

# Daylight Availability & Sunlight Exposure Impact Report

Development at Blackglen Road, Dun Laoighre Rathdown



## 1 Version

Status	FINAL
Purpose	Planning / Consultation Part 8 Application LRD
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## 2 Introduction

### 2.1 The Proposal

This analysis has been conducted for the purposes of assessing the impact on the daylight and sunlight performance of dwellings in a large residential development at Blackglen Road, Dun Laoighre Rathdown and of any potential impacts on existing neighbours caused by the new scheme.

The proposed development involves the construction of 129 new apartments and houses over 7 blocks in a new development.

It will be the subject of a Part 8 planning application to Dun Laoighre Rathdown (DLR) Co Council.

This report provides an assessment of sunlight access and daylight level within the new dwellings, amenity sunlight to designated non private outdoor spaces and assesses potential for impact on neighbours due to the development

The report also sets out relevant policy standards and guidelines with respect to daylight, sunlight and overshadowing, the methods used to assess the impacts, the baseline conditions currently existing at the development site and the results of the assessment.

Further technical information is provided in the Appendices. The assessment has been undertaken by Solearth Design Analysis [www.solearth.ie](http://www.solearth.ie)

### 2.2 Planning Context

The development is located within DLR planning area and is subject to it's county Development Plan's policies as well as the European British and Irish daylight design standards, settlement design guidelines, apartment design standards and site design layout guidance referred to below (where relevant).

## 3 Executive Summary

Of the 129 dwellings and external areas tested for daylight distribution (SDA), the overall ratings are in the region 90% to 93% compliance with BS EN 17037, with many dwellings and space far exceeding the minimum standards.

Of the 129 dwellings tested for Sunlight Exposure requirements for new homes 117 (91%) meet the EN 17037 criteria.

Of 2 neighbours evaluated for potential impacts, none were deemed to be noticeably impacted

	Daylight	Sunlight	Amenity Sunlight
	SDA	SE	
New Dwellings	BS EN 17037	EN 17037	BRE 209
	% units meeting criteria		
Result 1 *	93%		
Results 2	89%	91%	

Neighbours	BRE 209	BRE 209	BRE 209
results	100%	100%	100%
= % units meeting criteria      * Including borderline and marginal pass results			

## 4 Relevant Assessments

The requirement is for an assessment of the daylight availability within the dwellings, and their sunlight exposure levels as defined in BS EN 17037 and EN 17037 as well as amenity sunlight and neighbour impact assessments to standards set out in BRE 209 (2022).



Site plan of proposed scheme

### 4.1 In scope

The following assessments were deemed by the authors to be in scope and were carried out:

- Proposed Project
  - daylight availability within the proposed dwellings
  - sunlight exposure within the proposed dwellings.
  - amenity sunlight to designated communal/ public/shared open spaces
- Neighbouring Dwellings
  - preliminary screening for impact to daylight, sunlight, and amenity sunlight impacts.

## 4.2 Ex Scope

The following assessments were deemed to be out of scope and were not carried out:

- Neighbours Full Impact assessment – for the reason that a preliminary evaluation of the site and context by the assessor indicated that only two residential houses exist in proximity to our project and both of these are:
  - situated to the south of our proposed buildings
  - are surrounded by high mature trees.

## 5 Guidance and Standards

### 5.1 General Principles

The following guidance documents and standards have been consulted when compiling this report to ensure compliance with the various Daylight and Sunlight requirements as applicable and relevant:

*The Building Research Establishment's (BRE) Site Layout Planning for Daylight and Sunlight: A guide to good practice (BRE 209) 3rd edition/ 2022 edition, ('BRE 209').*

*British Standard BS EN 17037:2018 – Daylight in Buildings (the 'UK Standard').*

*European (and Irish) Standard EN 17037:2018 aka IS EN 17037 (the 'European Standard').*

The 2008 British Standard has been superseded by the 2018 British Standard, and BRE Guide 2<sup>nd</sup> Edition has been superseded by BRE Guide 209's 2022 (3<sup>rd</sup>) edition. Both previous revisions have now been withdrawn. Together these documents are referred to below as the '**guidance**'.

### 5.2 Daylight and Sunlight in Guidelines for Apartments

#### 5.2.1 Design Standards for New Apartments

In 2023 the Department published a revised guidelines for the design of new apartments Sustainable Urban Housing: Design Standards for New Apartments (2022 version) including reference to daylight and sunlight. These guidelines have been updated from previous versions to make reference to in each of the documents below.

#### 5.2.2 Urban Development (Height) Guidelines

The 2018 Urban Development and Building Height Guidelines may in some cases pertain to and offer guidance on daylight and sunlight design. They provide similar recommendations (and note similar limitation) as the apartment guidelines but refer to the 2<sup>nd</sup> (2011) edition of the BRE 209 document now withdrawn.

#### 5.2.3 Compact Settlements Guidelines.

The Sustainable Residential Development and Compact Settlement Guideline were introduced in 2024. In section 5.3.7 they call for the planning authority to consider when to require a detailed technical assessment of daylight in new projects and in cases where so required state that regard be had to quantitative performance approaches to daylight provision in guides like EN 1737, UK National Annex BS EN17047 and BRE 209 (2022).

Together these documents are referred to below as the ‘**design guidelines**’

### 5.3 The Guidance

#### 5.3.1 EN 17037:2018,

EN 17037 is the new European Standard for daylighting. It was adopted across Europe in 2018 and has been adopted in the UK as BS EN 17037:2018 with amendments that are significant for Ireland. It was transposed into the Irish context without modification as IS-EN 17037:2018.

Below we refer to them as the UK standard (BS EN 17037) or the European Standard (IS EN 17037) respectively.

It mandates a measurement based on median daylight instead of the average daylight used in previous guidance. “A space is considered to provide adequate daylight if a target illuminance level is achieved across a fraction of the reference plane within a space for at least half of the daylight hours.”

The texts of the UK standard and the European standard are the same, with one difference. The alteration is that the UK standard appended an additional national ‘Annex’ (NA). This additional interpretation, sets out specific requirements within dwellings, to achieve continuity with the previously accepted good practice mandated in the superseded 2008 British Standard which was informed by decades of authoritative research at the Building Research Establishment in Britain.

#### **New Metrics and Methodologies –**

##### **Daylight Availability.**

The European standard which forms the basis of both the new UK standard and the Irish standard terms internal daylight availability analysis as *spatial daylight autonomy (SDA)*.

Under this approach we move away from previous guidance in BRE 209 (2011) which applied an average daylight factor across any space as the illuminance target with the methodology being to analyse a whole space and derive one single DF average for its illuminance.

Under the SDA methodology, illuminance targets are set by lux levels (both a target one which must be met across 50% of the space, and a minimum one which must be met across 95% of it).

The European Standard recommends that the minimum requirements for illuminance of 300 lux as the target DF should be received across 50% of a hypothetical reference plane of any room for half of the daylight hours of the year and additionally that no less than the minimum illuminance of 100 lux (or equivalent mDF) is received across 95% of the reference plane. These standards must be reached regardless of the function of the room or building type, across all of Europe. In application, these lux levels are then converted to median daylight factors (mDFs) for each specific country or city in Europe to serve as a DF equivalences for that locations. Note that the UK EN standard modifies this (see below).

Externally, daylight availability is reported using a metric called vertical sky component (VSC) whereby before and after tests of the portions of sky, and the recorded quantum of illumination coming from that sector of sky, that reaches the windows of the space analysed.

##### **Sunlight Exposure**

Access to sunlight is termed sunlight exposure in the revised standards. A BRE methodology referring to annual probable sunlight hours is used.



### 5.3.2 BS EN 17037 The UK National Annex (relevance to Ireland)

IS EN 17037 the International Standard above lux level recommendations (300 and 100 lux) translate to equivalent median daylight factors in UK and Ireland locations of 2% and 0.7%. Again, these standards must be reached regardless of the function of the room or building type.

It is widely accepted that these targets are too rigid and too onerous to apply to *housing* in the UK or Ireland and it is for this reason that when it was transposed into the British context as BS EN17037 the amendments in their national annex were made.

The NA states in its introduction: *The UK committee supports the recommendations for daylight in buildings given in BS EN 17037:2018; however, it is the opinion of the UK committee that the recommendations for daylight provision in a space may not be achievable for some buildings, particularly dwellings. The UK committee believes this could be the case for dwellings with basement rooms or those with significant external obstructions (for example, dwellings situated in a dense urban area or with tall trees outside), or for existing buildings being refurbished or converted into dwellings. This National Annex therefore provides the UK committee's guidance on minimum daylight provision in all UK dwellings.*

*Where the International standard methodology has both a single lux/ DF target for all room types (buildings) and applies the above double metric, the 'national annex' (NA) of the UK Standard changed this to require that target median daylight factors, which are in turn specific to the kind of room under study (see below) ) must be only achieved over 50% of the space for 50% of the time. "Even if a predominantly daylight appearance is not achievable for a room in a UK dwelling, the UK committee recommends that the target illuminance values given in Table NA.1 are exceeded over at least 50% of the points on a reference plane 0.85 m above the floor, for at least half of the daylight hours."*

The NA sets these minimum daylight requirements for UK dwellings with illuminances (lux) levels recommended for these different room types:

- bedrooms at 100 lux ie 1.0% median daylight factor here,
- living, dining etc rooms at 150 lux ie 1.5% median daylight factor here,
- kitchens at 200 lux ie 2.0% median daylight factor here.

It is in the context of the UK committee opinion above as well as having regard to the Dublin City Development Plan daylighting annex referenced above, that experts consider that BS-EN 17037 is the most suitable guideline document for daylight design in Irish dwellings. This is the practice followed in our assessments, though given the continued reference to the Irish standard we will on occasion also provide the results for analysis under its recommendations for information only.

### 5.3.3 Standards - Daylight

The BRE Guide *Site Layout Planning for Daylight and Sunlight: A guide to good practice (BRE 209) 3rd edition/ 2022 edition* describes its purpose in the following terms (Summary section v):

*"This guide gives advice on site layout planning to achieve good sunlighting and daylighting, both within buildings and in the open spaces between them. It is intended to be used in conjunction with the interior daylight recommendations for new buildings in the British Standard Daylight in buildings, BS EN 17037. It contains guidance on site layout to provide good natural lighting within a new development; safeguarding of daylight and sunlight within existing buildings nearby; and the protection of daylighting of adjoining land for future development."*

## **DCC City Development Plan**

Dublin City is the planning authority that most deals with large scale dense new housing projects in Ireland. As such it's approach to applying the relatively new guidance on the daylight and sunlight performance of new housing projects is considered instructive and taken account of by other authorities.

The DCC Development Plan of 2022 to 2028 states:

*Prior to 2018 Ireland had no standard for daylight. In 2018 the National Standards Authority of Ireland adopted EN 17037 to directly become IS EN 17037. It is important to note that no amendments were made to this document, and unlike BS EN 317037 in the UK, it does not contain a national annex (which would localise it to Irish conditions) it offers only a single target for new buildings (there are no space by space targets – eg a kitchen would have the same target as a warehouse or office). It does not offer guidance on how new developments will impact and surrounding existing environments. **These limitations make it unsuitable for use in planning policy or during planning applications. BRE 209 must still be used for this purpose. (DCDP Appendix 16 section 3.4)***

*In 2018 a new European wide standard for daylight was introduced being EN 17037. In the UK the standard was published as BSEN 17037 and importantly it contains a national annex. The national annex in PSEN 17037 attempts to align the guidance and expectations of the new European standard within now superseded BS 8206-2 PSEN 17037 does not offer any guidance on how new developments will impact on existing surrounding developments the minimum data provision targets given within the national annex have relevance. (DCDP Appendix 16 section 3.3)*

It should be noted that BRE 209 references the various EN 17037 versions below so as to ensure the consistency required of good daylight and sunlight practice is achieved.

## **BRE 209 2022**

### **BRE 209 Daylight Test - Neighbour Impacts**

For existing neighbouring dwellings who's daylight might be impacted on by a proposed development, the BRE sets out a two step test; stating that a kitchen, living room, or bedroom window may be adversely affected if, after the proposed development :

- the center of the window in question has a vertical sky component (VSC) of less than 27% and
- its VSC is less than 0.8 times its former value (i.e. more than 20% loss)

## **5.3.4 Standards - Sunlight**

### **EN 17037**

EN 17037 governs the standards for Sunlight Exposure to new dwellings. It sets out the recommendations for sunlight availability for the interior of a dwelling. It recommends that a room should receive a minimum of 1.5 hours of direct sunlight on a selected day between 1st of February and 21st of March. The single day of March 21st (September 21<sup>st</sup>) is normally taken as representing this condition.

### **BRE 209 2022**

For outdoor spaces, an assessment of incident sunlight (termed amenity sunlight or sun-on-ground) is carried out to horizontal garden spaces - to the provision of BER 209 (2022). 2 hours sunlight should be achieved on the same sample dates as above (to 50% of the area).

### BRE 209 Sunlight Test- Neighbour Impacts

For existing neighboring dwellings who's sunlight might be impacted on by a proposed development, the BRE sets out a three-step test to be applied to living rooms (only) that are within 90 degrees (on plan) of south, stating *that* existing dwellings may be adversely affected if, after the proposed development, *the centre of the window in question*:

1. receives less than 25% of the annual probable sunlight hours or less than 5% of the probable sunlight hours in winter and
2. receives less than 0.8 times its former sunlight hours during either and
3. has a reduction in sunlight received over the whole year greater than 4% of the annual probable sunlight hours.

### 5.4 Guidance Summary

<b>Proposed Project</b> (self tests)		<b>Neighbouring Dwellings</b> (neighbour impact tests)
<b>Daylight internally</b>		
focus	to habitable rooms	to windows of habitable rooms
standard	BS EN 17037 (or IS EN 17037 / EN 17037)	BRE 209 (2022)
metric	mdDF (or tDF & mnDF)	VSC
<b>Sunlight to windows/ rooms</b>		
focus	windows of habitable rooms	on windows of living rooms (if w/in 90° of south)
standard	IS EN 17037/ EN 17037	BRE 209 (2022)
metric	Hours sunlight on Mar/ Sept21	APSH & WPSH
<b>Amenity Sunlight</b>		
focus	Sun on ground of outdoor amenity spaces	Sun on ground of outdoor amenity spaces
standard	BRE 209 (2022)	BRE 209 (2022)
metric	Hours sunlight on Mar/ Sept21	Hours sunlight on Mar/ Sept21

*See glossary in Appendix for explanation of acronyms*

### 5.5 Guidance Not Regulation

To be very clear, the standards above are guidance not law. They set out methodologies to be followed so that all developments going forward will be assessed in a consistent and comparable manner and set out metrics and terminologies to be used in these assessments. They do not however in and of themselves set minimum performance levels and go to pains to state that daylight and sunlight has to be considered by planners and designers as one of many, often competing inputs to the process of making both good dwellings and good cities or towns. The analysis results must be considered against



other, possibly opposing, objectives to achieve good planning, appropriate density, desired land uses etc.

The Apartment Guidelines state (in Paragraph 6.7) :

*where an applicant cannot fully meet all of the requirements of the data provisions above this must be clearly identified an error and the rationale for any alternative compensatory design solutions must be set out which planning authorities should apply their discretion in accepting taking account it's assessment of (the) specific(s) of the scheme)*

*This may arise due to design constraints associated with the site or location and the balancing of the assessment against the desirability of achieving wider planning objectives Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution.*

The Compact Settlement Guidelines state (Para 5.3.7):

*In drawing conclusions in relation to daylight performance planning authorities must weigh up the overall quality of the design and layout of the scheme and the measures proposed to maximize daylight provision against the location of the site and the general presumption in favour of increased scales of urban residential development. Poor performance may arise due to design constraints associated with the site or location and there is a need to balance that assessment against the desirability of achieving wider planning objectives such objectives might include secure and comprehensive urban regeneration and or an effective urban design and streetscape solution.*

The BRE 209 Guide notes (par 1.6 and 1.7):

*The guide is intended for building designers and their clients, consultants, and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings. Alternatively, where natural light is of special importance, less obstruction and hence more sunlight and daylight may be deemed necessary. The calculation methods in Appendices A and B are entirely flexible in this respect. Appendix F gives advice on how to develop a consistent set of target values for skylight under such circumstances.*

*The guidance here is intended for use in the United Kingdom and in the Republic of Ireland, though recommendations in the Irish Standard IS EN 17037 may vary from those in BS EN 17037. Many of the principles outlined will apply to other temperate climates. More specific guidance for other locations and climate types is given in BRE Report Environmental site layout planning.*

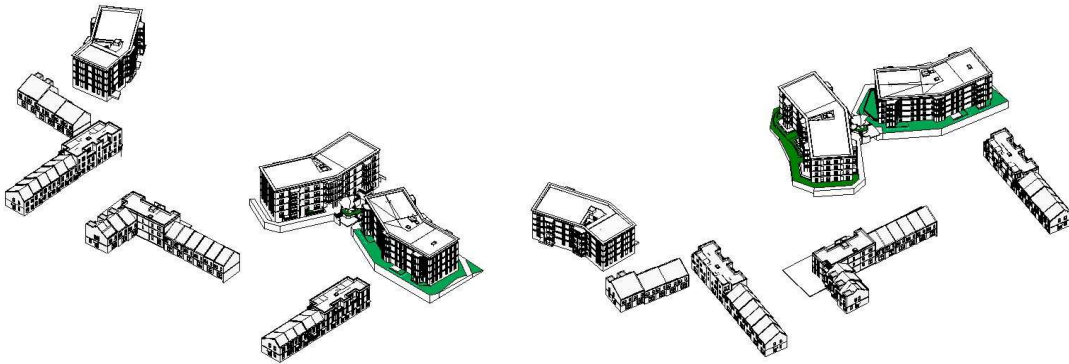
Therefore, if the situation arises where the targets identified within the guidance are not reached, the differences should be indicated and either justified in the context of the proposal or if possible 'compensatory measures' can be suggested. In this report, departures from the targets and references in the guidance will be identified, and mitigations will be proposed to reduce or eliminate the impacts.

## 6 Assessment Methodology

This assessment focussed on assessing the daylight autonomy (availability), and sunlight exposure, and amenity sunlight of the indicated neighbouring dwellings to the north and northwest of the new apartment development,

### 6.1 Assessment Process

Using the design information related to the proposal information, as received from the architects, as well as site specific measurements and positions taken locally, and information derived from recent planning applications a 3D computer model of the existing context and the proposed development has been created by the author.



*Study model showing proposed development,*

The overall 3D model sets out the proposed buildings geometry, levels, walls, floors, ceilings, windows and doors at the correct levels, orientation/ and location. The study model includes for habitable spaces of dwellings, the window geometry and specification. Reflectances for the materials are also accounted for (see below).

Using proprietary accredited software and methodologies associated with it, a number of daylight and sunlight assessment tests have been carried out. The simulation processes follow the procedures set out in ISO 15469:2004.

The evaluations takes account of space, time and climate. The spatial reality is represented using the 3D computer model of the proposed building and the local spatial context outside. The standards allows use of a calculation of the daylight levels expected to occur at such a latitude (usually a weather file for the nearest weather station). A climate file for Dublin airport has been used in this assessment.

The analysis procedure for daylight autonomy (availability) to residential spaces sets out a matrix of analysis points across the plan of the rooms (ignoring a 500mm band along the perimeter) at a height of 850mm over floor level.

#### 6.1.1 Software Specifics

The software utilised for this analysis is Waldram Tools by MBS Software Ltd in the UK (Company No: 3344454). It utilises accredited industry standard simulation technology Radiance and follows the BREs Waldram Methodologies for daylight and sunlight analysis. It has been used on hundreds of daylight sunlight and rights to light analyses over the past 10 years.

### 6.1.2 Daylight Availability

The guidelines present two main methods of calculating daylight: the Vertical Sky Component (VSC) method (for impact on neighbouring buildings) and two related methods Daylight Factor (DF) and Spatial Daylight Autonomy (availability) (SDA) for assessing daylight within a proposed development. The VSC method measures the amount of light available on the outside plane at the centre of a window, as a ratio (expressed as a percentage) of the amount of total unobstructed sky visible following the introduction of visible barriers such as buildings.

The VSC assessment method is usually used to assess windows to neighbouring dwellings to evaluate whether they have suffered any unacceptable diminution in daylight.

The DF and SDA methods are derived from European standard for daylighting BS EN 17037 and British Standard 8206 Part 2, Code of Practice for Daylighting. The Spatial Daylight Autonomy (availability) (SDA) method is a more complex and accurate representative calculation than DF to determine natural internal luminance. It takes into account not only sky geometries, but also factors such as window size, number of windows available to the room, room size, glass transmittance and room surface reflectance and calculates each of up to 50 points in a room over 4000 times to assess the performance through the course of the years and adjusts for the exact orientation of windows.

### 6.1.3 Sunlight Exposure

For proposed new developments EN 17037 as well as IS / BS EN17037 recommends that habitable rooms in a dwelling receive a minimum number of hours sunlight on a given representative date over the year. A sunlight exposure test determining whether or not each space can receive at least the lowest acceptable level (1.5 hours on March or September 21st and in some cases the medium (3 hours) or higher (4 hour) targets. The target minima for a new dwelling is 1.5 hours and for an outdoor amenity space 2 hours. Sunlight exposure studies take account of on site location, longitude and latitude, and solar azimuths. i.e. buildings south of a site will not be impacted for sunlight in the northern hemisphere.

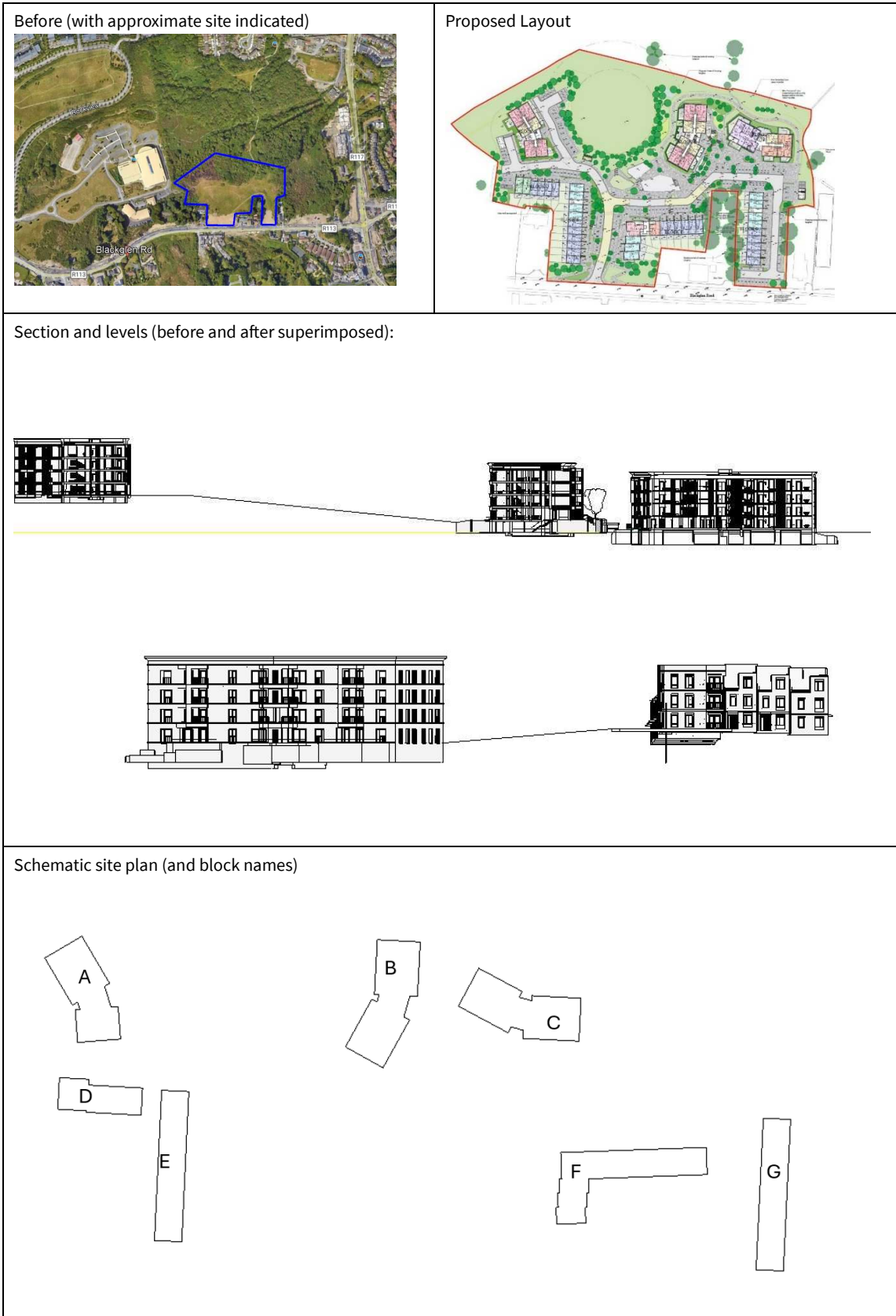
For impacts to neighbours as noted above, the annual probable sunlight hour (APSH) test under BRE 209 is used.

## 6.2 Simulation Procedure

### 6.2.1 Test Model

A purpose modelled daylight -sunlight digital model was built by the author to represent:

- the existing situation the existing site and topography and neighbouring structures.
- the proposed (post development) scenario comprising the 6 new blocks of dwellings in context.



### Solar location of the model:

Location

Climate file location  
IRL\_Dublin.039690\_IWEC.epw

Location: DUBLIN  
Latitude: 53.4300 Longitude: -6.2500 Timezone: 0

### 6.2.2 Test Subjects

A total of 129 dwelling were assessed as follows;

- 14 houses
- 115 apartments  
(in 7 blocks/ terraces)

### 6.2.3 Test Conditions/ Scenarios and Assumptions

### 6.2.4 Assumptions and Constants – SDA /daylight

The SDA/ daylight studies carried out assumed the following material constants and data points:

#### Glazing

transmission	68%
maintenance factor	96%

#### Reflectances

Ceilings:	80% reflectance
Walls:	70%
Floors:	40%
Other	

#### Weather file

Dublin Airport

Location

Climate file location  
IRL\_Dublin.039690\_IWEC.epw

Location: DUBLIN  
Latitude: 53.4300 Longitude: -6.2500 Timezone: 0

### 6.3 Daylight Assessment

A Spatial Daylight Autonomy (availability) (SDA) assessment to the procedure set out in BS EN 17037. was carried out to all habitable rooms (bedrooms, kitchen dining, living etc) within each proposed new dwelling.

### 6.4 Sunlight Exposure Assessment

A Sunlight Exposure Assessment to the procedure set out in EN 17037 was carried out to all habitable rooms (bedrooms, kitchen dining, living etc) within each proposed new dwellings.

### 6.5 Amenity Sunlight

An amenity sunlight analysis of shared outdoor spaces, at ground level in the western part of the site (taken as a sample such external spaces), was carried out to the procedures and standards set out in BRE 209 (2022).

### 6.6 Assessment – Neighbours

Two existing structures in the vicinity of our development site were identified as being probable residences.



*probable residential neighbours*

#### 6.6.1 Daylight Assessment Neighbours

A daylight availability assessment comparing vertical sky components metrics before and after the development would normally be carried out to windows assumed to be to residential rooms in the selected neighbouring buildings from the procedures and standards set out in BRE 209 (2022).

A preliminary assessment by the author determined that the two dwellings due to their positions, relative elevations and because they are both surrounded by high mature vegetation would not be impacted by the development considering the criterion set out in BRE 209 (2022).

#### 6.6.2 Sunlight Exposure Assessment- Neighbours

A Sunlight Exposure assessment comparing annual and winter probable sunlight hours before and after the development would normally be carried for windows assumed to be to living rooms (ie



ground floor windows) and only to windows facing within 90 degrees of south as stipulated by BRE 209 (2022) .

A preliminary assessment by the author determined that the two dwellings due to their positions, relative elevations and because they are both surrounded by high mature vegetation would not be impacted by the development considering the criterion set out in BRE 209 (2022).

### 6.6.3 Amenity Sunlight -Neighbours

An amenity sunlight analysis of the assumed private outdoor open spaces, at ground level, of the subject dwellings would normally be carried out to the procedures and standards set out in BRE 209 (2022).

A preliminary assessment by the author determined that the two dwellings due to their positions, relative elevations and because they are both surrounded by high mature vegetation would not be impacted by the development considering the criterion set out in BRE 209 (2022).

### 6.6.4 Overshadowing Assessment -NA

## 7 Results -Own Project

### 7.1 Terminology (results)

Assessment results are numerical in nature, usually a percentage of various metrics (% of room meeting the daylight factor/ lux targets, percentage of a room or space that receives the recommended sunshine exposure hours/level, etc). Each metric has a threshold that must be met to be deemed complaint or meeting the recommended standard.

We use the terms ‘Pass’, ‘Meets’, ‘Minimum’ or ‘Yes’ (depending on the language of the assessed criteria in the Guidance) to indicate that the assessed dwelling, room (or window for neighbour impact tests) is compliant. For scores that exceed the threshold, terminology like ‘meets’, ‘yes’, ‘medium’ or ‘high’ is used (both indicating compliance also obviously. For dwellings or rooms (/windows) that do not reach the threshold, the results are termed ‘marginal’ if they fall within 7.5% of the threshold (eg 47% where the threshold is 50%). For results below that, the terms ‘Fail’, ‘No’ / ‘Not’, ‘Low’ or ‘Below’ may be used. The word ‘noticeable’ in terms of neighbour impact assessment has the meaning described in BRE 209 (2022).

Results falling fully within the criterion here are deemed to PASS or meet the target criteria for SDA. met

Results falling within 10% of the Lux AND % Effective Area requirements are deemed borderline or marginal.

SDA	Criteria			
	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours
BS EN 17037				
Bedroom	100	50%	50%	4380
Living	150	50%	50%	4380
Diing	150	50%	50%	4380
Kitche	200	50%	50%	4380
KDL	200	50%	50%	4380

Table showing daylight autonomy (SDA)

## 7.2 Daylight Availability

The following are the headline result of the daylight availability assessment to the subject rooms:

Spatial Daylight Autonomy Blackglen Rd BS EN 17037						
Block	Number of Rooms Tested	Rooms satisfying Criteria				Rooms not satisfying Criteria
		Qty.		Total	%	
Pass	Mrgnl					
A	68	62	4	66	97%	2
B	76	66	4	70	92%	6
C	84	69	3	72	86%	12
D	23	21	1	22	96%	1
E	41	39	1	40	98%	1
F	46	40	1	41	89%	5
G	46	45	0	45	98%	1
<b>Total</b>	<b>384</b>	<b>342</b>	<b>14</b>	<b>356</b>	<b>93%</b>	<b>28</b>

Of 384 rooms assessed in the projects dwellings, 343 or 89% (356 or 93% including borderline /marginal results) meet the BS EN 17037 criteria for spatial daylight autonomy.

The rooms that do not meet the targets were mostly in Block C. which runs east- west and thus has a less optimal orientation than block A or B (which are similar in design and layout to it).

In terms of a breakdown by room type, the following are the results:

Spatial Daylight Autonomy Blackglen Rd BS EN 17037						
Block	Number of Rooms Tested	Rooms satisfying Criteria				Rooms not satisfying Criteria
		Qty.		Total	%	
Pass	Mrgnl					
Living or dining	5	3	0	3	60%	2
Bedroom	239	234	3	237	99%	2
Kitchen, Dining, Living or combined KDL	172	119	12	131	76%	41
<b>Total</b>	<b>411</b>	<b>353</b>	<b>15</b>	<b>368</b>	<b>90%</b>	<b>43</b>

The predominance of rooms that do not meet the criterion were room that require a higher level of illuminance such as living or dining rooms (150 lux) or kitchens (/combined kitchens an other rooms\_ (200 lux). In addition many of these combined rooms (KDLs) due to their relative size tend, in non corner units, to be laid out as rectangular plans with daylighting possible at only one (shorter) side.

Room by room these are the SDA results :

Daylight and Sunlight Analysis Report, Blackglenn Road, Dun Laoighre Rathdown

Project Name: **Blackgen All Blocks**  
 Project No.: 2503  
 Report Title: SDA BS En17037 Analysis - Proposed Scheme  
 Date of Analysis:

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
A	A1_0.3	0fl	Bedroom	13.02	9.00	260	9.00	100%	YES
A	A20_3.2	3fl	Kitchen-Dining-Liv	30.82	23.58	260	15.95	68%	YES
A	A18_2.2	2fl	Kitchen-Dining-Liv	30.82	23.58	261	15.39	65%	YES
A	A19_3.3	3fl	Bedroom	13.02	9.00	280	9.00	100%	YES
A	A2_0.3	0fl	Bedroom	13.02	9.00	312	9.00	100%	YES
A	A8_1.3	1fl	Bedroom	13.02	9.00	313	9.00	100%	YES
A	A14_2.3	2fl	Bedroom	13.02	9.00	318	9.00	100%	YES
A	A20_3.3	3fl	Bedroom	13.02	9.00	329	9.00	100%	YES
A	A5_0.2	0fl	Kitchen-Dining-Liv	30.82	23.58	351	19.94	85%	YES
A	A5_0.3	0fl	Bedroom	13.02	9.00	360	9.00	100%	YES
A	A11_1.3	1fl	Bedroom	13.02	8.51	395	8.51	100%	YES
A	A17_2.3	2fl	Bedroom	13.02	9.00	409	9.00	100%	YES
A	A23_3.3	3fl	Bedroom	13.02	9.00	414	9.00	100%	YES
A	A19_3.4	3fl	Bedroom	13.00	8.97	181	8.60	96%	YES
A	A20_3.4	3fl	Bedroom	13.00	8.97	181	8.69	97%	YES
A	A21_3.2	3fl	Bedroom	13.00	8.99	181	7.81	87%	YES
A	A6_0.3	0fl	Bedroom	12.99	8.98	184	8.79	98%	YES
A	A4_0.2	0fl	Bedroom	13.00	8.99	187	8.17	91%	YES
A	A16_2.3	2fl	Kitchen-Dining-Liv	23.00	17.13	201	8.61	50%	YES
A	A22_3.3	3fl	Kitchen-Dining-Liv	23.14	17.22	202	8.65	50%	YES
A	A10_1.2	1fl	Bedroom	13.00	8.99	203	8.35	93%	YES
A	A12_1.3	1fl	Bedroom	13.02	9.00	204	8.91	99%	YES
A	A18_2.3	2fl	Bedroom	13.02	9.00	208	8.91	99%	YES

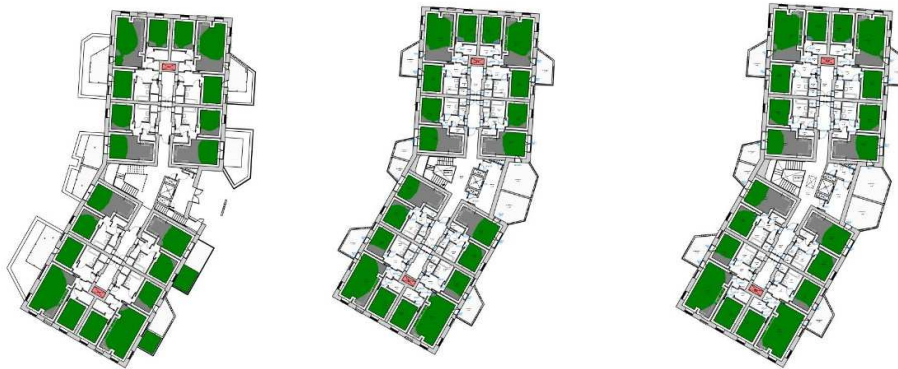
Project Name: **Blackgen All Blocks**  
 Project No.: 2503  
 Report Title: SDA BS En17037 Analysis - Proposed Scheme  
 Date of Analysis:

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
A	A24_3.3	3fl	Bedroom	13.15	9.08	208	9.08	100%	YES
A	A1_0.2	0fl	Kitchen-Dining-Liv	30.82	23.59	208	13.07	55%	YES
A	A16_2.2	2fl	Bedroom	13.00	8.99	210	8.35	93%	YES
A	A6_0.4	0fl	Bedroom	13.00	8.97	217	8.88	99%	YES
A	A13_2.2	2fl	Kitchen-Dining-Liv	30.82	23.58	217	13.07	55%	YES
A	A22_3.2	3fl	Bedroom	13.00	8.99	218	8.44	94%	YES
A	A5_0.4	0fl	Bedroom	13.00	8.97	219	8.88	99%	YES
A	A19_3.2	3fl	Kitchen-Dining-Liv	30.82	23.58	219	13.25	56%	YES
A	A7_1.2	1fl	Kitchen-Dining-Liv	30.95	23.71	225	14.43	61%	YES
A	A2_0.2	0fl	Kitchen-Dining-Liv	30.82	23.58	229	15.27	65%	YES
A	A17_2.4	2fl	Bedroom	13.00	8.97	231	8.97	100%	YES
A	A24_3.4	3fl	Bedroom	13.00	8.97	231	8.97	100%	YES
A	A23_3.4	3fl	Bedroom	13.00	8.97	232	8.97	100%	YES
A	A12_1.4	1fl	Bedroom	13.00	8.97	235	8.97	100%	YES
A	A18_2.4	2fl	Bedroom	13.00	8.97	235	8.97	100%	YES
A	A11_1.4	1fl	Bedroom	13.00	8.97	237	8.97	100%	YES
A	A6_0.2	0fl	Kitchen-Dining-Liv	30.78	23.54	237	14.16	60%	YES
A	A11_1.2	1fl	Kitchen-Dining-Liv	30.82	23.58	239	14.68	62%	YES
A	A12_1.2	1fl	Kitchen-Dining-Liv	30.82	23.58	239	15.21	64%	YES
A	A24_3.2	3fl	Kitchen-Dining-Liv	30.82	23.58	243	15.38	65%	YES
A	A23_3.2	3fl	Kitchen-Dining-Liv	30.82	23.58	246	15.27	65%	YES
A	A13_2.3	2fl	Bedroom	13.86	9.72	249	9.72	100%	YES
A	A8_1.2	1fl	Kitchen-Dining-Liv	30.83	23.65	252	15.40	65%	YES
A	A14_2.2	2fl	Kitchen-Dining-Liv	30.82	23.58	254	15.61	66%	YES
A	A7_1.3	1fl	Bedroom	13.02	9.00	255	9.00	100%	YES
A	A17_2.2	2fl	Kitchen-Dining-Liv	30.83	23.64	258	15.48	65%	YES



SDA-graphic results to Block A, ground, 1<sup>st</sup> and 3<sup>rd</sup> floors

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
B	B1_0.2	0fl	Kitchen-Living-Din	30.21	23.02	307	18.97	82%	YES
B	B9_1.2	1fl	Kitchen-Living	30.21	23.02	305	19.24	84%	YES
B	B17_2.2	2fl	Kitchen-Living-Din	30.31	23.13	312	19.97	86%	YES
B	B25_3.2	3fl	Kitchen-Living-Din	30.31	23.13	320	20.15	87%	YES
B	B11_1.3	1fl	Kitchen-Living-Din	22.66	16.85	143	6.19	37%	NO
B	B29_3.3	3fl	Kitchen-Living-Din	22.67	16.85	151	6.36	38%	NO
B	B27_3.3	3fl	Kitchen-Living-Din	22.66	16.85	154	6.53	39%	NO
B	B21_2.3	2fl	Kitchen-Living-Din	22.66	16.85	157	6.70	40%	NO
B	B19_2.3	2fl	Kitchen-Living-Din	22.66	16.85	159	6.79	40%	NO
B	B5_0.3	0fl	Kitchen-Living-Din	22.66	16.85	171	7.22	43%	NO
B	B3_0.3	0fl	Kitchen-Living-Din	22.66	16.85	174	7.39	44%	NO
B	B13_1.3	1fl	Kitchen-Living-Din	22.67	16.85	176	7.48	44%	NO
B	B6_0.3	0fl	Kitchen-Living-Din	22.64	16.83	181	7.90	47%	NO
B	B22_2.3	2fl	Kitchen-Living-Din	22.65	16.83	197	8.24	49%	NO
B	B6_0.2	0fl	Bedroom	12.66	8.70	161	6.85	79%	YES
B	B8_0.4	0fl	Bedroom	13.00	8.97	173	8.13	91%	YES
B	B9_1.3	1fl	Bedroom	12.65	8.69	173	6.15	71%	YES
B	B7_0.4	0fl	Bedroom	13.00	8.97	174	8.13	91%	YES
B	B16_1.4	1fl	Bedroom	13.00	8.97	174	8.32	93%	YES
B	B2_0.3	0fl	Bedroom	12.65	8.69	175	6.60	76%	YES
B	B15_1.4	1fl	Bedroom	13.00	8.97	175	8.41	94%	YES
B	B25_3.3	3fl	Bedroom	12.65	8.69	175	6.42	74%	YES
B	B23_2.4	2fl	Bedroom	13.00	8.97	177	8.50	95%	YES
B	B24_2.4	2fl	Bedroom	13.00	8.97	177	8.50	95%	YES
B	B32_3.4	3fl	Bedroom	13.00	8.97	179	8.50	95%	YES
B	B3_0.2	0fl	Bedroom	12.66	8.70	180	7.40	85%	YES



SDA-graphic results to Block B, ground, 1<sup>st</sup> and 3<sup>rd</sup> floors

Daylight and Sunlight Analysis Report, Blackglen Road, Dun Laoighre Rathdown

Block	Room Ref	Flo or	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
B	B31_3.4		3fl	Bedroom	13.00	8.97	180	8.60	96%	YES
B	B17_2.3		2fl	Bedroom	12.65	8.69	182	6.51	75%	YES
B	B5_0.2		0fl	Bedroom	12.66	8.70	186	7.49	86%	YES
B	B11_2		1fl	Bedroom	12.66	8.70	188	7.77	89%	YES
B	B14_1.2		1fl	Bedroom	12.66	8.70	189	7.68	88%	YES
B	B19_2.2		2fl	Bedroom	12.66	8.70	194	7.77	89%	YES
B	B4_0.2		0fl	Bedroom	12.66	8.70	197	8.05	93%	YES
B	B27_3.2		3fl	Bedroom	12.66	8.70	197	7.86	90%	YES
B	B13_1.2		1fl	Bedroom	12.66	8.70	198	7.77	89%	YES
B	B12_1.3		1fl	Kitchen-Living-Din	22.65	16.84	204	8.68	52%	YES
B	B21_2.2		2fl	Bedroom	12.66	8.70	205	7.86	90%	YES
B	B22_2.2		2fl	Bedroom	12.66	8.70	205	8.05	93%	YES
B	B30_3.3		3fl	Kitchen-Living-Din	22.65	16.83	205	8.76	52%	YES
B	B10_1.3		1fl	Bedroom	12.65	8.69	206	6.60	76%	YES
B	B30_3.2		3fl	Bedroom	12.66	8.70	210	8.14	94%	YES
B	B29_3.2		3fl	Bedroom	12.66	8.70	211	8.05	93%	YES
B	B7_0.2		0fl	Kitchen-Living-Din	30.21	23.02	215	12.68	55%	YES
B	B18_2.3		2fl	Bedroom	12.65	8.69	219	6.69	77%	YES
B	B20_2.3		2fl	Kitchen-Living-Din	22.65	16.84	220	9.19	55%	YES
B	B26_3.3		3fl	Bedroom	12.65	8.69	223	6.69	77%	YES
B	B12_1.2		1fl	Bedroom	12.66	8.70	224	8.33	96%	YES
B	B28_3.3		3fl	Kitchen-Living-Din	22.65	16.84	224	9.36	56%	YES
B	B14_1.3		1fl	Kitchen-Living-Din	22.61	16.80	229	9.26	55%	YES
B	B20_2.2		2fl	Bedroom	12.66	8.70	230	8.33	96%	YES
B	B28_3.2		3fl	Bedroom	12.66	8.70	235	8.42	97%	YES
B	B1_0.4		0fl	Bedroom	13.00	8.97	237	8.97	100%	YES

Block	Room Ref	Flo or	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
B	B2_0.4		0fl	Bedroom	13.00	8.97	238	8.97	100%	YES
B	B8_0.2		0fl	Kitchen-Living-Din	30.21	23.02	243	14.12	61%	YES
B	B8_0.3		0fl	Bedroom	12.65	8.69	245	8.69	100%	YES
B	B1_0.3		0fl	Bedroom	12.65	8.69	246	8.69	100%	YES
B	B15_1.2		1fl	Kitchen-Living-Din	30.21	23.02	246	15.74	68%	YES
B	B9_1.4		1fl	Bedroom	13.00	8.97	250	8.97	100%	YES
B	B10_1.4		1fl	Bedroom	13.00	8.97	251	8.97	100%	YES
B	B17_2.4		2fl	Bedroom	13.00	8.97	254	8.97	100%	YES
B	B18_2.4		2fl	Bedroom	13.00	8.97	254	8.97	100%	YES
B	B25_3.4		3fl	Bedroom	13.00	8.97	254	8.97	100%	YES
B	B4_0.3		0fl	Kitchen-Living-Din	22.67	16.85	255	10.06	60%	YES
B	B26_3.4		3fl	Bedroom	13.00	8.97	256	8.97	100%	YES
B	B23_2.2		2fl	Kitchen-Living-Din	30.32	23.14	257	16.00	69%	YES
B	B16_1.2		1fl	Kitchen-Living-Din	30.32	23.14	261	16.21	70%	YES
B	B31_3.2		3fl	Kitchen-Living-Din	30.32	23.14	264	16.54	71%	YES
B	B24_2.2		2fl	Kitchen-Living-Din	30.32	23.14	267	16.36	71%	YES
B	B32_3.2		3fl	Kitchen-Living-Din	30.32	23.14	271	16.81	73%	YES
B	B15_1.3		1fl	Bedroom	12.65	8.69	284	8.69	100%	YES
B	B16_1.3		1fl	Bedroom	12.65	8.69	291	8.69	100%	YES
B	B7_0.3		0fl	Bedroom	12.65	8.69	294	8.69	100%	YES
B	B23_2.3		2fl	Bedroom	12.65	8.69	299	8.69	100%	YES
B	B32_3.3		3fl	Bedroom	12.65	8.69	312	8.69	100%	YES
B	B24_2.3		2fl	Bedroom	12.65	8.69	315	8.69	100%	YES
B	B31_3.3		3fl	Bedroom	12.65	8.69	318	8.69	100%	YES
B	B2_0.2		0fl	Kitchen-Living-Din	30.32	23.13	378	21.41	93%	YES
B	B26_3.2		3fl	Kitchen-Living-Din	30.32	23.13	393	22.23	96%	YES
B	B10_1.2		1fl	Kitchen-Living-Din	30.21	23.02	394	21.67	94%	YES
B	B18_2.2		2fl	Kitchen-Living-Din	30.32	23.13	394	22.05	95%	YES

Project Name: <b>Blackgen All Blocks</b>										
Project No.: 2503										
Report Title: SDA B5 En17037 Analysis - Proposed Scheme										
Date of Analysis:										
Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria	
C	C1_0.15	0fl	Bedroom	15.79	11.28	65	3.13	28%	NO	
C	C2_0.3	0fl	Kitchen-Living-Din	22.99	17.12	84	3.23	19%	NO	
C	C16_2.3	2fl	Kitchen-Living-Din	23.16	17.14	86	3.32	19%	NO	
C	C8_1.3	1fl	Kitchen-Living-Din	22.98	17.12	87	3.41	20%	NO	
C	C18_2.3	2fl	Kitchen-Living-Din	23.38	17.37	92	3.40	20%	NO	
C	C26_3.3	3fl	Kitchen-Living-Din	23.00	17.13	105	4.02	23%	NO	
C	C3_0.3	0fl	Kitchen-Living-Din	28.73	22.15	111	7.87	36%	NO	
C	C24.3	3fl	Kitchen-Living-Din	23.24	17.30	111	4.21	24%	NO	
C	C1_0.10	0fl	Living	27.06	20.78	111	7.47	36%	NO	
C	C10_1.3	1fl	Kitchen-Living-Din	22.98	17.11	170	4.80	28%	NO	
C	C9_1.3	1fl	Kitchen-Living-Din	28.71	22.14	172	10.03	45%	NO	
C	C17_2.3	2fl	Kitchen-Living-Din	28.72	22.15	172	10.04	45%	NO	
C	C11_1.2	1fl	Kitchen-Living-Din	28.72	22.15	176	10.30	46%	NO M	
C	C19_2.3	2fl	Kitchen-Living-Din	28.72	22.15	181	10.39	47%	NO M	
C	C1_0.21	0fl	Bedroom	15.84	10.82	108	5.77	53%	YES	
C	C14_2.3	2fl	Bedroom	14.21	10.02	108	5.38	54%	YES	
C	C22_3.3	3fl	Bedroom	14.18	9.99	127	6.20	62%	YES	
C	C23_3.3	3fl	Bedroom	14.17	9.99	131	6.57	66%	YES	
C	C6_1.4	1fl	Bedroom	7.10	4.26	137	3.39	80%	YES	
C	C1_0.18	0fl	Bedroom	15.04	10.52	142	6.87	65%	YES	
C	C6_1.3	1fl	Bedroom	14.19	10.00	143	8.98	90%	YES	
C	C14_2.4	2fl	Bedroom	7.11	4.27	145	3.40	80%	YES	
C	C12_1.2	1fl	Bedroom	13.32	9.13	149	6.94	76%	YES	
C	C20_2.2	2fl	Bedroom	12.91	8.72	149	6.63	76%	YES	
C	C4_0.2	0fl	Bedroom	12.91	8.73	151	7.05	81%	YES	
C	C4_0.4	0fl	Bedroom	7.13	4.29	153	3.59	84%	YES	

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria	
C	C12_1.4	1fl	Bedroom	7.13	4.28	153	3.67	86%	YES	
C	C20_2.4	2fl	Bedroom	7.13	4.28	153	3.67	86%	YES	
C	C7_1.4	1fl	Bedroom	7.10	4.26	157	4.00	94%	YES	
C	C22_3.4	3fl	Bedroom	7.13	4.29	159	3.85	90%	YES	
C	C25_3.2	3fl	Bedroom	13.10	9.07	164	7.84	86%	YES	
C	C1_0.6	0fl	Bedroom	14.66	10.34	165	7.69	74%	YES	
C	C15_2.4	2fl	Bedroom	7.12	4.27	168	4.10	96%	YES	
C	C10_1.2	1fl	Bedroom	12.98	8.97	169	8.43	94%	YES	
C	C18_2.2	2fl	Bedroom	13.00	8.99	170	8.53	95%	YES	
C	C1_0.2	0fl	Bedroom	15.61	11.05	171	9.26	84%	YES	
C	C2_0.2	0fl	Bedroom	12.98	8.97	173	8.43	94%	YES	
C	C8_1.2	1fl	Bedroom	12.98	8.97	175	8.61	96%	YES	
C	C16_2.2	2fl	Bedroom	13.00	8.99	175	8.62	96%	YES	
C	C28_3.4	3fl	Bedroom	7.13	4.28	177	4.11	96%	YES M	
C	C5_0.4	0fl	Bedroom	7.22	4.36	183	4.27	98%	YES	
C	C21_2.4	2fl	Bedroom	7.14	4.29	184	4.20	98%	YES	
C	C13_1.4	1fl	Bedroom	7.14	4.29	185	4.20	98%	YES	
C	C23_3.4	3fl	Bedroom	7.14	4.29	199	4.20	98%	YES	
C	C22_3.14	3fl	Bedroom	12.91	8.72	201	8.46	97%	YES	
C	C24_3.2	3fl	Bedroom	13.00	8.99	204	8.81	98%	YES	
C	C29_3.4	3fl	Bedroom	7.14	4.29	212	4.20	98%	YES	
C	C13_1.2	1fl	Bedroom	13.30	9.11	215	7.55	83%	YES	
C	C27_3.3	3fl	Kitchen-Living-Din	28.72	22.15	215	11.66	53%	YES	
C	C25_3.3	3fl	Kitchen-Living-Din	28.72	22.15	217	11.60	52%	YES	
C	C26_3.2	3fl	Bedroom	13.00	8.99	220	8.90	99%	YES	
C	C9_1.4	1fl	Bedroom	7.47	4.52	221	4.52	100%	YES	



Block	Room Ref	Flo or	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
C	C15_2.3		2fl	Bedroom	14.20	10.02	221	8.72	87%	YES
C	C17_2.4		2fl	Bedroom	7.49	4.54	221	4.54	100%	YES
C	C21_2.2		2fl	Bedroom	12.92	8.73	221	7.41	85%	YES
C	C7_1.3		1fl	Bedroom	14.18	10.00	223	8.88	89%	YES
C	C7_1.2		1fl	Kitchen-Living-Din	24.96	19.32	223	11.04	57%	YES
C	C15_2.2		2fl	Bedroom	25.02	19.37	233	19.28	100%	YES
C	C19_2.4		2fl	Bedroom	7.49	4.54	234	4.54	100%	YES
C	C11_1.3		1fl	Bedroom	7.49	4.53	235	4.53	100%	YES
C	C3_0.4		0fl	Bedroom	7.49	4.54	243	4.54	100%	YES
C	C29_3.2		3fl	Bedroom	12.92	8.73	246	7.84	90%	YES
C	C25_3.4		3fl	Bedroom	7.49	4.54	255	4.54	100%	YES
C	C27_3.4		3fl	Bedroom	7.49	4.54	262	4.54	100%	YES
C	C20_2.3		2fl	Kitchen-Living-Din	24.97	19.33	263	12.24	63%	YES
C	C13_1.3		1fl	Kitchen-Living-Din	24.96	19.32	264	12.14	63%	YES
C	C4_0.3		0fl	Kitchen-Living-Din	24.95	19.31	266	12.23	63%	YES
C	C12_1.3		1fl	Kitchen-Living-Din	24.95	19.31	267	12.23	63%	YES
C	C21_2.3		2fl	Kitchen-Living-Din	24.96	19.32	272	12.33	64%	YES
C	C11_1.4		1fl	Bedroom	13.10	9.07	274	8.88	98%	YES
C	C17_2.2		2fl	Bedroom	13.10	9.07	276	8.88	98%	YES
C	C23_3.2		3fl	Kitchen-Living-Din	24.98	19.34	280	14.09	73%	YES
C	C9_1.2		1fl	Bedroom	13.08	9.05	281	8.77	97%	YES
C	C19_2.2		2fl	Bedroom	13.10	9.07	284	8.88	98%	YES
C	C5_0.2		0fl	Bedroom	13.34	9.09	291	9.09	100%	YES
C	C28_3.3		3fl	Kitchen-Living-Din	24.97	19.33	311	14.27	74%	YES
C	C29_3.3		3fl	Kitchen-Living-Din	24.96	19.32	315	14.72	76%	YES
C	C6_1.2		1fl	Kitchen-Living-Din	24.97	19.33	316	16.20	84%	YES
C	C27_3.2		3fl	Bedroom	13.10	9.07	334	8.98	99%	YES
C	C14_2.2		2fl	Kitchen-Living-Din	25.02	19.38	343	17.35	90%	YES
C	C5_0.3		0fl	Kitchen-Living-Din	24.96	19.32	354	17.20	89%	YES
C	C1_0.13		0fl	Kitchen	16.33	11.44	378	10.26	90%	YES
C	C22_3.2		3fl	Kitchen-Living-Din	24.99	19.34	389	19.34	100%	YES



SDA results Block C. top: Grund and First floors, , bottom, 2<sup>nd</sup> and third floors

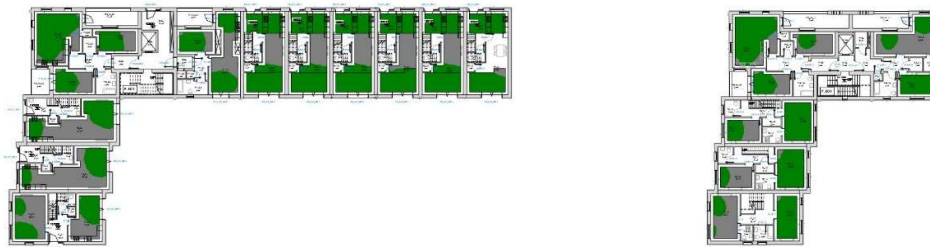
Project Name: **Blackgen All Blocks**  
 Project No.: 2503  
 Report Title: SDA BS En17037 Analysis - Proposed Scheme  
 Date of Analysis:

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
D	D2_2.2	2fl	Bedroom	13.71	9.27	86	4.30	46%	NO
D	D2_0.3	0fl	Kitchen-Living-Din	39.88	30.04	188	14.28	48%	NO
D	D1_2.3	2fl	Bedroom	14.88	10.00	98	5.00	50%	YES
D	D2_1.7	1fl	Bedroom	13.59	9.21	121	5.40	59%	YES
D	D2_1.4	1fl	Bedroom	7.35	4.35	223	4.26	98%	YES
D	D3_1.2	1fl	Bedroom	13.09	8.97	233	8.97	100%	YES
D	D1_0.5	0fl	Kitchen-Living-Din	21.05	14.97	252	10.10	67%	YES
D	D2_1.5	1fl	Bedroom	13.00	8.88	257	8.88	100%	YES
D	D5_1.2	1fl	Bedroom	13.09	8.96	261	8.96	100%	YES
D	D4_1.2	1fl	Bedroom	13.09	8.97	265	8.97	100%	YES
D	D1_1.4	1fl	Bedroom	13.09	8.96	269	8.96	100%	YES
D	D6_0.2	0fl	Kitchen-Living-Din	30.63	22.50	269	14.79	66%	YES
D	D4_0.2	0fl	Kitchen-Living-Din	30.63	22.50	270	14.34	64%	YES
D	D6_1.2	1fl	Bedroom	13.09	8.96	271	8.96	100%	YES
D	D1_1.3	1fl	Bedroom	7.16	4.22	274	4.22	100%	YES
D	D5_0.2	0fl	Kitchen-Living-Din	30.63	22.50	274	14.79	66%	YES
D	D3_0.2	0fl	Kitchen-Living-Din	30.63	22.50	275	14.15	63%	YES
D	D1_1.6	1fl	Bedroom	13.67	9.28	317	8.43	91%	YES
D	D1_0.2	0fl	Kitchen-Living-Din	19.15	14.21	329	12.32	87%	YES
D	D5_1.5	1fl	Bedroom	13.99	9.58	398	9.58	100%	YES
D	D6_1.5	1fl	Bedroom	13.99	9.58	404	9.58	100%	YES
D	D4_1.5	1fl	Bedroom	13.09	8.96	447	8.96	100%	YES
D	D3_1.5	1fl	Bedroom	13.09	8.96	450	8.96	100%	YES

Project Name: **Blackgen All Blocks**  
 Project No.: 2503  
 Report Title: SDA BS En17037 Analysis - Proposed Scheme  
 Date of Analysis:

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
E	E11_2.4	2fl	Kitchen-Dining-Liv	29.94	22.52	166	9.49	42%	NO
E	E9_0.2	0fl	Kitchen-Dining-Liv	34.79	25.28	196	12.46	49%	NO
E	E9_1.2	1fl	Bedroom	7.13	4.27	176	4.18	98%	YES
E	E7_1.2	1fl	Bedroom	7.13	4.27	186	4.18	98%	YES
E	E8_1.2	1fl	Bedroom	7.13	4.27	197	4.18	98%	YES
E	E10_0.2	0fl	Kitchen-Dining-Liv	34.63	25.22	202	12.86	51%	YES
E	E7_1.3	1fl	Bedroom	11.64	7.82	206	7.82	100%	YES
E	E8_0.2	0fl	Kitchen-Dining-Liv	34.63	25.22	211	13.36	53%	YES
E	E7_0.2	0fl	Kitchen-Dining-Liv	34.63	25.22	218	13.69	54%	YES
E	E8_1.3	1fl	Bedroom	11.64	7.82	219	7.82	100%	YES
E	E9_1.3	1fl	Bedroom	11.64	7.82	224	7.82	100%	YES
E	E6_0.2	0fl	Kitchen-Dining-Liv	30.46	22.33	253	14.95	67%	YES
E	E5_0.2	0fl	Kitchen-Dining-Liv	30.46	22.33	265	15.22	68%	YES
E	E3_0.2	0fl	Kitchen-Dining-Liv	30.46	22.33	267	15.40	69%	YES
E	E4_0.2	0fl	Kitchen-Dining-Liv	30.46	22.33	267	15.40	69%	YES
E	E9_1.5	1fl	Bedroom	15.37	10.84	284	10.84	100%	YES
E	E12_2.2	2fl	Bedroom	13.10	8.98	304	8.33	93%	YES
E	E11_2.2	2fl	Bedroom	13.10	8.98	332	8.52	95%	YES
E	E12_2.4	2fl	Kitchen-Dining-Liv	29.94	22.52	332	15.25	68%	YES
E	E1_1.5	1fl	Bedroom	14.17	9.96	350	9.96	100%	YES
E	E8_1.5	1fl	Bedroom	15.41	10.84	350	10.84	100%	YES
E	E10_1.3	1fl	Bedroom	11.64	7.82	351	7.82	100%	YES
E	E1_0.4	0fl	Living	14.87	10.31	358	8.75	85%	YES
E	E7_1.5	1fl	Bedroom	15.49	10.84	363	10.84	100%	YES
E	E2_1.2	1fl	Bedroom	13.09	8.96	372	8.96	100%	YES
E	E3_1.2	1fl	Bedroom	13.09	8.97	374	8.97	100%	YES

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
E	E5_1.2	1fl	Bedroom	13.09	8.96	377	8.96	100%	YES
E	E6_1.2	1fl	Bedroom	13.09	8.97	377	8.97	100%	YES
E	E2_0.2	0fl	Kitchen-Dining-Liv	30.91	22.78	378	22.16	97%	YES
E	E4_1.2	1fl	Bedroom	13.09	8.96	379	8.96	100%	YES
E	E3_1.5	1fl	Bedroom	13.09	8.96	384	8.96	100%	YES
E	E6_1.5	1fl	Bedroom	13.09	8.97	390	8.97	100%	YES
E	E2_1.5	1fl	Bedroom	13.09	8.97	396	8.97	100%	YES
E	E1_0.2	0fl	Kitchen-Dining	17.07	11.86	401	11.60	98%	YES
E	E5_1.5	1fl	Bedroom	13.09	8.97	403	8.97	100%	YES
E	E4_1.5	1fl	Bedroom	13.09	8.96	437	8.96	100%	YES
E	E12_2.5	2fl	Bedroom	12.78	7.85	457	7.85	100%	YES
E	E10_1.5	1fl	Bedroom	15.37	10.84	475	10.84	100%	YES
E	E10_1.2	1fl	Bedroom	7.13	4.27	621	4.27	100%	YES
E	E11_2.5	2fl	Bedroom	12.78	7.84	630	7.84	100%	YES
E	E1_1.2	1fl	Bedroom	12.42	7.73	639	7.73	100%	YES



SDA -Graphic results for Block F, ground and 1<sup>st</sup> floors

Project Name: **Blackgen All Blocks**  
 Project No.: 2503  
 Report Title: SDA BS En17037 Analysis - Proposed Scheme  
 Date of Analysis:

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
F	F2_1.5	1fl	Bedroom	12.49	8.54	54	2.22	26%	NO
F	F1_1.5	1fl	Bedroom	18.36	13.42	74	3.45	26%	NO
F	F3_1.5	1fl	Bedroom	12.49	8.54	99	4.18	49%	NO
F	F2_0.4	0fl	Kitchen-Living-Din	36.73	27.18	131	9.29	34%	NO
F	F3_0.4	0fl	Kitchen-Living-Din	36.73	27.18	153	11.63	43%	NO
F	F13_1.5	1fl	Kitchen-Living-Din	26.33	19.44	155	6.89	35%	NO
F	F12_1.5	1fl	Bedroom	13.64	9.22	163	6.14	67%	YES
F	F1_0.4	0fl	Living	21.95	16.62	176	10.20	61%	YES
F	F10_0.4	0fl	Bedroom	14.21	9.79	111	5.57	57%	YES
F	F12_1.4	1fl	Bedroom	14.21	9.79	113	5.57	57%	YES
F	F10_0.5	0fl	Bedroom	13.59	9.17	160	6.02	66%	YES
F	F1_1.2	1fl	Bedroom	15.89	11.22	161	10.96	98%	YES
F	F11_0.5	0fl	Bedroom	12.09	8.18	168	6.23	76%	YES
F	F2_1.2	1fl	Bedroom	18.10	13.29	168	12.67	95%	YES
F	F14_2.4	2fl	Bedroom	14.19	9.78	186	8.09	83%	YES
F	F1_0.5	0fl	Kitchen-Dining	18.69	13.44	201	6.77	50%	YES
F	F1_2.2	2fl	Bedroom	22.66	16.47	212	14.53	100%	YES
F	F2_2.2	2fl	Bedroom	20.23	14.40	212	14.53	100%	YES
F	F7_1.2	1fl	Bedroom	13.09	8.97	215	8.97	100%	YES
F	F9_1.2	1fl	Bedroom	13.09	8.96	216	8.96	100%	YES
F	F7_0.4	0fl	Kitchen-Living-Din	30.63	22.50	216	12.16	54%	YES
F	F3_1.2	1fl	Bedroom	18.09	13.29	224	13.29	100%	YES
F	F11_0.4	0fl	Kitchen-Living-Din	27.63	19.43	227	10.76	55%	YES
F	F3_2.2	2fl	Bedroom	20.41	14.53	228	14.53	100%	YES
F	F15_2.5	2fl	Kitchen-Living-Din	26.32	19.43	231	11.01	57%	YES
F	F14_2.5	2fl	Bedroom	13.74	9.23	252	7.29	79%	YES

Project Name: **Blackgen All Blocks**  
 Project No.: 2503  
 Report Title: SDA BS En17037 Analysis - Proposed Scheme  
 Date of Analysis:

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
G	G11_2.6	2fl	Kitchen-Living/Din	29.94	21.60	163	8.96	41%	NO
G	G1_1.3	1fl	Bedroom	11.64	7.82	162	5.96	76%	YES
G	G2_1.3	1fl	Bedroom	11.64	7.82	162	5.96	76%	YES
G	G4_1.3	1fl	Bedroom	11.64	7.82	162	5.96	76%	YES
G	G3_1.3	1fl	Bedroom	11.61	7.79	163	5.94	76%	YES
G	G3_1.4	1fl	Bedroom	7.15	4.28	188	4.19	98%	YES
G	G2_1.4	1fl	Bedroom	7.13	4.27	190	4.18	98%	YES
G	G4_1.4	1fl	Bedroom	7.13	4.27	190	4.18	98%	YES
G	G3_0.4	0fl	Kitchen	10.55	6.37	221	3.95	62%	YES
G	G3_0.5	0fl	Living-Dining	25.09	18.46	222	9.94	54%	YES
G	G4_0.4	0fl	Kitchen	10.57	6.39	224	3.96	62%	YES
G	G1_0.4	0fl	Kitchen	10.57	6.39	234	3.96	62%	YES
G	G2_0.4	0fl	Kitchen	10.57	6.39	236	4.14	65%	YES
G	G2_0.5	0fl	Living-Dining	25.10	18.47	240	11.20	61%	YES
G	G4_0.5	0fl	Living-Dining	25.10	18.47	245	10.62	57%	YES
G	G5_0.5	0fl	Living-Dining	24.42	17.73	251	10.20	58%	YES
G	G7_1.6	1fl	Bedroom	13.09	8.97	259	8.97	100%	YES
G	G7_0.5	0fl	Living-Dining	24.42	17.73	260	10.45	59%	YES
G	G8_0.5	0fl	Living-Dining	24.42	17.73	263	10.54	59%	YES
G	G6_0.5	0fl	Living-Dining	24.42	17.73	263	10.29	58%	YES
G	G8_1.6	1fl	Bedroom	13.09	8.97	272	8.97	100%	YES
G	G11_2.7	2fl	Bedroom	14.98	10.61	296	9.60	90%	YES
G	G10_2.7	2fl	Bedroom	13.10	8.98	299	7.69	86%	YES
G	G4_1.2	1fl	Bedroom	18.37	13.48	307	12.81	95%	YES

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
F	F4_0.4	0fl	Kitchen-Living-Din	30.63	22.50	281	14.61	65%	YES
F	F5_0.4	0fl	Kitchen-Living-Din	30.63	22.50	281	14.61	65%	YES
F	F6_0.4	0fl	Kitchen-Living-Din	30.63	22.50	283	14.61	65%	YES
F	F9_0.4	0fl	Kitchen-Living-Din	30.63	22.50	284	14.79	66%	YES
F	F8_0.4	0fl	Kitchen-Living-Din	30.63	22.50	284	14.70	65%	YES
F	F4_1.2	1fl	Bedroom	13.07	8.82	294	8.82	100%	YES
F	F5_1.2	1fl	Bedroom	13.09	8.96	296	8.96	100%	YES
F	F8_1.2	1fl	Bedroom	13.09	8.96	297	8.96	100%	YES
F	F6_1.2	1fl	Bedroom	13.09	8.97	297	8.97	100%	YES
F	F10_0.6	0fl	Kitchen-Living-Din	31.09	23.52	307	18.89	80%	YES
F	F12_1.6	1fl	Kitchen-Living-Din	31.06	23.49	314	19.21	82%	YES
F	F7_1.5	1fl	Bedroom	13.99	9.58	346	9.58	100%	YES
F	F9_1.5	1fl	Bathroom	13.99	9.58	347	8.43	88%	YES
F	F13_1.3	1fl	Bedroom	12.50	8.50	369	8.50	100%	YES
F	F15_2.3	2fl	Bedroom	12.50	8.50	444	8.50	100%	YES
F	F4_1.5	1fl	Bedroom	13.19	9.03	462	9.03	100%	YES
F	F6_1.5	1fl	Bedroom	13.09	8.96	464	8.96	100%	YES
F	F5_1.5	1fl	Bedroom	13.09	8.96	464	8.96	100%	YES
F	F8_1.5	1fl	Bedroom	13.09	8.96	465	8.96	100%	YES
F	F14_2.6	2fl	Kitchen-Living-Din	31.05	23.49	492	21.04	90%	YES



SDA-Graphic results for Block G: ground, 1st and 2nd floors

Block	Room Ref	Floor	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Meets Criteria
G	G3_1.2	1fl	Bedroom	18.37	13.48	314	12.89	96%	YES
G	G9.0.2	0fl	Kitchen-Dining	17.07	11.86	317	11.33	96%	YES
G	G9_1.3	1fl	Bedroom	16.23	11.64	320	11.64	100%	YES
G	G1_0.5	0fl	Living-Dining	25.10	18.47	322	12.54	68%	YES
G	G8_1.3	1fl	Bedroom	14.08	9.65	323	9.65	100%	YES
G	G10_2.6	2fl	Kitchen-Living/Din	29.57	21.34	325	13.97	65%	YES
G	G2_1.2	1fl	Bedroom	18.37	13.48	332	13.48	100%	YES
G	G5_1.6	1fl	Bedroom	13.09	8.97	337	8.97	100%	YES
G	G6_1.6	1fl	Bedroom	13.09	8.97	338	8.97	100%	YES
G	G9.0.4	0fl	Living	14.87	10.31	338	8.32	81%	YES
G	G5_0.4	0fl	Kitchen	6.04	3.45	347	3.06	89%	YES
G	G6_0.4	0fl	Kitchen	6.04	3.45	347	3.06	89%	YES
G	G7_0.4	0fl	Kitchen	6.04	3.45	348	3.16	92%	YES
G	G8_0.4	0fl	Kitchen	6.04	3.45	349	3.16	92%	YES
G	G5_1.3	1fl	Bedroom	14.08	9.65	403	9.65	100%	YES
G	G2_0.14	1fl	Kitchen	14.07	9.64	404	9.19	95%	YES
G	G6_1.3	1fl	Bedroom	14.08	9.65	414	9.65	100%	YES
G	G9_1.6	1fl	Bedroom	12.42	7.72	443	7.72	100%	YES
G	G1_1.2	1fl	Bedroom	18.37	13.48	446	13.48	100%	YES
G	G10_2.5	2fl	Bedroom	12.78	7.85	495	7.85	100%	YES
G	G1_1.4	1fl	Bedroom	7.13	4.27	637	4.27	100%	YES
G	G11_2.5	2fl	Bathroom	12.78	7.85	638	7.85	100%	YES

### 7.3 Sunlight Exposure

An assessment for sunlight exposure was carried out on relevant rooms throughout the project.

The following are the result of the sunlight exposure to the dwellings and rooms assessed:

<b>Sunlight Exposure</b>			
BE EN 17037		Blackgen Rd	
Block	Number of units Tested	Rating	
		High/Medium/Minimum/Pass	Below
A	24	24	0
B	32	32	0
C	29	19	10
D	6	6	0
E	12	12	0
F	15	13	2
G	11	11	0
<b>Total</b>	<b>129</b>	<b>117</b>	<b>12</b>

Of 129 dwellings tested, 117 (91%) meet the SE target fully.

It should be noted that for a unit (dwelling) to be deemed compliant, one habitable room in it must meet the required sunlight exposure level. At a dwelling level the result were as follows:

<b>Sunlight Exposure Individual Dwelling SE test</b>						
Block	Unit No.	Rating	Any Room Not Fail Check			
A	A3_	0	0	P	0	PASS
A	A4_	0	P	P	0	PASS
A	A5_	P	0	P	0	PASS
A	A6_	P	P	0	0	PASS
A	A7_	0	0	P	0	PASS
A	A8_	P	0	0	0	PASS
A	A9_	0	0	P	0	PASS
A	A10	0	P	P	0	PASS
A	A11	P	0	P	0	PASS
A	A12	P	P	0	0	PASS
A	A13	0	0	P	0	PASS
A	A14	P	0	0	0	PASS
A	A15	0	0	P	0	PASS
A	A16	0	P	P	0	PASS
A	A17	P	0	P	0	PASS
A	A18	P	P	0	0	PASS
A	A19	0	0	P	0	PASS
A	A20	P	0	0	0	PASS
A	A21	0	0	P	0	PASS
A	A22	0	P	P	0	PASS
A	A23	P	0	P	0	PASS
A	A24	P	P	0	0	PASS



Sunlight Exposure Individual Dwelling SE test						
Block	Unit No.	Rating	Any Room Not Fail Check			
B	B1_	P	0	0	0	PASS
B	B2_	P	0	0	0	PASS
B	B3_	0	0	P	0	PASS
B	B4_	P	P	0	0	PASS
B	B5_	0	0	P	0	PASS
B	B6_	0	0	P	0	PASS
B	B7_	0	P	0	0	PASS
B	B8_	0	P	P	0	PASS
B	B9_	P	0	0	0	PASS
B	B10	P	0	P	0	PASS
B	B11	0	0	P	0	PASS
B	B12	P	P	0	0	PASS
B	B13	0	0	P	0	PASS
B	B14	0	P	P	0	PASS
B	B15	0	P	P	0	PASS
B	B16	0	P	P	0	PASS
B	B17	P	0	0	0	PASS
B	B18	P	0	P	0	PASS
B	B19	0	0	P	0	PASS
B	B20	P	P	0	0	PASS

Block	Unit No.	Rating	Any Room Not Fail Check			
B	B21	0	0	P	0	PASS
B	B22	0	P	P	0	PASS
B	B23	0	P	P	0	PASS
B	B24	0	P	P	0	PASS
B	B25	P	0	0	0	PASS
B	B26	P	0	P	0	PASS
B	B27	0	0	P	0	PASS
B	B28	P	P	0	0	PASS
B	B29	0	0	P	0	PASS
B	B30	P	0	P	0	PASS
B	B31	0	P	P	0	PASS
B	B32	0	P	P	0	PASS

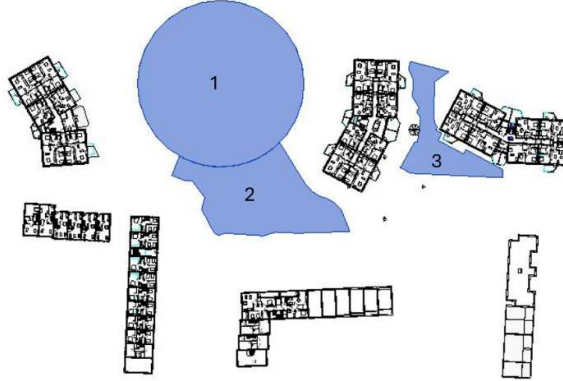
<b>Sunlight Exposure Individual Dwelling SE test</b>						
<b>Block</b>	<b>Unit No.</b>	<b>Rating</b>	<b>Any Room Not Fail Check</b>			
C	C1_	P	0	0	0	PASS
C	C2_	0	0	0	0	FAIL
C	C3_	P	0	0	0	PASS
C	C4_	0	0	P	0	PASS
C	C5_	P	0	P	0	PASS
C	C6_	0	0	0	0	FAIL
C	C7_	P	0	0	0	PASS
C	C8_	0	0	0	0	FAIL
C	C9_	P	0	0	0	PASS
C	C10	0	0	0	0	FAIL
C	C11	P	0	0	0	PASS
C	C12	0	0	P	0	PASS
C	C13	P	P	P	0	PASS
C	C14	0	0	0	0	FAIL
C	C15	P	0	0	0	PASS
C	C16	0	0	0	0	FAIL
C	C17	P	0	0	0	PASS
C	C18	0	0	0	0	FAIL
C	C19	P	0	0	0	PASS
C	C20	0	0	P	0	PASS
C	C21	P	P	P	0	PASS
C	C22	0	0	0	0	FAIL
C	C23	P	0	0	0	PASS
C	C24	0	0	0	0	FAIL
C	C25	P	0	0	0	PASS
C	C26	0	0	0	0	FAIL
C	C27	P	0	0	0	PASS
C	C28	0	0	P	0	PASS
C	C29	P	P	P	0	PASS

Sunlight Exposure Individual Dwelling SE test						
Block	Unit No.	Rating	Any Room Not Fail Check			
D	D5_	P	0	0	0	PASS
D	D6_	P	0	0	0	PASS
D	D3_	P	0	0	0	PASS
D	D4_	P	0	0	0	PASS
D	D1_	P	0	P	0	PASS
D	D2_	P	0	0	0	PASS
E	E1_	P	P	0	0	PASS
E	E2_	P	P	0	0	PASS
E	E3_	P	P	0	0	PASS
E	E4_	P	P	0	0	PASS
E	E5_	P	P	0	0	PASS
E	E6_	P	P	0	0	PASS
E	E7_	P	P	P	0	PASS
E	E8_	P	P	P	0	PASS
E	E9_	P	P	P	0	PASS
E	E10	P	0	P	0	PASS
E	E11	P	0	P	0	PASS
E	E12	P	0	P	0	PASS

Sunlight Exposure Individual Dwelling SE test						
Block	Unit No.	Rating	Any Room Not Fail Check			
F	F9_	P	0	0	0	PASS
F	F8_	P	0	0	0	PASS
F	F6_	P	0	0	0	PASS
F	F7_	P	0	0	0	PASS
F	F4_	P	0	0	0	PASS
F	F5_	P	0	0	0	PASS
F	F1_	P	0	P	0	PASS
F	F2_	P	0	0	0	PASS
F	F3_	P	0	0	0	PASS
F	F10	0	0	0	0	FAIL
F	F11	P	0	0	0	PASS
F	F12	0	0	0	0	FAIL
F	F13	P	0	0	0	PASS
F	F14	P	0	0	0	PASS
F	F15	P	0	0	0	PASS
G	G7_	P	0	0	0	PASS
G	G8_	P	0	0	0	PASS
G	G1_	P	0	0	0	PASS
G	G2_	P	0	0	0	PASS
G	G3_	P	0	0	0	PASS
G	G4_	P	0	0	0	PASS
G	G5_	P	0	0	0	PASS
G	G6_	P	0	0	0	PASS
G	G9_	P	0	0	0	PASS
G	G10	P	0	0	0	PASS
G	G11	P	0	0	0	PASS

### 7.4 Amenity Sunlight

3 outdoor surfaces, which are to be designated as communal, shared or public open spaces, were tested for sunlight amenity targets under BER 209 2022.



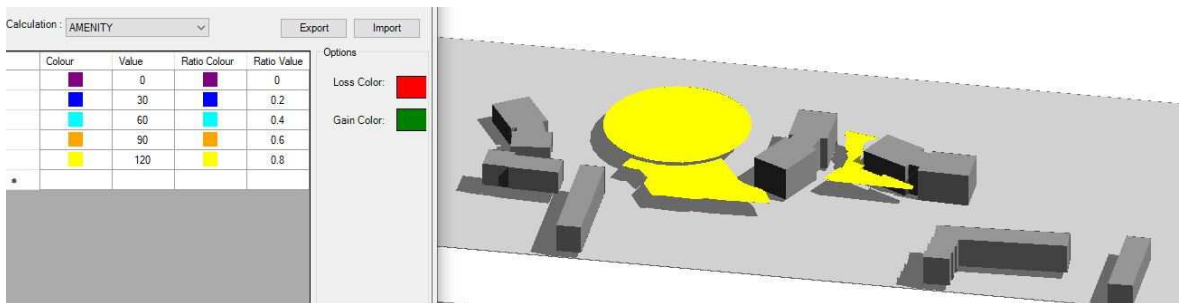
*Communal/shared or public open spaces within scheme (shown blue) studied for amenity sunlight*

The following table show the results:

Blackglen		Amenity Sunlight An			
Project No.: XXXX 2503		BRE 2029 2022 (March / S			
Analysis: 20/03/2025		Extnl Areas Proposed			
Zone Ref	Area (msq)	Proposed: Areas Meeting Criteria*	(msq)	(%)	>50% Receives >2hrs sun March/ Sept 21st)-Proposed ?
Extnl Space_1	2865.7		2865.7	100.00%	YES
Extnl Space_2	1209.6		1209.6	100.00%	YES
Extnl Space_3	528.8		528.8	100.00%	YES

\* recommendation is 50% to receive >2hrs sun on March/ Sept2:

All meet the BRE 209 2009 criteria for amenity sunlight



### 7.5 Overshadowing - NA

## 7.6 Mitigation and Compensation

### 7.6.1 Competing Priorities and Flexibility In the Guidance

While not all dwellings in the scheme meet all the recommendations for daylight, this must be considered against the positive of the schemes design and site layout approach, apartment sizes, floor to ceiling heights, generous circulation areas, larger than minimum sized terraces and balconies and the predominance of dual aspect and corner apartment in this well designed scheme.

Also the desirability of utilising this well located site for housing as a societal positive should be taken into account.

The schemes site layout has set aside a large circular area in its centre (to afford protection to a identified badger set) with the result that on of its larger blocks (block C) runs east west not north south-a less than optimal orientation) and one the contributes to many of the negative results set out above.

The guidance is replete with suggestions to planning authorities to consider the numerical guidelines as recommendations, not as rigid metrics to be imposed to the detriment of other, often competing planning and urban design objectives.

The Design Guidelines for instance states '*planning authorities should apply their discretion taking account of its assessment of specifics (aspects of the proposal). This (departure from meeting the recommendations) may arise due to a design constraints associated with the site or location and the (planning authority should proceed by) balancing of that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solutions*'.

The BRE guidance document states that '*although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. For example in historic city centres or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments or to match the height and proportions of existing buildings*'

The architects have already gone to great lengths to improve the daylight and sunlight performance of individual apartments on a targeted basis depending on the window and rooms conditions. These solutions included increasing the area (width) of windows, adding additional window to impacted apartments to better meet the requirements of SDA and SE

## 7.7 Conclusion

The proposed development has been successfully designed to provide the recommended quality of daylight availability, sunlight exposure to the majority of the new dwellings, and amenity sunlight to designed outdoor spaces in the proposed scheme. Where targets are not met, the shortfall is minor extent and proportion, and should be deemed acceptable given constraints on the site and taking into account the other strengths of the proposal. The vast majority of rooms and dwelling pass or exceed the target criterion in some cases (especially for spatial daylight autonomy-by a considerable excess).

There will be noticeable impacts to the daylight availability, sunlight access or amenity sunlight experiences of the 2 nearest neighbours identified as residential.

## 8 Approval

This assessment study was carried out by Brian T O'Brien MRAI M Arch (UC Berkeley), B Arch Sci TU Dublin, Dip Arch, Bau-biologist.

Brian is a graduate of T U Dublin School of Architecture, has a Masters in sustainable architecture (2009) from the University California at Berkeley, experience with UCDs Energy Research Group, 20 years lecturing on sustainable design at TU Dublin and two decades leading Irish and European research/ analysis and design projects at prestigious Irish sustainable design practice Solearth Architecture. He has been conducting daylight and shadow analysis for the last 20 years and is an acknowledged expert in sustainable design and building performance.

Signed:



Date: 21 March 2025



## 9 Appendix