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Date: 6th February 2017
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Dear Directors

Regents Wharf Development – Review of Daylight and Sunlight Assessment

As instructed, I have undertaken a review of the Daylight and Sunlight Assessment that has been prepared by Gordon Ingram Associates (GIA) for the proposed redevelopment, refurbishment and extension of the site at Regent's Wharf (planning reference P2016/4805/FUL).

Executive Summary

The GIA daylight and sunlight study has been undertaken in line with the general principles set out within the BRE Guidelines, has employed the full suite of recommended assessment methodologies and has used data that is of a quality commensurate with the scale and nature of the proposed development. The report identifies a large number of windows that do not meet the standard assessment criteria and in response, focusses heavily on the references within the guidelines that acknowledge the need for a flexible approach when applying the criteria.

Further reference is made to precedents for adopting reduced target values for retained levels of daylight and in line with these, a lower target value is used. However, with the proposed development in place, 44 of the windows belonging to the neighbouring buildings fail to achieve this reduced target. Further tests are applied in an attempt to examine the impacts using different techniques and reference is made to the architectural design of the impacted buildings suggesting it is this that is the primary reason for the low levels of daylight.

This review has identified numerous instances where it is considered that the 'flexible' interpretation of guidance has been pushed way beyond what is reasonable and as a result, many rooms will be left with significantly reduced levels of daylight. Whilst it is acknowledged that a degree of impact on the amenity of neighbours is often unavoidable when developing in dense urban environments, there does have to be an acceptable limit nevertheless.

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In this case, GIA's assessment has identified that there will be significant impacts, but has tried to justify that this is acceptable. However, the fact that GIA's analysis shows one of the main living rooms of an apartment within Ice Wharf to be left with no natural daylight whatsoever, highlights just how far beyond reasonable limits the interpretation of results has been pushed. Notwithstanding the significant impacts to the 40 or so rooms highlighted by the report, the fact that the proposed development would leave at least one main living room completely devoid of daylight would be in complete contradiction of the Council's planning policy. On this basis alone, it is the conclusion of this review that the application should be refused.

Overview and Introduction

My review has focussed on the appropriateness of the methodologies employed in the assessment of the impact of the proposed development on the daylight and sunlight enjoyed by the neighbouring buildings and the way in which current best practice guidance has been interpreted. Whilst I have examined the numerical outputs from GIA's model, I have not undertaken any additional analysis or a technical audit of the computational model used to derive these.

My observations are summarised as follows:

General Approach – GIA is an independent firm of chartered surveyors and technical specialists that are well established within the world of daylight and sunlight analysis. The objective of GIA's assessment was to examine and test the potential impact of the proposed development on the daylight and sunlight enjoyed by the neighbouring properties. The report states that the assessment has been carried out in line with the Building Research Establishment 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice', Second Edition, 2011, herein referred to as the BRE Guidelines. Reference is also made to the London Housing Supplementary Planning Guidance (SPG) March 2016.

*The consultant's qualifications, experience and the guidance referenced d*oes not give rise to any concern.

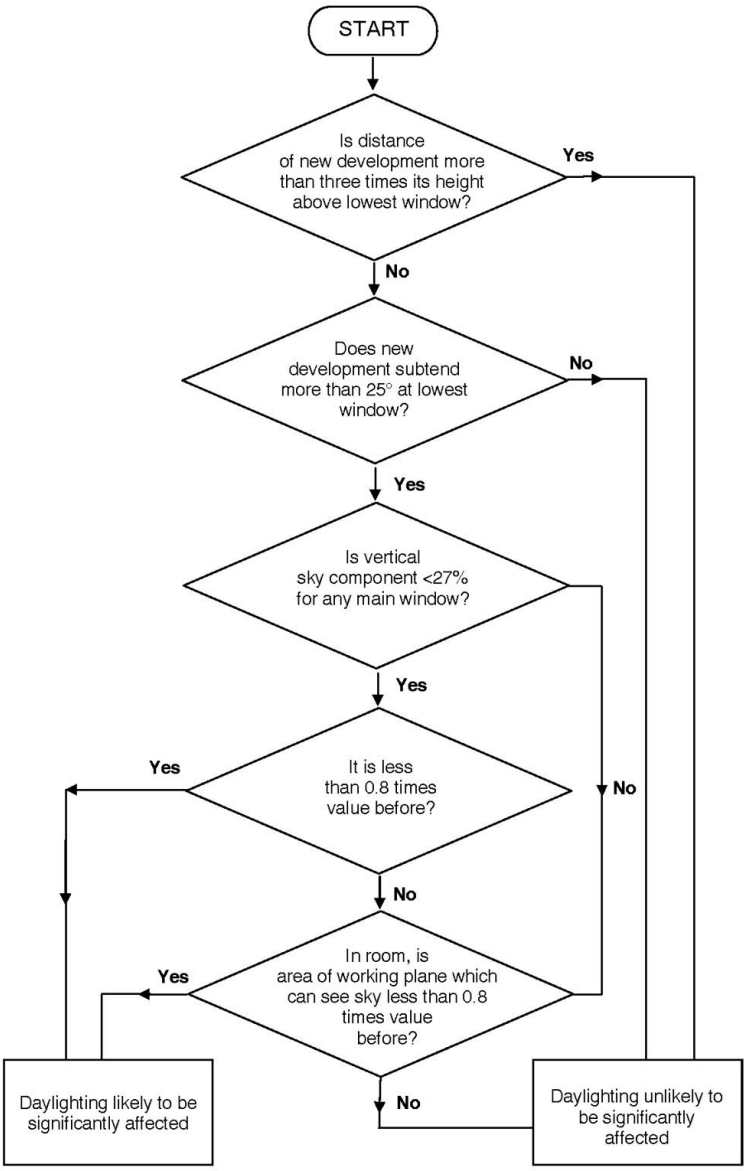
Supporting Information – The GIA report includes a summary of the data and information that has been used to inform that daylight/sunlight study. This includes three-dimensional ground/building model data (Vertex Modelling) and full measured 3D model survey data. This has been supplemented with photographs and aerial photography.

Internal surveys of the neighbouring buildings have not been carried out, although floor plans from Islington Planning Portal and online estate agency websites have been used to provide information on floor plans and room layouts for Ice Wharf properties and Thornhill Bridge Wharf. However, the report acknowledges that GIA were only able to source partial floor plans for the Ice Wharf building.

The supporting information used to inform the study is considered commensurate with the scale and nature of the proposed development, although the lack of detailed floor plans for the Ice Wharf building is important and is discussed in detailed further on in this review.

Adherence to the BRE Guidelines - In the absence of official national planning guidance / legislation on daylight and sunlight, the BRE Guidelines are the most recognised guidance document within the UK. The BRE Guidelines are not mandatory and themselves state that they should not be used as an instrument of planning policy, however in practice they are heavily relied upon as they provide a good guide to approach, methodology and evaluation of daylight and sunlight impacts.

The primary objective of a daylight and sunlight assessment is to quantify the impacts of the proposed development on the adjacent building. A specific hierarchy of methodologies are set out by the BRE Guidelines and this is clearly illustrated in the 'decision chart' (Figure 20 of the Guidelines) which has been reproduced below for clarity.



An important point to highlight here is that the daylight assessment methodology prescribed by the BRE Guidelines includes two specific tests that should both be passed for the impact on daylight to be considered as insignificant. The first of these tests is the Vertical Sky Component (VSC) tests, which is a calculation of the ratio of the direct sky illuminance falling on the outside of a window, to the simultaneous horizontal illuminance under an unobstructed sky. This test gives an indication of the loss of potential daylight to the window.

The other test that is intended to be used alongside the VSC is the No Sky View test, which is also referred to as the Daylight Distribution test. This describes the distribution of daylight within rooms by calculating the area of the 'working plane', which can receive a direct view of the sky and hence 'skylight'.

The BRE Guidelines state that if following the construction of a new development the No Sky Line moves such that the area of existing room that does not receive direct skylight is reduced to less than 0.8 times its former value, the impact will be noticeable to the occupants. This is also true if the No Sky Line encroaches onto key areas like kitchen sinks and worktops.

One of the main reasons that the NSL test is prescribed by the BRE Guidelines is that the resulting contour plans show where the light falls within a room, both in the existing and proposed conditions, and a judgment may be made as to whether the room will retain light to a reasonable depth.

The GIA assessment includes the analysis of both the VSC and NSL 'with' and 'without' the development in place and the results of the analysis are included in Appendix 03 of the report. However, there are two key concerns that arise from the consideration of the NSL results.

Firstly, the NSL contour plots have not been included within the appendix to the report. These plots are an important element of the assessment process, as they give a very clear indication as to the change in the daylight distribution resulting from the proposed development. The NSL contours are normally shown within the plan layout context of each room and therefore a secondary benefit of including these drawings is to demonstrate to the reader how the building and internal room layouts have been modelled. There is no reason given within the report why these plots have been omitted.

Reference to the NSL results in the appendix of GIA's report show that there are many instances where the NSL losses exceed 20%, i.e. the ratio of change falls below 0.8. In fact, in the Ice Wharf South building there are 10 rooms where the ratio of change falls below 0.6 and 3 instances where rooms have a ratio of change below 0.3.

These are shown to be living/kitchen/dining rooms belonging to apartments 313, 323 and 333 and when the corresponding VSC results are examined it can be seen that the ratio of change is equally poor, ranging from 0.25 on the first floor to 0.43 on the third floor.

When the GIA appraisal of impacts to this building is referenced, it can be seen that the report simply states that 11 of the 20 non-compliant rooms show full compliance to the NSL target values. The report then moves on to discuss ADF results and completely avoids acknowledging that there are 9 rooms left with non-compliant VSC and NSL values, even when a reduced VSC target of 15% has already been adopted. At this point, there should be no avoiding the point that 9 rooms within the Ice Wharf building have VSC and NSL values that imply a major adverse impact.

Notwithstanding this, the GIA report then goes onto discuss the ADF results and concludes that these significant impacts are as a result of 'architectural features' which cause a restriction in the amount of daylight received by the windows.

It is acknowledged within the BRE Guidelines that features such as balconies can exacerbate the impact of new development. However, the Guidelines go on to state that the impact should be assessed both 'with' and 'without' these features to confirm whether any amplification of impact is taking place. GIA have not undertaken any such comparison and have simply 'assumed' that the impact is as a result of these architectural features. This should be viewed as a significant technical weakness in GIA's argument, as the BRE Guidelines are quite clear on this matter.

Given that this is the section of the report that should be discussing the most significantly affected rooms, the dismissive nature of the text (last paragraph of page 17) is quite surprising. It states "The four remaining *rooms serve LKD's. Given the existing architectural form of the elevation of Ice Wharf* (with balconies) coupled with the close proximity to the development, means that any redevelopment proposal has the potential to create disproportionate percentage alterations to the daylighting experienced to these rooms. Our analysis indicates that the largest reduction is located on the first floor where the ADF alteration is 0.6%."

What GIA fail to say here is that Room R9/101 only started with an ADF value of 0.6% and therefore this alteration does in fact reduce the ADF to 0.0%. As a result of the proposed development, this room is left with no daylight whatsoever.

Without the reader looking carefully at the results in the appendix to the report, the magnitude of the impact is completely disguised by the careful wording of this paragraph. Whilst this is the only example of a room being left completely without daylight, there are many other examples of where the impact of the proposed development is not fully disclosed.

GIA set out a reasoned argument that an alternative VSC target value of 15% rather than the 27% set out within the BRE Guidelines, would be more reasonable when considering the inner-city location of the site. It would therefore be expected that if there were windows with retained VSC values less than 15%, it would be concluded that the proposed development was having an overly adverse impact. However, reference to the results of the analysis reveals that there are in fact 44 windows that have VSC values less than 15%.

Instead of acknowledging that there is a significant number of windows that do not even meet the 'revised' VSC target, GIA then refer to the NSL and ADF results. This is not considered appropriate on two accounts.

Firstly, the BRE Guidelines are clear that both the VSC and NSL tests should be passed for an impact to be deemed acceptable. The Guide does not promote the use of NSL as a means of a secondary 'back-up' test. The NSL test is design to complement the VSC test and is not intended to simply be wheeled out when the VSC results are well below target values.

Secondly, the BRE Guidelines are very clear in how and when the ADF test should be used to support VSC and NSL results. Paragraphs F6 and F7 of Appendix F clearly state that it is not appropriate to use ADF for assessing impacts to neighbouring buildings. Nevertheless, in practice ADF is a generally accepted method of quantifying levels of retained daylight, but only when a thorough understanding of room layout and dimension is known. This is because the ADF calculation is very sensitive to room dimensions, glazing type and the reflectance of the surfaces within the room. GIA acknowledge in their report that layout and dimensional information was not obtained for all rooms within the neighboring buildings and that internal inspections were not carried out. Therefore, the use of ADF is not technically appropriate in this instance.

It is also of value to note that the freehold owners of the Regents Wharf site recently issued a Light Obstruction Notice against the Ice Wharf building. Whilst this relates to the Rights of Light Act 1959 and is not a material consideration in Planning Law, it raises an interesting point. This being that the Ice Wharf building is close to acquiring rights to light via prescription, i.e. the Ice Wharf building has enjoyed uninterrupted light over the Regents Wharf site for 20 years or more. The fact that a Light Obstruction Notice has been issued suggests that the developer is already aware that the proposed Regents Wharf scheme will result in an actionable injury to the light enjoyed by some of the rooms within the Ice Wharf building.

Unlike the approach taken by a daylight/sunlight assessment, when the courts preside over daylight injuries, there is no such 'flexible' approach and in fact there is a detailed methodology used to establish whether adequate light will remain once the proposed building has been constructed. Without laboring the technical detail, a room is considered to be adequately lit if more than 50% of its working plane area receives 0.2% sky factor. To put this into perspective, this is the equivalent of saying that at the point at which the level of daylight is only just considered legally adequate, half of the room will have light levels less than one lumen. This is the equivalent to the light from a single candle at a distance of one foot and is also considered the minimum amount of light required to read the small print of The Times.

The point being made here is that for the freeholder of the Regents Wharf site to be concerned enough to issue a Light Obstruction Notice to prevent the owners of Ice Wharf from acquiring any rights to light, a significant loss of light must be anticipated. This means that within the worst affected rooms daylight levels will be reduced to such an extent that in over 50% of the room it would not be possible to read a newspaper in broad daylight.

It is also understood that GIA will be submitting additional information that will be used to help to establish what would be considered as a reasonably expected level of daylight within a typical inner-London dwelling.

It is accepted that the BRE Guidelines are not designed to be used as a pass/fail mechanism and a degree of flexibility needs to be applied so that the site-specific nature of the environment in which the development is sited can be taken into account. However, this flexible approach needs to be applied in an objective manner such that the overall outcome remains unbiased. It is fully acknowledged that the daylighting within a lot of inner-city dwellings is notably less than would be expected in a more sub-urban environment and this fact is not challenged. What is not acknowledged anywhere in GIA's assessment is that the Ice Wharf and other buildings in this location are actually sited in a canal-side location, which by nature facilitates a more 'open' feel to the area.

The Regents Canal is referred to specifically in the Council's Core Strategy document as an area of 'open space' and it is fully recognised that such 'open' environments are rare within the borough and within the city as a whole. It is the proximity to a water body within the urban environment that contribute significantly to the amenity value of that area. It is this 'open' nature that the Council's planning policy seeks to protect.

Given that part of the original attraction of the Ice Wharf and other buildings in this location was the more 'open' nature of their canal-side location, it would seem wholly inappropriate to attempt to justify the significant reduction in daylight that will result from the proposed development on the basis that the retained daylight values are 'typical' for London. This is not a typical London environment by design.

This degree of generalisation is not what the author of the BRE Guidelines envisaged when acknowledging that they should be applied flexibly.

In summary, there are a number of significant issues highlighted as part of my review of the GIA daylight and sunlight assessment. These are:

i) A reduced VSC target value has been adopted based on the argument that the occupants of the impacted buildings should expect no more daylight than a typical window in the more densely developed areas of the City. This approach is disputed.

ii) Regardless of whether the above is considered an acceptable argument, even when the reduced target value is used, 44 windows have VSC values that fall below this reduced target.

iii) Alternative assessment methods have been used to quantify the retained daylight within each room and used to demonstrate that even with the development in place the neighbouring rooms still retain adequate daylight. Without full details of the internal layout and dimensions of each room, which is the case for at least some of the rooms, this methodology should not be used.

iv) Poor daylighting in some rooms under existing conditions is blamed on the architectural design of the building. The BRE Guidelines are clear that when this assumption is made, the impact of the development, both with and without these architectural features, should be tested to confirm that this is the case. This analysis has not been undertaken.

v) The No Sky Line contour plots have been omitted from the report, which make interpretation of the results difficult.

When all of the issued highlighted above are taken into account, it is evident that the proposed development at Regents Wharf will have a significant impact on the daylight currently enjoyed by the occupants of the neighbouring buildings.

The GIA report repeatedly quotes the BRE Guidelines in its support of a 'flexible' approach to the interpretation of the numerical analysis. However, what has to be acknowledged is that there is a limit to just how far the guidelines can be flexed. It is my opinion that that on numerous instances, the GIA report has moved way outside of what would be considered as the acceptable boundaries for a technical assessment. This is typified by the report concluding that with the development in place, <u>all</u> rooms would be left with adequate daylight and blaming any breach of compliance on the architectural design of the building itself. Whilst exploring the potential for the design of the building itself to exacerbate the impact of the development could be accepted as looking at the results in a flexible way, justifying a situation whereby a room is left with no daylight whatsoever cannot.

In conclusion, it is my professional opinion that the GIA assessment does not robustly demonstrate that the proposed development would leave the neighbouring buildings with a reasonable level of daylight. However, putting aside the subjective argument of what is, and is not considered to be technically appropriate, there is one outstanding fact that cannot be overlooked. This is that the GIA report shows the lounge/kitchen/dining room, i.e. the main living space within Flat 313 (model reference number R9/101) to be left with no daylight whatsoever.

Regardless of how guidelines are interpreted, it is wholly unacceptable for new development to totally obscure all natural daylight from a main living room of a residential dwelling and therefore it is my recommendation that the application is refused on this basis.

Yours sincerely

[redacted]

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