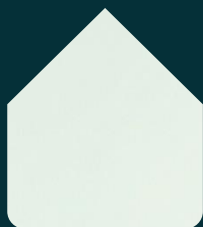


Garages Opposite 67 Belmont Close, Barnet EN4 9LS

Daylight & Sunlight Amenity Study (Within) Analysis Report
prepared on behalf of
Foxglade Properties Ltd
December 2023
Our Ref: 23-02121



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1 EXECUTIVE SUMMARY

- 1.1 We have been instructed to compile a BRE Daylight & Sunlight (Neighbouring) Amenity Study regarding the proposed development at Garages Opposite 67 Belmont Close, Barnet EN4 9LS, to *construct six houses above the garage block, each house to have outside space and the garages to be retained after development.*
- 1.2 We undertook a site inspection showing the proposal in context, allowing us to gain a greater understanding of the interrelationship between proposed and the various surrounding buildings.
- 1.3 We have reviewed the Local Authority's planning policy in respect of Daylight & Sunlight.
- 1.4 On the basis of the above, we set about conducting an analysis in accordance with Building Research Establishment's Report 209 "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice" (2022 3rd Edition). This guidance is regarded as industry standard, and we regularly prepare such studies for local authorities throughout the UK.
- 1.5 The analysis has involved utilising specialist software applied on the AutoCAD model supplied.
- 1.6 Below we have provided summary tables of the results.

Spatial Daylight Autonomy			Sunlight Exposure		
No. Rooms	Pass No.	% Pass	No. Rooms	Pass No.	% Pass
23	20	86	23	23	100

- 1.7 We explain in detail the areas of deviation and why these should be considered in acceptable.
- 1.8 The results for overshadowing demonstrates that all primary outdoor areas meet the BRE recommendations.
- 1.9 The BRE guide explains that the numerical guidelines should be interpreted flexibly, since natural lighting is only one of many factors in site layout design. Combining this with The National Planning Policy Framework published recommends taking a flexible approach.
- 1.10 Based on the above reasons we therefore conclude that the habitable rooms within the proposed development have good access to daylight and sunlight. In our opinion there is no daylight and sunlight related reason why planning permission should not be granted for this scheme.

2 PROJECT IDENTIFICATION

2.1 Below are the sources of information used to produce this report:

RELEASE 01 – <i>The proposal is to construct six houses above the garage block, each house to have outside space and the garages to be retained after development.</i>	
PROJECT DATA	
Client	Foxglade Properties Ltd
Architect	DFA Ltd
Project Address	Garages Opposite 67 Belmont Close, Barnet EN4 9LS
Project Number	23-02174
Type	DLSL
SOURCES OF INFORMATION	
EXISTING SITE	
Site Photos	Rapleys – September 2023
2D Drawings	DFA – September 2023
3D Model	Rapleys – September 2023
PROPOSED SCHEME	
2D Drawings	DFA – November 2023
3D Model	DFA – November 2023
Architect Placed	No
TESTING ENVIRONMENT	
Site Photos	Rapleys – September 2023
Contextual Model	AccuCities – September 2023
Research	Rapleys – August 2023

3 INTRODUCTION

INSTRUCTIONS

- 3.1 We received instructions from Foxglade Properties Ltd to prepare a BRE Daylight & Sunlight (Within) Amenity Study in respect of the proposed development at Garages opposite 67 Belmont Close, London EN4 9LS. .
- 3.2 We confirm copies of our Terms of Engagement are held on file.

CONFLICT OF INTEREST

- 3.3 We confirm that, as far as we are aware, no conflict of interest exists either personally or with Rapleys, in connection with Foxglade Properties Ltd. We would further confirm that Professional Indemnity Insurance on a per claim basis is available in respect of this report.

DISCLOSURE

- 3.4 This report is specifically for the addressee stated above.

QUALITY ASSURANCE

- 3.5 This report has been prepared within the quality system operated at Rapleys LLP according to British Standard ISO 9001:2015.
- 3.6 We confirm that the undersigned is an appropriately qualified surveyor experienced in the commercial property sector

Created by: Felix Carter BA (Hons) PgDip
Felix.carter@rapleys.com

Signature:


Felix Carter (Dec 4, 2023 16:29 GMT)

Checked by: Jason Evans BSc (Hons) MFPWS ACABE MPTS
Jason.Evans@Rapleys.com

Signature:


J Evans (Dec 4, 2023 16:30 GMT)

4 BASIS OF ASSESSMENT

DETAILS OF THE PROPOSALS

- 4.1 The proposal is to construct six houses above the garage block, each house to have outside space and the garages to be retained after development.
- 4.2 DFA Ltd provided copies of the proposal in 2D and 3D AutoCAD files which we received September 2023. An initial set of indicative proposals were forwarded to us prior to this to assist our understanding of the proposals in general.
- 4.3 Rapleys have taken the information supplied upon which this report is based, in good faith, as being sufficiently accurate for these purposes. In the event inaccuracies become apparent, Rapleys would be willing to re visit the analysis subject to further instructions.

SITE INSPECTION

- 4.4 The site and surrounding properties were inspected externally on 21st September 2023 by Felix Carter, during which the surveyor was unaccompanied.
- 4.5 Where possible high level vantage points were used to view the neighbouring properties externally. The purpose of the inspection was to review the site in context, to identify the surrounding properties considered to be within a reasonable distance and which should be included within the scope of a 3D analysis.

BACKGROUND TO THE ANALYSIS

- 4.6 In order to undertake the analysis a 3D computer model was drawn in AutoCAD for the development site and the surrounding properties. This was based upon site and drawing information provided by the client and their architect, supplemented by information gathered from the photographs of the subject area taken during our site visit.
- 4.7 Details of the proposals forwarded by the design team were incorporated into a 3D AutoCAD model.
- 4.8 Thereafter, industry standard Daylight and Sunlight analysis software was applied to the model. This produced the results which have been presented and commented upon within this report.
- 4.9 Images taken from the 3D model showing the development site as existing and as proposed, together with the relevant surrounding properties are within Appendix 1.

5 PLANNING POLICY

NATIONAL PLANNING GUIDANCE

NATIONAL PLANNING POLICY FRAMEWORK ('NPPF') 2021

- 5.1 Pg 37 states:
- 5.2 'Where there is an existing or anticipate 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: ...
- 5.3 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)'

REGIONAL PLANNING GUIDANCE

THE LONDON PLAN ('LPG') 2021

- 5.4 Pg 128, 3.3.8 states:
- 5.5 'Buildings should be of high quality and enhance, activate and appropriately frame the public realm. Their massing, scale and layout should help make public spaces coherent and should complement the existing streetscape and surrounding area. Particular attention should be paid to the design of the parts of a building or public realm that people most frequently see or interact with in terms of its legibility, use, detailing, materials and location of entrances. Creating a comfortable pedestrian environment with regard to levels of sunlight, shade, wind, and shelter from precipitation is important.'
- 5.6 Pg 140, Policy D6 – Housing quality and standards, states:
- 5.7 '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.'
- 5.8 '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.'
- 5.9 Pg 143 – 144, 3.6.3 states:
- 5.10 'To address the impacts of the urban heat island effect and the fact that the majority of housing developments in London are made up of flats, a minimum ceiling height of 2.5m for at least 75 per cent of the gross internal area is required so that new housing is of adequate quality, especially in terms of daylight penetration, ventilation and cooling, and sense of space. The height of ceilings, doorways and other thresholds should support the creation of an inclusive environment and therefore be sufficiently high to not cause an obstruction. To allow for some essential equipment in the ceilings of kitchens and bathrooms, up to 25 per cent of the gross internal area of the dwelling can be lower than 2.5 m. However, any reduction in ceiling height below 2.5 m should be the minimum necessary for this equipment, and not cause an obstruction.'
- 5.11 Pg 144, 3.6.4 states:
- 5.12 'Dual aspect dwellings with opening windows on at least two sides have many inherent benefits. These include better daylight, a greater chance of direct sunlight for longer periods, natural cross-ventilation, a greater capacity to address overheating, pollution mitigation, a choice of views, access to a quiet side of the building, greater flexibility in the use of rooms, and more potential for future adaptability by altering the use of rooms'

- 5.13 Pg 144, 3.6.5 states:
- 5.14 'Single aspect dwellings are more difficult to ventilate naturally and are more likely to overheat, and therefore should normally be avoided. Single aspect dwellings that are north facing, contain three or more bedrooms or are exposed to noise levels above which significant adverse effects on health and quality of life occur, should be avoided. The design of single aspect dwellings must demonstrate that all habitable rooms and the kitchen are provided with adequate passive ventilation, privacy and daylight, and that the orientation enhances amenity, including views. It must also demonstrate how they will avoid overheating without reliance on energy intensive mechanical cooling systems.'
- 5.15 Pg 144, 3.6.6 states:
- 5.16 'A variety of approaches to housing typologies and layout of buildings should be explored to make the best use of land and create high quality, comfortable and attractive homes. For example, increasing ceiling heights and having bay windows can optimise daylight and sunlight and allow buildings to be closer together than can otherwise be achieved.'
- 5.17 Pg 145, Table 3.2 – Qualitative design aspects to be addressed in housing developments, states:
- 5.18 'iii The site layout, orientation and design of individual dwellings and, where applicable, common spaces should: ... provide privacy and adequate daylight for residents'
- 5.19 Pg 146, 3.6.11 states:
- 5.20 'Other components of housing design are also important to improving the attractiveness of new homes as well as the Mayor's wider objectives to improve the quality of Londoners' environment. The Mayor intends to produce a single guidance document which clearly sets out the standards which need to be met in order to implement Policy D6 Housing quality and standards for all housing tenures, as well as wider qualitative aspects of housing developments. This will include guidance on daylight and sunlight standards. This will build on the guidance set out in the 2016 Housing SPG and the previous London Housing Design Guide.'
- 5.21 Pg 149, Policy D8 Public realm states:
- 5.22 'J ensure that appropriate shade, shelter, seating and, where possible, areas of direct sunlight are provided, with other microclimatic considerations, including temperature and wind, taken into account in order to encourage people to spend time in a place'
- 5.23 Pg 153- 154, Policy D9 Tall Building states:
- 5.24 '3)..a) wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building'
- 5.25 Pg 158, 3.9.7 states:
- 5.26 'The middle of a tall building has an important effect on how much sky is visible from surrounding streets and buildings, as well as on wind flow, privacy and the amount of sunlight and shadowing there is in the public realm and by surrounding properties'
- HOUSING SUPPLEMENTARY PLANNING GUIDANCE ('SPG') 2016 (AMENDED 2017)**
- 5.27 Pg 52, Standards for Privacy, daylight and sunlight states:
- 5.28 '1.3.45 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 guidelines¹⁰⁰ 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...
- 5.29 '1.3.46 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.'

- 5.30 Pg 70, Communal and Public Open space states:
- 5.31 'Standard 4 - Where communal open space is provided, development proposals should demonstrate that the space: ... is designed to take advantage of direct sunlight.'
- 5.32 Pg 84, Homes as a place of retreat states:
- 5.33 '2.3.35 Natural light is also vital to a sense of wellbeing in the home, and this may be restricted in densely developed parts of the city. The Mayor seeks to encourage the kind of housing that provides comfortable and enjoyable places of retreat and privacy. Factors to be considered include privacy, the importance of dual aspect development, noise mitigation, floor to ceiling heights, daylight and sunlight.'
- 5.34 Pg 85, Dual Aspect states:
- 5.35 '2.3.37 Dual aspect dwellings with opening windows on at least two sides have many inherent benefits. These include better daylight, a greater chance of direct sunlight for longer periods, natural cross ventilation and a greater capacity to address overheating, mitigating pollution, offering a choice of views, access to a quiet side of the building, greater flexibility in the use of rooms, and more potential for future adaptability by altering the use of rooms. Where possible the provision of dual aspect dwellings should be maximised in a development proposal...
- 5.36 2.3.39 Single aspect dwellings are more difficult to ventilate naturally and more likely to overheat (see Standard 29 and Policy 5.9). This is an increasing concern in London due to anticipated temperature increases related to climate change, coupled with the urban heat island effect that is experienced in high density areas of the city. The design of single aspect flats will need to demonstrate that all habitable rooms and the kitchen are provided with adequate ventilation, privacy and daylight and the orientation enhances amenity, including views. North facing¹⁴³ single aspect dwellings should be avoided wherever possible. However, in applying this standard consideration should also be given to other planning and design objectives for a site, for example the aim to maximise active frontages and minimise inactive frontages...
- 5.37 2.3.41 In single aspect dwellings with more than two bedrooms it is difficult to achieve adequate natural ventilation and daylight to all rooms in an efficient plan layout which avoids long internal corridors. Single aspect dwellings containing three or more bedrooms should therefore be avoided. The design of single aspect ground floor dwellings will require particular consideration to maintain privacy and adequate levels of daylight.'
- 5.38 Pg 87, Floor to ceiling heights states:
- 5.39 '2.3.44 Table 3.3 of the Minor Alterations recognises that ceiling heights are an important element in the design of a dwelling in the unique circumstances of London. They can help offset issues associated with its distinct higher densities and effects of climate change by positively impacting on how spacious, light and comfortable the dwelling is. High ceilings can improve the amount and quality of natural light and ventilation and provide flexibility in the use of a room. Therefore, a ceiling height of 2.5 meters is strongly encouraged in London'
- 5.40 Pg 87, Daylight and sunlight states:
- 5.41 'Standard 32 - 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...
- 5.42 2.3.45 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 methodology¹⁴⁶ 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...
- 5.43 2.3.46 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.
- 5.44 2.3.47 BRE guidelines¹⁴⁷ 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.'

5.45 Pg 149, Improving health outcomes states:

5.46 '6.3.3 The quality of new housing in all tenures plays a key role in influencing the health and well-being of future residents. Housing standards set out in Part 2 of this SPG are especially important to achieving the objectives of Policy 3.2 of the London Plan, in particular those on internal space provision; dual aspect; air quality; daylight and sunlight; private open space; ceiling heights; overheating; noise; privacy; accessibility and adaptability. Providing a range of affordable and suitably sized properties in a range of tenures is also important to address overcrowding in the existing housing stock. Well-designed public and communal open spaces, parks, play spaces and urban greening within new large developments can provide benefits in terms of quality of life, physical and mental health and wellbeing.'

LONDON PLAN GUIDANCE – HOUSING DESIGN STANDARDS 2023

5.47 Pg 7, Table A – Placemaking and the public realm states:

5.48 'A1.7 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 and minimise overheating as well as optimise thermal efficiency by utilising and controlling solar gains. [NB] ...

5.49 A1.8 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. [NB]'

5.50 Pg 15, Table B – Shared Space and ancillary spaces states:

5.51 'B2.2 Internal corridors, particularly 'double-banked' corridors (those that serve flats on both sides), should be avoided or kept short and receive daylight and natural ventilation. (This standard is not directly applicable to specialist older persons housing) [NB, CoU] ...

5.52 B9.5 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. [NB, CoU]'

5.53 Pg 19 - , Policy – Part C: Homes and private outside space, states:

5.54 Pg 19, 4.1.2 states:

5.55 '...Consideration should also be given to the internal layout of homes, including vertical stacking, to reduce noise impacts (for example between living rooms and bedrooms). These standards aim to complement the consideration of daylight and sunlight impacts using the BRE guidance (Site layout planning for daylight and sunlight: a guide to good practice). 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. Extreme weather events are increasingly common due to climate change. Design must balance daylight, passive solar gain and over-heating considerations. Summer heat can be reduced through orientation, shading, fenestration, insulation, high albedo materials, the provision of green infrastructure and other strategies. In areas with poorer air quality and/or high background noise levels, careful design will be needed to ensure passive ventilation is possible, in line with carbon reduction targets and the need to avoid additional waste heat and noise associated with mechanical ventilation.'

5.56 Pg 20, Table C – Homes and private outside space states:

5.57 'C2.3 A minimum ceiling height of 2.5m is required for at least 75% of the gross internal area to enhance the spatial quality, improve daylight penetration and ventilation and assist with cooling. Any reduction (from 2.5m) in floor-to-ceiling heights should only be for essential equipment in the ceilings of kitchens and bathrooms. [NB, CoU] ...

5.58 C4.1 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). [All] ...

5.59 C6.2 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. [All]'

LONDON PLAN GUIDANCE - OPTIMISING SITE CAPACITY: A DESIGN-LED APPROACH 2023

- 5.60 Pg 14, 2.7 Building Height, Layout and uses states:
- 5.61 '2.7.1 Next, a site analysis of the building heights, layout and land uses should be carried out. As part of this, the impact of potential future building heights should be considered on heritage assets, protected views and the daylight and sunlight of neighbouring properties. This includes the impact of overshadowing on existing properties, open green space and the internal spaces within the site itself. An analysis of nearby land uses should also be used to inform the mix and location of uses for any future development. In analysing the layout, it may be useful to establish 'desire lines' across the site and visually compare the size of the urban blocks within the site with those surrounding it. If the urban blocks on the existing site are particularly large, it may be beneficial to subdivide these. This should be closely informed by the characterisation assessment and historic street layout.'
- 5.62 Pg 23, 4.4 Public realm and street types states:
- 5.63 '4.4.1 The character, quality and potential usage of public space is influenced significantly by the way it is enclosed by buildings. Appropriate building height-to-street width ratios can encourage vitality while allowing good levels of daylight and sunlight to be reached in public realm and to dwellings along the street. As a result, boroughs, neighbourhood planning groups and applicants should define the street types that are appropriate for the site using the street types in the National Model Design Code. Where a site borders an existing street, the aim should be to provide a strong street frontage and clear fronts and backs. Using these street types and the subsequent enclosure ratios will also help reinstate existing streets that have become less desirable. In addition, these types can help inform the appropriate heights of buildings by defining the street height-to-street width ratio. For further guidance, please refer to Manual for Streets.'

LONDON PLAN GUIDANCE – SMALL SITE DESIGN CODES 2023

- 5.64 Pg 10, 2.5 Backland conditions states:
- 5.65 '2.5.1 Backland sites are sites that do not have a street frontage or where direct access to the street is limited. Among others, they include residential garages that are located behind development and estate infill in areas that are not street-facing. These sites offer the opportunity to provide additional housing and improved public realm. While developments in street-facing conditions are generally governed by a clearer set of rules established by the urban order of an existing streetscape, backland sites require more innovation and reinterpretation to enable development. Consideration of access and servicing and the inter-relationship between overlooking, privacy and daylight/sunlight is paramount to the success and acceptability of new development in backland locations.'
- 5.66 Pg 14, 4.1 Design code conduct states:
- 5.67 ' 4.1.7 Character types of semi-detached and detached houses may have more variation in their building line, allowing flexibility in the positioning of new development in relation to the street. However, any design codes for these areas should ensure that the building line of new development should not negatively impact the street scene or harm either the privacy or the daylight and sunlight enjoyed by occupiers of existing nearby dwellings. Nor should it create or exacerbate street canyons in areas of existing poor air quality. The code should identify whether incremental development that bookend a street, or are located on a corner site, may have the opportunity to accommodate additional depth due to their potential to have multiple aspects and a prominent position. In these locations, a building line that steps out in relation to adjacent buildings could be considered appropriate, but care should be taken not to interfere with circulation and the public realm...
- 5.68 4.1.10 Building height is one of the key design coding elements. It can influence the character of a place, its identity and the environment for occupiers and users. Design codes may also be used to encourage increases in height particularly where this would optimise sites with good accessibility. For instance, new development may seek to accommodate one or more additional storeys. To ensure that the character and scale of the buildings along a street is maintained, design codes can include requirements to set back the top floor or advocate that upward extensions be partially contained within the roof space. In all circumstances, it is critical to ensure that existing and surrounding properties continue to receive good levels of daylight and sunlight and that the streetscape is positively enhanced...
- 5.69 4.1.11 When setting design codes for buildings or extensions that extend beyond a rear building line, parameters should be set to ensure that there is no unreasonable impact on the amenity of neighbouring homes in relation to daylight, sunlight and privacy...
- 5.70 4.1.13 Design codes can also use rear projection lines to set parameters on the height of new developments or extensions. These can ensure that new development is not overly dominant and access to daylight and sunlight of the habitable rooms of neighbouring homes is maintained.'

6 DAYLIGHT AND SUNLIGHT GUIDELINES

6.1 BRE Report 209 *Site Layout Planning for Daylight and Sunlight – a guide to good practice Third Edition 2022*, provides guidance to designers, clients, consultants and planning officials on laying out proposed development sites, to ensure that the rooms within the proposed development are adequately well lit for future occupiers. This document is widely used in the construction industry.

6.2 An important point to note contained within the introduction of the BRE Report is:

“The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of the main factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable...”

6.3 The BRE guide sets out recommendations for light levels within particular rooms, these guidelines are intended to be applied flexibly. Accordingly, in some cases there may be special requirements for daylight or sunlight; this could increase or reduce the recommendations for particular rooms.

SPATIAL DAYLIGHT AUTONOMY (SDA)

6.4 The Spatial Daylight Autonomy test is also referred to as the Illuminance Method. It involves using climate data (based on weather data collected every hour across various locations since the 1980s).

6.5 This information is used to calculate the illuminance from daylight at each point on an assessment grid placed within the room at the working plane at hourly intervals for a typical year.

6.6 Target illuminance (ET) for bedrooms is 100 lx, for living rooms, 150 lx and kitchens, 200 lx.

6.7 These levels should be achieved across at least 50% of the working plane in a daylit space for at least half of the possible daylight hours (4,380 hours).

The following reflections have been applied:

- External Walls – 0.2
- Surrounding Properties – 0.2
- Terrain – 0.2
- Internal Ceiling – 0.7
- Internal Walls – 0.5
- Internal Floors – 0.2

SUNLIGHT EXPOSURE (SE)

6.8 The BRE guide requires that the sunlight testing is applied to rooms of all orientations, noting that rooms facing north of due east or west are unlikely to meet the targets.

6.9 BS EN 17037 recommends that a space should receive a minimum of 1.5 hours of direct sunlight on the 21 March (equinox).

6.10 For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion.

6.11 The orientation of the site will play a big role in the proposal's compliance with this test. Obviously not all sites are well situated to receive direct sunlight, so a flexible approach is recommended on this basis.

2HR SUNLIGHT TO AMENITY (OVERSHADOWING TO GARDENS AND OPEN SPACES)

6.12 The BRE guide recommends that at least 50% of the area of each amenity space should receive at least two hours of sunlight on 21st March. The availability of sunlight should be checked for all open spaces where sunlight is required.

7 RESULTS AND COMMENTARY

RESULTS

7.1 The SDA results presented in tables and illustrated as contour drawings shown in **appendices 1 and 2..** SE results are contained within **appendix 3.** Overshadowing to gardens and open spaces results are contained within **appendix 4** The 2hr Amenity drawings are contained in **appendix 5.**

7.2 The following section contains commentary on the results from the analysis.

SPATIAL DAYLIGHT AUTONOMY (SDA) RESULTS

7.3 The results confirm that of the 20 of the 23 rooms assessed meet the recommendations in the BRE. There are three LKDs that are subject to minor deviations. Two of these three rooms meet the alternative target of 150 Lux, which is considered acceptable in inner city areas. The remaining room still achieves a reasonable levels of lux as illustrated on the contour plans. In addition to this 'critical areas' (Kitchen, Living and Dining area) where you would expect to have higher levels of daylight all achieve the recommended 200 lux target. The areas of the room deviating form part of the circulation areas of the room and therefore do not strictly require daylight.

7.4 Overall we consider the proposed accommodation to be well daylit and will create enjoyable homes for future occupiers to enjoy. The deviations are in areas which by themselves do not strictly require access to daylight but because they form part of the open plan layout (which is more desirable) fall short.

7.5 In our opinion the daylight levels are good and should be looked on positively, especially when considering these properties are houses as such have a more fluid use throughout the entire accommodation.

SUNLIGHT EXPOSURE (SE) RESULTS

7.6 The orientation of the site will play a big role in the proposal's compliance with this test. Not all sites are well situated to receive direct sunlight, so a flexible approach is recommended on this basis.

7.7 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, receive a total of at least 1.5 hours of sunlight on 21 March.

7.8 The results show that all of the 23 rooms assessed meet the BRE recommendations.

2HR SUNLIGHT TO AMENITY (OVERSHADOWING TO GARDENS AND OPEN SPACES)

7.9 The results confirm that the primary amenity for each house will achieve BRE recommendations.

CONCLUSION

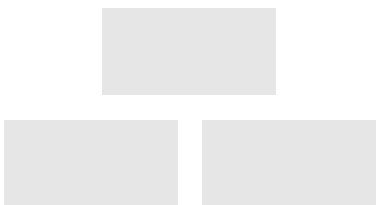
7.10 Overall we would consider the proposed accommodation to have good levels of daylight and sunlight. The results demonstrate a high level of compliance and whilst there are three minor deviation to LKDs these are explained and enough mitigation has been put in place, with two meeting the widely accepted alternative target and ensuring that all critical areas of the room meet the BRE target with deviation only occurring to circulation areas within the rooms.

7.11 The levels of sunlight hours to the proposed accommodation is fully compliant and will create enjoyable spaces throughout the proposed houses.

7.12 Overshadowing has been assessed to the amenity and all primary areas meet the recommendations with some of the proposed secondary areas (which act as a top-up) also meeting the BRE.

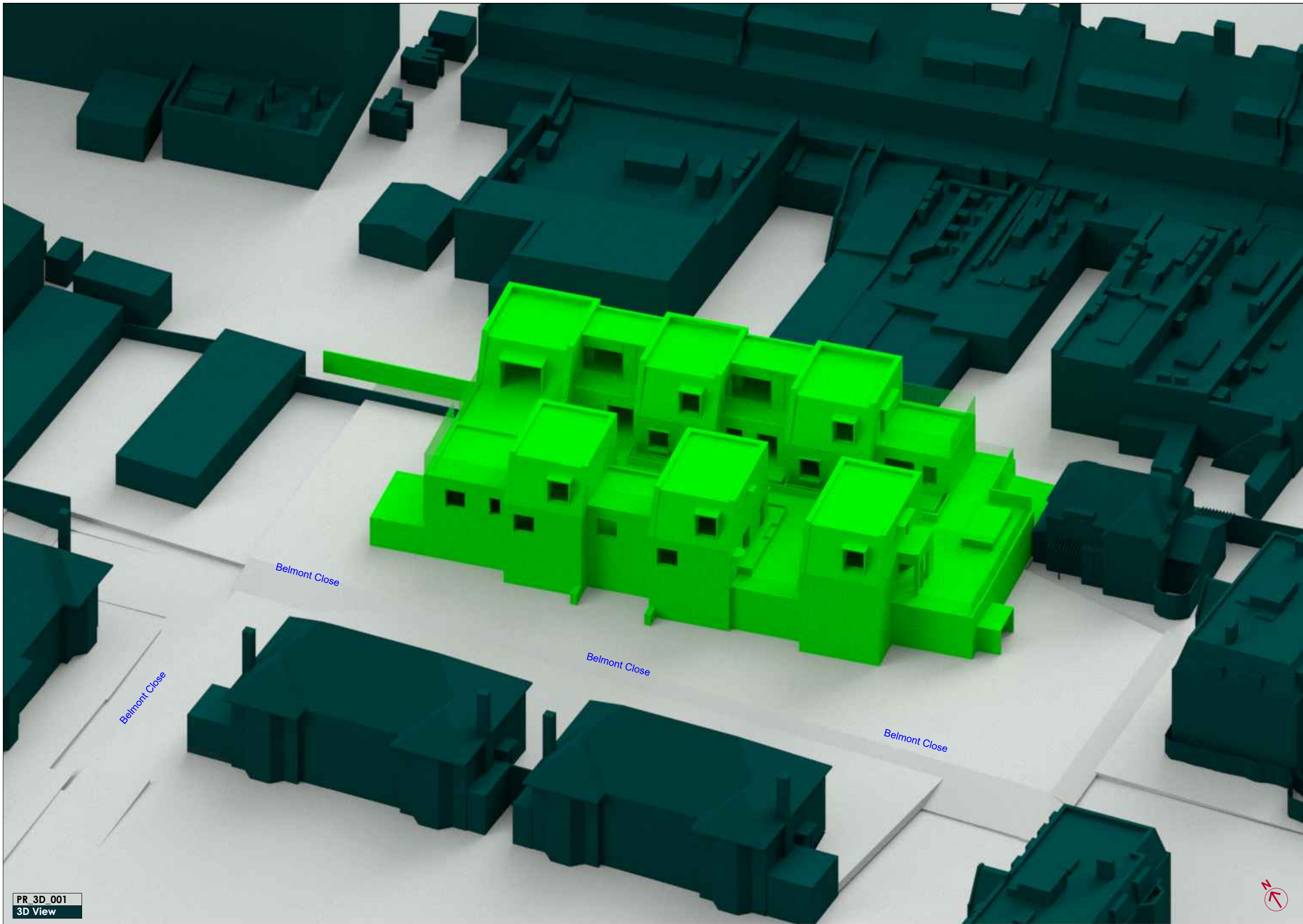
7.13 In our opinion the scheme will produced high quality well daylit and sunlit accommodation for future occupiers. The guidance has been followed and a practical approach the optimises daylight and sunlight levels has clearly been demonstrated by the architect, DFA. The proposed development should be looked on positively by the local planning authority.

Identification Drawings



Spatial Daylight Autonomy (SDA) Results Table





Source Data

Testing Environment:
Site Photographs - Rapleys - September 2023
Contextual Model - EN4 9LS_BelmontClose,
Cockfosters_HD_MASTER
OS Data - Downen Farmer Architects - September 2023

Existing Building:
2D Drawings - Downen Farmer Architects - September 2023

Proposed Scheme:
2D Drawings - Downen Farmer Architects - November 2023

Notes

Project Identification

Client
Foxglade

Job Title
23-02174 - Belmont Close, Cockfosters, Barnet EN4 9LS

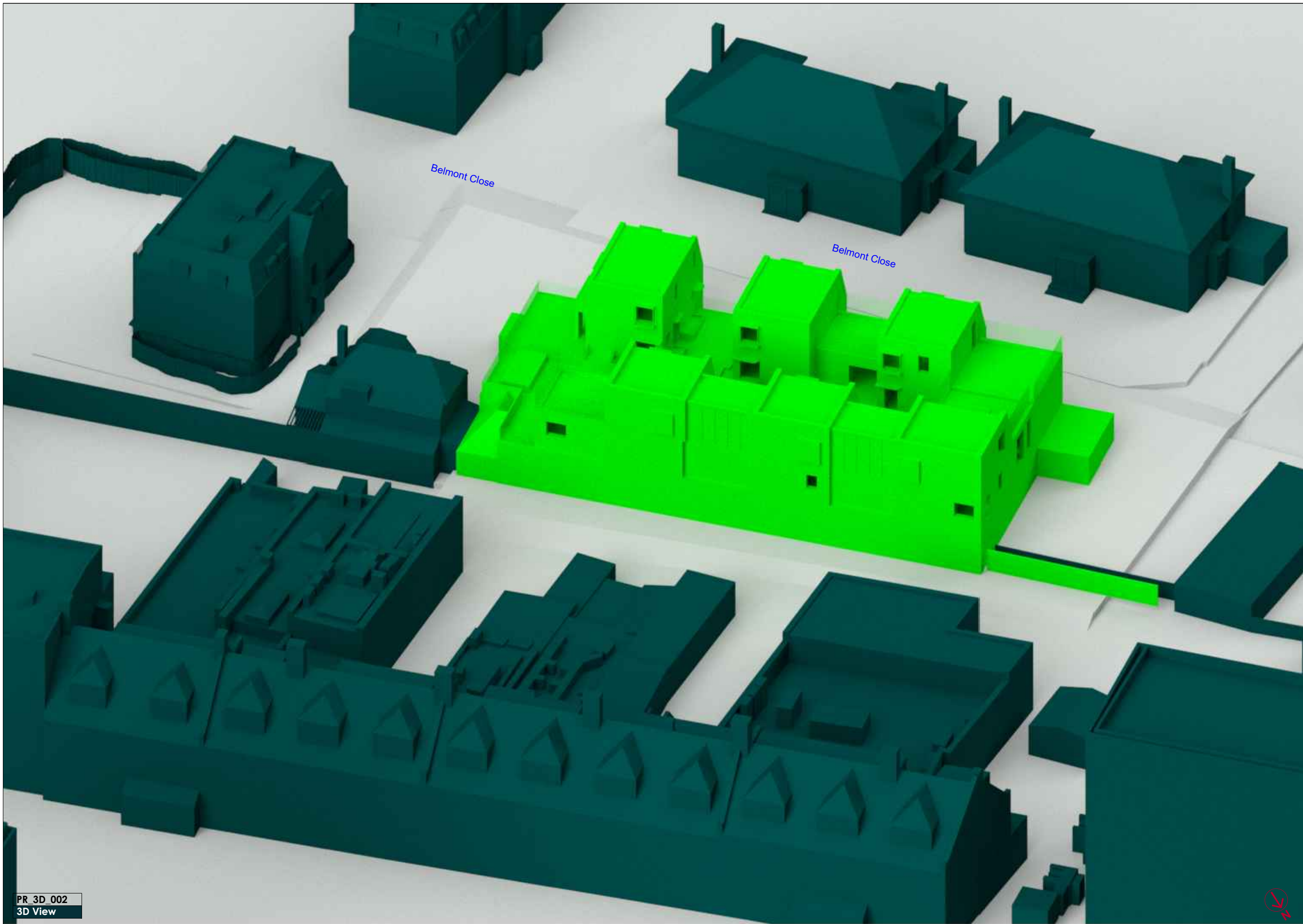
Drawing Title
3D View - Proposed

Scale	Date	Drawn
NTS	Dec-23	MF

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Source Data

Testing Environment:
Site Photographs - Rapleys - September 2023
Contextual Model - EN4 9LS_BelmontClose, Cockfosters_HD_MASTER
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Notes

Project Identification

Client
Foxglade

Job Title
23-02174 - Belmont Close, Cockfosters, Barnet EN4 9LS

Drawing Title
3D View - Proposed

Scale	Date	Drawn
NTS	Dec-23	MF



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003 First Floor
Rooms & Windows Layout

Source Data

Testing Environment:
Site Photographs - Rapleys - September 2023
Contextual Model - EN4 9LS_BelmontClose, Cockfosters_HD_MASTER
OS Data - Downen Farmer Architects - September 2023

Existing Building:
2D Drawings - Downen Farmer Architects - September 2023

Proposed Scheme:
2D Drawings - Downen Farmer Architects - November 2023

Notes

Project Identification

Client
Foxglade

Job Title
23-02174 - Belmont Close, Cockfosters, Barnet EN4 9LS

Drawing Title
Rooms & Windows Layout

<u>Scale</u>	<u>Date</u>	<u>Drawn</u>
NTS	Dec-23	MF



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004 Second Floor
Rooms & Windows Layout

Source Data

Testing Environment:
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 Contextual Model - EN4 9LS_BelmontClose,
 Cockfosters_HD_MASTER
 OS Data - Downen Farmer Architects - September 2023

Existing Building:
 2D Drawings - Downen Farmer Architects - September 2023

Proposed Scheme:
 2D Drawings - Downen Farmer Architects - November 2023

Notes

Project Identification

Client
Foxglade

Job Title
23-02174 - Belmont Close, Cockfosters, Barnet EN4 9LS

Drawing Title
Rooms & Windows Layout

<u>Scale</u>	<u>Date</u>	<u>Drawn</u>
NTS	Dec-23	MF



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Daylight Factor (DF) Results Table



Project Name: Garages Opposite 67 Belmont Close, London EN4 9LS
 Project No.: 23-02174
 Report Title: Spatial Daylight Autonomy (SDA) Results
 Date of Analysis: December 2023

Floor Ref	Room Ref	Property Type	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Rec Lux	Criteria				Meets Criteria
									Rec Lux	Rec % of Effective Area	Req % of Daylight Hours	Daylight Hours	
Proposed													
First	R1	Residential	LKD	48.30	40.18	320	29.25	73%	200	50%	50%	4380	YES
	R2	Residential	Bedroom	7.48	4.34	487	4.34	100%	100	50%	50%	4380	YES
	R3	Residential	Bedroom	11.29	7.53	117	4.31	57%	100	50%	50%	4380	YES
	R4	Residential	LKD	37.73	29.52	107	6.43	22%	200	50%	50%	4380	NO
	R5	Residential	Bedroom	7.40	4.31	247	4.08	95%	100	50%	50%	4380	YES
	R6	Residential	Bedroom	11.80	8.03	117	4.86	61%	100	50%	50%	4380	YES
	R7	Residential	LKD	34.62	26.77	345	20.81	78%	200	50%	50%	4380	YES
	R8	Residential	LKD	25.67	18.56	431	18.19	98%	200	50%	50%	4380	YES
	R9	Residential	LKD	31.13	23.76	177	10.45	44%	200	50%	50%	4380	NO
	R10	Residential	Bedroom	11.92	8.05	588	8.05	100%	100	50%	50%	4380	YES
	R11	Residential	LKD	42.05	33.03	126	10.04	30%	200	50%	50%	4380	NO
	R12	Residential	Bedroom	11.60	7.87	334	7.87	100%	100	50%	50%	4380	YES
Second	R1	Residential	Bedroom	18.99	12.41	802	12.10	98%	100	50%	50%	4380	YES
	R2	Residential	Bedroom	10.38	6.67	672	6.67	100%	100	50%	50%	4380	YES
	R3	Residential	Bedroom	14.72	10.11	333	7.52	74%	100	50%	50%	4380	YES
	R4	Residential	Bedroom	11.14	7.27	638	7.27	100%	100	50%	50%	4380	YES
	R5	Residential	Bedroom	15.27	10.54	387	10.48	99%	100	50%	50%	4380	YES
	R6	Residential	Bedroom	9.62	5.94	330	5.76	97%	100	50%	50%	4380	YES
	R7	Residential	Bedroom	12.65	8.11	275	7.57	93%	100	50%	50%	4380	YES
	R8	Residential	Bedroom	9.74	6.08	186	5.16	85%	100	50%	50%	4380	YES
	R9	Residential	Bedroom	13.63	9.05	196	6.04	67%	100	50%	50%	4380	YES
	R10	Residential	Bedroom	12.75	8.33	451	8.33	100%	100	50%	50%	4380	YES
	R11	Residential	Bedroom	7.41	4.09	421	4.09	100%	100	50%	50%	4380	YES

Sunlight Exposure (SE) Results Table



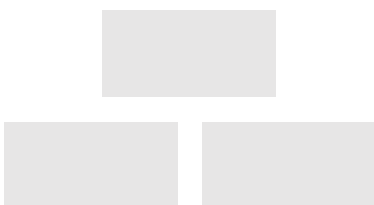
Project Name: Garages Opposite 67 Belmont Close, London EN4 9LS
 Project No.: 23-02174
 Report Title: Sunlight Exposure (SE) Results
 Date: December 2023

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight	Rating
Proposed								
First	R1	Residential	LKD		W1	333°N	1	Medium
					W2	333°N	1	
					W3	153°	2.9	
					W4	333°N	1	
							3.9	
First	R2	Residential	Bedroom		W5	333°N	1	High
					W6	63°N	3.1	
							4.1	
First	R3	Residential	Bedroom		W7	243°	1.6	Minimum
							1.6	
First	R4	Residential	LKD		W8	63°N	3.3	High
					W9	333°N	0.2	
					W10	243°	4	
					W11	153°	2.7	
					W12	243°	1.9	
					W13	243°	2.4	
							8.4	
First	R5	Residential	Bedroom		W14	243°	1.8	Minimum
							1.8	
First	R6	Residential	Bedroom		W15	333°N	0.3	High
					W16	243°	4.8	
					W17	153°	3.4	
							4.8	
First	R7	Residential	LKD		W18	243°	2.7	High
					W19	243°	3.2	
					W20	63°N	3.3	
					W21	243°	4.3	
							8.8	
First	R8	Residential	LKD		W22	153°	8.5	High
					W23	243°	5.8	
					W24	153°	8.5	
					W25	63°N	3.3	
					W26	63°N	3.3	
					W27	333°N	0	
					W28	333°N	0.8	
First	R9	Residential	LKD		W29	153°	3	High
					W30	63°N	2.4	
					W31	243°	6.2	
							9	
First	R10	Residential	Bedroom		W32	243°	5	High
					W33	63°N	0.8	
							5.8	
First	R11	Residential	LKD		W34	243°	6.2	High
					W35	63°N	2.2	
					W36	243°	3.5	
							8.4	
First	R12	Residential	Bedroom		W37	243°	5.6	High
Second	R1	Residential	Bedroom		W1	243°	6.1	High
					W2	333°N	1	
							6.1	
Second	R2	Residential	Bedroom		W3	243°	5.8	High
Second	R3	Residential	Bedroom		W4	243°	6.2	High
					W5	153°	5.8	
Second	R4	Residential	Bedroom		W6	243°	5.8	

Project Name: Garages Opposite 67 Belmont Close, London EN4 9LS
 Project No.: 23-02174
 Report Title: Sunlight Exposure (SE) Results
 Date: December 2023

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight	Rating
Second	R5	Residential	Bedroom	W7	243°	5.8	High	
						6.2		
						8.2		
						9.5	High	
Second	R6	Residential	Bedroom	W9	153°	3.5		
						3.3		
						1		
						0		
						4.5	High	
Second	R7	Residential	Bedroom	W11	243°	6.2		
						1		
						6.2	High	
Second	R8	Residential	Bedroom	W15	153°	3.9		
						3.1		
						0		
						4	Medium	
Second	R9	Residential	Bedroom	W18	243°	6.2		
						6.2	High	
Second	R10	Residential	Bedroom	W20	243°	6.2		
						0.9		
						6.2	High	
Second	R11	Residential	Bedroom	W19	153°	4.3		
						0		
						2.9		
						2.6		
						4.5	High	

Overshadowing to Gardens and Open Spaces



Project Name:Garages Opposite 67 Belmont Close, London EN4 9LS
 Project No.: 23-02174
 Report Title: Two hours Sunlight to Amenity Results
 Date of Analysis: December 2023

Floor Ref	Amenity Ref		Amenity Area	Lit Area Proposed	Meets BRE Criteria
Proposed					
First	A1	Area m2 Percentage	3.94	0.24 6%	NO
First	A2	Area m2 Percentage	10.50	0.00 0%	NO
First	A3	Area m2 Percentage	10.18	6.79 67%	YES
First	A4	Area m2 Percentage	10.03	8.86 88%	YES
First	A5	Area m2 Percentage	33.98	33.98 100%	YES
Second	A1	Area m2 Percentage	25.95	25.22 97%	YES
Second	A2	Area m2 Percentage	31.56	23.70 75%	YES
Second	A3	Area m2 Percentage	5.98	2.27 38%	NO
Second	A4	Area m2 Percentage	21.29	14.59 69%	YES
Second	A5	Area m2 Percentage	6.24	2.51 40%	NO
Second	A6	Area m2 Percentage	21.82	21.35 98%	YES

2hr Amenity Drawings





001 First Floor
Amenity Layout

Source Data

Testing Environment:
 Site Photographs - Rapleys - September 2023
 Contextual Model - EN4 9LS_BelmontClose, Cockfosters_HD_MASTER
 OS Data - Downen Farmer Architects - September 2023

Existing Building:
 2D Drawings - Downen Farmer Architects - September 2023

Proposed Scheme:
 2D Drawings - Downen Farmer Architects - November 2023

Key

■ - 2 Hour Amenity Contours

■ - Amenity 1

Notes

Project Identification

Client
Foxglade

Job Title
23-02174 - Belmont Close, Cockfosters, Barnet EN4 9LS

Drawing Title
2hr Sunlight to Amenity

<u>Scale</u>	<u>Date</u>	<u>Drawn</u>
NTS	Dec-23	MF

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002 Second Floor
Amenity Layout

Source Data

Testing Environment:
 Site Photographs - Rapleys - September 2023
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 Cockfosters_HD_MASTER
 OS Data - Downen Farmer Architects - September 2023

Existing Building:
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Proposed Scheme:
 2D Drawings - Downen Farmer Architects - November 2023

Key

■ - 2 Hour Amenity Contours

A1 - Amenity 1

Notes

Project Identification

Client
Foxglade

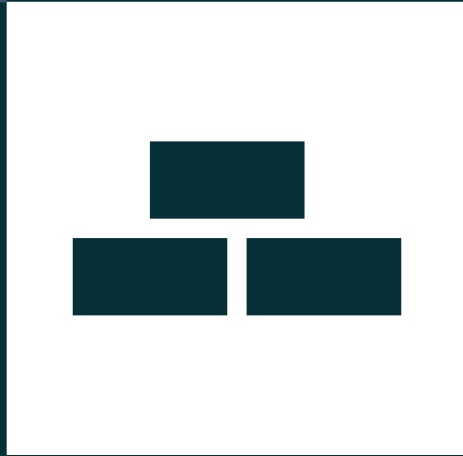
Job Title
23-02174 - Belmont Close, Cockfosters, Barnet EN4 9LS

Drawing Title
2hr Sunlight to Amenity

<u>Scale</u>	<u>Date</u>	<u>Drawn</u>
NTS	Dec-23	MF



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23-02174_DLSL_ST_REL02_V2 - Garages Opposite 67 Belmont Close

Final Audit Report

2023-12-04

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By:	Jane Nichols (jane.nichols@rapleys.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAV_pScNzJ4T-67_OSH79B6DJePqhGp8Ex

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-  Document e-signed by J Evans (jason.evans@rapleys.com)
Signature Date: 2023-12-04 - 4:30:24 PM GMT - Time Source: server- IP address: 91.240.17.62
-  Agreement completed.
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