76.0			
	D-61	2B/4P	B	73.0	76.0	▪		
	D-62	1B/2P	F	45.0	47.7	▪		
	D-63	2B/4P	C	73.0	81.2	▪	▪	
	D-64	2B/4P	C	73.0	81.2	▪	▪	
TOTAL					**4180.1**			

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	0	0%
1B/2P	32	50%
2B/4P	31	48%
3P/5P	1	2%
TOTAL	**64**	**100%**

DUAL ASPECT	**45**	**70%**
+10% UNITS	**38**	**59%**
PART V UNITS	**57**	**89%**

13. DEVELOPMENT SUMMARY

13.5 SCHEDULE OF ACCOMMODATION - ROW HOUSES

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ROW HOUSES

FLOOR	UNIT NUMBER	UNIT TYPE	UNIT TYPOLOGY	REQUIRED INTERNAL AREA (sqm)	INTERNAL AREA (sqm)	NO. OF STOREYS	DUAL ASPECT UNIT	+10% UNIT	PART V UNIT
Gr.	H-01	4B/7P	A	120.0	164.9	3	▪	▪	
	H-02	4B/7P	B	120.0	164.9	3	▪	▪	
	H-03	4B/7P	A	120.0	164.9	3	▪	▪	
	H-04	4B/7P	B	120.0	164.9	3	▪	▪	
	H-05	4B/7P	A	120.0	164.9	3	▪	▪	
	H-06	4B/7P	B	120.0	164.9	3	▪	▪	
	H-07	4B/7P	A	120.0	164.9	3	▪	▪	
	H-08	4B/7P	B	120.0	164.9	3	▪	▪	
	H-09	4B/7P	A	120.0	164.9	3	▪	▪	
	H-10	4B/7P	B	120.0	164.9	3	▪	▪	
	H-11	4B/7P	A	120.0	164.9	3	▪	▪	
	H-12	4B/7P	B	120.0	164.9	3	▪	▪	
	H-13	4B/7P	A	120.0	164.9	3	▪	▪	
	H-14	4B/7P	B	120.0	164.9	3	▪	▪	
	H-15	4B/7P	A	120.0	164.9	3	▪	▪	
	H-16	4B/7P	B	120.0	164.9	3	▪	▪	
	H-17	4B/7P	A	120.0	164.9	3	▪	▪	
	H-18	4B/7P	B	120.0	164.9	3	▪	▪	
	H-19	4B/7P	C	110.0	151.1	2	▪	▪	
TOTAL					**3119.3**				

UNITS TYPOLOGIES		PERCENTAGE
4B/7P	19	100%
TOTAL	**19**	**100%**

DUAL ASPECT	**19**	**100%**

PART V UNITS	**0**	**0%**

13. DEVELOPMENT SUMMARY

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13.6 SCHEDULE OF ACCOMMODATION - SUMMARY

APARTMENTS TYPOLOGIES		PERCENTAGE
STUDIO	10	4%
1B/2P	117	44%
2B/4P	129	49%
3B/5P	9	3%
TOTAL	**265**	**100%**

DUAL ASPECT	**160**	**60%**

+10% UNITS	**140**	**53%**

OVERALL APARTMENT FLOOR AREAS (sqm)		
MINIMUM REQUIRED		**PROVIDED**
STUDIO	37	41.6
1B/2P	45	47.7 - 60.2
2B/4P	73	74.8 - 81.2
3B/5P	90	95.3 - 100.5

	TOTAL SITE AREA	**DEVELOPMENT AREA**
SITE AREA (ha)	**4.64**	**2.64**
SITE COVERAGE (sqm)	**7992.2**	
SITE COVERAGE RATIO	**17%**	**30%**
DENSITY (units/ha)	**61.2**	**107.4**

DEVELOPMENT FIGURES (sqm)								
	A	**B**	**C**	**D**	**PAVILION**	**HOUSES**	**BIKE ST.**	**TOTAL**
GFA	5940.8	6424	6424	5716.4	336.7	3269.0	58.6	28169.5
NIA	4673.2	4732.6	4853.5	4180.1	336.7	3119.3	58.6	21954.0
EFFICIENCY								**78%**

EXTERNAL COMMUNAL AMENITY SPACE (sqm)			
MINIMUM REQUIRED		**PROVIDED**	
STUDIO	40	**GR.FLOOR**	**ROOF TOP**
1B/2P	585	3362.6	1129.6
2B/4P	903		
3B/5P	81		
TOTAL	**1609**	**4492.2**	

RESIDENTIAL AMENITY SPACE (sqm)	
BLOCK A	**301.3**

CULTURE/ART SPACE (sqm)			
MINIMUM REQUIRED	**1408.5**		
BLOCK A	488.3	**1214.6**	**86%**
BLOCK B	389.6		
PAVILION	336.7		
EXTERNAL AREA	**199.0**		-
TOTAL	**1413.6**		-

PUBLIC OPEN SPACE (sqm)		
MINIMUM REQUIRED		**PROVIDED**
CONSIDERING THE TOTAL SITE AREA (4.64 ha)		
25% SITE AREA	11600	**14257.8**
CONSIDERING THE DEVELOPMENT AREA ONLY (2.64 ha)		
25% SITE AREA	6608.5	**6989.35**

13. DEVELOPMENT SUMMARY

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13.6 SCHEDULE OF ACCOMMODATION - SUMMARY

CAR PARKING	
APARTMENTS (+ VISITORS)	138
HOUSES	19
CULTURAL/ART SPACE	4
CRECHE	1
CRECHE DROP-OFF	2
DELIVERY/SERVICE LOADING BAY	1
TOTAL	**165**

RESIDENTIAL BIKE PARKING	
LONG TERM (including non-standard spaces)	465
SHORT TERM (including non-standard spaces)	146
TOTAL	**611**

NON-RESIDENTIAL BIKE PARKING	
Creche (including non-standard spaces)	6
Cultural/Art Space (including non-standard spaces)	16
TOTAL	**22**

MOTORBIBIKE PARKING	
BASEMENT	14
TOTAL	**14**

UNIVERSAL DESIGN UNITS				
TOTAL NUMBER OF +10% UNITS REQUIRED		142		
TOTAL NUMBER OF +10% UNITS		159		
UD UNITS	1B/2P (TYPO C)	27	**77**	**54%**
	2B/4P (TYPO D)	50		

CRÈCHE	
PROVIDED AREA (sqm)	100.0
No OF KIDS	17
AREA/KID	6
EXTERNAL SPACE (sqm)	153.0

APARTMENT BLOCKS + ROW HOUSES

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	10	4%
1B/2P	117	41%
2B/4P	129	45%
3B/5P	9	3%
4B/7P	19	7%
TOTAL	**284**	**100%**

DUAL ASPECT	**179**	**63%**

+10% UNITS	**159**	**56%**

PART V UNITS		PERCENTAGE
STUDIO	0	0%
1B/2P	29	51%
2B/4P	27	47%
3B/5P	1	2%
4B/7P	0	0%
TOTAL	**57**	**20%**

13. DEVELOPMENT SUMMARY

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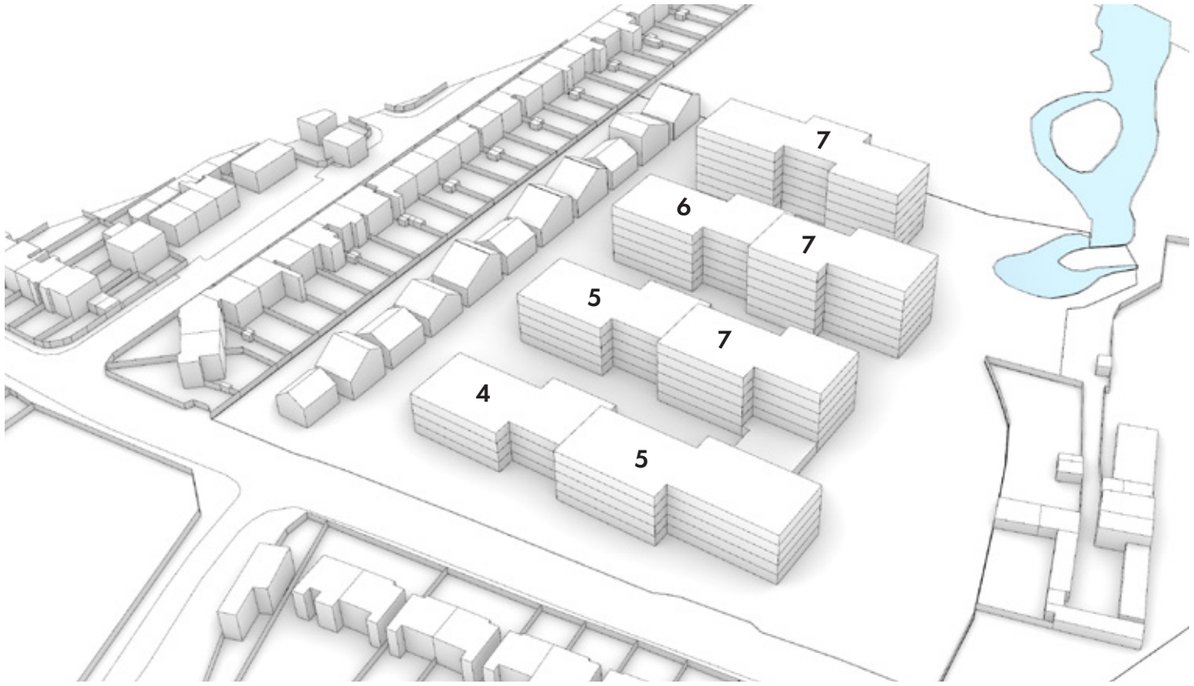
13.7 SCHEME COMPARISON

ORIGINAL SCHEME - 385 UNITS (146 units/ha)



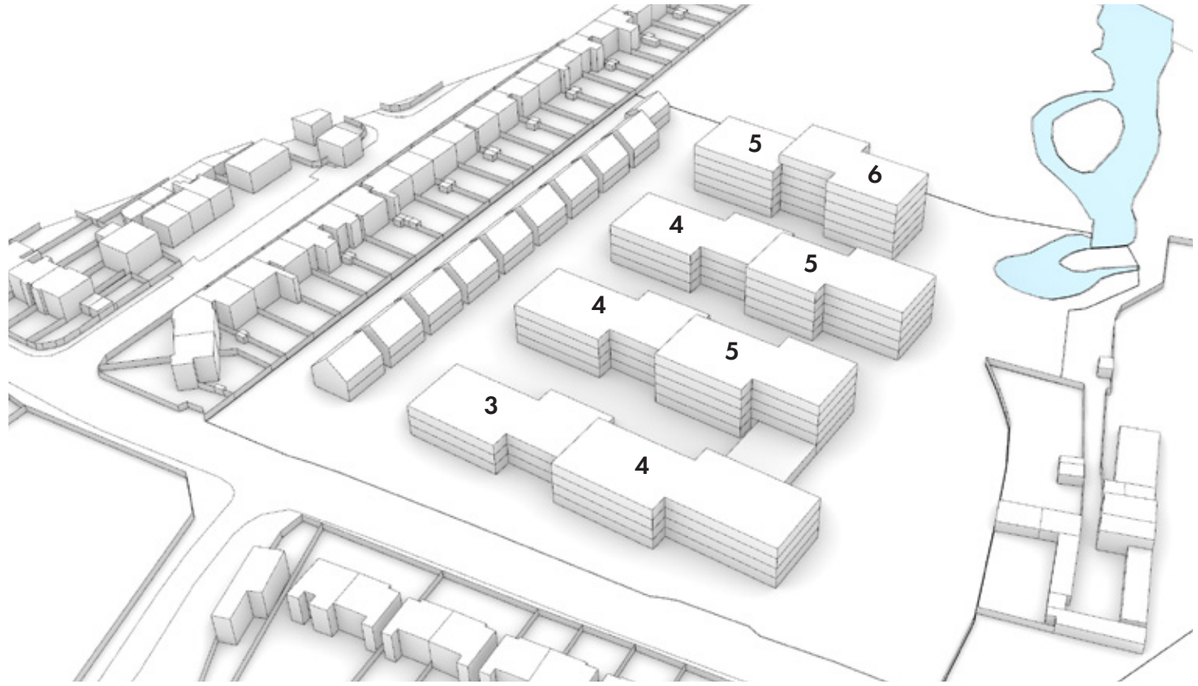
APARTMENT BLOCKS + ROW HOUSES

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	15	4%
1B/2P	166	43%
2B/4P	179	46%
3B/5P	9	2%
4B/7P	16	4%
TOTAL	**385**	**100%**

	TOTAL SITE AREA	DEVELOPMENT AREA
SITE AREA (ha)	**4.64**	**2.64**
SITE COVERAGE (sqm)	**8185**	
SITE COVERAGE RATIO	**18%**	**31%**
DENSITY (units/ha)	**83.0**	**145.6**

CAR PARKING		
APARTMENTS	**124**	0.34 /unit
HOUSES	**32**	

NEW PROPOSAL - 284 UNITS (107 units/ha)



APARTMENT BLOCKS + ROW HOUSES

UNITS TYPOLOGIES		PERCENTAGE
STUDIO	10	4%
1B/2P	117	41%
2B/4P	129	45%
3B/5P	9	3%
4B/7P	19	7%
TOTAL	**284**	**100%**

	TOTAL SITE AREA	DEVELOPMENT AREA
SITE AREA (ha)	**4.64**	**2.64**
SITE COVERAGE (sqm)	**7992.2**	
SITE COVERAGE RATIO	**17%**	**30%**
DENSITY (units/ha)	**61.2**	**107.4**

CAR PARKING		
APARTMENTS	**143**	0.54 /unit
HOUSES	**19**	

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