

THE PRINTWORKS, HIGH ROAD WEST

Internal Daylight and Sunlight Report

August 2023

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PROJECT INFORMATION

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1. Introduction

- 1.1. Delva Patman Redler LLP have been engaged by the Applicant to assess daylight and sunlight for the proposed development at The Printworks, 819-829 High Road, Tottenham, London N17 ("the Site").
- 1.2. This report deals with the assessment of daylight and sunlight provision to the new student accommodation, communal areas and amenity spaces within the proposed development. The assessment of the potential effects on daylight and sunlight to neighbouring properties is covered in a separate report. Our reports have been prepared to accompany the Applicant's planning application.
- 1.3. The proposed development comprises: demolition of existing buildings and structures to the rear of 819-829 High Road; the demolition of 829 High Road; and redevelopment for purpose-built student accommodation (Sui Generis) and supporting flexible commercial, business and service uses (Class E), hard and soft landscaping, parking, and associated works, to include the change of use of 819-827 High Road to student accommodation (Sui Generis) and commercial, business and service (Class E) uses. The proposed development will provide 276 student bed spaces (222 cluster units and 54 studio units) of purpose-built student accommodation, and a further 11 student bed spaces (9 cluster units and 2 studios) within the High Road properties.
- 1.4. The Site is in the London Borough of Haringey ("LBH"). It is located within both the North Tottenham / Northumberland Park Growth Area and Site Allocation NT5: High Road West, referred to in the Tottenham Area Action Plan AAP, which are areas where taller, higher density development is anticipated.
- 1.5. The proposed development and future surrounding context is replicated in our 3D computer analysis model shown in Figure 1 below and on the drawings at Appendix 2. We ran our assessments within that future context so that account is taken of known likely changes in surrounding massing.



Figure 1 – 3D computer model of proposed development and future surrounding context used in our analyses

- 1.6. In 2021, we assessed a previous scheme for the Site, which we reported in a Daylight and Sunlight Report dated July 2021 and in two subsequent addendum reports dated November 2021 and January 2022 respectively. The reports were submitted to London Borough of Haringey ("LBH") in

support of planning application reference HGY/2021/2283, which was granted planning consent on 31 August 2022 ("the 2022 consent").

- 1.7. We have taken a similar approach to our assessments this time, although we followed the updated methodologies and guidance in the 2022 edition of the Building Research Establishment (BRE) Report 209, '*Site Layout Planning for Daylight and Sunlight: A guide to good practice*' (third edition, 2022) ("the BRE guide").
- 1.8. The 2022 edition of the BRE guide introduced new methodologies and numerical guidelines for assessing internal daylight and sunlight within buildings. The numerical guidelines for daylight provision recommended in the 2022 edition of the BRE guide are more difficult to achieve than those in the 2011 edition. Consequently, proposed development will achieve a lower percentage adherence to the 2022 guidelines than to the 2011 guidelines. For comparative purposes, we have included a supplementary assessment of internal daylight using the 2011 methodology.
- 1.9. During design development of the purpose-built student accommodation scheme, we carried out an interim assessment and fed back our findings to the project architect. A key challenge for the design team has been to balance daylight, passive solar gain and overheating considerations.
- 1.10. Following completion of our assessment some minor amendments were made to the design of the external envelope. We do not anticipate them materially altering the overall findings and conclusions of this report.
- 1.11. This report is accompanied by the Appendices listed on the Contents page, including an explanation of the BRE assessment methodologies, a glossary of technical terms, drawings, and tabulated results.

2. Planning policy and guidance

National Planning Policy and Guidance

National Planning Policy Framework (July 2021)

- 2.1. The National Planning Policy Framework (NPPF) sets out the Government's planning policies and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. It places an emphasis on sustainable development and delivery of housing.
- 2.2. Chapter 11 of the NPPF, entitled "*Making effective use of land*", promotes the effective use of land in meeting the need for homes and other uses. It gives examples such as developing under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively, and upward extensions to create new homes, where they would be consistent with the prevailing height and form of neighbouring properties and the overall street scene.
- 2.3. In particular, paragraph 125 of the NPPF states:

Area-based character assessments, design guides and codes and masterplans can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:

c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).

BRE Report 209, 'Site Layout Planning for Daylight and Sunlight: A guide to good practice' (2022)

- 2.4. The leading publication providing national guidance on the provision of daylight and sunlight to new development, is '*Site Layout Planning for Daylight and Sunlight: A guide to good practice*' (BR209, third edition, 2022) published by the Building Research Establishment (hereafter referred to as "the BRE guide"). It is referred to in development plan documents or supplementary planning documents of most planning authorities. It is intended to be used in conjunction with the interior daylighting recommendations in BS EN17037:2018 '*Daylight in buildings*' and in CIBSE's lighting guide, LG 10 '*Daylighting - a guide to designer*'.
- 2.5. The BRE guide states:

Summary

This guide gives advice on site layout planning to achieve good daylighting and sun lighting, 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 is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location.

Introduction

(Its) main aim is ... to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between the buildings for good interior and exterior conditions.

The guide is intended for building designers and their clients, consultants and planning officials. The advice given 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. In special circumstances the developer or planning authority may wish to use different target values.

British Standard, BS EN 17037:2018, 'Daylight in buildings' (May 2019)

- 2.6. British Standard, BS EN 17037:2018, 'Daylight in buildings' provides a standard and methodology by which to assess daylight and sunlight provision in new buildings. Its general recommendations for daylight provision in a space may not be achievable for some buildings in the UK, particularly dwellings; for example, those with basement rooms or significant external obstructions, such as those in dense urban areas or in existing buildings being refurbished or converted into dwellings. The standard's National Annex therefore provides guidance on minimum daylight provision in UK dwellings.

Regional planning policy and guidance

The London Plan (March 2021)

- 2.7. The London Plan 2021 is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. Its policies should inform decisions on planning applications across the capital.
- 2.8. The Plan notes that if London is to meet the challenges of the future, all parts of London will need to embrace and manage change. In many places, change will occur incrementally, especially in outer London, where the suburban pattern of development has significant potential for appropriate intensification over time, particularly for additional housing. The areas that will see the most significant change are identified as Opportunity Areas, many of which are already seeing significant development. London's Central Activities Zone (CAZ) and town centre network have a crucial role to play in supporting London's growth.

Policy GG2 'Making the best use of land'

- 2.9. Policy GG2 states:

To create successful sustainable mixed-use places that make the best use of land, those involved in planning and development must:

- B prioritise sites which are well-connected by existing or planned public transport*
- C proactively explore the potential to intensify the use of land to support additional homes and workspaces, promoting higher density development, particularly in locations that are well-connected to jobs, services, infrastructure and amenities by public transport, walking and cycling*
- D applying a design-led approach to determine the optimum development capacity of sites*

Policy D3 'Optimising site capacity through the design-led approach'

- 2.10. Policy D3 states:

- A All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations. Optimising site capacity means ensuring that development is of the most appropriate form and land use for the site...*
- B Higher density developments should generally be promoted in locations that are well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling...*

Policy D6 'Housing quality and standards'

2.11. Policy D6 states:

- C Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 'Optimising site capacity through the design-led approach' than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.*
- D The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.*

- 2.12. The supporting text notes that dual aspect dwellings with opening windows on at least two sides have many inherent benefits, including better daylight, a greater chance of direct sunlight for longer periods, natural cross-ventilation, etc. It notes that the design of single aspect dwellings must demonstrate that all habitable rooms and the kitchen are provided with adequate daylight, and that the orientation enhances amenity, including views. Single aspect dwellings that are north facing should be avoided. Having bay windows can optimise daylight and sunlight and allow buildings to be closer together than can otherwise be achieved.

Housing Design Standards LPG (June 2023)

- 2.13. The Mayor of London's London Plan Guidance 'Housing Design Standards' (June 2023) brings together and helps to interpret the housing-related design guidance and policies set out in the London Plan 2021. It is applicable to self-contained residential applications (Use Class C3). It does not provide guidance on other specialist forms of housing such as shared living, temporary accommodation and student accommodation.
- 2.14. The standards are broken down into those that are expected to be met, and those that are best practice and therefore strongly encouraged.
- 2.15. Standards A1.7 to A1.9 dealing with placemaking and the public realm state:

The most favourable orientation for each new building will be heavily influenced by the site-specific opportunities and constraints. Layouts should optimise the orientation of new buildings to maximise the quality of daylight and thermal comfort for residents, minimise overheating, and optimise thermal efficiency, by utilising and controlling solar gains.

Particular consideration should be given to the impact of new development on the level of daylight and sunlight received by the existing residents in surrounding homes and on existing public green space.

The orientation and massing of buildings, and the separation distances between them, should ensure that the public realm is not unduly overshadowed to the detriment of health, wellbeing, biodiversity or amenity. Where demonstration is necessary and/or a building over 30 metres high is proposed, a micro-climate/wind/daylight and sunlight assessment should be submitted.

- 2.16. Standard B9.5 dealing with shared outside amenity space states:

Maximise the quality and availability of daylight and sunlight in communal outside spaces, particularly in winter. It is particularly important that spaces designed for frequent use (including sitting and play spaces) receive direct sunlight through the day, particularly at times they are most likely to be used.

- 2.17. Paragraph 4.1.2 states:

The standards in this section [Part C: Homes and private outside space] also aim to complement the consideration of daylight and sunlight impacts using the BRE guidance

(Site layout planning for daylight and sunlight). This process involves a two-stage approach: firstly, by applying the BRE guidance; and secondly, by considering the location and wider context when assessing any impacts. With extreme weather events becoming increasingly common, design must balance daylight, passive solar gain and overheating considerations.

2.18. Standards C2.3 and C2.4 dealing with internal space standards state:

A minimum ceiling height of 2.5m is required for at least 75 per cent of the gross internal area (GIA) of each dwelling to enhance the spatial quality; improve daylight penetration and ventilation; and assist with cooling.

Best practice: The floor-to-floor height of ground-floor dwellings should be at least 3.5m in order to promote flexibility and greater daylight; and allow for easier conversion to non-residential uses if required

2.19. Standards C4.1 to C4.3 and C4.7 dealing with aspect, orientation, daylight and sunlight state:

New homes should be dual aspect unless exceptional circumstances make this impractical or undesirable; for example, when one side of the dwelling would be subjected to excessive noise or outside air pollution. Where single aspect dwellings are proposed, by exception, they should be restricted to homes with one or two bedspaces; should not face north; and must demonstrate that the units will: have adequate passive ventilation, daylight and privacy; and not overheat (particularly relevant for south or west-facing single aspect units). Note: See Appendix 3 [of the Housing Design Standards LPG] for definition of dual aspect.

The location of the main living and eating spaces, and the main private outside space, should be optimised to make the most of the best views and the orientation. These spaces should receive direct sunlight (south-facing is preferable, provided that appropriate shading devices are incorporated) and enjoy reasonable privacy through the careful placement of windows, balcony design or other measures.

All homes should allow for direct sunlight in conjunction with solar shading. As a minimum, at least one habitable room should receive direct sunlight – preferably the living area and/or the kitchen and dining space.

All habitable rooms (including a kitchen/dining room) should receive natural light and have at least one openable window that provides a view out when seated.

2.20. Standard C6.2 dealing with thermal comfort states:

Daylight and overheating assessments should be analysed together to determine the optimal balance. South and west-facing facades are most at risk to overheating, and the use of shading should be used to prevent direct sunlight from entering the home during at-risk periods.

Housing SPG (March 2016)

2.21. The Mayor of London's 'Housing Supplementary Planning Guidance' (March 2016) was developed to support previous versions of the London Plan but remains relevant for the implementation of the London Plan 2021.

2.22. Part 1.3 of the SPG deals with optimising housing potential in development opportunities. At paragraphs 1.3.45 and 1.3.46 it states:

Policy 7.6Bd requires new development to avoid causing 'unacceptable harm' to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density

development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.

The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

2.23. Part 2 of the SPG deals with quality of new housing development.

2.24. Standard 4 deals with communal open space and states:

Where communal open space is provided, development proposals should demonstrate that the space ... is designed to take advantage of direct sunlight.

2.25. Standard 29 deals with dual aspect design of dwellings and states:

Developments should minimise the number of single aspect dwellings. Single aspect dwellings that are north facing¹, or exposed to noise levels above which significant adverse effects on health and quality of life occur, or which contain three or more bedrooms should be avoided.

2.26. Standard 32 deals with daylight and sunlight provision to new dwellings and states:

All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight.

2.27. The supporting text at paragraphs 2.3.45 to 2.3.47 states:

Daylight enhances residents' enjoyment of an interior and reduces the energy needed to provide light for everyday activities, while controlled sunlight can help to meet part of the winter heating requirement. Sunlight is particularly desirable in living areas and kitchen dining spaces. The risk of overheating should be taken into account when designing for sunlight alongside the need to ensure appropriate levels of privacy. In addition to the above standards, BRE good practice guidelines and methodology can be used to assess the levels of daylight and sunlight achieved within new developments, taking into account guidance below and in Section 1.3.

Where direct sunlight cannot be achieved in line with Standard 32, developers should demonstrate how the daylight standards proposed within a scheme and individual units will achieve good amenity for residents. They should also demonstrate how the design has sought to optimise the amount of daylight and amenity available to residents, for example, through the design, colour and landscaping of surrounding buildings and spaces within a development.

BRE guidelines on assessing daylight and sunlight should be applied sensitively to higher density development in London, particularly in central and urban settings, recognising the London Plan's strategic approach to optimise housing output (Policy 3.4) and the need to accommodate additional housing supply in locations with good accessibility suitable for higher density development (Policy 3.3). Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London.

¹ In the context of the SPG 'north-facing' means an orientation within 45 degrees either side of due north.

- 2.28. The BRE guide provides guidelines and recommendations: it is not an absolute standard. As noted at paragraph 2.5, its advice is not mandatory, and it should not be seen as an instrument of planning policy. The Mayor's SPG emphasises that the BRE guide should be applied with an appropriate degree of flexibility and sensitivity to higher-density housing development, especially in opportunity areas, town centres, large sites and accessible locations. Account should be taken of local circumstances, the need to optimise housing capacity and scope for the character and form of an area to change over time.

Local planning policy

- 2.29. The following local planning policy is relevant to the Development:
- 2.29.1. LBH Strategic Policies 2013 (with alterations 2017)²;
 - 2.29.2. LBH Development Management DPD³;
 - 2.29.3. Tottenham Area Action Plan (AAP)⁴; and
 - 2.29.4. Sustainable Design & Construction, Supplementary Planning Document (SPD)⁵.
- 2.30. The Site is located within the North Tottenham / Northumberland Park Growth Area, referred to in the Haringey Core Strategy, and within Site Allocation NT5: High Road West, referred to in the Tottenham Area Action Plan AAP. As such, greater flexibility should be afforded in applying the BRE guidelines, as noted in the NPPF and Mayor of London's Housing SPG.

² London Borough of Haringey, (2017). Haringey's Local Plan, Strategic Policies 2013 – 2026 (formerly the Core Strategy), Consolidated with alterations since 2017. Available at:
https://www.haringey.gov.uk/sites/haringeygovuk/files/final_haringey_local_plan_2017_online.pdf. (Last accessed: 20 May 2021.)

³ London Borough of Haringey, (2017). Development Management DPD. Available at:
https://www.haringey.gov.uk/sites/haringeygovuk/files/final_haringey_dmp_dtp_online.pdf. (Last accessed: 20 May 2021.)

⁴ London Borough of Haringey, (2017). Tottenham Area Action Plan. Available at:
https://www.haringey.gov.uk/sites/haringeygovuk/files/final_haringey_tottenham_aap_dtp_online.pdf. (Last accessed: 20 May 2021.)

⁵ London Borough of Haringey, (2013). Sustainable Design & Construction, Supplementary Planning Document. Available at:
https://www.haringey.gov.uk/sites/haringeygovuk/files/sustainable_design_and_construction_spd_adopted_march_2013.pdf. (Last accessed: 20 May 2021.)

3. Assessment methodology and numerical guidelines

- 3.1. The technical assessments that underpin this daylight and sunlight study have been carried out in accordance with the assessment methodologies recommended in the BRE guide.
- 3.2. The BRE guidance and numerical guidelines are summarised below. The technical assessment methodologies are explained at Appendix 1 of this report, which also contains a glossary of technical terms.

Daylight to new dwellings

- 3.3. Detailed recommendations for daylight in new buildings are given in BS EN 17037, '*Daylight in Buildings*' ('the British Standard') and repeated in the BRE guide. Appendix C of the BRE guide gives guidance on how to calculate the amount of daylight inside a room, which is summarised at Appendix 1 of this report.
- 3.4. Daylight provision in new rooms may be checked using either of the methods described in the BRE guide: either direct prediction of daylight illuminance levels using hourly climate data, or the use of the daylight factor, which is a ratio of unobstructed external illuminance under overcast sky conditions. Both are measures of the overall amount of daylight in a space. We have calculated daylight provision using the illuminance method.
- 3.5. The amount of daylight inside a room will depend on:
 - the view of sky and level of obstruction outside the window(s);
 - the surface reflectances of the external environment;
 - the size, position and diffuse light transmittance of the window glazing; and
 - the surface reflectances of the room surfaces.
- 3.6. Appendix C of the BRE guide gives recommendations for typical and maximum reflectances of exterior and interior surfaces and glazing transmittance, which are repeated at Appendix 1 of this report.
- 3.7. The BRE guide gives the following minimum recommendations for habitable rooms in dwellings in the UK:
 - 100 lux in bedrooms
 - 150 lux in living rooms
 - 200 lux in kitchens
- 3.8. These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the annual daylight hours.
- 3.9. They are minimum recommended values for locations where a predominantly daylit appearance is not achievable; for example, in basements or with significant external obstructions, such as in a dense urban area or with tall trees outside, or for existing buildings being refurbished or converted into dwellings.
- 3.10. Non-daylit internal kitchens should be avoided wherever possible, especially if the kitchen is used as a dining area too. If the layout means that a small internal kitchen is inevitable, it should be directly linked to a well daylit room.
- 3.11. Where a room has a shared use, the highest target should apply. For example, the target for a living room could be used for a combined living/kitchen/dining area (LKD) or kitchen-diner (KD) if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design. (The kitchen space should still be included in the assessment area.)

Sunlight to new dwellings

- 3.12. In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens.
- 3.13. Site layout is the most important factor affecting the duration of sunlight in buildings. It can be divided into two main issues, orientation and overshadowing.
- 3.14. A south-facing window will, in general, receive most sunlight, while east- and west-facing windows will receive sunlight only at certain times of the day, and a north-facing elevation will only receive it on a handful of occasions (early morning and late evening in summer).
- 3.15. Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight. The overall sunlighting potential of a large residential development may be initially assessed by counting how many dwellings have a window to a main living room facing south, east, or west. The aim should be to minimise the number of dwellings whose living rooms face solely north, northeast, or northwest, unless there is some compensating factor such as an appealing view to the north.
- 3.16. The overall access to sunlight of a new development can be considerably enhanced if the layout of new buildings is designed with care so that they overshadow each other as little as possible.
- 3.17. For interiors, access to sunlight can be quantified. BS EN 17037 recommends that a space should receive a minimum of 1.5 hours of direct sunlight on a selected date between 1 February and 21 March with cloudless conditions. The BRE guide suggests that 21 March (equinox) is used. The medium and high levels of recommendation are three hours and four hours respectively.
- 3.18. The criterion applies to rooms of all orientations, although the BRE guide advises that if a room faces significantly north of due east or west it is unlikely to be met. At least one habitable room per dwelling – preferably a main living room – should meet at least the minimum criterion.

Summary

- 3.19. In general, a dwelling will appear reasonably sunlit provided:
- at least one main window wall faces within 90° of due south; and
 - a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.
- 3.20. Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.

Sunlight to new amenity spaces

- 3.21. Sunlight in the spaces between and around buildings has an important impact on the overall appearance and ambience of a development. The availability of sunlight should be checked for all open spaces where it will be required. This would normally include:
- gardens, such as the main back garden of a house or communal gardens including courtyards and roof terraces
 - parks and playing fields
 - children's playgrounds
 - outdoor swimming pools and paddling pools, and other areas of recreational water
 - sitting-out areas such as those between nondomestic buildings and in public squares
 - nature reserves
- 3.22. The BRE guide advises that each of these spaces will have different sunlighting requirements and it is difficult to suggest a hard and fast rule. However, it is clear that the worst situation is to have

significant areas on which the sun only shines for a limited period over a large part of the year. The equinox (21 March) can be chosen as a date for assessment.

- 3.23. The guide recommends, as a check, that at least 50% of the area of any of the amenity spaces listed above should receive at least two hours of sunlight on 21 March. It can be instructive to draw the 'two hours sun contour' that marks this area on plan, because the use of specific parts of a site can be planned with sunlight in mind. This could include reserving the sunniest parts of the site for gardens and sitting out, while using the shadier areas for car parking (in summer, shade is often valued in car parks).
- 3.24. If a detailed calculation cannot be carried out, and the area is a simple shape, the BRE guide suggests that the centre of the area should receive at least two hours of sunlight on 21 March.

Flexible application of the guidelines and alternative targets for student accommodation

- 3.25. The default numerical guidelines in the BRE guide are not mandatory and must be interpreted flexibly because natural lighting is only one of many factors in site layout design (see paragraph 2.5 above).
- 3.26. The Site sits within North Tottenham / Northumberland Park Growth Area in the Haringey Core Strategy and within Site Allocation NT5: High Road West in the Tottenham AAP, where higher levels of obstruction are envisaged, and lower levels of daylight and sunlight are inevitable. As the proposed development has been designed to fulfil LBH's aspirations for the area, there is an even greater imperative for a flexible approach to be taken in applying daylight and sunlight policies and guidance
- 3.27. The minimum daylight recommendations referred to in paragraph 3.7 above relate to dwellings, which fall into Use Class C3. The same recommendations do not necessarily apply to purpose-built student accommodation, which has a Sui Generis Use Class. There is a parallel here with the Mayor of London's 'Housing Design Standards LPG', which states it applies to self-contained residential applications (Use Class C3) but does not provide guidance on other specialist forms of housing such as student accommodation.
- 3.28. It is our understanding that the Housing SPG indicates that student accommodation is counted as non-residential space and that the various residential standards of the Housing SPG do not apply. Furthermore, paragraph 1.2.50 of the Housing SPG emphasises the particular suitability of town centres and other accessible locations for student accommodation as part of higher density, residential led, mixed use redevelopment.
- 3.29. The BRE guide states that in a bed-sitting room in student accommodation, the value for a living room (150 lux) should be used if students would often spend time in their rooms during the day. However, it advises that local authorities could use discretion here.
- 3.30. Students are transient rather than permanent residents. They also generally occupy their rooms for only part of the year. Consequently, flexibility in applying the guidelines is justified.
- 3.31. In Planning Appeal Decision APP/V5570/A/10/2129052 for development of purpose-built student accommodation at 465 and 465a Caledonian Road, London N7 9BA in the London Borough of Islington, the Inspector noted:

There is agreement that the nature of the accommodation warrants some departure from the amenity standards that would be applied to residential accommodation intended for normal domestic occupation. Relevant factors in this are that individual students would occupy the accommodation for less than a year, and that its main function would be for sleeping due to intensive daytime activities taking place at the University campus. It is also reasonable to take a broad view of amenity as this is likely to be perceived by students. The convenient location of the site for the main facilities of the University, the units being fully en-suite, the degree of security, and the availability of internal and external communal areas are all aspects that could be expected to be rated highly.

- 3.32. LBH have previously accepted departure from normal residential amenity standards in purpose-built student accommodation, including the adoption of a 100-lux target for student bedrooms where students would have access to alternative study spaces and amenity spaces in the building, including communal study areas or shared living/kitchen/dining areas. (See LBH's 24 April 2023 planning sub-

committee report for 29-33 The Hale, Tottenham, London N17 (ref. HGY/2021/2304). The Committee resolved to grant planning permission in that case.)

- 3.33. The proposed development will provide cluster flats, in which students will have their own bedroom and share a living/kitchen/dining area, and self-contained studios containing their own kitchenette. Students will also have access to a range of communal amenity areas, including quiet study areas and informal break-out areas.
- 3.34. Taking all the above into account, we have applied a 100-lux target for student bedrooms, and a 150-lux target for studios, shared LKDs, communal study areas and amenity areas in the purpose-built student accommodation building. For the cluster flats and studios in the upper parts of 819-827 High Roads we have applied targets of 100 lux in bedrooms, 150 lux in bed-living rooms and LKDs, and 200 lux in kitchens).
- 3.35. We have applied the BRE guide's standard sunlight targets of 1.5 hrs of sunlight on 21 March to student bedrooms, shared living/kitchen/dining areas, studios, and communal study/amenity areas, and 2 hours of sunlight on 21 March to at least 50% of each outdoor amenity area. However, for the same reasons explained above, flexibility is justified.
- 3.36. Ultimately, it is for the planning authority to judge whether the levels of daylight and sunlight provision within the proposed development are acceptable for future occupiers in their neighbourhood context, having regard to all relevant planning policies and guidance and balanced against the merits of the proposed development.

Calculation model

- 3.37. The assessments require preparation of a 3D computer model of the development and its window apertures and internal spaces together with nearby obstructions (existing and potential future obstructions, if other buildings are planned to be constructed nearby).
- 3.38. The daylight assessment requires reasonable parameters to be used for internal and external surface reflectances, diffuse light transmittance of the glazing, and maintenance factors for the effects of dirt that are a representative of the proposed completed building.
- 3.39. The information and parameters used in our computer modelling and analysis are stated below at Section 5.

4. Scope of the assessment

- 4.1. Within the proposed development, we have assessed daylight and sunlight to all student bedrooms, shared living/kitchen/dining rooms (LKDs), studios, and communal spaces both in the purpose-built student accommodation (PBSA) building and in the converted High Road buildings.
- 4.2. In total, 328 rooms were assessed: 309 in the PBSA building (222 bedrooms, 28 shared LKDs, 54 studios, and 5 communal spaces), and 19 in the High Road buildings (2 communal spaces, 4 2/3-bed cluster flats (9 bedrooms and 4 LKDs), and 2 1-bed studios (2 kitchens and 2 bed-living rooms).
- 4.3. Sunlight has been assessed to all habitable rooms irrespective of orientation; however, it should be borne in mind that rooms that do not have at least one window facing within 90° of due south will be much less likely to meet the sunlight guidelines (see paragraph 3.18 above).
- 4.4. We also assessed sunlight to the three proposed outdoor amenity spaces within the development.

5. Information used in our technical study

- 5.1. We have undertaken our technical study using a 3D computer model built in AutoCAD or Revit and specialist analysis software, which runs the assessments recommended in the BRE guide.
- 5.2. We compiled our 3D computer model from the following information:
 - 5.2.1. 3D computer model of the existing buildings on the Site and the contextual massing produced from photogrammetry (aerial photography) supplied by AccuCities Ltd, subsequently enhanced by us with the more detailed information listed below
 - 5.2.2. Measured survey model point cloud produced by our in-house measured survey team
 - 5.2.3. Proposed development of the Site: 3D model supplied by F3 Architects on 10 July 2023
 - 5.2.4. Proposed cumulative developments at the Goods Yard and The Depot (planning application reference HGY/2021/1771), 807 High Road (planning application reference HGY/2021/0441) and High Road West (Lendlease illustrative scheme from planning application reference HGY/2021/3175): 3D models supplied by F3 Architects
- 5.3. Our 3D computer model is illustrated in Figure 1 of Section 1 and on our spot-height drawing at Appendix 2.
- 5.4. For the daylight illuminance assessment, we used the window and room parameters stated in Table 1.

Table 1 – Window and room parameters used in illuminance calculations

Parameter	Value – Proposed Dwellings
Maintenance factor (dirt on glass)	0.92 for vertical windows with normal exposure in residential developments in urban locations with good maintenance
Diffuse light transmittance of glazing	0.60 for triple glazing
Frame and glazing bar factor	0.7 for windows on the PBSA building 0.6 or 0.7 for windows in the High Road buildings according to type
Internal surface reflectances	Finishes advised by F3 Architects; reflectances taken from guidelines: For illuminance calculations in accordance BRE 2022 edition: 0.8 for white ceilings 0.7 for pale cream walls 0.4 for light wood floors For average daylight factor (ADF) calculations in accordance BRE 2011 edition for comparative purposes only: 0.85 for white ceilings 0.81 for pale cream walls 0.4 for light wood floors

- 5.5. To provide scope for selecting glazing with an appropriate g-value to address passive solar gain and overheating considerations, we have run our daylight calculations assuming triple glazing with a light transmittance of 0.60. For better daylight, double glazing with a higher light transmittance of around 0.68 would be preferable, however the corresponding g-value for the glazing would likely lead to overheating issues and potential non-compliance with Part L of the Building Regulations.

Limitations and assumptions

- 5.6. In compiling our 3D computer model for our technical study, we have sought to be as accurate as reasonably possible within the scope of our instruction. We have relied upon the information noted above.

- 5.7. We have used proven and trusted specialist computer software (Waldram Tools for AutoCAD® or Revit®) to run the calculations recommended in the BRE guide.
- 5.8. To the best of our knowledge, the information and advice contained in this report is accurate at the date of issue, based on the information provided to or procured by us prior to its production.

6. Results of internal daylight assessment

- 6.1. Within the proposed development, we assessed daylight to all student bedrooms, shared living/kitchen/dining rooms (LKDs), studios, and indoor communal spaces in the purpose-built student accommodation (PBSA) and to all student accommodation and indoor communal spaces in the High Road buildings.
- 6.2. In total, we assessed 328 rooms:
- 6.2.1. In the PBSA block, we assessed 3 duplex cluster flats (with 33 bedrooms and 3 LKDs), 25 cluster flats (with 189 bedrooms and 25 LKDs), 54 studio flats, and 5 communal amenity area, giving a total of 309 rooms.
- 6.2.2. In the High Road buildings, we assessed 6 flats (4 two/three-bed cluster flats (9 bedrooms and 4 LKDs), and 2 one-bed studios (2 kitchens and 2 bed-living rooms), plus two communal amenity spaces, giving a total of 19 rooms.
- 6.3. The room uses and reference numbers of the rooms that are included in our assessment are shown on the daylight illuminance plans at Appendix 3. The plans also show the percentage of the assessment area of each room ('SDA % of Area') that would achieve the adopted daylight illuminance target for the room type (100 lux for bedrooms, 150 lux for LKDs, studios, bed-living rooms and amenity spaces, and 200 lux for KDs and kitchens).
- 6.4. The daylight and sunlight assessment results are tabulated at Appendix 3. Coloured font has been used in the table to identify results that would be below the numerical guidelines, as follows:
- 6.4.1. Orange or red font = daylight value is below the adopted target for the room type;
- 6.4.2. Orange font = daylight value is within 20% of the adopted target.
- 6.5. The level of adherence to the BRE daylight guidelines is summarised in **Table 2** below.

Table 2 – Summary of daylight illuminance results

Building	Daylight illuminance (BRE2022)			
	No. of rooms tested	Meeting min. target		No. below min. target
		No.	%	
The Printworks PBSA	309	237	77%	72
The Printworks High Rd	19	9	47%	10
Totals:	328	246	75%	82
				25%

- 6.6. Of the 328 rooms assessed, 246 (**75%**) would meet the adopted target values: 237 (77% in the PBSA building) and 9 (47%) in the High Road buildings.
- 6.7. We have also considered the daylight illuminance results for each room type. The level of adherence to the adopted targets for each room type is summarised in **Table 3** below.

Table 3 – Summary of daylight illuminance results for each room type

Building	No. of rooms tested	Daylight illuminance		
		Meeting min. target		No. below min. target
Room use		No.	%	
The Printworks PBSA				
Bedroom	222	189	85%	33
Amenity	5	0	0%	5
LKD	28	14	50%	14
Studio	54	34	63%	20
Totals:	309	237	77%	72
The Printworks High Rd				
Amenity	2	2	100%	0
Living-bedroom	2	2	100%	0
KD	1	0	0%	1
Kitchen	1	0	0%	1
Bedroom	9	2	22%	7
LKD	4	3	75%	1
Totals:	19	9	47%	10
Grand Total:				
Grand Total:	328	246	75%	82

- 6.8. In the PBSA block, 85% of bedrooms would meet the 100-lux target, and 50% of shared LKDs, 63% of studios and none of the communal amenity spaces would meet the 150-lux target.
- 6.8.1. Of the 33 bedrooms (15%) that would be below target, 19 would be within 20% of the target (at least 80 lux). The remaining 14 bedrooms range from 57 to 77 lux. The intended furniture layout would place the desk close to the window in the best lit part of the room where the median illuminance would generally be at least 200 lux, as indicated by the pale-yellow shading on the appended daylight illuminance plans,
- 6.8.2. Of the 14 shared LKDs (50%) that would be below target, 3 would be within 20% of the target (at least 120 lux). Of the remaining shared LKDs, 10 would range from 57 to 119 lux and one would have a lower daylight level of 46 lux. In 11 of the 14 cluster flats in which these 14 shared LKDs are located, all or all but one of the bedrooms would meet their target.
- 6.8.3. Of the 20 studios (37%) that would be below target, 4 would be within 20% of the target (at least 120 lux). Of the remaining studios, 14 would range from 51 to 119 lux and two would have lower daylight levels of 26 to 36 lux.
- 6.8.4. The five communal amenity spaces would have median illuminances of 39, 67, 68, 108 and 144 lux respectively.
- 6.9. In the High Road buildings, the two first-floor bed-living rooms (Studios 3 and 4), three of the four shared LKDs (cluster flats 1, 2 and 5), the communal amenity space and reception would meet the 150-lux target and the final shared LKD (cluster flat 6) would be only 5 lux short of that target. Two of the nine bedrooms would meet the 100-lux target.
- 6.9.1. Of the 7 bedrooms that would be below target, 1 would be within 20% of the target (at least 80 lux), 1 would be slightly below that (76 lux) and the remaining 5 bedrooms would have lower daylight levels of 24 to 33 lux. The intended furniture layout would typically place the desk close to the window in the best lit part of the room where the median illuminance would generally be at least 200 lux, as indicated by the pale-yellow shading on the appended daylight illuminance plans. Also, in each case the main living space of the unit meets its target or is close to it.

- 6.9.2. The remaining 2 rooms that would be below target are the KD and kitchen (Studios 4 and 3) which would receive 107 lux and 70 lux.

Comparison with BRE 2011 methodology

- 6.10. As a comparator, we also assessed daylight provision using the average daylight factor (ADF) methodology in the withdrawn 2011 edition of the BRE guide, including the higher internal surface reflectances that were permissible under those guidelines, as stated above in Table 1 on page 17. The ADF results are shown in the tabulated results at Appendix 3.
- 6.11. The level of adherence to the corresponding ADF targets (1% in bedrooms, 1.5% in bed-living rooms, studies and shared LKDs and 2% in kitchens) is summarised in **Table 2** below.

Building	No. of rooms tested	ADF		
		Meeting guideline		No. below guideline
		No.	%	
The Printworks PBSA	309	290	94%	19
The Printworks High Rd	19	12	63%	7
Totals:	328	302	92%	26
				8%

- 6.12. The ADF results show that of the 328 rooms assessed, 302 (**92%**) would have satisfied the 2011 guidelines, compared with 246 (75%) using the 2022 methodology.
- 6.13. The above comparison is provided as supplementary information to assist the council if comparing the level of adherence for the proposed development with other schemes that may have been assessed against the 2011 guidelines. The lower level of adherence using the 2022 methodology compared with the 2011 methodology is to be expected, partly because of the new calculation methodology and partly because more conservative internal surface reflectances must now be used in the calculations, which have the effect of reducing the level of adherence to the targets.
- 6.14. Overall, the proposed development would provide acceptable levels of daylight for its student occupiers.

7. Results of internal sunlight assessment

- 7.1. The guidelines for flatted residential developments are that rooms of all orientations should be assessed and that one habitable room per dwelling (preferably a living room) should meet the sunlight guideline. Although the residential sunlight guidelines arguably do not apply to student accommodation, we set out in **Table 4** below the level of adherence to the BRE numerical guidelines for all of the student rooms and indoor communal amenity spaces.

Table 4 - Summary of sunlight exposure results

Building	Sunlight exposure (all rooms)			
	No. of rooms tested	Meeting min. target		No. below min. target
		No.	%	
The Printworks PBSA	309	202	65%	107
The Printworks High Rd	19	13	68%	6
Totals:	328	215 66%		113 34%

- 7.2. Of the 328 rooms assessed, 215 (66%) would satisfy the sunlight guidelines of at least 1.5 hours of sunlight on 21 March.
- 7.3. We have examined the results on a flat-by-flat basis and make the following observations:
- 25 out of 28 cluster flats (89%) in the PBSA building would meet the sunlight guideline, with the shared living area and/or all bedrooms in the flat meeting the 1.5-hours target. In two of the remaining three cluster flats, half of the bedrooms would meet the guideline. Only one of the cluster flats would be more poorly sunlit, being the duplex cluster flat at ground and first floor level in the northwest corner of the building.
 - 33 out of 54 individual studio flats (61%) in the PBSA building would meet the 1.5-hours target and 5 more (9%) could receive at least one hour of sunlight on 21 March.
 - All four cluster flats and both 1-bed studios (100%) in the converted High Road buildings would meet the sunlight guideline.
 - Of the seven indoor communal amenity spaces, which would provide a range of uses including study, lounge, breakout, gym and reception, four could receive at least 1.5 hours of sunlight on 21 March and a fifth could receive 1.4 hours of sunlight.
- 7.4. In summary, 64 out of 88 (73%) of cluster flats and studios would meet the sunlight recommendations for normal residential development.
- 7.5. Overall, the proposed development would provide good access to sunlight for its student occupiers.

8. Results of sunlight assessment to external amenity spaces

- 8.1. We assessed sunlight to the three outdoor amenity spaces within the proposed development: two courtyards at ground floor level and the fourth floor level amenity terrace. We ran the assessment on 21 March, per the guidelines, and also on 21 June to understand the best-case position in midsummer. The results are illustrated and tabulated on the drawings at Appendix 4.
- 8.2. The two courtyard areas (A1 and A2) would be below the guideline, with 35% and 1% of their respective areas receiving at least two hours of sunlight on 21 March (and therefore for at least half the year). In midsummer (21 June), 95% and 76% of their respective areas could receive at least two hours of sunlight.
- 8.3. The fourth floor amenity terrace will be very well sunlit, with 94% of its area receiving at least two hours of sunlight on 21 March (and therefore for at least half the year) and 100% in midsummer.
- 8.4. Whilst the courtyard spaces will be more shaded, the students will have access to the well sunlit terrace at 4th floor level.

9. Summary and conclusion

- 9.1. The Site's location within the North Tottenham / Northumberland Park Growth Area referred to in the Haringey Core Strategy, and within Site Allocation NT5: High Road West referred to in the Tottenham Area Action Plan, where higher density development is envisaged, warrants greater flexibility in applying daylight and sunlight guidelines, as noted in the NPPF and the Mayor of London's Housing SPG, to the extent the latter applies.
- 9.2. As the main focus of the BRE guidelines is on residential dwellings, and as the Mayor of London's 'Housing Design Standards' LPG applies to self-contained residential dwellings (Use Class C3), not student accommodation, it is questionable whether the BRE numerical guidelines apply to the proposed development.
- 9.3. The nature of the proposed accommodation at least warrants some departure from the amenity standards that apply to normal residential accommodation, because student accommodation would typically be occupied for less than a year, its population would change from year to year, and its main function is for sleeping, with much of the students' daytime activities taking place elsewhere. LBH have accepted this previously for a PBSA scheme at The Hale.
- 9.4. We assessed the daylight and sunlight provision to all the habitable rooms in the new purpose-built student accommodation building and the student flats in the High Road buildings and sunlight to amenity spaces within the proposed development using the methodologies recommended in the BRE guide (2022 edition).
- 9.5. In total, 328 rooms were assessed across 28 cluster flats and 54 studio flats in the PBSA building, and four cluster flats and two studio flats in the converted High Road buildings, and seven indoor communal amenity spaces.
- 9.6. Of the 328 rooms assessed, 246 (**75%**) would meet the target daylight illuminances adopted in our assessment (100 lux for bedrooms, 150 lux for shared LKDs, studios, bed-living rooms and indoor amenity spaces, and 200 lux for a KD and a kitchen). This comprises 237 rooms (77%) in the PBSA building and 9 (47%) in the High Road buildings. In the bedrooms, the desk would typically be positioned close to the window where the median illuminance would generally be at least 200 lux,
- 9.7. The requirement for the design to balance daylight with passive solar gain and overheating considerations precludes the provision of more or larger windows or the use of glazing with higher visible light transmittance.
- 9.8. To provide further context, daylight provision was also assessed using the ADF methodology under the superseded 2011 edition of the BRE guide. 302 rooms (**92%**) would have satisfied the corresponding ADF targets. The lower level of adherence to the 2022 guidelines arises because the new criteria are more difficult to achieve, partly because more conservative internal surface reflectances must now be used in the calculations.
- 9.9. Turning to sunlight, 64 out of 88 (**73%**) of cluster flats and studios would satisfy the guideline for normal residential development of at least 1.5 hours of sunlight on 21 March, and five out of seven of the indoor communal amenity spaces would exceed or be close to that target.
- 9.10. Of the three outdoor amenity spaces, one would satisfy the guideline of at least 2 hours of sunlight over 50% of the area, meaning the students would have access to well sunlit external space.
- 9.11. It is submitted that the layout of the proposed development is consistent with the Council's local planning policy on daylight and sunlight and that it will provide acceptable levels of daylight and good access to sunlight for its future student occupiers.

Delva Patman Redler LLP
Chartered Surveyors

Appendix 1**Assessment methodology and glossary**

1. This appendix explains the daylight and sunlight assessment methodology recommended in '*Site Layout Planning for Daylight and Sunlight: A guide to good practice*' (BR209, 2022 edition) ('the BRE guide') and provides a glossary of the terminology used.

Daylight to new dwellings

2. BS EN 17037 '*Daylight in Buildings*' ('the British Standard') and the BRE guide provide two alternative methods for calculating the overall amount of daylight in a space:
 - illuminance method, or
 - daylight factor method.

Illuminance method

3. *Illuminance* is a measure of the amount of light falling on a surface, usually measured in lux (lumens per square metre). The illuminance method calculates the illuminance from daylight at each point on an assessment grid on the reference plane at hourly intervals for a typical year. It uses hourly climatic data for a typical year collected by a weather station near to the site's location and a mathematical model for the spatial distribution of real-world sky luminance (e.g., the Perez All-Weather Sky Model). Appropriate weather data files are available from various sources, including EnergyPlus and CIBSE.
4. The illuminance recommendations in the British Standard and BRE guide are based around the illuminances that would be met or exceeded over half of the room, over half of the annual daylight hours.

Daylight factor method

5. *Daylight factor* is the ratio of daylight illuminance at a reference point on the working plane within a space to outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky. The daylight factor method calculates the daylight factor at each point on an assessment grid on the reference plane. The standard overcast sky model is independent of orientation and location. In order to account for different climatic conditions at different locations, the British Standard and BRE guide give equivalent different daylight factor targets for various locations in the UK.
6. The daylight factor recommendations in the British Standard and BRE guide are based on calculating the daylight factor that would be exceeded over half of the room. The recommended daylight factor values are location specific; a set of targets is provided for each of 10 locations in the UK. The target values for the reference location at the nearest latitude to the development location should be used.

Calculation model

7. Both methodologies usually require assessment via detailed computer modelling to simulate the illuminance or daylight factor at calculation points within a proposed space. Appropriate simulation settings must be used. The calculation model should include all the room surfaces, and any surface outside the room that could affect the light received.

Surface reflectance

8. Internal and exterior surfaces and obstructions need to be modelled including appropriate surface reflectances. Fixtures and fittings need not be included. Surface reflectances should represent real conditions.
9. Where reflectance values have not been measured or specified, default values to be used in the calculation are given in Table C4 of the BRE guide, as follows: ceilings, 0.7; interior walls, 0.5; floors, 0.2; exterior walls and obstructions, 0.2; exterior ground, 0.2.
10. Where surface finishes have been specified or measured on site, they can be used in the calculations with appropriate factors for maintenance and furniture. To allow for these factors, maximum

reflectances in the calculations should not exceed: white painted surfaces, 0.8 indoors and 0.6 outdoors; light pastel walls, 0.7; light wood floors, 0.4. Surface reflectances used should be presented in the assessment, along with a specification of the materials if non-default reflectances are used.

Glazing transmission

11. Glazing transmission factors, including maintenance factors, need to be included in the simulation along with account for, or modelling of, window framing. Where window frames are not specifically included in the model, frame factors should be applied based on the ratio of glass to overall window aperture area for the type of window to be used; this will generally vary with window size and whether the windows have opening lights. Where window types have not been specified, results for the overall window aperture should be multiplied by a default framing factor as given in Table C5 of the BRE guide, as follows: windows with small panes, 0.5; normal windows with opening lights, 0.6; patio doors, 0.7.
12. For clean, clear double glazing with a low emissivity coating, a value of 0.68 for diffuse transmittance can be used. For other types of glazing, the diffuse transmittance, if needed, can be found by multiplying the manufacturer's normal incidence light transmittance by 0.91. Care needs to be taken to apply the correct values within the calculation software; often software programs use the normal incidence transmittance, which is directly available from the glazing manufacturer, and have inbuilt correction for light coming from oblique angles.
13. An additional maintenance factor also needs to be applied to the glazing transmission to account for dirt on the windows. Full details are given in the National Annex to BS EN 17037. For the more common residential applications, values are given in Table C6 of the BRE guide and reproduced below. These assume the windows will be regularly cleaned.

Table C6 – Maintenance factors for different types of windows		
Type of window	Maintenance factor	
	Rural/suburban	Urban
Vertical, no overhang	0.96	0.92
Vertical, sheltered from rain, e.g. by balcony or overhang	0.88	0.76
Sloping rooflight	0.92	0.84
Horizontal rooflight	0.88	0.76

Assessment grid

14. The daylight calculations need to be carried out on a grid of points on a reference plane within each room assessed. The plane should normally be 0.85m from the floor level (sometimes described as the working plane height). The British Standard states that the assessment grid should exclude a band of 0.5m from the walls, unless otherwise specified. The BRE guide recommends that in dwellings the width of the band to be excluded should be of 0.3 m, to avoid excluding parts of the room that are used by the occupants.
15. The BRE guide advises that professional judgement should be used when setting up the reference plane in irregularly shaped rooms or those with corridor or annex areas. Examples are given in Figures C2 to C5 of the guide and include the following:
 - Where room layouts have small variations or alcoves along a wall's length, the inner or dominant section should be taken as a basis for the 0.3m gap to the assessment grid area. Fixed floor to ceiling cupboards can be excluded from the room area, but not kitchen units incorporating a worktop. Areas in bay windows may be included unless they are winter gardens separated from the room by a fixed partition.
 - In a room with a corridor, or annexed entrance, the corridor need not be included in the assessment grid area (unless it is wide enough to be part of the usable space in a room, typically over 1.5m wide). The room layout and surfaces, including the corridor would still need to be included in the calculation model.

- For a combined living/kitchen/ dining area (LKD), the kitchen should always be included as part of the room area in the calculations, even in cases where the kitchen is deemed non-habitable and the living room criterion is applied to the whole space.
16. The British Standard gives an equation for maximum grid spacing. However, for domestic rooms this could potentially give only nine points in the room. The BRE guide therefore recommends a maximum grid spacing of 0.3m and preferably less.
 17. Outdoor and semi-conditioned spaces, partitioned from the room, like balconies and winter gardens should not be included in the reference grid, but the effects of balconies and overhangs above a window should be modelled.

Presentation of results

18. It may not be necessary to analyse every room in a proposed development. For example, if a building has the same room and window layouts on each floor, and rooms on a lower floor meet the recommendations, then the corresponding rooms on upper floors would be expected to meet the recommendations too.
19. For each room, the median illuminance or median daylight factor (exceeded over 50% of the reference plane) should be presented, as this enables comparison with the different recommendations in BS EN 17037.
20. Contour plots showing illuminances or daylight factors throughout the room may also be presented.
21. The proportional area of the reference plane exceeding a particular target value may also be presented. This value is labelled as 'SDA % of Area' on our contour plots. ('SDA' is an acronym for 'spatial daylight autonomy', which is a yearly metric that describes the percentage of room area that receives sufficient daylight according to the specified criteria in a particular standard.)

Sunlight to new dwellings

22. When calculating the sunlight, the BRE guide advises that:

If window positions are already known, a reference point on the inside face of the window aperture at the centre of the opening width and at least 1.2 m above the floor and 0.3 m above the sill (whichever is the higher) is used. Sunlight blocked by window reveals and balconies or overhangs above the window should not be included, but the effect of window frames and bars can be discounted. Surrounding obstructions should be modelled in detail, and if this is done a minimum solar altitude, as suggested in BS EN 17037, need not apply. If a room has multiple windows, the amount of sunlight received by each can be added together provided they occur at different times and sunlight hours are not double counted.

23. In a room with multiple windows, our computer software calculates the total sunlight hours across all its windows without double counting.

Sunlight to new gardens and amenity spaces

24. Sunlight to new amenity spaces within proposed development should be assessed on the equinox (21 March).
25. As a check, the BRE guide recommends that at least 50% of the area of each amenity space should receive at least two hours of sunlight on 21 March. If a detailed calculation cannot be carried out, and the area is a simple shape, it is suggested that the centre of the area should receive at least two hours of sunlight on 21 March.
26. Sunlight at an altitude of 10° or less does not count, because it is likely to be blocked by low-level planting anyway. In working out the total area to be considered, driveways and hard standing for cars should be left out. Around housing, front gardens that are relatively small and visible from public footpaths should be omitted; only the main back garden should be analysed. Each individual garden for each dwelling in a block should be considered separately.

27. Normally trees and shrubs need not be included, partly because their shapes are almost impossible to predict, and partly because the dappled shade of a tree is more pleasant than the deep shadow of a building (this applies especially to deciduous trees).
28. The guide suggests that shadows of walls or opaque fences greater than 1.5 m high should normally be included in the calculation. Where low fences or walls are intended – or railings or trellises that let through sunlight – no calculation of shadows is necessary.

Glossary of terms

29. The daylight and sunlight terminology used in our report is explained below.

Term	Meaning
Daylight, natural light	Combined skylight and sunlight.
Illuminance	A measure of the amount of light falling on a surface, usually measured in lux.
Diffuse horizontal illuminance (from the sky)	Illuminance produced by skylight on a horizontal surface on the Earth.
Target illuminance	Illuminance from daylight that should be achieved for at least half of annual daylight hours across a specified fraction of the reference plane in a daylit space.
Climate-based daylight modelling	The prediction of daylight illuminance across a grid of points on the working plane inside a room at no greater than hourly intervals in a typical year using hourly climate data for a typical year collected by a weather station near to the site's location and a mathematical model for the spatial distribution of real-world sky luminance (e.g., the Perez All-Weather Sky Model).
Daylight factor	Ratio of total daylight illuminance at a reference point on the working plane within a space to outdoor illuminance on a horizontal plane due to an unobstructed CIE standard overcast sky.
Target daylight factor	Daylight factor value equivalent to the target illuminance to be exceeded for more than half of annual daylight hours over a specified fraction of the reference plane within a daylit space.
CIE standard overcast sky	A theoretical completely overcast sky whose luminance varies with angle of elevation, being three times brighter at the zenith (vertically overhead) than on the horizon, but not with orientation.
Obstruction angle	The angular altitude of the top of an obstruction above the horizontal, measured from a reference point in a vertical plane in a section perpendicular to the vertical plane.
Vertical sky component (VSC)	The amount of daylight falling on a vertical wall or window. It is the ratio of that part of illuminance, at a point on a given vertical plane (e.g. window), that is received directly from a CIE standard overcast sky, to simultaneous illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The VSC does not include reflected light, either from the ground or from other buildings. The ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.
Reference plane or working plane	Horizontal, vertical, or inclined plane in which a visual task lies. Normally the working plane may be taken to be horizontal, 0.85 m above the floor in housing.

Term	Meaning
Assessment grid or calculation grid	Grid of calculation points on the reference plane that is used to calculate daylight factor or illuminance from daylight.
Sunlight exposure	Sum of the time (hours) within a given period during which the sun is above the horizon with a cloudless sky, which may be limited by permanent obstructions like mountains, buildings, etc.
Sun on ground (SOG)	The measure of sunlight potential to gardens and amenity spaces. It is measured in hours on the spring equinox (21 March) at a point on the ground accounting for the latitude of the site location. Sunlight below an altitude of 10° is usually discounted as it is likely to be prevented from reaching the ground by fences, plants or other low-level obstructions.

Appendix 2

Proposed cumulative development scenario drawing



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Existing	Extant Consent
Proposed	Cumulative
Surrounding	

SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: PRINT-F3-ZZ-M3-A-0001
(PBSA)_detached-dpr.rvt
(3D Model 10.07.2023)

NOTES:

All heights given in meters AOD

REV	Description	Drawn	Date
A	Rendered image	MJ	27.07.2023

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 450 9703

www.delvapatmanredler.co.uk
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TITLE:

PRINTWORKS
LONDON
N17 8DP

DRAWING:

PROPOSED CUMULATIVE SCENARIO
3D View
-
-

DRAWN: RP/MJ	JOB NBR:
SCALE: NTS	20647
DATE: 27.07.2023	

DWG NO:	REV:
PR CUM-003	-

Appendix 3

Daylight and sunlight results tables and daylight illuminance plans

Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level

The Printworks PBSA										
F00	Duplex_00_1	R1	Bedroom	1.0	1.72	100	64	39%	0.6	Not met
	Duplex_00_1	R2	Bedroom	1.0	1.74	100	63	39%	0.8	Not met
	Duplex_00_1	R3	Bedroom	1.0	1.75	100	87	46%	0.8	Not met
	Duplex_00_1	R4	Bedroom	1.0	1.73	100	77	41%	0.8	Not met
	Duplex_00_2	R5	Bedroom	1.0	1.70	100	60	35%	0.8	Not met
	Duplex_00_2	R6	Bedroom	1.0	1.69	100	67	41%	0.8	Not met
	Duplex_00_2	R7	Bedroom	1.0	1.69	100	57	31%	0.8	Not met
	Duplex_00_2	R8	Bedroom	1.0	1.70	100	81	44%	0.8	Not met
	Duplex_00_2	R9	Bedroom	1.0	1.72	100	62	33%	0.8	Not met
	Duplex_00_3	R10	Bedroom	1.0	1.77	100	89	46%	0.8	Not met
	Duplex_00_3	R11	Bedroom	1.0	1.79	100	98	48%	1.1	Not met
	Duplex_00_3	R12	Bedroom	1.0	1.81	100	75	41%	1.2	Not met
	Duplex_00_3	R13	Bedroom	1.0	1.85	100	110	56%	1.6	Minimum
	Duplex_00_3	R14	Bedroom	1.0	1.86	100	80	43%	1.8	Minimum
	Duplex_00_3	R15	Bedroom	1.0	1.91	100	130	63%	2.3	Minimum
	Duplex_00_3	R16	Bedroom	1.0	1.98	100	137	76%	1.7	Minimum
F01	Communal_00	R17	Amenity	1.5	1.17	150	39	15%	0.0	Not met
	Communal_00	R18	Amenity	1.5	3.05	150	108	39%	1.4	Not met
	Communal_00	R19	Amenity	1.5	1.60	150	68	27%	0.0	Not met
	Communal_00	R20	Amenity	1.5	1.46	150	67	23%	1.5	Minimum
	Communal_00	R21	Amenity	1.5	2.41	150	144	44%	2.5	Minimum
	Duplex_00_1	R1	Bedroom	1.0	1.70	100	81	41%	0.6	Not met
	Duplex_00_1	R2	Bedroom	1.0	1.72	100	80	46%	0.7	Not met
	Duplex_00_1	R3	Bedroom	1.0	1.73	100	82	46%	0.9	Not met
	Duplex_00_1	R4	Bedroom	1.0	1.72	100	77	41%	1.1	Not met
	Duplex_00_1	R5	Bedroom	1.0	1.70	100	64	37%	1.2	Not met
	Duplex_00_2	R6	LKD	1.5	1.55	150	58	22%	2.3	Minimum
	Duplex_00_2	R7	Bedroom	1.0	1.74	100	93	44%	1.2	Not met
	Duplex_00_2	R8	Bedroom	1.0	1.73	100	65	33%	1.2	Not met
	Duplex_00_2	R9	Bedroom	1.0	1.78	100	91	48%	1.1	Not met
	Studio_01_1	R10	Studio	1.5	1.75	150	92	36%	1.5	Minimum
	Studio_01_2	R11	Studio	1.5	1.78	150	96	35%	1.9	Minimum
	Duplex_00_3	R12	Bedroom	1.0	1.94	100	137	65%	2.3	Minimum
	Duplex_00_3	R13	Bedroom	1.0	1.97	100	142	76%	3.2	Medium
	Duplex_00_3	R14	Bedroom	1.0	2.01	100	154	85%	2.4	Minimum
	Duplex_00_3	R15	Bedroom	1.0	2.02	100	160	87%	1.7	Minimum
	Duplex_00_3	R16	Bedroom	1.0	4.56	100	629	100%	6.9	High
	Duplex_00_3	R17	LKD	1.5	2.85	150	212	81%	6.4	High
	Studio_01_3	R18	Studio	1.5	0.92	150	56	24%	2.3	Minimum
	Cluster_01_1	R19	Bedroom	1.0	1.91	100	201	94%	3.7	Medium
	Cluster_01_1	R20	Bedroom	1.0	2.15	100	239	100%	4.3	High
	Cluster_01_1	R21	Bedroom	1.0	2.32	100	242	100%	4.9	High

Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Cluster_01_1	R22	Bedroom	1.0	2.40	100	246	98%	5.2	High
	Cluster_01_1	R23	Bedroom	1.0	2.47	100	302	100%	5.7	High
	Cluster_01_1	R24	Bedroom	1.0	2.49	100	292	100%	6.0	High
	Cluster_01_1	R25	LKD	1.5	1.41	150	97	32%	6.4	High
	Cluster_01_2	R26	LKD	1.5	2.31	150	167	60%	6.4	High
	Cluster_01_2	R27	Bedroom	1.0	2.44	100	197	96%	1.3	Not met
	Cluster_01_2	R28	Bedroom	1.0	2.50	100	188	91%	1.3	Not met
	Cluster_01_2	R29	Bedroom	1.0	2.58	100	238	100%	1.0	Not met
	Cluster_01_2	R30	Bedroom	1.0	2.62	100	244	100%	1.1	Not met
	Cluster_01_2	R31	Bedroom	1.0	2.63	100	209	100%	0.9	Not met
	Cluster_01_2	R32	Bedroom	1.0	2.60	100	214	100%	2.3	Minimum
	Cluster_01_2	R33	Bedroom	1.0	2.48	100	241	100%	2.3	Minimum
	Cluster_01_3	R34	Bedroom	1.0	2.21	100	174	93%	3.4	Medium
	Cluster_01_3	R35	Bedroom	1.0	2.69	100	217	100%	4.8	High
	Cluster_01_3	R36	LKD	1.5	3.15	150	264	95%	5.5	High
	Cluster_01_3	R37	Bedroom	1.0	2.36	100	109	65%	0.0	Not met
	Cluster_01_3	R38	Bedroom	1.0	1.66	100	65	38%	0.0	Not met
	Studio_01_4	R39	Studio	1.5	2.82	150	217	76%	0.0	Not met
	Studio_01_5	R40	Studio	1.5	2.83	150	202	70%	0.0	Not met
	Cluster_01_4	R41	LKD	1.5	2.47	150	137	44%	0.0	Not met
	Studio_01_6	R42	Studio	1.5	1.50	150	77	29%	0.0	Not met
	Studio_01_7	R43	Studio	1.5	1.85	150	90	26%	0.0	Not met
	Duplex_00_1	R44	LKD	1.5	2.07	150	72	28%	0.0	Not met
	Duplex_00_1	R45	Bedroom	1.0	2.30	100	207	97%	1.4	Not met
	Duplex_00_2	R47	Bedroom	1.0	2.72	100	216	99%	0.0	Not met
	Duplex_00_2	R48	Bedroom	1.0	2.48	100	195	96%	0.0	Not met
	Cluster_01_1	R49	Bedroom	1.0	2.18	100	135	70%	0.0	Not met
	Cluster_01_1	R50	Bedroom	1.0	2.34	100	160	87%	0.0	Not met
	Cluster_01_2	R55	Bedroom	1.0	1.59	100	129	59%	0.0	Not met
	Cluster_01_2	R53	Bedroom	1.0	1.31	100	100	50%	0.0	Not met
	Cluster_01_4	R62	Bedroom	1.0	1.82	100	156	74%	3.8	Medium
	Cluster_01_2	R54	Bedroom	1.0	1.49	100	125	57%	0.0	Not met
	Studio_01_8	R63	Studio	1.5	1.67	150	123	41%	4.1	High
	Cluster_01_1	R52	Bedroom	1.0	1.06	100	69	35%	0.0	Not met
	Cluster_01_1	R51	Bedroom	1.0	2.19	100	157	83%	0.0	Not met
	Cluster_01_4	R61	Bedroom	1.0	1.71	100	157	76%	3.6	Medium
	Studio_01_9	R58	Studio	1.5	1.44	150	90	33%	1.3	Not met
	Cluster_01_4	R60	Bedroom	1.0	1.52	100	142	70%	3.2	Medium
	Studio_01_10	R59	Studio	1.5	0.65	150	26	14%	1.3	Not met
	Cluster_01_2	R57	Bedroom	1.0	1.61	100	140	65%	0.8	Not met
	Cluster_01_2	R56	Bedroom	1.0	1.62	100	85	39%	0.0	Not met
	Duplex_00_1	R64	Bedroom	1.0	1.12	100	66	34%	3.6	Medium
F02	Cluster_02_1	R1	Bedroom	1.0	1.81	100	87	46%	0.9	Not met
	Cluster_02_1	R2	Bedroom	1.0	1.83	100	92	46%	0.9	Not met

Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Cluster_02_1	R3	Bedroom	1.0	1.84	100	100	50%	0.9	Not met
	Cluster_02_1	R4	Bedroom	1.0	1.83	100	94	46%	1.1	Not met
	Cluster_02_1	R5	Bedroom	1.0	1.81	100	95	44%	1.5	Minimum
	Cluster_02_1	R6	Bedroom	1.0	1.81	100	86	43%	1.6	Minimum
	Cluster_02_2	R7	LKD	1.5	1.29	150	46	21%	1.6	Minimum
	Cluster_02_2	R8	Bedroom	1.0	1.86	100	124	57%	1.6	Minimum
	Cluster_02_2	R9	Bedroom	1.0	1.86	100	91	44%	1.6	Minimum
	Cluster_02_2	R10	Bedroom	1.0	1.89	100	122	59%	1.6	Minimum
	Cluster_02_2	R11	Bedroom	1.0	1.92	100	130	59%	1.6	Minimum
	Studio_02_1	R12	Studio	1.5	1.89	150	130	47%	1.8	Minimum
	Studio_02_2	R13	Studio	1.5	1.91	150	130	46%	1.9	Minimum
	Studio_02_3	R14	Studio	1.5	1.99	150	152	53%	2.9	Minimum
	Cluster_02_3	R15	Bedroom	1.0	2.10	100	171	89%	3.2	Medium
	Cluster_02_3	R16	Bedroom	1.0	2.12	100	197	89%	3.4	Medium
	Cluster_02_3	R17	Bedroom	1.0	2.14	100	149	74%	3.4	Medium
	Cluster_02_3	R18	Bedroom	1.0	4.64	100	707	100%	7.6	High
	Cluster_02_3	R19	LKD	1.5	3.64	150	336	99%	6.4	High
	Cluster_02_3	R20	Bedroom	1.0	2.54	100	231	100%	2.3	Minimum
	Cluster_02_3	R21	Bedroom	1.0	2.38	100	241	100%	2.3	Minimum
	Studio_02_4	R22	Studio	1.5	0.98	150	70	29%	2.3	Minimum
	Cluster_02_4	R23	Bedroom	1.0	1.97	100	219	98%	3.7	Medium
	Cluster_02_4	R24	Bedroom	1.0	2.24	100	261	100%	4.3	High
	Cluster_02_4	R25	Bedroom	1.0	2.44	100	263	100%	4.9	High
	Cluster_02_4	R26	Bedroom	1.0	2.52	100	261	100%	5.2	High
	Cluster_02_4	R27	Bedroom	1.0	2.60	100	330	100%	5.7	High
	Cluster_02_4	R28	Bedroom	1.0	2.63	100	330	100%	6.1	High
	Cluster_02_4	R29	LKD	1.5	1.49	150	119	39%	6.4	High
	Cluster_02_5	R30	LKD	1.5	2.61	150	236	80%	7.3	High
	Cluster_02_5	R31	Bedroom	1.0	2.88	100	263	100%	2.4	Minimum
	Cluster_02_5	R32	Bedroom	1.0	2.86	100	248	100%	1.9	Minimum
	Cluster_02_5	R33	Bedroom	1.0	2.91	100	297	100%	1.7	Minimum
	Cluster_02_5	R34	Bedroom	1.0	2.94	100	300	100%	2.1	Minimum
	Cluster_02_5	R35	Bedroom	1.0	2.95	100	257	100%	2.3	Minimum
	Cluster_02_5	R36	Bedroom	1.0	2.95	100	264	100%	2.3	Minimum
	Cluster_02_5	R37	Bedroom	1.0	2.88	100	303	100%	2.3	Minimum
	Cluster_02_6	R38	Bedroom	1.0	2.42	100	197	96%	3.8	Medium
	Cluster_02_6	R39	Bedroom	1.0	3.04	100	257	100%	4.9	High
	Cluster_02_6	R40	LKD	1.5	4.26	150	410	99%	6.6	High
	Cluster_02_6	R41	Bedroom	1.0	3.24	100	185	99%	0.0	Not met
	Cluster_02_6	R42	Bedroom	1.0	2.00	100	109	56%	0.0	Not met
	Studio_02_5	R43	Studio	1.5	3.23	150	279	84%	0.0	Not met
	Studio_02_6	R44	Studio	1.5	2.50	150	177	58%	0.0	Not met
	Cluster_02_7	R45	LKD	1.5	1.27	150	57	23%	3.6	Medium
	Cluster_02_7	R46	Bedroom	1.0	3.76	100	236	100%	0.0	Not met

Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Cluster_02_7	R47	Bedroom	1.0	3.38	100	234	96%	0.0	Not met
	Cluster_02_7	R48	Bedroom	1.0	1.44	100	83	40%	0.0	Not met
	Studio_02_7	R49	Studio	1.5	2.13	150	178	58%	0.0	Not met
	Studio_02_8	R50	Studio	1.5	1.88	150	86	25%	0.0	Not met
	Cluster_02_7	R70	Bedroom	1.0	2.18	100	199	94%	5.0	High
	Cluster_02_4	R59	Bedroom	1.0	1.21	100	97	48%	0.0	Not met
	Cluster_02_5	R62	Bedroom	1.0	1.86	100	176	74%	0.0	Not met
	Cluster_02_1	R52	Bedroom	1.0	2.56	100	271	100%	2.0	Minimum
	Cluster_02_5	R60	Bedroom	1.0	1.46	100	133	65%	0.0	Not met
	Cluster_02_4	R58	Bedroom	1.0	2.60	100	211	99%	0.0	Not met
	Studio_02_9	R65	Studio	1.5	1.64	150	145	54%	1.8	Minimum
	Cluster_02_2	R54	Bedroom	1.0	3.15	100	289	100%	0.0	Not met
	Cluster_02_4	R56	Bedroom	1.0	2.53	100	180	93%	0.0	Not met
	Cluster_02_5	R63	Bedroom	1.0	1.87	100	142	69%	1.3	Not met
	Cluster_02_2	R55	Bedroom	1.0	2.89	100	257	100%	0.0	Not met
	Studio_02_10	R66	Studio	1.5	0.73	150	36	19%	1.8	Minimum
	Cluster_02_7	R72	Bedroom	1.0	2.04	100	179	89%	4.8	High
	Cluster_02_7	R68	Bedroom	1.0	2.02	100	208	98%	4.4	High
	Cluster_02_5	R64	Bedroom	1.0	1.84	100	163	81%	1.3	Not met
	Cluster_02_5	R61	Bedroom	1.0	1.73	100	166	72%	0.0	Not met
	Cluster_02_2	R53	Bedroom	1.0	2.93	100	299	100%	2.0	Minimum
	Cluster_02_7	R69	Bedroom	1.0	2.15	100	211	100%	4.8	High
	Cluster_02_7	R73	Bedroom	1.0	1.90	100	151	76%	4.3	High
	Cluster_02_7	R71	Bedroom	1.0	2.14	100	189	94%	5.0	High
	Cluster_02_1	R74	Bedroom	1.0	1.21	100	101	51%	3.7	Medium
	Cluster_02_4	R57	Bedroom	1.0	2.74	100	209	99%	0.0	Not met
	Cluster_02_1	R51	LKD	1.5	2.17	150	92	32%	0.2	Not met
F03	Cluster_03_1	R1	Bedroom	1.0	1.92	100	122	67%	1.2	Not met
	Cluster_03_1	R2	Bedroom	1.0	1.94	100	136	63%	1.2	Not met
	Cluster_03_1	R3	Bedroom	1.0	1.95	100	140	67%	1.2	Not met
	Cluster_03_1	R4	Bedroom	1.0	1.95	100	122	61%	1.2	Not met
	Cluster_03_1	R5	Bedroom	1.0	1.94	100	134	61%	1.5	Minimum
	Cluster_03_1	R6	Bedroom	1.0	1.94	100	112	57%	1.7	Minimum
	Cluster_03_2	R7	LKD	1.5	1.38	150	60	26%	2.1	Minimum
	Cluster_03_2	R8	Bedroom	1.0	2.00	100	159	72%	2.1	Minimum
	Cluster_03_2	R9	Bedroom	1.0	2.00	100	126	59%	2.1	Minimum
	Cluster_03_2	R10	Bedroom	1.0	2.04	100	169	76%	2.0	Minimum
	Cluster_03_2	R11	Bedroom	1.0	2.06	100	179	78%	2.0	Minimum
	Studio_03_1	R12	Studio	1.5	2.02	150	181	59%	2.3	Minimum
	Studio_03_2	R13	Studio	1.5	2.04	150	169	64%	2.0	Minimum
	Studio_03_3	R14	Studio	1.5	2.12	150	193	64%	2.9	Minimum
	Cluster_03_3	R15	Bedroom	1.0	2.23	100	203	100%	3.2	Medium
	Cluster_03_3	R16	Bedroom	1.0	2.26	100	210	100%	3.4	Medium
	Cluster_03_3	R17	Bedroom	1.0	2.27	100	219	100%	3.4	Medium

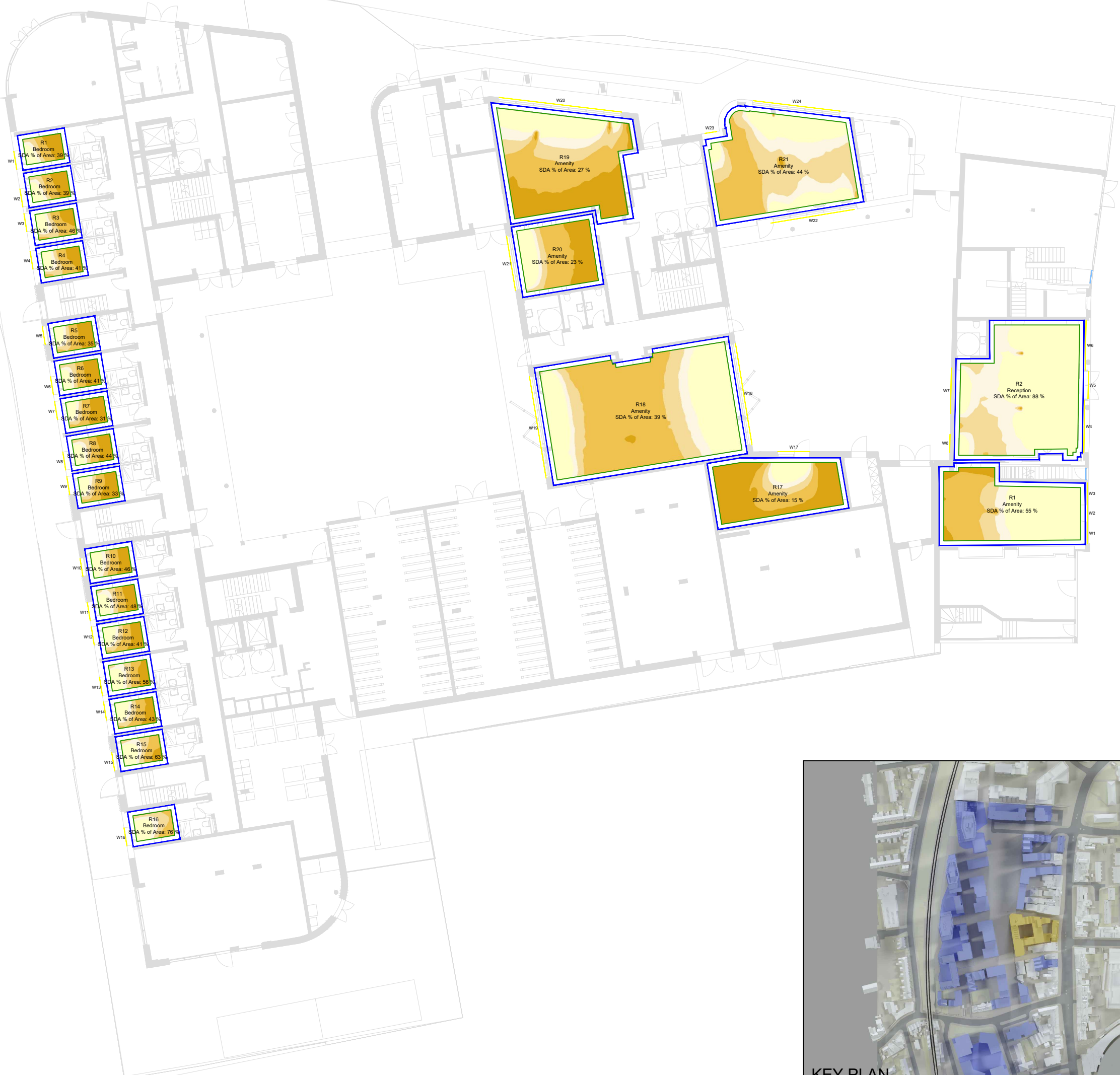
Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Cluster_03_3	R18	Bedroom	1.0	4.99	100	717	100%	8.6	High
	Cluster_03_3	R19	LKD	1.5	3.78	150	376	100%	6.4	High
	Cluster_03_3	R20	Bedroom	1.0	2.78	100	306	100%	2.3	Minimum
	Cluster_03_3	R21	Bedroom	1.0	2.61	100	283	100%	2.3	Minimum
	Studio_03_4	R22	Studio	1.5	1.05	150	78	31%	2.3	Minimum
	Cluster_03_4	R23	Bedroom	1.0	2.01	100	234	98%	3.7	Medium
	Cluster_03_4	R24	Bedroom	1.0	2.32	100	280	100%	4.4	High
	Cluster_03_4	R25	Bedroom	1.0	2.55	100	284	100%	5.2	High
	Cluster_03_4	R26	Bedroom	1.0	2.63	100	291	100%	5.6	High
	Cluster_03_4	R27	Bedroom	1.0	2.71	100	353	100%	6.2	High
	Cluster_03_4	R28	Bedroom	1.0	2.74	100	357	100%	6.4	High
	Cluster_03_4	R29	LKD	1.5	1.55	150	133	45%	6.4	High
	Cluster_03_5	R30	LKD	1.5	2.72	150	263	84%	7.3	High
	Cluster_03_5	R31	Bedroom	1.0	3.11	100	301	100%	2.6	Minimum
	Cluster_03_5	R32	Bedroom	1.0	3.11	100	304	100%	2.3	Minimum
	Cluster_03_5	R33	Bedroom	1.0	3.08	100	336	100%	2.3	Minimum
	Cluster_03_5	R34	Bedroom	1.0	3.10	100	338	100%	2.3	Minimum
	Cluster_03_5	R35	Bedroom	1.0	3.10	100	288	100%	2.3	Minimum
	Cluster_03_5	R36	Bedroom	1.0	3.10	100	296	100%	2.3	Minimum
	Cluster_03_5	R37	Bedroom	1.0	3.10	100	286	100%	2.3	Minimum
	Studio_03_5	R38	Studio	1.5	3.66	150	367	89%	1.4	Not met
	Studio_03_6	R39	Studio	1.5	2.46	150	186	63%	0.0	Not met
	Cluster_03_6	R40	LKD	1.5	1.41	150	79	28%	4.0	Medium
	Cluster_03_6	R41	Bedroom	1.0	4.03	100	297	100%	0.0	Not met
	Cluster_03_6	R42	Bedroom	1.0	3.67	100	286	100%	0.0	Not met
	Cluster_03_6	R43	Bedroom	1.0	1.53	100	104	55%	0.0	Not met
	Studio_03_7	R44	Studio	1.5	2.17	150	196	64%	0.0	Not met
	Studio_03_8	R45	Studio	1.5	2.01	150	108	34%	0.0	Not met
	Cluster_03_1	R46	LKD	1.5	2.27	150	96	38%	0.2	Not met
	Cluster_03_1	R47	Bedroom	1.0	2.79	100	342	100%	2.3	Minimum
	Cluster_03_2	R48	Bedroom	1.0	3.29	100	371	100%	2.3	Minimum
	Cluster_03_2	R49	Bedroom	1.0	3.59	100	356	100%	2.3	Minimum
	Cluster_03_2	R50	Bedroom	1.0	4.80	100	318	100%	0.0	Not met
	Cluster_03_4	R51	Bedroom	1.0	2.94	100	247	100%	0.0	Not met
	Cluster_03_5	R59	Bedroom	1.0	2.08	100	218	98%	2.4	Minimum
	Cluster_03_5	R55	Bedroom	1.0	1.71	100	180	83%	0.0	Not met
	Cluster_03_5	R57	Bedroom	1.0	2.13	100	240	94%	2.0	Minimum
	Cluster_03_5	R58	Bedroom	1.0	2.12	100	189	96%	2.4	Minimum
	Cluster_03_4	R54	Bedroom	1.0	1.46	100	133	62%	0.0	Not met
	Cluster_03_4	R53	Bedroom	1.0	3.17	100	285	100%	0.0	Not met
	Cluster_03_1	R69	Bedroom	1.0	1.40	100	126	72%	4.1	High
	Cluster_03_6	R68	Bedroom	1.0	2.23	100	251	100%	4.8	High
	Cluster_03_6	R63	Bedroom	1.0	2.46	100	280	100%	5.4	High
	Cluster_03_6	R67	Bedroom	1.0	2.39	100	270	100%	5.5	High

Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Cluster_03_6	R66	Bedroom	1.0	2.48	100	331	100%	6.0	High
	Cluster_03_4	R52	Bedroom	1.0	3.17	100	283	100%	0.0	Not met
	Studio_03_9	R60	Studio	1.5	1.85	150	209	67%	2.4	Minimum
	Cluster_03_6	R64	Bedroom	1.0	2.54	100	277	100%	6.3	High
	Cluster_03_5	R56	Bedroom	1.0	2.09	100	224	98%	1.9	Minimum
	Cluster_03_6	R65	Bedroom	1.0	2.54	100	342	100%	6.4	High
	Studio_03_10	R61	Studio	1.5	0.80	150	51	30%	2.4	Minimum
F04	Cluster_04_1	R1	Bedroom	1.0	2.05	100	162	74%	1.6	Minimum
	Cluster_04_1	R2	Bedroom	1.0	2.06	100	160	74%	1.6	Minimum
	Cluster_04_1	R3	Bedroom	1.0	2.07	100	168	76%	1.6	Minimum
	Cluster_04_1	R4	Bedroom	1.0	2.07	100	148	72%	1.6	Minimum
	Cluster_04_1	R5	Bedroom	1.0	2.06	100	173	78%	1.7	Minimum
	Cluster_04_1	R6	Bedroom	1.0	2.07	100	150	69%	1.8	Minimum
	Cluster_04_2	R7	LKD	1.5	1.48	150	75	32%	2.4	Minimum
	Cluster_04_2	R8	Bedroom	1.0	2.14	100	193	87%	2.7	Minimum
	Cluster_04_2	R9	Bedroom	1.0	2.14	100	159	74%	2.7	Minimum
	Cluster_04_2	R10	Bedroom	1.0	2.18	100	206	91%	2.7	Minimum
	Cluster_04_2	R11	Bedroom	1.0	2.21	100	217	94%	2.7	Minimum
	Studio_04_1	R12	Studio	1.5	2.16	150	230	63%	2.9	Minimum
	Studio_04_2	R13	Studio	1.5	2.18	150	211	71%	2.6	Minimum
	Studio_04_3	R14	Studio	1.5	2.25	150	240	74%	2.9	Minimum
	Cluster_04_3	R15	Bedroom	1.0	2.37	100	237	100%	3.2	Medium
	Cluster_04_3	R16	Bedroom	1.0	2.39	100	270	100%	3.4	Medium
	Cluster_04_3	R17	Bedroom	1.0	2.40	100	211	100%	3.4	Medium
	Cluster_04_3	R18	Bedroom	1.0	5.03	100	803	100%	8.6	High
	Cluster_04_3	R19	LKD	1.5	3.85	150	388	100%	6.4	High
	Cluster_04_3	R20	Bedroom	1.0	2.98	100	281	100%	2.3	Minimum
	Cluster_04_3	R21	Bedroom	1.0	2.91	100	317	100%	2.3	Minimum
	Studio_04_4	R22	Studio	1.5	1.24	150	91	39%	2.3	Minimum
	Studio_04_5	R23	Studio	1.5	2.20	150	222	73%	4.9	High
	Studio_04_6	R24	Studio	1.5	2.64	150	318	81%	6.4	High
	Studio_04_7	R25	Studio	1.5	2.82	150	335	75%	6.4	High
	Cluster_04_2	R26	Bedroom	1.0	3.82	100	398	100%	1.9	Minimum
	Cluster_04_2	R27	Bedroom	1.0	4.01	100	427	100%	2.3	Minimum
	Cluster_04_2	R28	Bedroom	1.0	3.63	100	421	100%	2.3	Minimum
	Cluster_04_1	R29	Bedroom	1.0	2.97	100	371	100%	2.3	Minimum
	Cluster_04_1	R30	Bedroom	1.0	1.48	100	172	96%	4.1	High
	Cluster_04_4	R31	Bedroom	1.0	2.49	100	343	100%	5.4	High
	Cluster_04_4	R32	Bedroom	1.0	2.67	100	378	100%	6.3	High
	Cluster_04_4	R33	Bedroom	1.0	2.74	100	390	100%	6.4	High
	Cluster_04_4	R34	Bedroom	1.0	2.78	100	399	100%	6.4	High
	Cluster_04_4	R35	Bedroom	1.0	2.81	100	403	100%	6.4	High
	Cluster_04_4	R36	LKD	1.5	4.08	150	457	100%	7.3	High
	Cluster_04_4	R37	Bedroom	1.0	4.30	100	338	100%	0.0	Not met

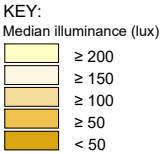
Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Cluster_04_4	R38	Bedroom	1.0	4.04	100	348	100%	0.0	Not met
	Cluster_04_4	R39	Bedroom	1.0	1.54	100	114	61%	0.0	Not met
	Studio_04_8	R40	Studio	1.5	2.38	150	232	68%	0.0	Not met
	Studio_04_9	R41	Studio	1.5	2.19	150	130	46%	0.0	Not met
	Cluster_04_1	R42	LKD	1.5	2.38	150	137	44%	0.9	Not met
F05	Studio_05_1	R1	Studio	1.5	2.09	150	181	61%	2.1	Minimum
	Studio_05_2	R2	Studio	1.5	2.12	150	183	62%	2.1	Minimum
	Cluster_05_1	R3	LKD	1.5	2.13	150	168	57%	4.4	High
	Cluster_05_1	R4	Bedroom	1.0	2.24	100	206	94%	2.1	Minimum
	Cluster_05_1	R5	Bedroom	1.0	2.26	100	217	93%	2.4	Minimum
	Cluster_05_1	R6	Bedroom	1.0	2.29	100	221	98%	2.8	Minimum
	Cluster_05_1	R7	Bedroom	1.0	2.32	100	237	94%	3.3	Medium
	Cluster_05_1	R8	Bedroom	1.0	2.35	100	244	100%	3.3	Medium
	Cluster_05_1	R9	Bedroom	1.0	2.38	100	259	98%	3.3	Medium
	Studio_05_3	R10	Studio	1.5	2.29	150	260	71%	3.3	Medium
	Studio_05_4	R11	Studio	1.5	2.33	150	255	76%	3.3	Medium
	Studio_05_5	R12	Studio	1.5	2.36	150	264	78%	3.3	Medium
	Cluster_05_2	R13	Bedroom	1.0	2.51	100	266	100%	3.3	Medium
	Cluster_05_2	R14	Bedroom	1.0	2.53	100	269	100%	3.4	Medium
	Cluster_05_2	R15	Bedroom	1.0	2.54	100	276	100%	3.4	Medium
	Cluster_05_2	R16	Bedroom	1.0	5.23	100	844	100%	8.6	High
	Cluster_05_2	R17	LKD	1.5	3.90	150	402	100%	6.4	High
	Cluster_05_2	R18	Bedroom	1.0	3.12	100	351	100%	2.3	Minimum
	Cluster_05_2	R19	Bedroom	1.0	3.12	100	349	100%	2.3	Minimum
	Studio_05_6	R20	Studio	1.5	1.48	150	99	43%	2.3	Minimum
	Cluster_05_1	R21	Bedroom	1.0	4.12	100	410	100%	1.5	Minimum
	Cluster_05_1	R22	Bedroom	1.0	4.23	100	437	100%	2.3	Minimum
	Cluster_05_1	R23	Bedroom	1.0	3.91	100	443	100%	2.3	Minimum
	Studio_05_7	R24	Studio	1.5	1.39	150	119	43%	5.7	High
	Cluster_05_3	R25	Bedroom	1.0	2.81	100	413	100%	6.4	High
	Cluster_05_3	R26	Bedroom	1.0	2.87	100	424	100%	6.4	High
	Cluster_05_3	R27	Bedroom	1.0	2.90	100	427	100%	6.4	High
	Cluster_05_3	R28	LKD	1.5	3.60	150	448	100%	7.3	High
	Cluster_05_3	R29	Bedroom	1.0	4.32	100	398	100%	0.0	Not met
	Cluster_05_3	R30	Bedroom	1.0	1.81	100	161	77%	0.0	Not met
	Studio_05_8	R31	Studio	1.5	2.78	150	343	77%	0.0	Not met
	Studio_05_9	R32	Studio	1.5	2.62	150	186	70%	0.0	Not met
	Studio_05_10	R33	Studio	1.5	3.27	150	225	74%	1.1	Not met
F06	Studio_06_1	R1	Studio	1.5	2.36	150	221	68%	2.7	Minimum
	Studio_06_2	R2	Studio	1.5	2.40	150	183	63%	2.7	Minimum
	Cluster_06_1	R3	LKD	1.5	2.95	150	280	99%	6.4	High
	Cluster_06_1	R4	Bedroom	1.0	3.03	100	327	100%	6.4	High
	Cluster_06_1	R5	Bedroom	1.0	3.09	100	340	100%	6.4	High
	Cluster_06_1	R6	Bedroom	1.0	2.42	100	217	83%	0.0	Not met

Property & room attributes				BRE 2011		BRE 2022				
Floor	Unit ref.	Room ref.	Room use	ADF		Daylight illuminance			Sunlight exposure	
				Target (%)	ADF (%)	Target illum (lx)	Median illum (lx)	% area ≥target	Room (Hrs)	Level
	Studio_06_3	R7	Studio	1.5	5.40	150	479	100%	1.1	Not met
	Studio_06_4	R8	Studio	1.5	3.09	150	205	78%	0.0	Not met
	Studio_06_5	R9	Studio	1.5	3.73	150	246	76%	2.0	Minimum

The Printworks High Rd										
F00	Communal_00	R1	Amenity	1.5	2.62	150	178	55%	4.5	High
	Communal_00	R2	Reception	1.5	3.72	150	290	88%	4.0	Medium
F01	HR studio_04	R1	Bed-living	1.5	2.03	150	181	61%	3.5	Medium
	HR studio_04	R2	KD	2.0	1.18	200	70	11%	1.2	Not met
	HR studio_03	R6	Bed-living	1.5	2.22	150	202	66%	3.5	Medium
	HR studio_03	R7	Kitchen	2.0	1.70	200	107	19%	0.8	Not met
	HR studio_02	R8	Bedroom	1.0	1.91	100	76	42%	1.2	Not met
	HR studio_02	R9	Bedroom	1.0	0.87	100	32	17%	1.3	Not met
	HR studio_02	R10	LKD	1.5	3.84	150	383	100%	3.5	Medium
	HR studio_02	R11	Bedroom	1.0	3.78	100	384	100%	3.5	Medium
	HR studio_01	R12	LKD	1.5	1.67	150	155	53%	3.7	Medium
	HR studio_01	R13	Bedroom	1.0	0.79	100	33	9%	1.6	Minimum
	HR studio_01	R14	Bedroom	1.0	0.64	100	24	18%	1.0	Not met
F02	HR studio_06	R2	LKD	1.5	2.13	150	145	45%	2.6	Minimum
	HR studio_06	R3	Bedroom	1.0	1.28	100	91	44%	2.0	Minimum
	HR studio_05	R4	Bedroom	1.0	1.40	100	127	70%	0.9	Not met
	HR studio_05	R5	LKD	1.5	2.49	150	242	76%	2.6	Minimum
F03	HR studio_06	R1	Bedroom	1.0	0.97	100	25	14%	2.8	Minimum
	HR studio_05	R2	Bedroom	1.0	0.99	100	30	15%	2.9	Minimum



NO DIMENSIONS TO BE SCALED
FROM THIS DRAWING



SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:

File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:

Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease

File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:

F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:

All heights given in m AOD

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 456 9703

www.delvapatmanredler.co.uk
info@delvapatmanredler.co.uk

TITLE:

PRINTWORKS
LONDON
N17 8DP

DRAWING:

DAYLIGHT ILLUMINANCE STUDY
FLOOR PLAN

DRAWN: RP	JOB NBR:
SCALE: 1:250@A3	20647
DATE: 14/07/2023	
DWG NO:	REV:
60_ST_100	-





NO DIMENSIONS TO BE SCALED
FROM THIS DRAWING

KEY:
Median illuminance (lux)

Yellow	≥ 200
Light Orange	≥ 150
Medium Orange	≥ 100
Dark Orange	≥ 50
Brown	< 50

SOURCE DATA:
Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Depot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:
All heights given in m AOD

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

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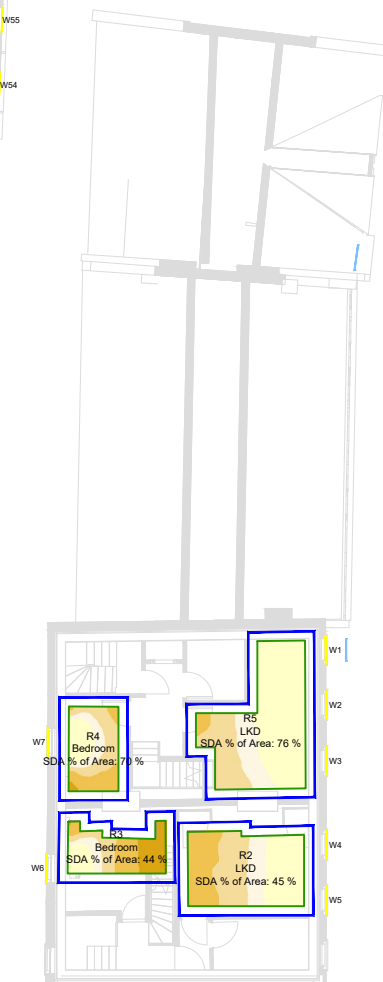
TITLE:
PRINTWORKS
LONDON
N17 8DP

DRAWING:
DAYLIGHT ILLUMINANCE STUDY
FLOOR PLAN

DRAWN: RP	JOB NBR:
SCALE: 1:250@A3	20647
DATE: 14/07/2023	
DWG NO:	REV:
60_ST_101	-



KEY PLAN



NO DIMENSIONS TO BE SCALED
FROM THIS DRAWING

KEY:

Median illuminance (lux)

	≥ 200
	≥ 150
	≥ 100
	≥ 50
	< 50

SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Depot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:

All heights given in m AOD

REV	Description	Drawn	Date

DELVA PATMAN REDLER
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TITLE:

PRINTWORKS
LONDON
N17 8DP

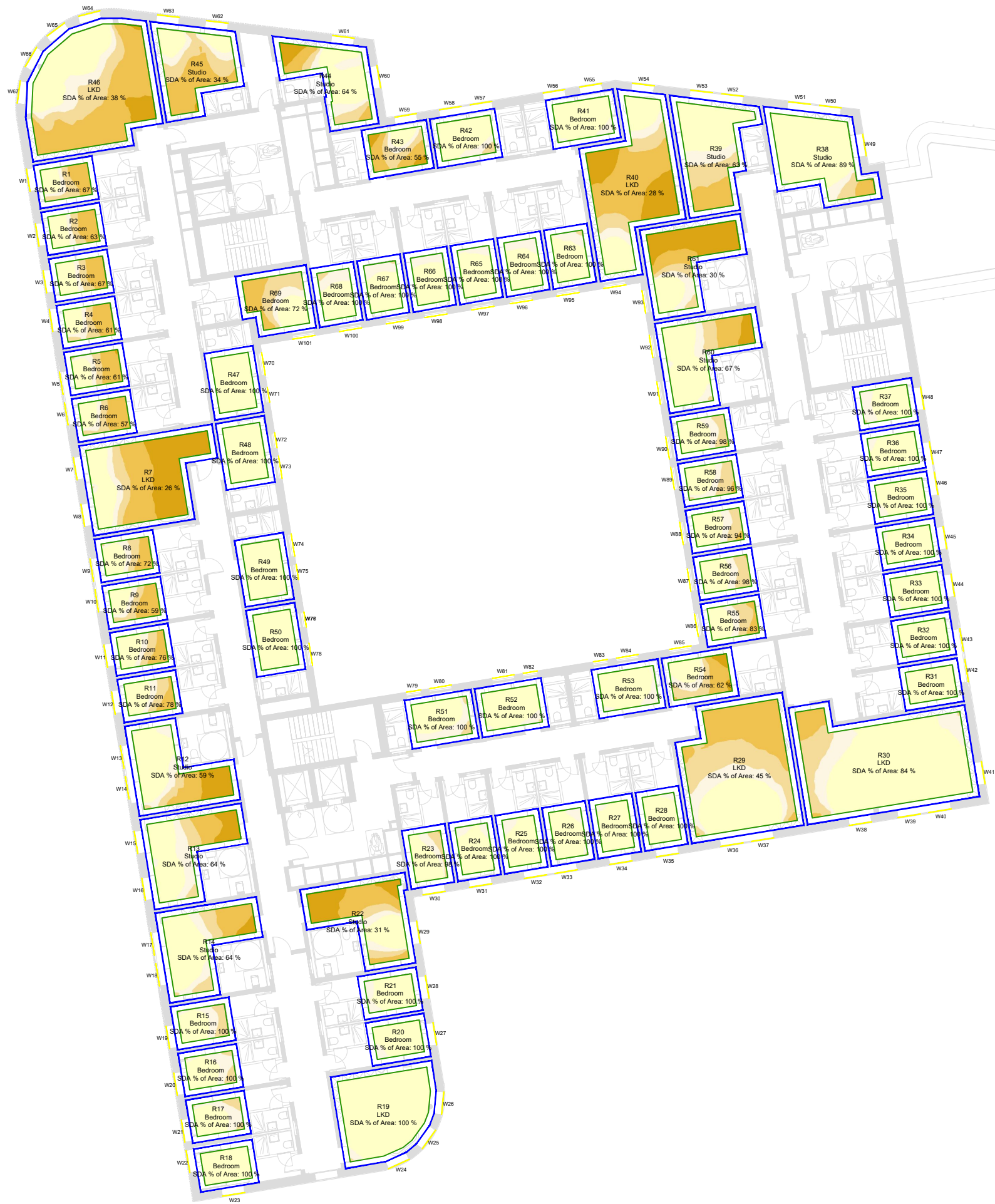
DRAWING:

DAYLIGHT ILLUMINANCE STUDY
FLOOR PLAN

DRAWN: RP	JOB NBR:
SCALE: 1:250@A3	20647
DATE: 14/07/2023	
DWG NO:	REV:
60_ST_102	-



KEY PLAN



NO DIMENSIONS TO BE SCALED
FROM THIS DRAWING

KEY:

Median illuminance (lux)

- ≥ 200
- ≥ 150
- ≥ 100
- ≥ 50
- < 50

SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:

All heights given in m AOD

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
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TITLE:

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LONDON
N17 8DP

DRAWING:

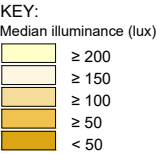
DAYLIGHT ILLUMINANCE STUDY
FLOOR PLAN

DRAWN: RP	JOB NBR:
SCALE: 1:250@A3	20647
DATE: 14/07/2023	
DWG NO:	REV:
60_ST_103	-





NO DIMENSIONS TO BE SCALED FROM THIS DRAWING



SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:

All heights given in m AOD

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 456 9703

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TITLE:

PRINTWORKS
LONDON
N17 8DP

DRAWING:

DAYLIGHT ILLUMINANCE STUDY
FLOOR PLAN

DRAWN: RP
SCALE: 1:250@A3
DATE: 14/07/2023

JOB NBR:
20647

DWG NO:
60_ST_104

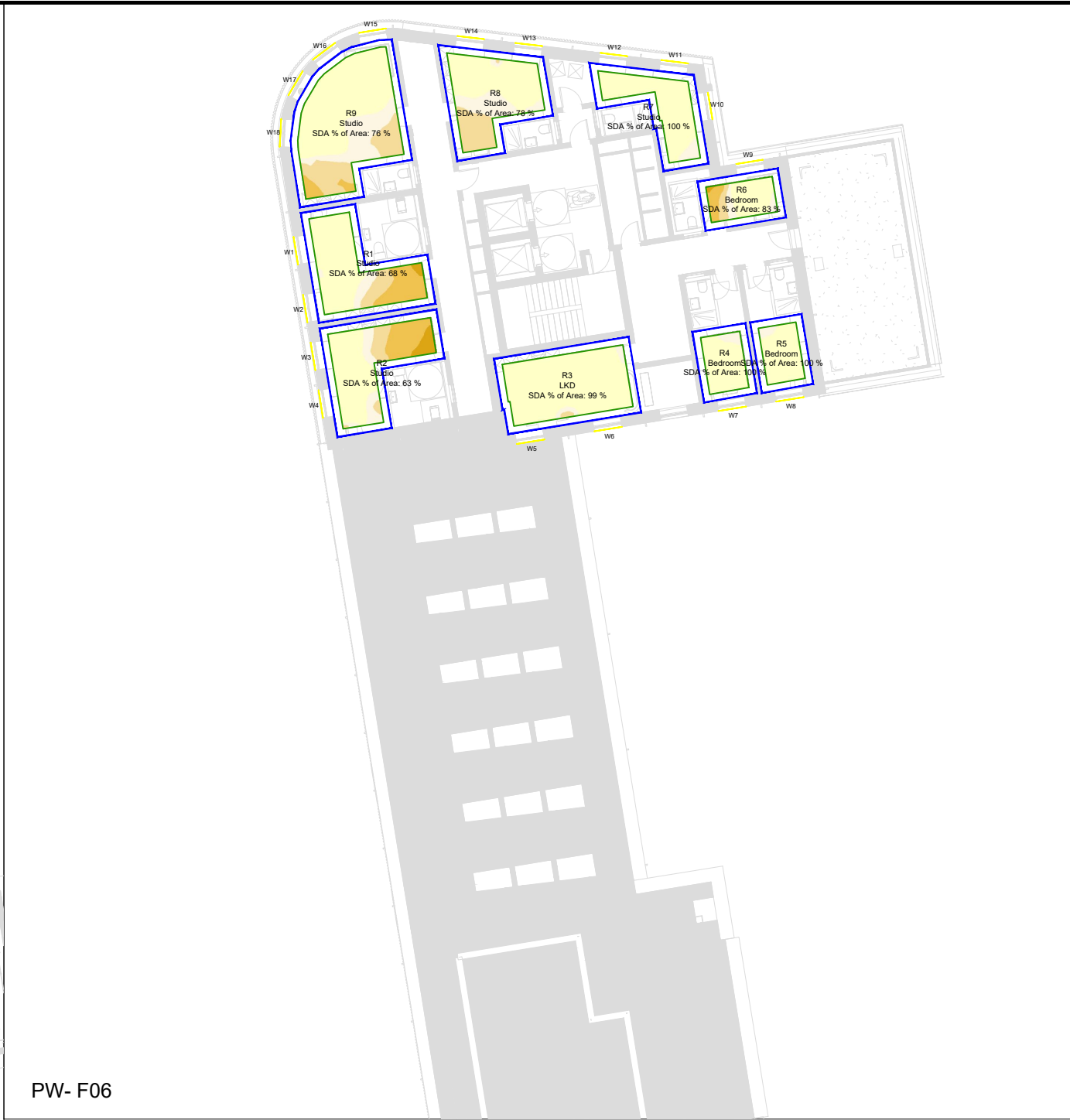
REV:

-





PW- F05



PW- F06



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:
Median illuminance (lux)

≥ 200
≥ 150
≥ 100
≥ 50
< 50

SOURCE DATA:
Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:
All heights given in m AOD

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 450 9703

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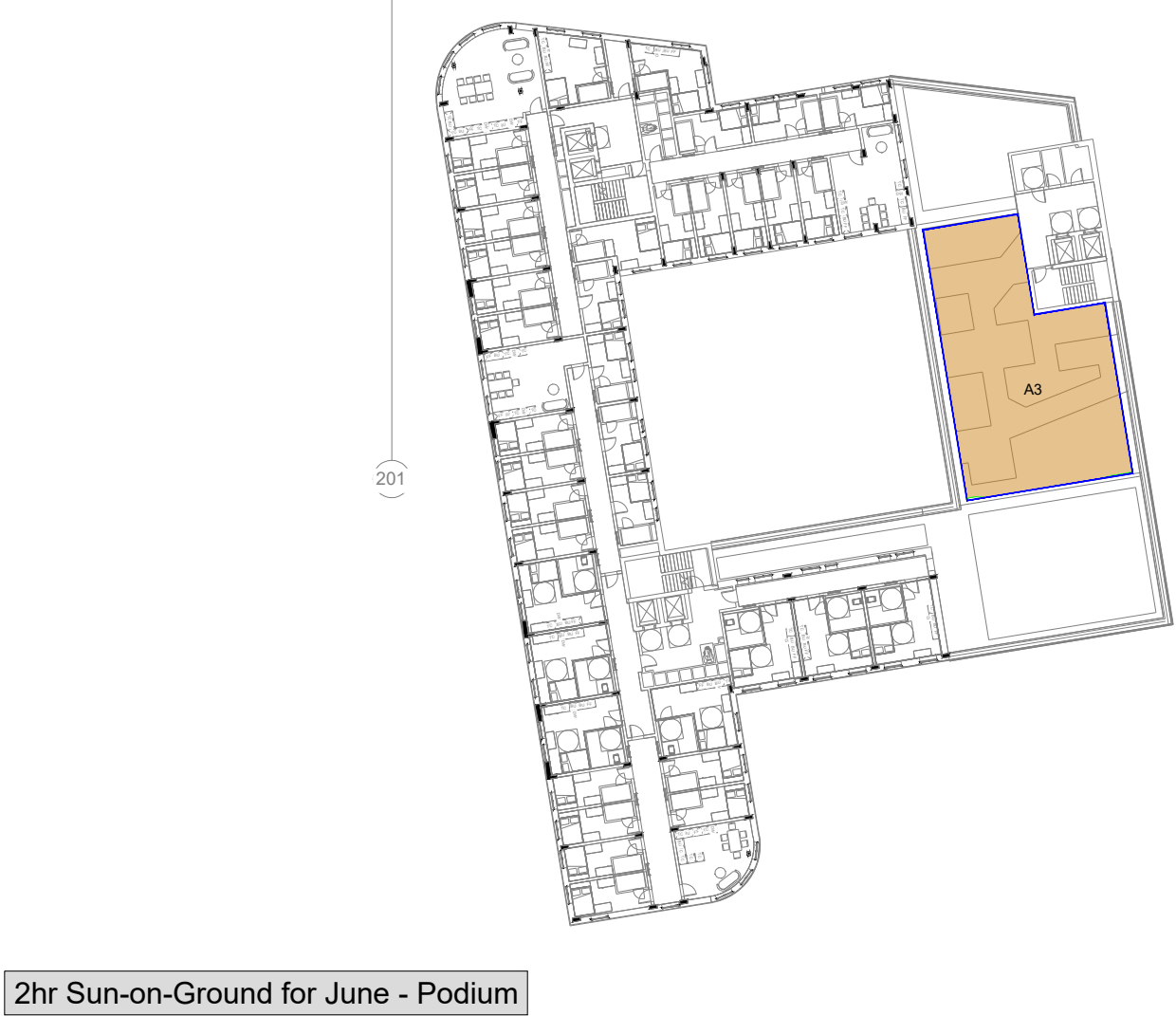
TITLE:
PRINTWORKS
LONDON
N17 8DP

DRAWING:
DAYLIGHT ILLUMINANCE STUDY
FLOOR PLAN

DRAWN: RP	JOB NBR:
SCALE: 1:250@A3	20647
DATE: 14/07/2023	
DWG NO:	REV:
60_ST_105	-

Appendix 4

Sun-on-ground results for proposed amenity spaces



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Existing 2-Hr Sunlit Area

Proposed 2-Hr Sunlit Area

A02Amenity Area Number

SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:

For it to appear adequately sunlit throughout the year at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March.

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

London 020 7936 3668
Liverpool 0151 242 0980
Bristol 0117 450 9703

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TITLE:

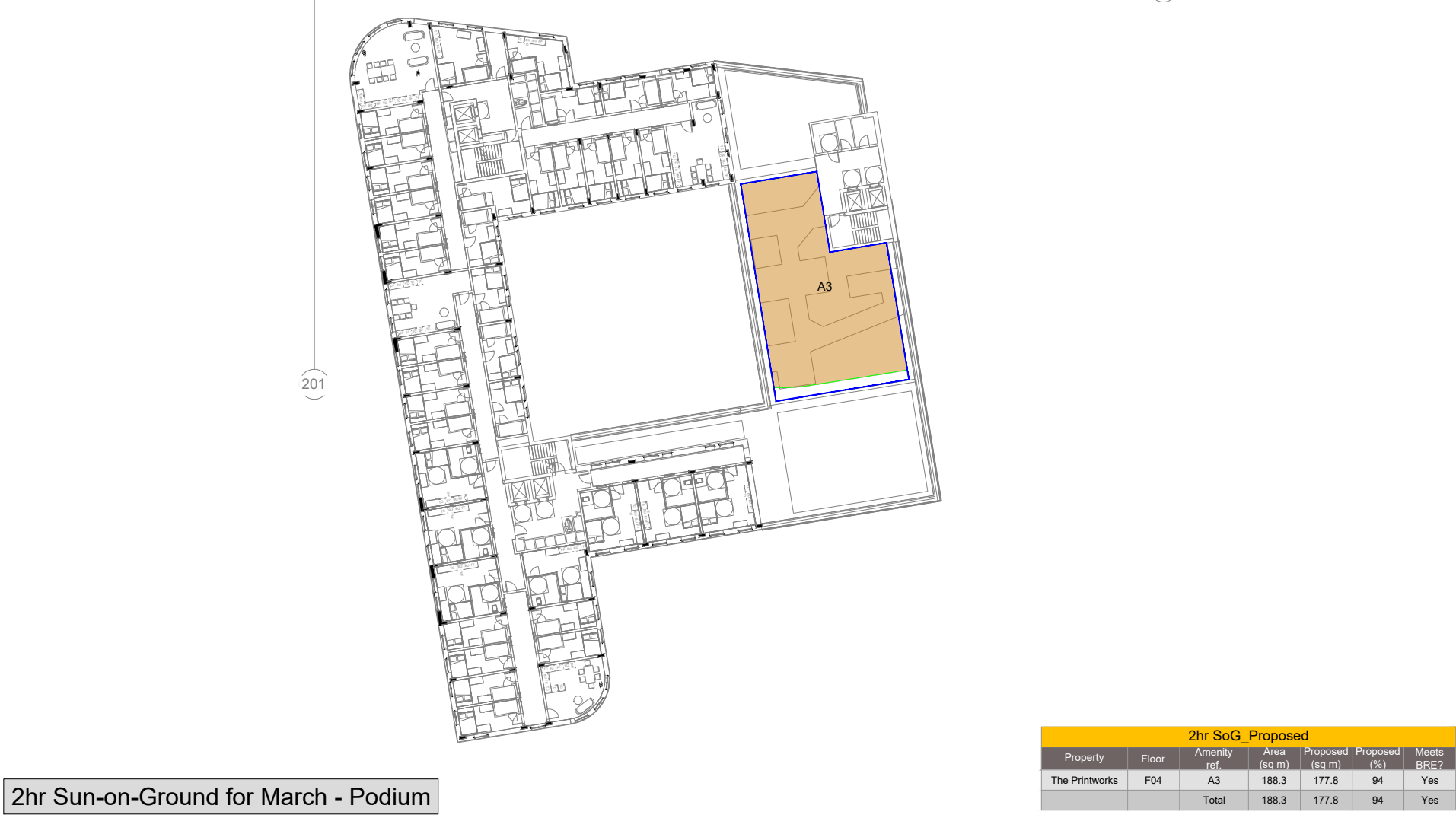
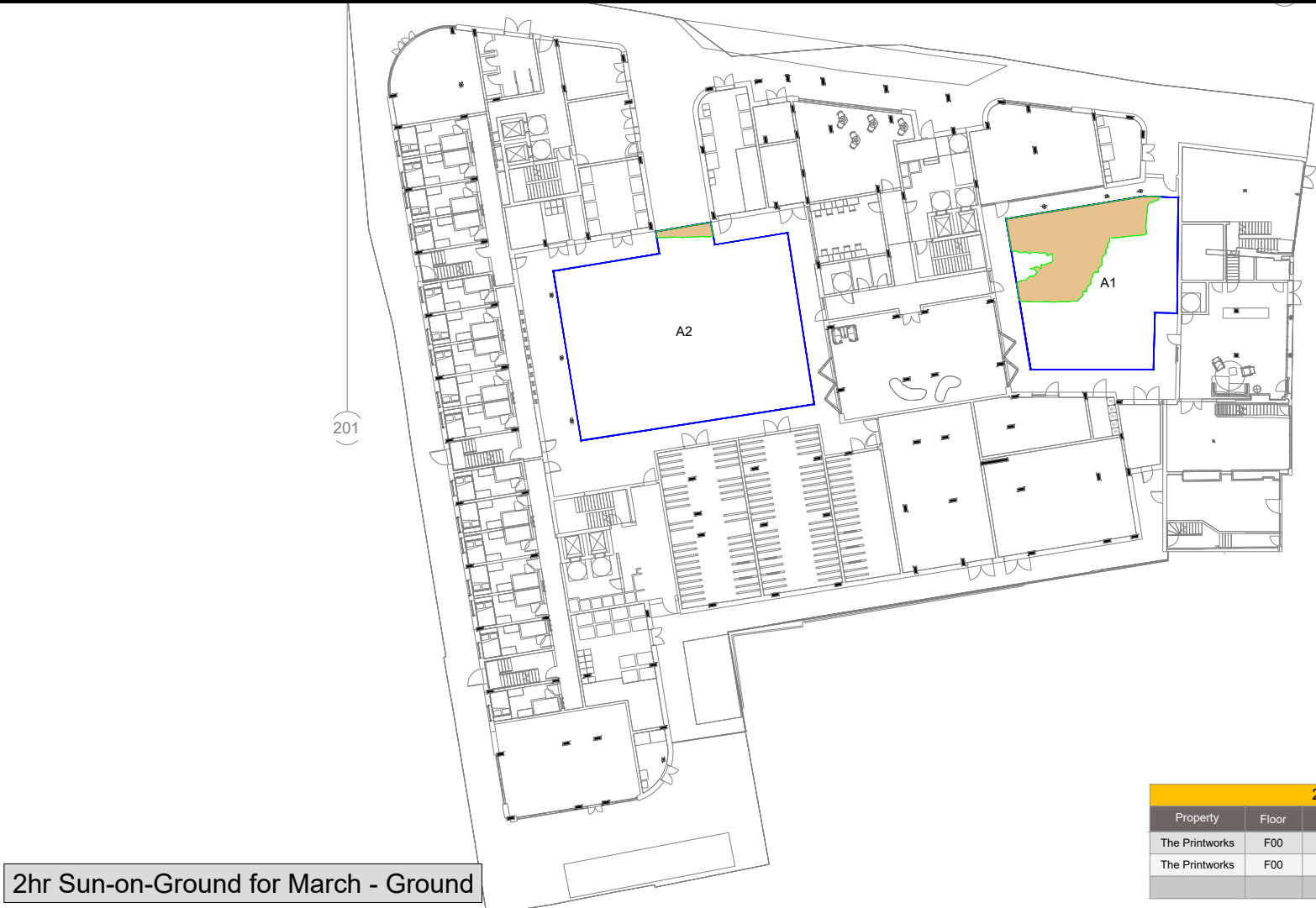
PRINTWORKS
LONDON
N17 8DP

DRAWING:

TWO-HOURS SUN-ON-GROUND STUDY
Plan View
-
Proposed Scheme

DRAWN: RP	JOB NBR:
SCALE: NTS	20647
DATE: 11/07/2023	

DWG NO:	REV:
SOG-002	-



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Existing 2-Hr Sunlit Area

Proposed 2-Hr Sunlit Area

A02Amenity Area Number

SOURCE DATA:

Existing & Surrounding
AccuCities 3D context

DPR Measured Survey:
File name: 20657 Tottenham Master Model
(3D Model 12.02.2021)

Cumulative:
Depot & The GY
F3 Architecture + Interiors
File name: 190711_GY_Main Model
The Depot - Block ABC
The Sepot - Block DEFG
(3D Model 12.05.2021)

Lendlease
File name: HRW Lendlease - Illustrative
Parameters (Printworks)
(3D Model 21.06.2023)

Proposed Scheme:
F3 Architecture + Interiors
File name: Printworks-Revit Model-230710.rvt
(3D Model 10.07.2023)

NOTES:

For it to appear adequately sunlit throughout the year at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March.

REV	Description	Drawn	Date

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TITLE:

PRINTWORKS
LONDON
N17 8DP

DRAWING:

TWO-HOURS SUN-ON-GROUND STUDY
Plan View
-
Proposed Scheme

DRAWN: RP	JOB NBR:
SCALE: NTS	20647
DATE: 27/07/2023	

DWG NO:	REV:
SOG-001	-

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