Unlocking potential for a better built environment

DAYLIGHT & SUNLIGHT

OVERSHADOWING REPORT

CentralMentalHospital,Dundrum,Dublin

Land Development Agency

08 April 2025

GIA No: **17967**

PROJECT DATA:

Client	**Land Development Agency**
Architect	**Reddy Architecture**
Project Title	**Central Mental Hospital, Dundrum, Dublin**
Project Number	**17967**

REPORT DATA:

Report Title	**Overshadowing Report**
GIA Department	**Daylight Department**
Dated	**08 April 2025**

Prepared by	**CN**
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SOURCES OF INFORMATION:

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Map data
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1 PRINCIPLES OF DAYLIGHT, SUNLIGHT & OVERSHADOWING

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice 3rd edition (2022)', guidelines and methodology for the measurement and assessment of daylight, sunlight and overshadowing.

1.1 EFFECTS TO OVERSHADOWING

The BRE Guidelines consider overshadowing of amenity spaces in section 3.3 which states:

Sunlight in the spaces between and around buildings has an important impact on the overall appearance and ambience of a development. It is valuable for a number of reasons, to:

- provide attractive sunlit views (all year)
- make outdoor activities like sitting out and children's play more pleasant (mainly warmer months)
- encourage plant growth (mainly spring and summer)
- dry out the ground, reducing moss and slime (mainly in colder months)
- melt frost, ice and snow (in winter)
- dry clothes (all year).

It must be acknowledged that in urban areas the availability of sunlight on the ground is a factor which is significantly controlled by the existing urban fabric around the site and so may have very little to do with the form of the development itself.

Likewise, there may be many other urban design, planning and site constraints which determine and run contrary to the best form, siting and location of a proposed development in terms of availability of sun on the ground.

Sun Hours on Ground

Sun Hours on Ground assessments can be undertaken to illustrate the sunlight availability within outdoor amenity areas, both within a proposed development and within the neighbouring properties.

The BRE Guidelines suggests that Sun Hours on Ground assessments should be undertaken on the Equinox (21st March and 21st September). Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

It is recommended that al least half of a garden or amenity area should receive at least two hours of sunlight on 21st March or the area which receive two hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

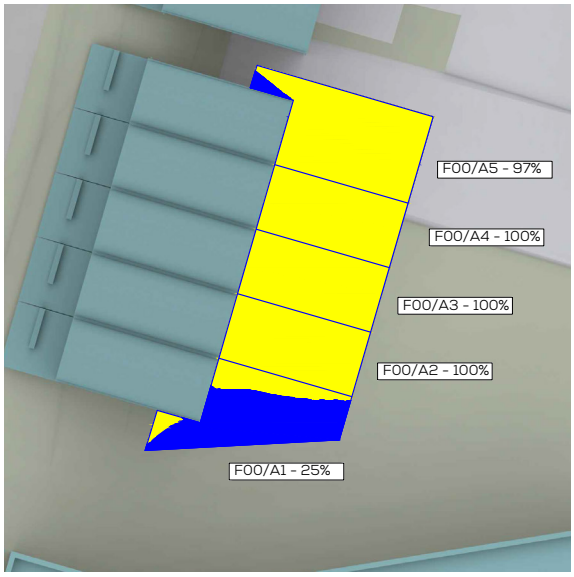


Fig. 01: Example Sun Hours on Ground Assessment

AREA THAT RECEIVES MORE THAN 2 HOURS OF DIRECT SUNLIGHT ON 21st MARCH

AREA THAT RECEIVES LESS THAN 2 HOURS OF DIRECT SUNLIGHT ON 21st MARCH

2 DISCUSSION ON OVERSHADOWING RESULTS

GIA has been instructed to undertake an Overshadowing Assessment to evaluate the potential impact of the proposed development on sunlight access to surrounding properties.

This assessment has been conducted in accordance with the guidance and recommendations outlined in the BRE Guidelines. The criteria set out within the BRE have been applied to compare existing levels of sunlight with those projected following the implementation of the proposed masterplan. Further details on the adopted methodology are provided in Section 1 of this report.

The findings presented herein should be read in conjunction with the Daylight and Sunlight Impact Report, prepared by GIA in September 2024 and submitted in support of the Part 10 Planning Application for the Central Mental Hospital site in Dundrum, Dublin.

The Transient Overshadowing Study, included as Appendix 05 of the aforementioned report, demonstrated that neighbouring gardens would not experience adverse impacts as a result of the proposed development. All shadows cast by the proposed scheme on 21st March are limited in duration, and neighbouring gardens will retain good levels of sunlight. It was therefore concluded that the overshadowing effects to neighbouring properties will be insignificant.

To support this conclusion, a more detailed Sun Hours On Ground (SHOG) assessment has been carried out for 21st March (spring equinox), in line with BRE guidance. The assessment considers the existing, proposed, and cumulative scenarios, as illustrated in Section 3 of this report.

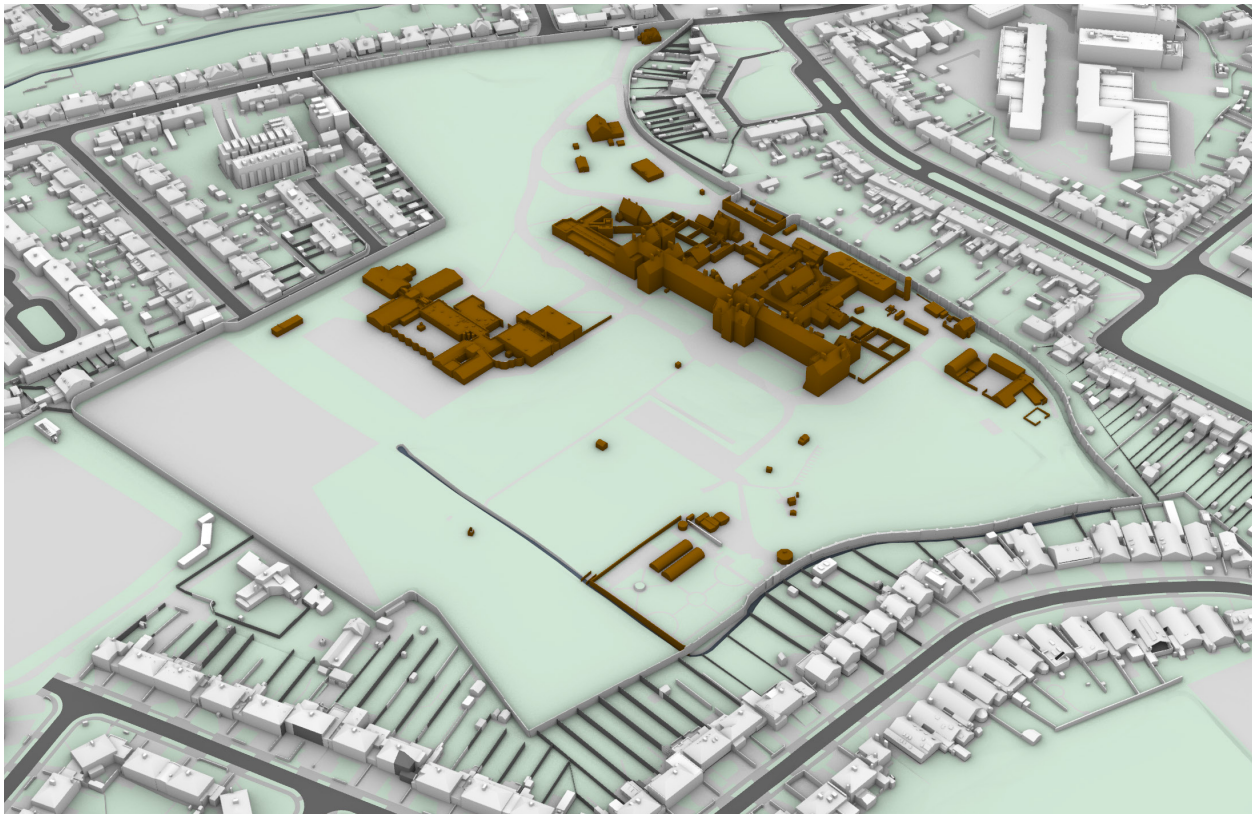
To determine the overshadowing impact on neighbouring properties, those most likely to be affected have been tested for SHOG. The results of this assessment are presented in Section 4.

The analysis confirms that the proposed development will not adversely affect the gardens of neighbouring properties. Where minor reductions in sunlight occur, these are negligible, and the gardens will continue to receive very good levels of sunlight. All gardens currently receiving less than two hours of sunlight to 50% of their area will continue to retain the same levels in both the proposed and cumulative scenarios.

In conclusion, the tested gardens will not be materially affected by the proposed development. All properties assessed will either retain very good levels of sunlight or maintain their existing conditions.

3 SCENARIO OVERVIEW

EXISTING

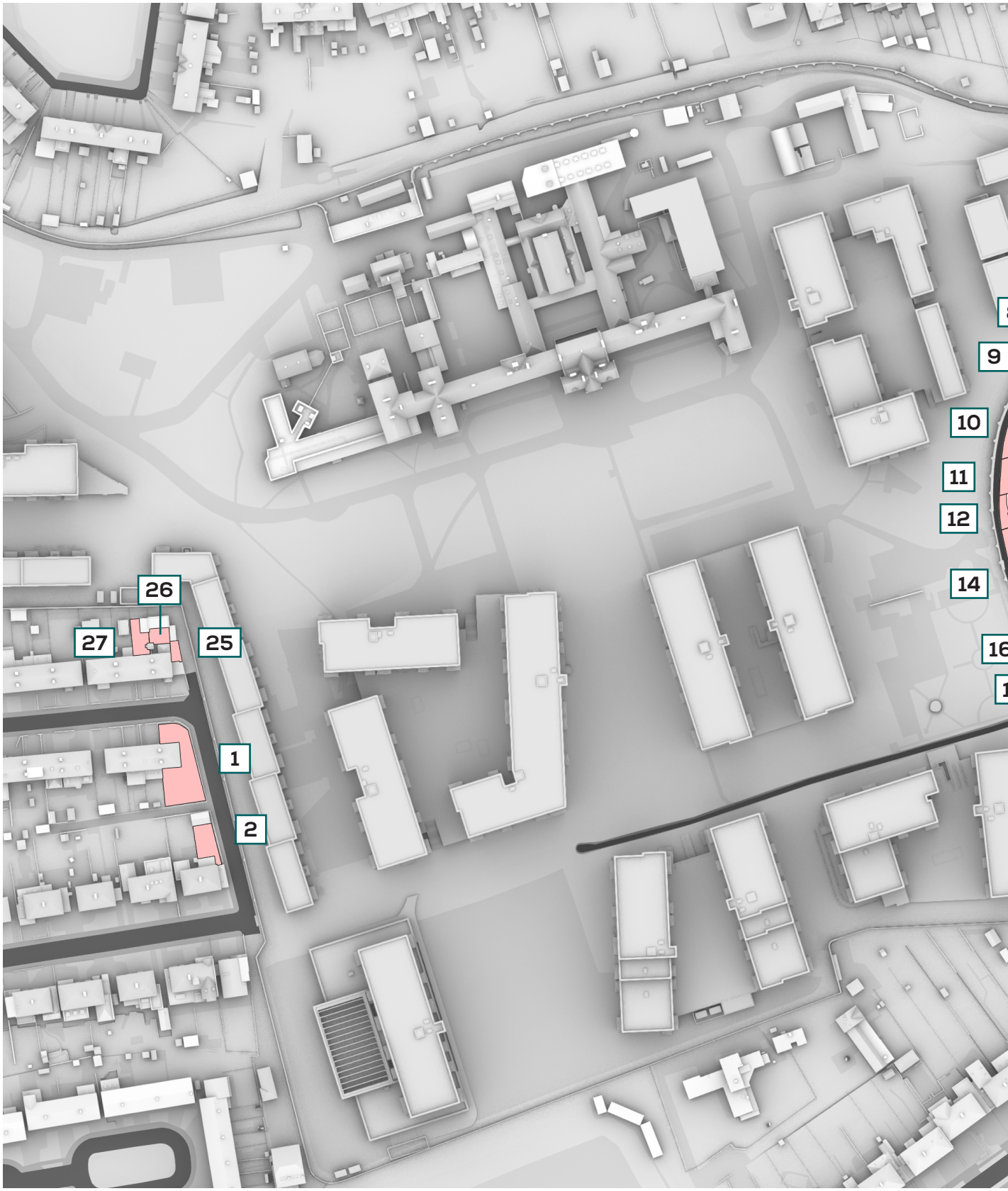


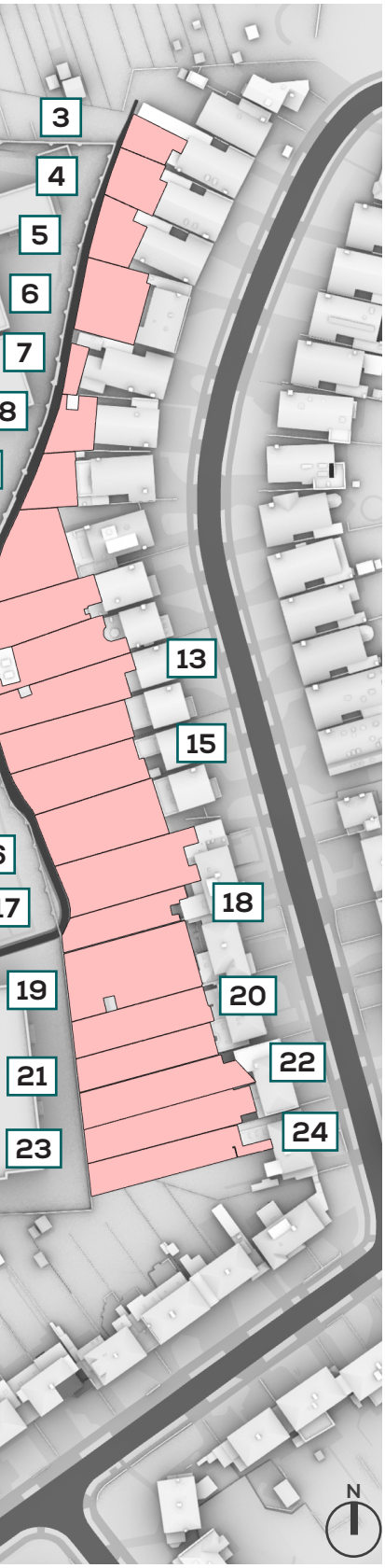
PROPOSED

CUMULATIVE

4 OVERSHADOWING ASSESSMENTS

SENSITIVE RECEPTORS



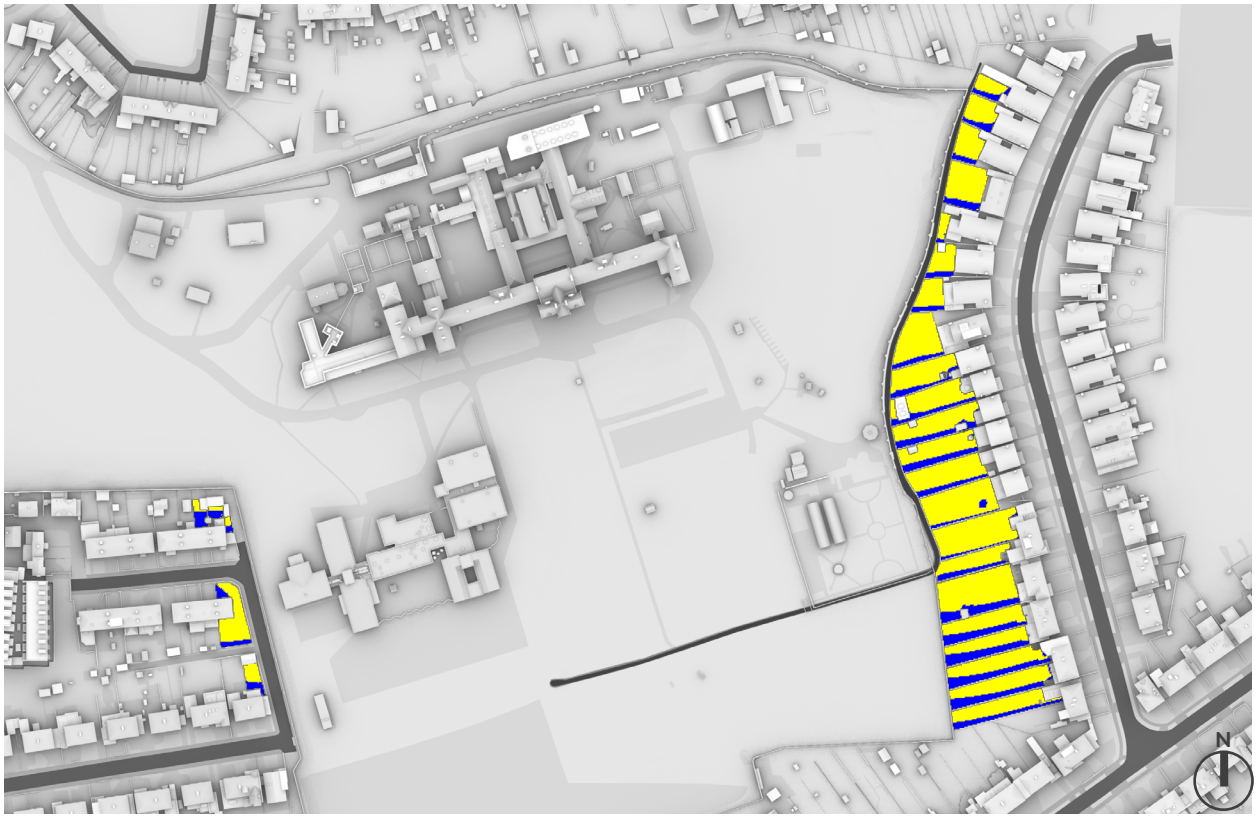


AREA	% Area seeing 2+ hrs of sunlight on 21/03				
	EX	PROP	EX v. PROP % LOSS	CUM	EX v. CUM % LOSS
1	81%	80%	2%	80%	2%
2	65%	65%	0%	65%	0%
3	67%	67%	0%	67%	0%
4	79%	79%	0%	79%	0%
5	84%	84%	0%	84%	0%
6	84%	84%	0%	84%	0%
7	87%	87%	0%	87%	0%
8	79%	79%	0%	79%	0%
9	80%	80%	0%	80%	0%
10	87%	87%	0%	87%	0%
11	79%	78%	2%	78%	2%
12	77%	76%	1%	76%	1%
13	74%	73%	2%	73%	2%
14	72%	70%	3%	70%	3%
15	83%	82%	1%	82%	1%
16	91%	90%	0%	90%	0%
17	93%	93%	0%	93%	0%
18	76%	71%	6%	71%	6%
19	80%	78%	3%	78%	3%
20	68%	63%	7%	63%	7%
21	60%	53%	11%	53%	11%
22	65%	60%	8%	60%	8%
23	67%	66%	2%	66%	2%
24	72%	72%	0%	72%	0%
25	49%	49%	0%	49%	0%
26	41%	41%	0%	41%	0%
27	35%	35%	0%	35%	0%

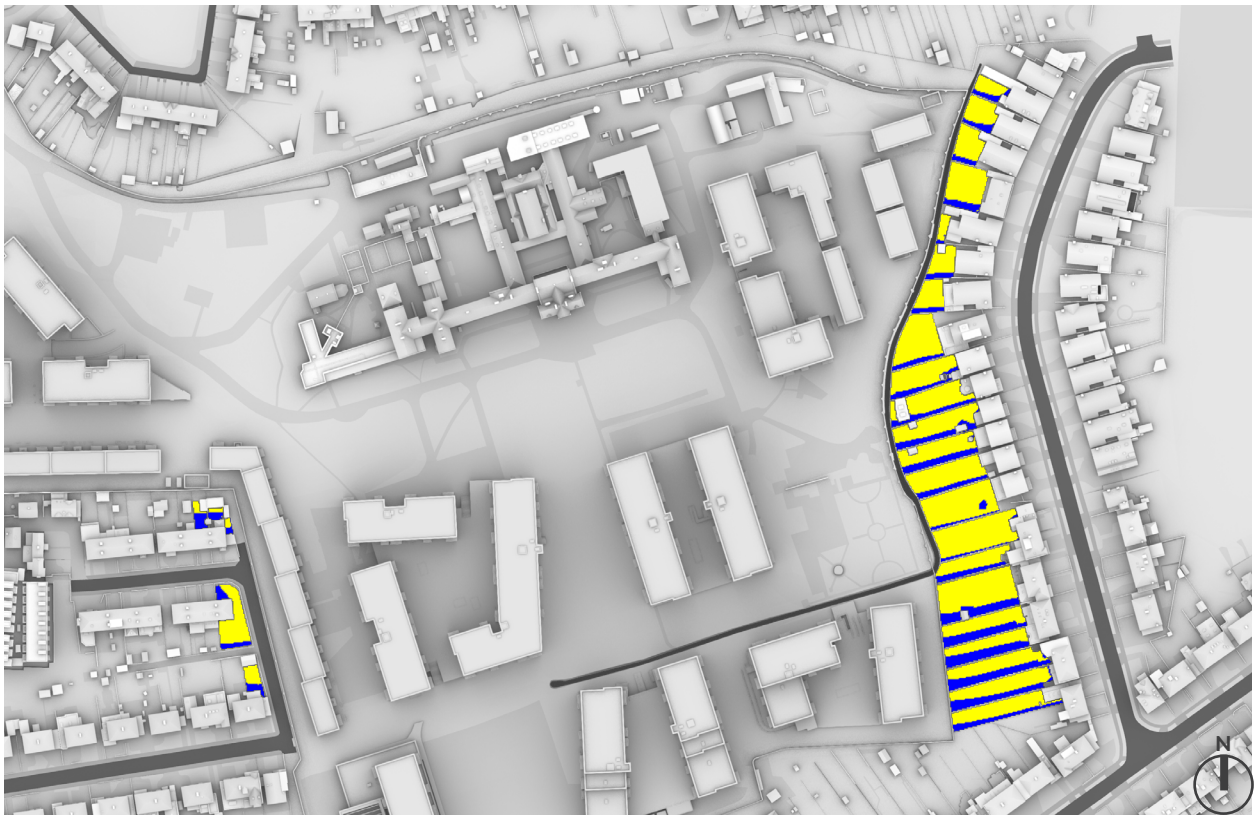
(BRE RECOMMENDS 2+ HOURS OF SUNLIGHT ON 21ST MARCH FOR AT LEAST 50% OF THE OPEN SPACE)

BRE TEST

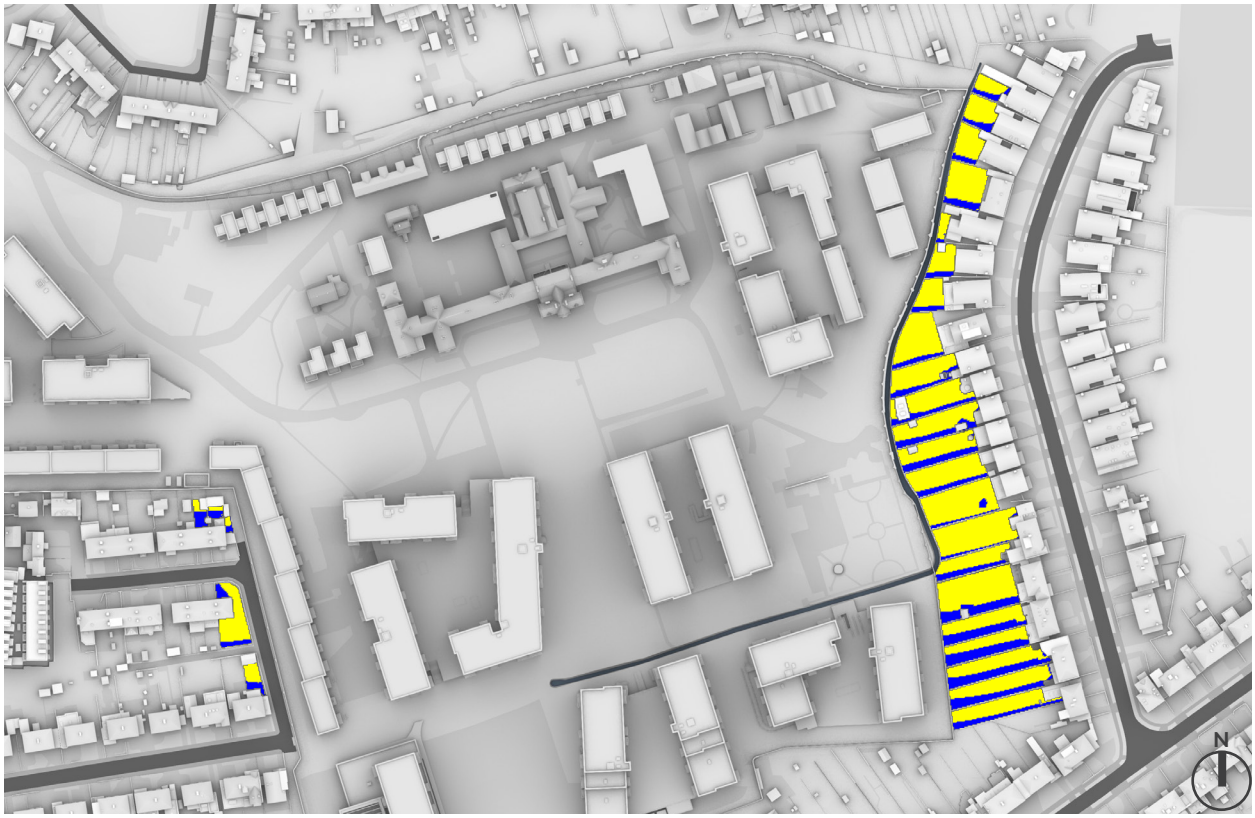
EXISTING



PROPOSED



CUMULATIVE



SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

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What we do:

Building Surveying
Daylight & Sunlight
Light Obstruction Notices
Measured Surveys
Party Wall & Neighbourly Matters
Rights of Light
Solar PV
Wind Analysis

Where we are:

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Birmingham
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Dublin
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