LONDON

TUNNELS

The London Tunnels

16. Sunlight & Daylight Assessment

30 November 2023

gia

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Project Title	**38-39 & 40-41 Furnival Street**
Project Number	**19449**

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1 EXECUTIVE SUMMARY

GIA have assessed the Wilkinson Eyre scheme (the "Proposed Development") for the 38-39 & 40-41 Furnival Street site to understand the potential changes in light to the relevant sensitive receptors.

1.1 GIA have been instructed by The London Tunnels PLC to provide daylight, and sunlight advice in relation to the 38-39 & 40-41 Furnival Street development, located in the City of London.

1.2 GIA have undertaken a technical daylight and sunlight assessment of Wilkinson Eyre's scheme at 38-39 & 40-41 Furnival Street "the site" to understand the potential effect of the development on the amenity of the relevant neighbouring receptors.

1.3 The receptors considered are identified in Figure 01 on page 3.

1.4 The City of London Local Plan (2015) references that the BRE Guidance needs to be applied with regard to site context and that ideal daylight and sunlight conditions may not be practicable in a densely developed city-centre location. The Local Plan references the need to ensure development does not reduce daylight and sunlight amenity to unacceptable levels. In GIA's experience, 'unacceptable levels' varies site by site based on specific location within a borough and immediate site context.

1.5 The technical analysis has been considered by reference to the criteria and methodology within the Building Research Establishment handbook (BR209, 2022) which when published, recognised that it *is advisory and the numerical target values within it may be varied to meet the needs of the development and its location.*

1.6 GIA have not undertaken any detailed light pollution assessments. We have been advised that the only elevation which is translucent and thus could create light spill is the elevation fronting Furnival Place. The buildings opposite this elevation are commercial. On the assumption that there are no translucent elevations opposite the residential buildings we do not consider light pollution to be a material factor.

1.7 If there are areas of light spill that could affect neighbouring residents this could be dealt with by way of mitigation such as intelligent light systems, black out blinds etc.

1.8 The site lends itself well to redevelopment from a daylight and sunlight perspective, as sensitive neighbouring receptors around the site are limited. Due to window locations and views across the site, only 1-3 Dyers Building was considered relevant for assessment for daylight and sunlight. As such, the potential daylight and sunlight amenity alterations arising as a result of the scheme can be limited to this neighbour only.

1.9 In such a dense urban environment, strict application of the BRE Guidelines would potentially burden development potential. In this instance, the daylight only impacts are isolated to one block of flats, where existing daylight levels are already restricted.

1.10 On the basis of the site's dense urban location, combined with the isolated daylight impacts, GIA believe the scheme falls in line with the City of London Local Plan and other policy and is therefore acceptable from a daylight and sunlight perspective.

Figure 01: Sensitive receptors map in plan

Figure 02: Existing Site Context taken from Google Maps

2 THE SITE

GIA have been instructed to review and advise on the daylight and sunlight impacts associated with the implementation of the proposed development at 38-39 & 40-41 Furnival Street.

THE SITE

2.1 The Site is located in the City of London. The existing building consists of a seven storey building at 40 Furnival Street with smaller ground plus approximately two storey high building located next door at 39 Furnival Street.

2.2 Figure 03 below illustrates the Site. Further drawings are enclosed at Appendix 03 of this report.

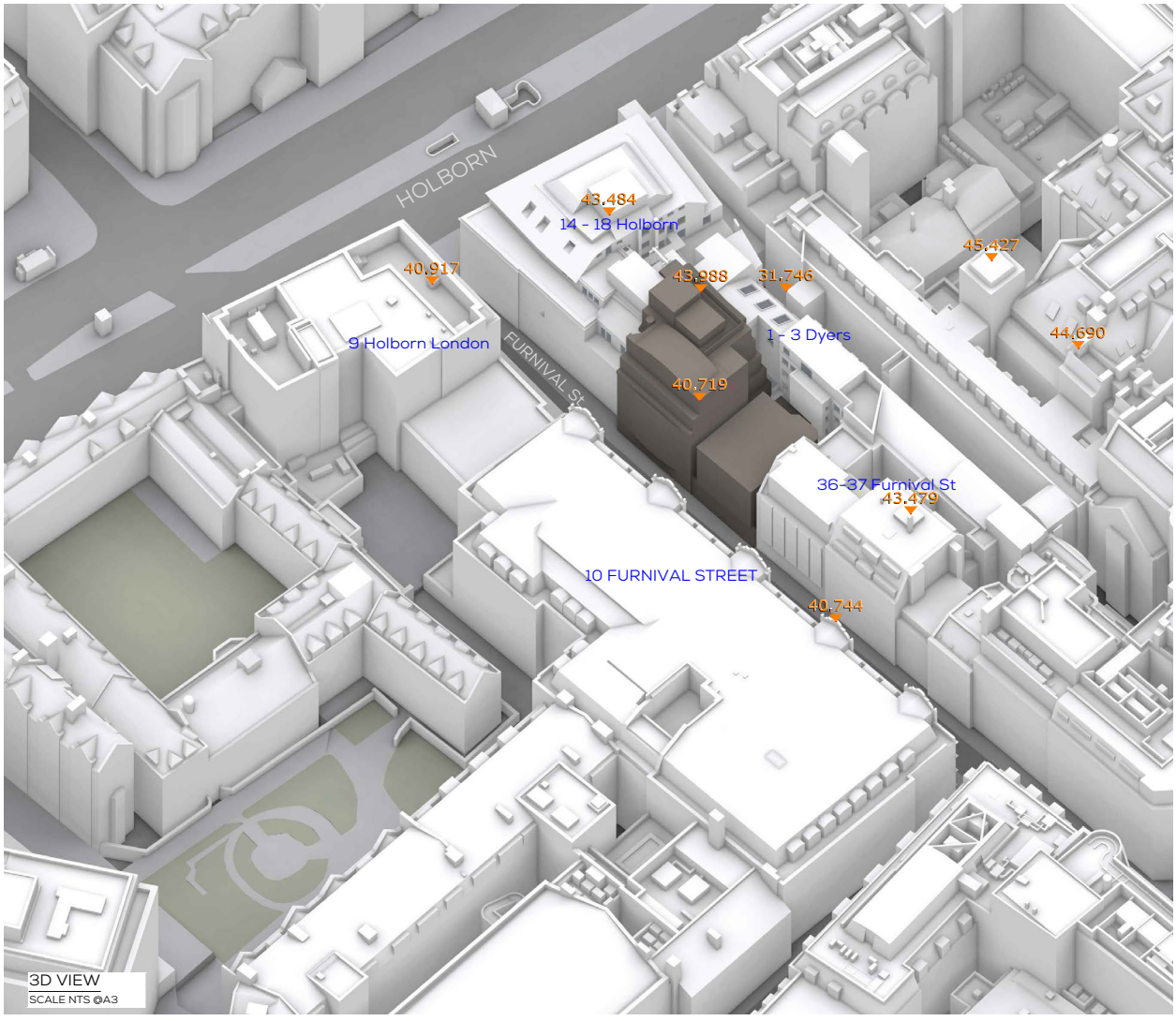

Figure 03: 3D model of the site and Existing Property

PROPOSED DEVELOPMENT

2.3 The proposed scheme seeks to refurbish and infill part of 39 Furnival Street to match the height and general floor plate of 40 Furnival Street, reaching a height of 36 metres on 39 Furnival Street. There is also a small proposed increase in height of c. 2 metres to the existing building on 40 Furnival Street.

2.4 GIA's understanding of the Proposed Development is illustrated in Figure 04 and further drawings are enclosed at Appendix 03.

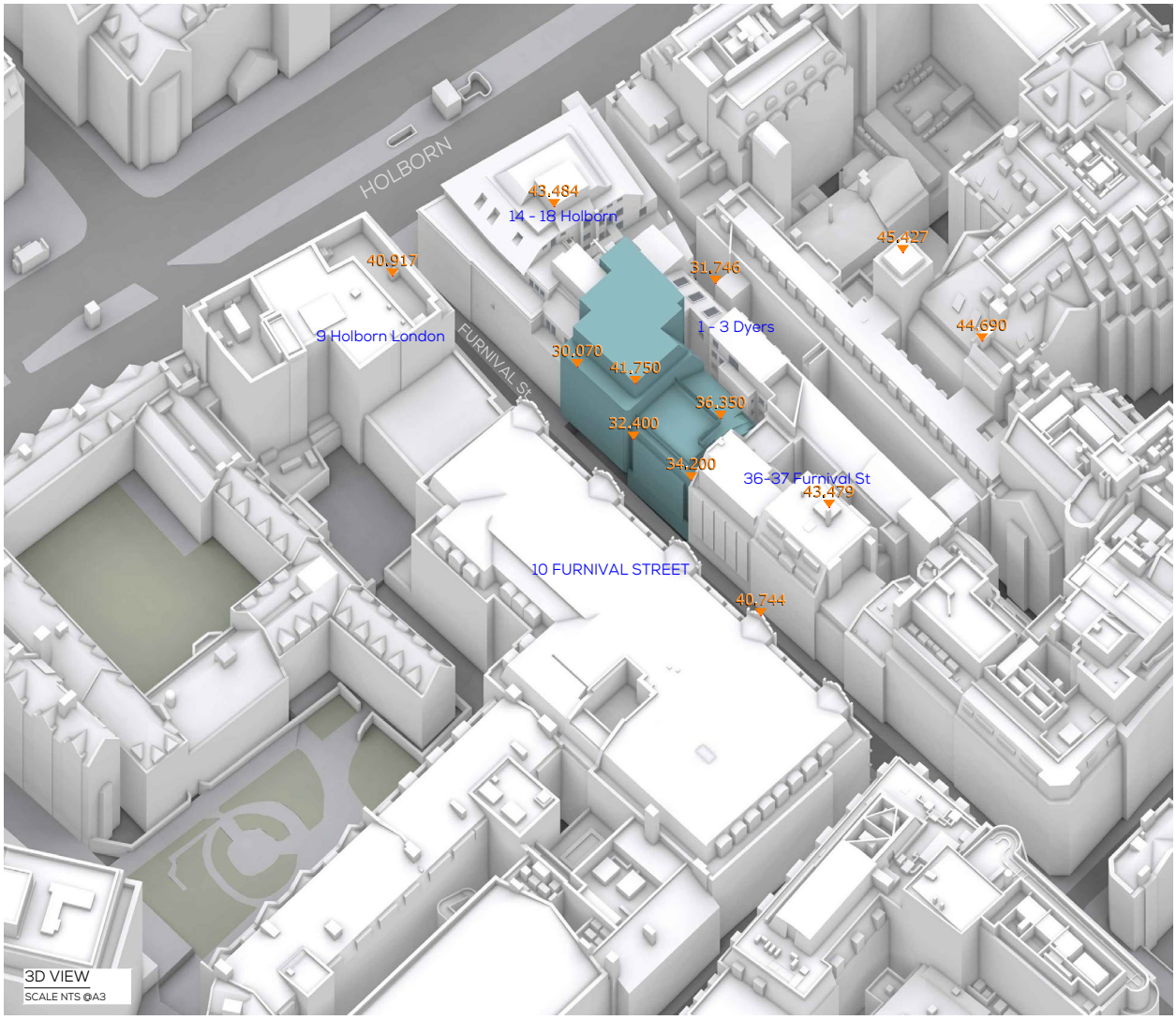

Figure 04: 3D Perspective View of the Proposed Scheme

3 POLICY & THE WIDER CONTEXT

3.1 Below we have detailed sections from the following documents as they are, in our opinion, the most pertinent in relation to daylight and sunlight matters and how we have approached the effects of the Proposed Development on the relevant neighbouring properties:

- BRE Guidelines (2022);
- National Planning Policy Framework (September 2023);
- National Planning Practice Guidance (updated June 2021);
- The London Plan (March 2021) (Greater London Authority);
- Housing Design Standards - London Planning Guidance (June 2023);
- Central Activities Zone SPG (March 2016);
- City of London Local Plan (January 2015); and
- Draft City of London Local Plan 2040.

BRE GUIDELINES (2022)

3.2 The BRE Guidelines, which were updated in 2022, are the primary authority to which the Local Authority will refer to when considering the potential daylight, sunlight and overshadowing impacts caused by a proposed development. The BRE Guidelines are not mandatory and note that they should not be seen as an instrument of planning policy and are instead intended to help rather than constrain the designer. The Guidelines note:

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

3.3 As part of the planning process, GIA will undertake daylight, sunlight and overshadowing assessments in accordance with BRE Guidance. This will ensure the Local Authority are fully informed on potential impacts and able to weigh this up in the wider planning balance through early engagement and briefing during the pre-application process.

NATIONAL PLANNING POLICY FRAMEWORK (SEPTEMBER 2023)

3.4 The NPPF (September 2023) states that local planning authorities should refuse applications which they consider fail to make efficient use of land. The discussion in relation to daylight and sunlight highlights the Government's recognition that increased flexibility is required in response to the requirement for higher density development:

> *"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)".*

NATIONAL PLANNING PRACTICE GUIDANCE (JUNE 2021)

3.5 In light of the update to the Government's Planning Practice Guidance, GIA have considered the relevant paragraphs which relate to daylight and sunlight.

3.6 Paragraph 6 of the NPPG (Ref ID: 66-006-20190722) acknowledges that new development may cause an impact on daylight and sunlight levels enjoyed by neighbouring occupiers. It requires local authorities to assess whether the impact to neighbouring occupiers would be "unreasonable".

3.7 Paragraph 7 (Ref ID: 66-007-20190722) refers to the wider planning considerations in assessing appropriate levels of daylight and sunlight. The test is whether living standards are 'acceptable' and recognises that acceptability will depend to some extent on context.

THE LONDON PLAN (MARCH 2021)

3.8 The London Plan was published in March 2021 and sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

3.9 The supporting text for Policy D1 (London's form, character and capacity for growth) states that:

> *"As change is a fundamental characteristic of London, respecting character and accommodating change should not be seen as mutually exclusive. Understanding of the character of a place should not seek to preserve things in a static way but should ensure an appropriate balance is struck between existing fabric and any proposed change. Opportunities for change and transformation, through new building forms and typologies, should be informed by an understanding of a place's distinctive character, recognising that not all elements of a place are special and valued."*

3.10 Part A of Policy D2 (Infrastructure requirements for sustainable densities) states that:

> *"The density of development proposals should:*
>
> *1) consider, and be linked to, the provision of future planned levels of infrastructure rather than existing levels*
>
> *2) be proportionate to the site's connectivity and accessibility by walking, cycling, and public transport to jobs and services (including both PTAL and access to local services)"*

3.11 Part D of Policy D6 (Housing Quality and Standards) (CD-4.22) states that 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."*

3.12 It is clear that the GLA's focus is on sufficient or retained daylight and sunlight to neighbouring properties and highlights that context will be a consideration to determine sufficiency.

3.13 Part C3 of Policy D9 (Tall buildings) (CD-4.23) states that development proposals should address (among others) environmental impacts in terms of:

> *"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".*

HOUSING DESIGN STANDARDS LPG (JUNE 2023)

3.14 The Mayor published the Housing Design Standards in June 2023, superseding the Housing Supplementary Planning Guidance which was issued in March 2016.

3.15 The Housing Design Standards aim to complement the consideration of daylight and sunlight impacts using the BRE guidance. They state that:

> *'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 impacts.'*

3.16 The Housing Design Standards provide comprehensive guidance on design standards that aim to optimise the availability of good levels of daylight and sunlight within proposed dwellings.

3.17 Whilst less focus is provided on impacts to neighbouring properties daylight and sunlight amenity, it is a meaningful step forward in daylight and sunlight terms that the Housing Design Standards LPG acknowledge the importance of a two-stage approach and applying contextual judgment in conjunction with considering impacts in line with BRE guidance.

3.18 The BRE Guidelines 2022 maintains the reference to use judgment and flexibility in its application; it is not just numerical matters which are relevant but also contextual matters. The BRE Guidelines endorses the need for alternative target values in certain contexts and provides clear guidance on this within its Appendix F. In short, acceptability of a given development is not to be equated to 'meeting' the values within the BRE Guidelines. Rather the latter is one of many tools which assists the wider judgement of whether a scheme and its impacts are acceptable or not.

CENTRAL ACTIVITIES ZONE SPG (MARCH 2016)

3.19 The Mayor published a Supplementary Planning Guide (SPG) on the Central Activities Zone (CAZ) in March 2016. The SPG was published alongside the now superseded London Plan 2016 to provide planning guidance to co-ordinate development within the CAZ which protects and supports its strategic function.

3.20 The CAZ is identified as ***"London's globally iconic core and one of the world's most attractive and competitive business locations. It accommodates one third of London's jobs and generates almost 10% of the UK's output. It contains the seat of national Government and has international renown for its shopping, culture and heritage. It is also home to more than 237,000 residents"***.

3.21 The SPG recognises the importance of striking an appropriate balance between strategic functions (including offices) and residential uses in the CAZ.

> ***Residential uses can also impact on neighbouring development sites and uses through the acquisition of residents' amenity rights, such as daylight, sunlight, overshadowing, overlooking and rights to peaceful enjoyment. This can place constraints on commercial development and operation including access and timing for deliveries and servicing of business uses.***[1]

3.22 The GLA recognises that a careful balance must be struck between the requirements and strategic functions of the CAZ and the amenity of local residents.

CITY OF LONDON LOCAL PLAN (JANUARY 2015)

3.23 The Local Plan, adopted in 2015 is the strategy for planning the City of London. It sets out the vision for shaping the Square Mile up to 2026 and contains the policies which guide planning decisions.

3.24 Policy DM 10.7 Daylight and sunlight:

3.25 *1. To resist development which would reduce noticeably the daylight and sunlight available to nearby dwellings and open spaces to unacceptable levels, taking account of the Building Research Establishment's guidelines.*

3.26 In 3.10.41 it states that "*The City Corporation will apply these methods, consistent with BRE advice* **that ideal daylight and sunlight conditions may not be practicable in densely developed city-centre locations.**.. *Where appropriate, the City Corporation will take into account unusual existing circumstances, such as development on an open or low rise site and the presence of balconies or other external features, which limit the daylight and sunlight that a building can receive*"

3.27 Policy DM 21.1 states that:

2. New housing will only be permitted where development would not: inhibit the development potential or business activity in neighbouring commercial buildings and sites

3.28 Policy DM 21.5 Housing quality standards states: "*provides acceptable daylight to dwellings commensurate with a city centre location*".

3.29 3.21.10 states that the City is predominately commercial and that large areas of the City are unsuitable for housing. The presence of housing can inhibit the development of neighbouring sites and the operation of commercial activity due to the need to protect resident's amenity.

1 Greater London Authority. (2016). The London Plan – CAZ SPG. London: GLA, p.11 para 1.3.6

DRAFT CITY OF LONDON LOCAL PLAN 2040

3.30 The new Local Plan, called City Plan 2040 (previously City Plan 2036), is a plan for the future development of the City of London, setting out what type of development the City of London Corporation expects to take place and where. It sets out the City Corporation's vision, strategy and objectives for planning up to 2040, together with policies that will guide future decisions on planning applications. Once adopted, the new Plan will replace the Local Plan 2015.

3.31 6.1.57. *The City is an urban centre with a very high density of buildings, resulting in lower average levels of daylight and sunlight to buildings and spaces in comparison to suburban or rural areas.*

3.32 *6.1.58 The Building Research Establishment (BRE) has issued guidelines in 'Site Layout Planning for Daylight and Sunlight' that set out a methodology for assessing changes in daylight and sunlight arising from new development. The City Corporation will apply these methods, consistent with BRE and NPPF guidance that ideal daylight and sunlight conditions may not be practicable in densely developed city-centre locations.*

3.33 6.1.59. *The City Corporation will take into account unusual existing circumstances, such as development on an open or lowrise site as well as the presence of balconies or other external features, which limit the daylight and sunlight that a building can receive. The Mayor of London has indicated that guidance on daylight and sunlight standards will be produced to support the London Plan.*

3.34 *Policy HS1: Location of New Housing:*

New housing must not:

• Prejudice the primary business function of the City, or result in the loss of viable office accommodation, contrary to Policy OF2;

4 BRE GUIDELINES & CONTEXT METHODOLOGY

The Building Research Establishment (BRE) have set out in their handbook *'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (BR209, 2022)'*, guidelines and methodology for the measurement and assessment of daylight and sunlight.

BUILDING RESEARCH ESTABLISHMENT GUIDELINES (BR209, 2022)

4.1 The BRE Guidelines note that the document is intended to be used in conjunction with the interior daylight recommendations found within the British Standard BS EN 17037 Daylighting in Buildings and the Chartered Institution of Building Services Engineers (CIBSE) LG 10 Daylighting – a guide for designers.

4.2 The BRE handbook "*is intended for use in rooms in adjoining dwellings where daylight is required, including living rooms, kitchens, and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas, and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops, and some offices.*"

4.3 The BRE Guidelines provides two methodologies for daylight assessment of neighbouring properties, namely;

1 The Vertical Sky Component (VSC); and

2 The No Sky Line (NSL).

4.4 To avoid significant effects to daylight (in accordance with Figure 20 of the BRE Guidelines), both the VSC and NSL tests have to be met.

4.5 The BRE Guidelines recommend that no greater than a 20% reduction should occur to either the VSC or NSL to a neighbouring property. Whilst greater losses can and do occur, it is the BRE's position that greater than a 20% reduction may be noticeable to an occupant of a room.

4.6 In relation to retained daylight levels, the BRE Guidelines recommend a retained VSC level of 27%, but do not suggest an appropriate retained level in relation to NSL.

4.7 There is one methodology provided by the BRE Guidelines for sunlight assessment, denoted as Annual Probable Sunlight Hours (APSH).

4.8 It is an inevitable consequence of the built-up urban environment that daylight and sunlight will be more limited in dense urban areas. It is well acknowledged that in such situations there may be many planning and urban design matters to consider other than daylight and sunlight.

4.9 Appendix 02 of this report elaborates on the mechanics of each of the above assessment criteria, explains the appropriateness of their use and the parameters of each specific recommendation.

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5 DAYLIGHT & SUNLIGHT IMPACTS TO NEIGHBOURING PROPERTIES

This section details the daylight and sunlight impacts in relation to the relevant properties neighbouring the Site.

5.1 A three-dimensional computer model of the Site and surrounding properties was produced based on measured survey data. Where available we have included floor plans of the relevant properties and this context model has been used to carry out the technical assessments. All relevant assumptions made in producing this model can be found in Appendix 01.

5.2 In line with the BRE Guidelines, GIA have considered only the neighbouring residential properties as relevant for daylight and sunlight assessment. There are no other properties considered of sensitive use surrounding the site, such as schools, churches or hospitals.

5.3 Whilst the BRE notes that 'some' offices may be relevant for daylight and sunlight assessments, this is generally only seen appropriate in situations where the office space is flagged as particularly sensitive to daylight or sunlight alterations. Office spaces, and commercial property uses generally, use artificial lighting when in occupation which is why they are generally not considered relevant for daylight and sunlight assessment. Therefore, in line with this and industry standard practices, none of the surrounding commercial offices have been assessed for daylight and sunlight reductions.

RELEVANT SENSITIVE RECEPTORS

5.4 GIA have identified the following properties as relevant for daylight and sunlight assessment:

- 1-3 Dyers Building (Map ref. 3)

5.5 Whilst there are other residential properties within the vicinity of the proposed development, considering the orientation of the windows, we have not considered them relevant for assessment.

5.6 Where changes in daylight and sunlight occur to 1-3 Dyers Building, the impacts are fully discussed in the following sections. All results can be found in Appendix 04.

Figure 05: Sensitive receptors map by use

Figure 06: Existing Site Context taken from Google Maps

DISCUSSION OF RESULTS

1-3 Dyers Building

Figure 07: Dyers Building highlighted in red

5.7 This property is located to the immediate east of 39-40 Furnival Street. From desk based research and a site visit, we understand it to be full residential in use from the basement to the fourth floor. We understand there to be studio flats on the basement floor with one to two bed flats on the ground to second floors and split level maisonettes on third to fourth floors.

5.8 It should be noted that the existing daylight levels for many of these rooms and windows are very low. This can be explained by the relationship between the two façades of the Dyers Building, as well as neighbouring properties, as shown in Figure 07. Given the proximity of these façades to each other, low existing levels of daylight and sunlight are expected to this type of property, particularly at the lower levels.

5.9 GIA have been able to source a set of floor plans from the City of London Planning Portal, which we have used to inform our analysis. In some cases, it has not been clear whether rooms are primary use. Where room uses are unknown, they have been assessed as a 'worst case scenario' where they are assumed to be habitable.

5.10 A full set of floor plans can be found in Appendix 05.

Daylight (VSC & NSL)

5.11 We have assessed 59 windows serving 18 rooms within this property for daylight.

5.12 In relation to VSC, 35 of the 59 windows meet BRE guidance. Of the 24 windows which fall below guidance for VSC, eight experience VSC reductions between 20% to 30%, nine between 30%-40% and a further seven in excess of 40%.

5.13 Of the 24 windows that fall below guidance, 18 serve known living rooms. Four remaining windows serve rooms that are unknown in use and are therefore assumed to be habitable. A further two rooms serve bedrooms which have a lower requirement for natural light.

5.14 It should be noted that the retained VSC values are very low for many rooms that fall below the guidance and that all of the windows on the basement, ground and first floors retain less than 2% VSC. The windows on the second floor retain between 2.7% and 5.1% VSC, and the windows on the third floor retain a larger range between 4.8% and 14.1% VSC.

5.15 It should be noted that these low retained values are due to the low existing levels of daylight to these windows. Of the 24 windows that fall below guidance, nine see an absolute VSC reduction of less than 1%. A further eight windows see no more than a 3% absolute change for VSC, which has been referenced in past appeals such as Buckle Street as being a "virtually imperceptible" change. The remaining eight windows see no more than a 5% absolute change in VSC which has also been described in past appeals as being "barely noticeable".

5.16 With regards to NSL, of the 18 rooms assessed for daylight, 14 meet the BRE criteria. For the four rooms that fall below guidance, two see a percentage alteration of between 30%-40%, and two see a percentage alteration in excess of 40%.

5.17 Two of the four rooms assessed for NSL that fall below guidance serve bedrooms and therefore have a lower requirement for daylight. The remaining two rooms are LKDs on the first and second floors. The LKD on the first floor sees a reduction in sky visibility from 30.6% to 13.5% and the LKD on the second floor sees a reduction in sky visibility from 51.1% to 35.3%.

5.18 GIA believe therefore that largely, the daylight amenity within these flats will be not be materially altered by the development coming forward. As the existing light levels are already low in the majority of instances, it is likely that artificial light is part of the norm of living in a property at this location.

Sunlight (APSH)

5.19 All 35 windows assessed for sunlight will meet BRE guidance in relation to the APSH assessment with the proposed scheme built.

Conclusion

5.20 Whilst the windows serving this block of flats experience some VSC losses beyond BRE guidance, this can be explained due to the low existing values. In GIA's opinion, most of the absolute VSC losses are unlikely to be noticeable and therefore the impact of this scheme on VSC does not amount to unacceptable harm.

5.21 With regards to NSL, the level of compliance is very high and any impacts beyond guidance are isolated to just two LKDs, which in GIA's opinion does not amount to unacceptable harm.

6 CONCLUSIONS

GIA have undertaken a daylight, sunlight and overshadowing assessment in relation to the Proposed Development at 38-39 & 40-41 Furnival Street. The technical analysis has been undertaken in accordance with the BRE handbook.

6.1 When constructing buildings, alterations in light to adjoining properties are often unavoidable and the numerical guidance given in the BRE document can be treated flexibly in consideration of site specifics.

6.2 Our technical analysis shows that following the implementation of the Proposed Development one of the surrounding properties will experience changes outside of the BRE recommendations.

6.3 The daylight impacts to 1-3 Dyers Building can be explained in part due to the low existing daylight values, and most of the absolute daylight losses are very small. With regards to sunlight, the proposed scheme is fully BRE compliant.

6.4 GIA would therefore conclude that the impacts as a result of the Proposed Development are acceptable and comply with local, London-wide and national planning policy.

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