



# Travis Perkins Site 149-157 Harrow Road London

Independent Review  
Daylight, Sunlight & Overshadowing

## PROJECT INFORMATION

Project Title: Travis Perkins Site, 149-157 Harrow Road, London, W2 6NA

Project Number: 25293

Client: Greater London Authority

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## ABOUT US

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Statements and opinions in this report are expressed on behalf of DPR.

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**APPENDICES**

Appendix 1 Assessment methodology and glossary

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## 1.0 Introduction

- 1.1. DPR (“we”) have been engaged by the Greater London Authority (GLA) to review the Daylight and Sunlight Report, ES Chapter and relevant appendices prepared by the Applicant’s consultant, GIA Surveyors, (“the assessment”) submitted in support of the planning application for the proposed development at the site known as the Travis Perkins Site, 149-157 Harrow Road, W2 6NA.
- 1.2. We were asked to advise on the suitability of its scope, method of assessment, criteria used, results produced, and conclusions reached therein to assist the GLA in understanding the potential effects of the proposed development, so it may make an informed decision as to their acceptability.
- 1.3. The proposed scheme was refused consent by the City of Westminster (24/03600/FULL) in January 2025. This followed a previous refusal in 2022 (21/04536/FULL). In the intervening period the proposed massing was amended to reduce the potential daylight and sunlight implications to the neighbouring properties.
- 1.4. The City of Westminster refused Conditional permission against officer recommendation, based on the reasons listed below, and the application has been referred to the Mayor of London. It should be noted that the officer report mentioned the impact on the amenity of local residents, including from loss of daylight and sunlight which was a key consideration.
  - 1) The development would lead to a significant loss of daylight for the people living in 19-27 Sheldon Square and Dudley House. It would also make the people living in 19-27 Sheldon Square experience a significant increased sense of enclosure. This is because of its height and breadth. This would not meet Policies 7 and 38 (C) of the City Plan 2019-2040 (April 2021)
  - 2) Because of its height and massing, the development would harm the settling of the grade II listed buildings at 2 Warwick Crescent, 33 & 34 Blomfield Road, 4-6, 7, 8-10, 9-11, 12-14, 13-15, 16, 17-19, 20-22, 21-25, 24-26, 27-29, 28-30, 31, 32-34, 38-36, 40-42 Warwick Avenue, Warwick Avenue Bridge, Junction House Regents Canal, 20 Hawley Place; and it would also fail to maintain or improve (preserve or enhance) the setting of the neighbouring Maida Vale and Paddington Green Conservation Areas. This would not meet policies 38, 39, 40, and 41 of the City Plan 2019 - 2040 (April 2021).
- 1.5. Although we will review the potential daylight and sunlight implications to all relevant neighbouring properties, as reason for refusal 1 specifically mentions loss of daylight to people living in 19-27 Sheldon Square and Dudley House, our focus will consider whether these properties remain with acceptable levels of daylight in the post development condition.
- 1.6. Our review does not extend to a detailed technical analysis of our own, nor have we checked the consultant’s 3D computer model or calculations. We have assumed the assessment is accurate and simply report on the results and conclusions; however, if we feel there is reason to seek confirmation on matters affecting accuracy we have stated so below. I have not undertaken a site inspection.
- 1.7. The Site is shown outlined in red in the aerial photograph in [Figure 1](#) below and on the location plan in Appendix 2.

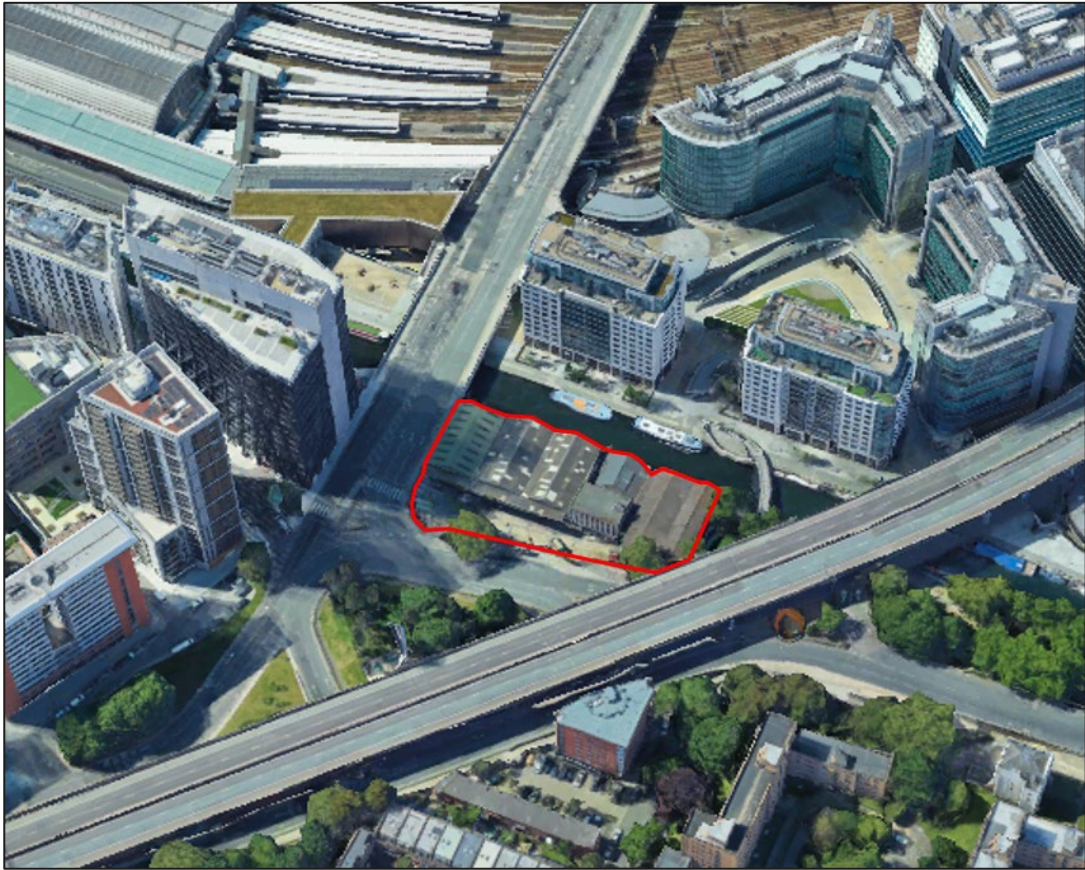


Figure 1 - Aerial photo of the Site and neighbouring properties (© Google)

- 1.8. The site is located within the Central Activities Zone (CAZ) and the Paddington Opportunity Area (POA), where tall more dense buildings have been constructed in recent years.
- 1.9. The Proposed Development comprises of the demolition of the existing buildings and the erections of a purpose-built student accommodation (PBSA) building between 4 and 20 storeys ('the Proposed Development').

## 2.0 Planning policy and guidance

### National Planning Policy and Guidance

#### ***National Planning Policy Framework (December 2024)***

- 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 buildings and the overall street scene.
- 2.3. In particular, paragraph 130 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).*

#### ***National Design Guide (January 2021)***

- 2.4. The National Design Guide is part of a suite of planning practice guidance that supports the NPPF. The National Design Guide outlines the Government’s priorities for well-designed places.
- 2.5. Paragraph 71 of the guidance dealing with built form states:

*Proposals for tall buildings (and other buildings with a significantly larger scale or bulk than their surroundings) require special consideration. This includes their location and siting; relationship to context; impact on local character, views and sight lines; composition - how they meet the ground and the sky; and environmental impacts, such as sunlight, daylight, overshadowing and wind. These need to be resolved satisfactorily in relation to the context and local character.*

- 2.6. Paragraphs 126 and 130 of the guidance dealing with homes and buildings state:

*Well-designed homes and communal areas within buildings provide a good standard and quality of internal space. This includes room sizes, floor-to-ceiling heights, internal and external storage, sunlight, daylight and ventilation. The quality of internal space needs careful consideration in higher density developments, particularly for family accommodation, where access, privacy, daylight and external amenity space are also important.*

*Well-designed private or shared external spaces are fit for purpose and incorporate planting wherever possible. The appropriate size, shape and position for an external amenity space can be defined by considering:*

- *how the associated building sits in the wider context, including access to public and open spaces;*
- *how the amenity space will be used, what for, and by whom;*
- *environmental factors that may affect its usability, such as sunlight and shade, noise or pollution;*
- *wider environmental factors affecting its quality or sustainability, such as a green corridor or drainage.*

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

2.7. The leading publication providing national guidance on the provision of daylight and sunlight to new development, and the impacts of development on daylight and sunlight to neighbouring buildings and open spaces, is BRE Report 209, ‘Site Layout Planning for Daylight and Sunlight: A guide to good practice’ (third edition, 2022). It is referred to in the development plan documents or supplementary planning documents of most planning authorities. This guide supersedes the 2011 edition, which is now withdrawn.

2.8. The BRE guide states:

Summary

*This guide gives advice on site layout planning to achieve good sunlighting and daylighting, both within buildings and in the open spaces between them. It is intended to be used in conjunction with the interior daylight recommendations for new buildings in the British Standard, ‘Daylight in buildings’, BS EN 17037. It contains guidance on site layout to provide good natural lighting within a new development; safeguarding of daylight and sunlight within existing buildings nearby; and the protection of daylighting of adjoining land for future development. A special section deals with loss of solar radiation for solar panels and for passive solar buildings that use the sun as a source of heating energy. Guidance is also given on the sunlighting of gardens and amenity areas...*

*This report is a comprehensive revision of the 2011 edition of ‘Site layout planning for daylight and sunlight: a guide to good practice’. 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.*

*This 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 the 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... The calculation methods ... are entirely flexible in this respect...*

## **Regional planning policy and guidance**

### ***The London Plan (March 2021)***

2.9. The London Plan 2021 is the Spatial Development Strategy for Greater London. 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.

2.10. Policy D6: Housing quality and standards states:

*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.*

## **Local planning policy**

### **City of Westminster – City Plan 2019-2040**

2.11. The City Plan 2019 – 2040 (adopted April 2021) contains a spatial strategy for the City of Westminster that includes several policies that are relevant to daylight and sunlight.

2.12. Policy 7: Managing development for Westminster's people includes the following states:

*A. Protecting and where appropriate enhancing amenity, by preventing unacceptable impacts in terms of daylight and sunlight, sense of enclosure, overshadowing, privacy and overlooking.*

2.13. The supporting text states, at paragraph 7.3:

*Negative effects on amenity should be minimised as they can impact on quality of life. Provision of good indoor daylight and sunlight levels is important for health and well-being and to decrease energy consumption through reduced need for artificial heating and lighting. Overshadowing affects the quality or operation of adjacent buildings and can negatively impact on the use of public and private open space for recreation, rest and play. Positioning, scale and orientation of buildings as well as the incorporation of design measures should be considered to minimise overshadowing and overlooking and ensure adequate levels of privacy. Even when there may be no material loss of daylight or sunlight, new developments should prevent unacceptable increases in the sense of enclosure.*

2.14. Policy 38: Design principles states:

*C. All development will place people at the heart of design, creating inclusive and accessible spaces and places, introducing measures that reduce the opportunity for crime and anti-social behaviour, promoting health, well-being and active lifestyles through design and ensuring a good standard of amenity for new and existing occupiers.*

### 3.0 Acceptability of daylight/sunlight levels and effects

- 3.1. The assessment of the effects of development on daylight and sunlight amenity is a two-part process<sup>1</sup>: first, as a matter of calculation, whether there would be a material deterioration in conditions by reference to the BRE guidelines; and second, as a matter of judgment, whether that deterioration would be acceptable in the circumstances.
- 3.2. The first stage can be addressed by applying the BRE assessment methodology and numerical guidelines. The second stage brings into play much wider considerations, such as:
- i) Whether the neighbouring building stands unusually close to the site boundary, including the highway, taking more than its fair share of light, such that a greater reduction in light may be unavoidable if one site is not to be prejudiced by how another has been developed. (A 'mirror-image' study can be informative in such cases.)
  - ii) Whether windows in neighbouring buildings are self-obstructed by overhanging or inset balconies or other projections such as to make relatively larger reductions unavoidable even if there is a modest new obstruction opposite - in effect themselves taking away more than their fair share of light. (A 'without balconies' study can be informative in such cases.)
  - iii) In historic city centres or areas characterised by modern tall buildings, high density and close proximity, a higher degree of obstruction may be unavoidable if new buildings are to match the height and proportion of existing buildings.
  - iv) In areas that are designated by planning authorities for substantial growth or providing opportunities for change and sustainable regeneration, the sort of change that would be brought about by the introduction of taller, denser development is to be expected, including reductions in daylight and sunlight levels, closer proximity, loss of outlook, etc.
- 3.3. It should be noted that the Site is within the Central Activities Zone (CAZ) and the Paddington Opportunity Area (POA). It is therefore in an area where taller, higher density development is anticipated.
- 3.4. Where a higher degree of obstruction may be unavoidable it is appropriate to consider the reasonableness of the retained levels of daylight and sunlight with the Proposed Development in place.

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<sup>1</sup> Rainbird, R (on the application of) v The Council of the London Borough of Tower Hamlets [2018]

## 4.0 Categorisation of magnitudes of impact and significance of effects

4.1. In our summary tables, we have counted the number of impacts inside and outside the BRE guidelines and categorised the latter according to their magnitude of impact. The BRE guide does not include a standard scale of impact, so this study adopts the widely used approach in Table 2 below.

Table 1 – Categorisation of magnitudes of impact on existing neighbouring properties

Impact inside BRE guidelines	Impact outside BRE guidelines		
	0.70-0.79 times former value (21% to 30% loss)	0.60-0.69 times former value (31% to 40% loss)	<0.60 times former value (>40% loss)
Negligible impact	Low impact	Medium impact	High impact

4.2. To understand the significance of effect on a building, it is necessary to consider both the number and magnitude of impacts and a range of other factors. Appendix H of the BRE guide, which is intended for use in Environmental Impact Assessments, provides the following advice on ascribing significance to effects:

*Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space.*

*The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.*

*Where the loss of skylight or sunlight fully meets the guidelines in this document, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.*

*Where the loss of skylight or sunlight does not meet the guidelines, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:*

- *only a small number of windows or limited area of open space are affected*
- *the loss of light is only marginally outside the guidelines*
- *an affected room has other sources of skylight or sunlight*
- *the affected building or open space only has a low level requirement for skylight or sunlight*
- *there are particular reasons why an alternative, less stringent, guideline should be applied, for example an overhang above the window or a window standing unusually close to the boundary.*

*Factors tending towards a major adverse impact include:*

- *a large number of windows or large area of open space are affected;*
- *the loss of light is substantially outside the guidelines;*
- *all the windows in a particular property are affected; and*
- *the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground.*

## 5.0 Flexible application of the guidelines and alternative target values

5.1. As noted in paragraph 2.8 above, the introduction to the BRE guide states that its default numerical guidelines are not mandatory and must be interpreted flexibly because natural lighting is only one of many factors in site layout design. In certain circumstances, such as city centres or areas 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.

5.2. This theme is repeated at various points in the guide, as follows:

*[Daylight to buildings:] Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints. (Paragraph 2.2.3)*

*[Sunlight to buildings:] In certain situations care needs to be taken in applying these (sunlight) guidelines... The guidelines are purely advisory. Planning authorities may wish to use different criteria based on the requirements for sunlight in particular types of developments in particular areas. Sometimes a larger reduction in sunlight may be necessary if new development is to match the height and proportion of existing buildings nearby. (Paragraph 3.2.10)*

5.3. As the Site sits within London's Central Activities Zone and Paddington Opportunity Area a higher degree of obstruction is to be expected.

5.4. We set out below some examples of a flexible approach to applying the BRE guidelines that are of relevance.

### Reasonableness of retained values in a site's context

5.5. One daylight benchmark that is commonly used in denser, inner-urban areas is to check whether retained VSC values would be in the mid-teens or greater. An example of this approach is the Whitechapel Estate Appeal.<sup>2</sup> There the Inspector noted that development that resulted in a proportion of residual VSC values in the mid-teens, with a smaller proportion in the bands below 15% VSC, have been found acceptable in major developments across London. He stated:

*108. The BRE document offers guidance on generally acceptable standards of daylight and sunlight, but advises that numerical values are not to be rigidly applied and recognises the importance of the specific circumstances of each case. Inner city development is one of the examples where a different approach might be justified. This is specifically endorsed by the [Mayor of London's] Housing SPG, which calls for guidelines to be applied sensitively to higher density developments, especially in (among others) opportunity areas and accessible locations, taking into account local circumstances, the need to optimise housing capacity, and the scope for the character and form of an area to change over time. ... I agree with the appellants that blanket application of the BRE guide optimum standards, which are best achieved in relatively low-rise well spaced layouts, is not appropriate in this instance.*

*109. The SPG advises that the daylight impact on adjacent properties should be assessed drawing on "broadly comparable residential typologies within the area and of a similar nature across London"...*

*112. The figures [from comparable typologies from a range of example sites across Central London analysed by the appellants, comprising both traditional urban streets and recently permitted areas of significant development] show that a proportion of residual Vertical Sky Component ('VSC') values in the mid-teens have been found acceptable in major developments across London. This echoes the Mayor's endorsement in the preSPG*

<sup>2</sup> Appeal reference APP/E5900/W/17/3171437, **Whitechapel Estate**, Varden Street and Ashfield Street, London E1, London Borough of Tower Hamlets, Inspector's decision dated 21 February 2018  
<https://acp.planninginspectorate.gov.uk/ViewCase.aspx?caseid=3171437>

*decision at Monmouth House, Islington that VSC values in the mid-teens are acceptable in an inner urban environment. They also show a smaller proportion in the bands below 15%...*

*113. I acknowledge that a focus on overall residual levels could risk losing sight of individual problem areas. It is accepted that light is only one factor in assessing overall levels of amenity, but I consider that the trade-off with other factors, such as access to public transport or green space, is likely to be of more relevance to an occupier of new development than to an existing neighbour whose long-enjoyed living conditions would be adversely affected by new buildings. However, I also consider that Inner London is an area where there should generally be a high expectation of development taking place. This is particularly so in the case of the appeal site, where the Whitechapel Vision Masterplan and the City Fringe Opportunity Area Planning Framework have flagged the desirability of high density development. Existing residents would in my view be prepared for change and would not necessarily expect existing standards of daylight and sunlight to persist after development.*

- 5.6. Whilst use of the mid-teen VSC benchmark may be appropriate in denser and more built-up areas, a higher benchmark may be more appropriate in more suburban areas.<sup>3</sup>
- 5.7. Ultimately, it is for the planning authority to judge whether affected properties would be left with acceptable levels of daylight and sunlight in their neighbourhood context, having regard to all relevant planning policies and guidance and balanced against the merits of the Proposed Development.

### **Proximity of neighbouring building to site boundary**

- 5.8. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light. Appendix F of the BRE guide gives further guidance. This involves setting alternative target values generated from the layout dimensions of the existing neighbouring building and its position relative to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for the neighbouring windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary.
- 5.9. This is an acknowledgement that the first-built scheme of a local cluster could otherwise prevent the full potential of adjacent sites from being realised. In such cases, a greater reduction in daylight and sunlight may be unavoidable if one site is not to be unfairly prejudiced by how another has been developed.
- 5.10. In the Appeal at Enterprise House, 21 Buckle Street, London E1, the Inspector interpreted this as applying to buildings built at the back edge of pavement and whose windows were therefore "effectively on the site boundary".<sup>4</sup> The Inspector's decision stated:

*19. ... The BRE Guide recognises that windows that are unusually close to the boundary take more than their fair share of light. This is an acknowledgement that the first built scheme of a local cluster could otherwise prevent the full potential of adjacent sites from being realised.*

*20. In such inequitable circumstances the Rainbird judgement found that 'If an existing building has been so designed that, whether by the inclusion of balconies or overhangs, it makes relatively larger reductions in daylight unavoidable even if there is a modest new obstruction opposite, that design could be seen as taking for the existing building 'more than their fair share of light' in the same way the BRE Guide regards a building that has*

<sup>3</sup> Appeal reference APP/A5840/W/19/3225548, **Burgess Business Park**, Parkhouse Street, London SE5, London Borough of Southwark, Secretary of State's decision dated 29 April 2020, paragraphs IR247 and IR248 <https://acp.planninginspectorate.gov.uk/ViewCase.aspx?caseid=3225548>

<sup>4</sup> Appeal reference APP/E5900/W/17/3191757, **Enterprise House**, 21 Buckle Street, London E1 8NN, London Borough of Tower Hamlets, decision dated 17 December 2018 <https://acp.planninginspectorate.gov.uk/ViewCase.aspx?caseid=3191757>

*windows that 'are unusually close to the site boundary' as doing; in each case, a greater reduction in daylight and sunlight may be unavoidable if one site is not to be unfairly prejudiced by how another has been developed.'*

*21. In such a situation the BRE Guide [Appendix F para F5] advises that 'To ensure that new development matches the height and proportion of existing buildings, the VSC and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary.*

*22. The appellants carried out an assessment of the impact on all affected windows through a range of criteria, including a mirror image exercise with the 28 storey Altitude/Goldpence Apartments building...*

*23. The mirror-image exercise, although not quite to the letter of the guidelines, gives a clear indication that overall, in this more equitable arrangement, many more flats in the Altitude/Goldpence Apartments building would be affected and many more in the upper storeys would have a material deterioration in daylight and sunlight levels similar to those in the lower storeys. Such an impact would be considered acceptable, in terms of a fair share of light. In my view this provides a reasonable justification for a greater reduction in daylight and sunlight levels in the surrounding buildings as a result of this proposal than might otherwise be considered appropriate. By strictly applying the BRE guidelines, development of the site would be unfairly prejudiced.*

## **Self-obstructing balconies, wings and other projections**

5.11. Balconies and projecting wings to existing neighbouring buildings obstruct the available daylight and sunlight and can therefore cause relative reductions in light to be amplified. The BRE guide states:

*2.2.13 Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction opposite may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without the balcony in place. For example, if the proposed VSC with the balcony was under 0.80 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light.*

*2.2.14 A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above.*

*3.2.11 Balconies and overhangs above an existing window tend to block sunlight, especially in summer above south-facing windows. Even a modest obstruction opposite may result in a large relative impact on the sunlight received. One way to demonstrate this would be to carry out an additional calculation of the APSH, for both the existing and proposed situations, without the balcony in place. For example, if the proposed APSH with the balcony was under 0.80 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.80, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of sunlight.*

5.12. Clearly, balconies, wings and other projections from buildings can be a factor in the relative light loss to such buildings. In such instances it can be helpful to run a supplementary assessment with the projections removed, in order to understand the degree to which they contribute to the relative light loss.

## Deep, side-lit rooms

5.13. Another example where the standard numerical guidelines need to be applied sensibly is in relation to deep, side-lit rooms. The BRE guide states:

*If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable.*

## Summary

5.14. As explained in Section 3, when reviewing the acceptability of daylight and sunlight impacts to neighbouring residential properties a two-stage approach should be adopted. The factors which are generally considered when applying flexibility to the BRE recommendations are explained further in Sections 4 and 5. GIA have undertaken several supplementary assessments to inform the second stage which consider contextual analysis of existing VSC levels to neighbouring residential properties, without balcony and a mirrored-massing analysis for 7-13 and 19-29 Sheldon Square. This approach is reasonable when considering the scheme involves the regeneration of a low-level site in a central London location.

5.15. Appendix F of the 2011 guidance note states that “*different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated from layout dimensions of existing development:*

5.16. Recent planning appeals have suggested that a noticeable adverse effect might potentially be considered acceptable if, in an urban area, a proportion of retained daylight levels would be in the mid-teens for VSC, with a smaller proportion in the bands below 15% VSC. We have used the following parameters when evaluating reduction beyond the BRE recommendations.

- Vertical sky component: 15% VSC instead of the BRE standard target of 27% VSC, also considering the reasons why some windows will remain with a lower than mid-teen VSC
- Daylight distribution/no-sky line: 50% of the room area instead of the BRE standard target of 80%
- Annual probable sunlight hours: 15% APSH annually and no target for winter instead of the BRE standard target of 15% APSH annually of which 5% APSH should be in the winter months.
- In addition to the above, we will also review the contextual analysis and supplementary ‘without balcony’ and ‘mirrored massing’ when commenting on the potential for unacceptable harm to occur to the relevant neighbouring properties.

## 6.0 Effects on daylight and sunlight to neighbouring buildings

- 6.1. The ES includes detailed tables of results for the daylight and sunlight assessments in the appendices, including levels enjoyed in the existing baseline and proposed conditions and the magnitude of impact, expressed as a percentage loss. These are then summarised on the daylight and sunlight chapter.
- 6.2. The following properties either satisfy the BRE guidelines in daylight and sunlight terms or only experience a minor adverse reduction.

- 1-6 Gilpin Close
- Amilcar Cabral Court, 1 Porteus Road

- 6.3. The properties with the potential to experience a major adverse reduction in daylight and sunlight are explained in more detail below.

### Dudley House

- 6.4. This is a recently constructed residential building located to the east of the development site. The façade with an aspect of the development site has recessed balconies and is located close to the Brunel Building which impacts the passage of daylight from the south.

### Daylight

- 6.5. The VSC results indicate that of the 371 windows tested, 312 (84%) satisfy the BRE guidelines. Of the 59 which fall below the BRE recommendations, 16 would experience a minor adverse impact of between 20-29.9%, 11 a moderate impact of between 30-39.9%, and the remaining 32 a major impact in excess of 40%.
- 6.6. Overall, the level of adherence to the BRE guidelines could be considered good for a recently constructed residential building with recessed balconies which already has its ability to receive daylight hindered due to its proximity to other neighbouring buildings such as the Brunel Building.
- 6.7. The GIA daylight and sunlight report states that of the 59 windows that do not meet the strict application of the BRE guidelines, 38 remain with 3% absolute of the existing baseline condition. This indicates that the actual quantum of change is relatively small but due to the low baseline, the percentage difference is large. For example, bedroom W9/101 experiences a 60% reduction but the actual difference is only 1.8% VSC reduction from an existing VSC of 3% to 1.2% in the proposed scenario.
- 6.8. It should also be noted that several of the remaining 21 windows serve dual aspect spaces which benefit from receiving daylight via other windows which remain with good VSC levels in the post development condition.
- 6.9. With the balconies removed, the overall level of adherence to the BRE guidelines increases to 92%.
- 6.10. The NSL results indicate that of the 232 rooms tested, 187 (81%) satisfy the BRE guidelines. Of the 45 which fall the BRE recommendations, 9 would experience a minor adverse impact, 8 a moderate adverse impact and the remaining 28 a major adverse impact.

### Sunlight

- 6.11. The sunlight analysis reported in the ES indicates that of the 306 windows tested, 275 (90%) satisfy the BRE guidelines. This shows a good level of adherence to the BRE guidelines.

### Summary

- 6.12. Overall, there are areas on the lower to mid floors in Dudley House that have the potential to experience a major reduction in daylight and sunlight in the proposed condition. This in most parts is due to the proximity to the Brunel Building located directly to the south and the design of the recessed balconies which results in low existing levels to certain windows and rooms.

**19-27 Sheldon Square**

- 6.13. This is the residential building located directly to the southwest of the development site. The property currently has an open outlook across the site.
- 6.14. The VSC results indicate that of the 248 windows tested, 131 (53%) satisfy the BRE guidelines. Of the 117 windows which fall below the BRE recommendations, 11 would experience a minor adverse impact of between 20-29.9%, 41 a moderate impact of between 30-39.9%, and the remaining 65 a major impact in excess of 40%.
- 6.15. Due to this property currently having an open outlook, it is not surprising that the proposed scheme results in a low level of adherence to the strict application of the BRE guidelines. Of the 117 which fall below the BRE recommendations, 28 (24%) will retain a VSC below 15%.
- 6.16. In a situation where the development site is vacant or underdeveloped compared to the surrounding area, it is important to also consider the results of the supplementary 'mirrored massing' assessment. This considers the effects of the development, if a building the size of Sheldon Square was already present on the site. The results of the Mirrored Massing assessment indicates that almost all windows in 19-27 Sheldon House meet the alternative target values set by the mirrored massing, with some experiencing an improvement in VSC levels. This indicates that the proposed development could be considered appropriate for the context in daylight terms as it is proportionate with the other buildings in the immediate surrounding context.
- 6.17. Finally, 19-27 Sheldon Square has winter gardens facing the site. For the purpose of the assessment, GIA have treated these spaces as balconies and taken the assessment point on the internal face rather than on the external façade. Testing the internal façade in the recesses means that the windows have significantly reduced light entering the windows as the recesses restrict the passage of light. The BRE states that one way to demonstrate the impact of the balconies is to test the VSC with the balcony removed. If the proposed VSC satisfies the BRE guidelines with the balconies removed, then the presence of the balcony is the main factor rather than the height and bulk of the proposed scheme.
- 6.18. With the balconies removed, the overall levels of adherence to the BRE guidelines remains largely the same, although none of the windows tested retain a VSC of less than 18%. The results do however indicate that the difference between existing and proposed condition is the main factor in the reduced VSC levels.
- 6.19. The contextual analysis provided indicates that 19-27 Sheldon Square will retain VSC levels which are commensurate and, in many instances, higher than the neighbouring properties used in the comparison study. The contextual analysis appears to consider residential properties which are similar to Sheldon Square.
- 6.20. The NSL results indicate that of the 201 rooms tested, 160 (80%) satisfy the BRE guidelines. Of the 41 rooms which fall below the BRE recommendations, 21 would experience a minor adverse impact of between 20-29.9%, 4 a moderate impact of between 30-39.9%, and the remaining 16 a major impact in excess of 40%.

**Summary**

- 6.21. Overall, the proposed scheme does have the potential to cause a significant reduction in daylight levels to the residential units directly facing the site. This is because the units enjoy a relatively open outlook across the development site. The supplementary 'mirrored massing' assessment indicates that almost all windows remain within 20% of the hypothetical baseline condition, many of which experienced improvements, which may be considered acceptable as an alternative target. The retained levels are also commensurate with the levels of daylight experienced by several other residential properties in the area.

**7-13 Sheldon Square**

- 6.22. This is the residential building located directly to the west of the development site. The property currently has an open outlook across the site.

- 6.23. The VSC results indicate that of the 247 windows tested, 185 (75%) satisfy the BRE guidelines. Of the 62 windows which fall below the BRE recommendations, 30 would experience a minor adverse impact of between 20-29.9%, 20 a moderate impact of between 30-39.9%, and the remaining 12 a major impact in excess of 40%.
- 6.24. Of the 62 windows that fall below the BRE guidelines, 54 retain a VSC less than 15%.
- 6.25. With the balconies removed the number of windows which fall below the BRE guidelines reduces from 62 to 18.
- 6.26. GIA have undertaken a mirrored massing assessment which indicates that 94% of the windows tested would remain within 20% of the alternative baseline condition, if a building the height and proportions of Sheldon Square was already present on the site. Due to the location of the flyover, the mirrored massing is not an exact mirror of 7-13 Sheldon Square.
- 6.27. The contextual analysis indicates that the retained levels within 7-13 Sheldon Square are commensurate with and in many cases greater than the levels currently experienced by nearby residential properties.

### **Summary**

- 6.28. As with 19-27 Sheldon Square this property currently benefits from very good levels of daylight due to facing over the low-level existing buildings, and therefore a large reduction in daylight levels is unavoidable if the proposed site is to be developed to match the height and proportions of other neighbouring properties in the area.

## 7.0 Conclusion

- 7.1. The daylight and sunlight assessment undertaken in the ES chapter and supplementary report is comprehensive and have been undertaken in accordance with the published guidelines. Appropriate assessment criteria have been used and the supplementary assessments and approach to applying a two-stage approach when reviewing the daylight and sunlight results is generally considered acceptable.
- 7.2. The site is located within the Central Activities Zone (CAZ) and the Paddington Opportunity Area (POA), where tall more dense buildings have been constructed in recent years. It currently contains a low-level industrial building and is surrounded by larger properties which have been developed in recent years.
- 7.3. We have reviewed the daylight and sunlight implications of the scheme using methodologies recommended in the BRE guide, and considered the intentions of the national, regional and local planning policy. All of which recommend a flexible approach to applying the BRE guidelines.
- 7.4. The advice contained in the BRE guide is not mandatory and its numerical guidelines should be interpreted flexibly, as confirmed in the guide itself and in numerous appeal decisions.
- 7.5. Dudley House has the potential to experience a major reduction to isolated areas. The main contributing factor is the design of the recessed balconies and proximity to the Brunel Building. Generally, the actual quantum of change is relatively small, with the large percentage differences often caused by the low existing baseline levels.
- 7.6. Both 7-13 and 19-27 Sheldon Square currently benefit from an open outlook across the development site. Therefore, a large reduction in daylight exceeding the BRE guidelines is inevitable if the site is not to be sterilised due to the location of these buildings in relation to the development site. The supplementary 'mirrored massing' and contextual analysis indicate that the height, bulk and massing of the proposed scheme could be considered appropriate for the site and both Sheldon Square buildings will be left with levels of daylight which are commensurate with other properties in the immediate surrounding area.
- 7.7. It is ultimately a matter of judgment for the GLA whether the significant adverse effects are considered acceptable given all the factors under consideration as part of the broader planning balance and having regard to reasonableness of the retained values in an urban context.

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## Appendix 1

### Assessment methodology and glossary

1. This appendix explains the daylight and sunlight assessment methodology recommended in BRE Report 209, 'Site Layout Planning for Daylight and Sunlight: A guide to good practice' (2022 edition) and provides a glossary of the terminology used.

#### Assessment methodology

##### **Daylight and sunlight to neighbouring buildings and amenity spaces**

###### Daylight to neighbouring buildings

2. The BRE guide states:

*In designing a new development or extension to a building, it is important to safeguard the daylight to nearby buildings. A badly planned development may make adjoining properties gloomy and unattractive.*

*The guidelines given here are intended for use for 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.*

3. To quantify the impact of development on daylight to a building, the BRE guide recommends two tests:

- a) calculating the vertical sky component (**VSC**) at the centre of each main window on the outside plane of the window wall, to measure the total amount of skylight available to the window; and
- b) plotting the no-sky line (**NSL**) on the working plane inside a room, where layouts are known, and measuring the area that can receive direct skylight, to assess the distribution of daylight around the room.

4. The VSC measures the skylight available at the window. The guide states:

*Any reduction in the total amount of skylight can be calculated by finding the VSC at the centre of each main window ... For a bay window, the centre window facing directly outwards can be taken as the main window. If a room has two or more windows of equal size, the mean of their VSCs may be taken. The reference point is in the external plane of the window wall. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.*

5. The NSL test is described thus:

*Where room layouts are known (for example if they are available on the local authority's planning portal), the impact on the daylighting distribution in the existing building should be found by plotting the no sky line in each of the main rooms. For houses this would include living rooms, dining rooms and kitchens; bedrooms should also be analysed although they are less important. In non-domestic buildings each main room where daylight is expected should be investigated. The no sky line divides points on the working plane which can and cannot see the sky.*

6. If, following development, the VSC to a neighbouring window will be greater than 27% then enough skylight should still be reaching the window. Any reduction below this level should be kept to a minimum. If the VSC will be both less than 27% and less than 0.80 times its former value, occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear more gloomy and electric lighting will be needed more of the time.

7. If, following development, the no-sky line moves so that the area of the existing room that can receive direct skylight will be reduced to less than 0.80 times its former value, this will be noticeable to the occupants and more of the room will appear poorly lit. This is also true if the no-sky line encroaches on key areas like kitchen sinks and worktops.
8. A third daylight test in the BRE guide is daylight illuminance, which assesses the overall level of daylight inside a room. It is a detailed calculation that takes account of window and room parameters, including the net glazed area of each window (after discounting frames and glazing bars), the diffuse light transmittance of the glazing, the total surface area of the room and the reflectance of those surfaces, the reflectance of the exterior surfaces, plus the amount of sky visible at each of the windows. It is therefore primarily intended for assessing daylight within proposed buildings, where such parameters can be readily established. It may also be used to assess neighbouring consented development that is not yet built and could be affected by a proposed development.
9. Using the supplementary daylight illuminance test for existing neighbouring buildings can potentially be a useful supplementary test to aid a more rounded and balanced judgement on the acceptability of VSC and NSL effects, as the post-development retained daylight illuminance values may be checked against the minimum recommendations for new dwellings. These are 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens. 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.

#### Sunlight to neighbouring buildings

10. The BRE guide states:

*To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. Normally loss of sunlight need not be analysed to kitchens and bedrooms, except for bedrooms that also comprise a living space, for example a bed sitting room in an old people's home.*

*A point at the centre of the window on the outside face of the window wall may be taken [as the calculation point].*

11. To quantify the available sunlight, the BRE guide advises measuring the percentage of annual probable sunlight hours (**APSH**), which is defined as follows:

*'probable sunlight hours' means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question.*

12. The assessment calculates the percentage of APSH over the whole year (annual sunlight) and between 21 September and 21 March (winter sunlight).
13. If, following development, the APSH to a neighbouring window will be greater than 25%, including at least 5% of APSH in the winter months between 21 September and 21 March, then the room should still receive enough sunlight. Any reduction in sunlight access below this level should be kept to a minimum.
14. If the available sunlight hours will be both less than the above amounts and less than 0.80 times their former value, either over the whole year or just in the winter months, then the occupants of the building will notice the loss of sunlight; if the overall annual loss is greater than 4% of APSH, the room may appear colder and less cheerful and pleasant.

#### Sunlight to neighbouring gardens and amenity spaces

15. Sunlight should be assessed on the equinox (21 March) to main back gardens of houses, allotments, parks and playing fields, children's playgrounds, outdoor swimming pools, sitting-out areas, such as in public squares and focal points for views, such as a group of monuments or fountains.

16. The assessment measures the percentage of each area that can receive at least two hours of sunlight on 21 March - the 'two-hours sun-on-ground' (**SOG**) test.
17. It is recommended that at least half of the area of a garden or amenity space should be able to receive at least two hours of sunlight on 21 March. If such a space is already heavily obstructed, then any further loss of sunlight should be kept to a minimum. In this poorly sunlit case, if, following development, the area which can receive two hours of direct sunlight on 21 March is reduced to less than 0.80 times its former size, this loss of sunlight is likely to be noticeable. In such cases the garden or amenity area will tend to look more heavily overshadowed.
18. Sunlight at an altitude of 10° or less is ignored, because it is likely to be blocked by planting, and fences or walls less than 1.5 metres high can also be ignored. Front gardens, driveways and hard standing for cars are usually omitted. 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 a deep shadow of a building.
19. Where a large building is proposed which may affect a number of gardens or open spaces, the guide advises it can be illustrative to plot shadow plans showing the location of shadows at different times of day and year. The equinox (21 March) is the best assessment date as it shows the average level of shadowing. Mid-summer (21 June) is an optional addition date when there would be greater sunlight availability and reduced overshadowing.

### Glossary of terms

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

Term	Meaning
Annual probable sunlight hours ( <b>APSH</b> )	The long-term average of the total number of hours during a year in which direct sunlight is expected to shine on the unobstructed ground, allowing for average levels of cloudiness for the location in question.
Daylight, natural light	Combined skylight and sunlight.
Daylight illuminance	Illuminance from daylight that should be achieved for at least half of annual daylight hours across half of the reference plane in a habitable room in a dwelling.
No-sky line ( <b>NSL</b> )	The outline on the working plane of the area from which no sky can be seen. It divides points on the working plane which can and cannot see the sky.
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.
Sky factor	Ratio of the parts of illuminance at a point on a given plane that would be received directly through unglazed openings from a sky of uniform luminance to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The sky factor does not include reflected light, either from outdoor or indoor surfaces.
Sun on ground ( <b>SOG</b> )	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.
Vertical sky component ( <b>VSC</b> )	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.

Term	Meaning
	<p>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.</p> <p>The ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.</p>
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.

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