

Planning & Transportation Committee – 24 February 2021

Further Addendum for Agenda item 4.

Planning application 20/00869/FULEIA: 2-3 FINSBURY AVENUE LONDON EC2M 2PF

1. Letters of Representation

The owners of One Crown Place (OCP) “AMTD” submitted a detailed objection and supporting documents to the proposals regarding the potentially adverse effect on OCP and the wider City of London. The grounds of objection are summarised and addressed in the ‘Representations (Objections)’ table under paragraph 43 in the Officer’s committee report.

The owners of One Crown Place have submitted a further objection to the application, which includes letters relating to the impact of the development on the wind microclimate and the daylight and sunlight received by the residential properties within One Crown Place.

The applicants have responded to the further objections raised by OCP. Officers largely concur with the comments in the applicant’s responses and they have been taken into consideration in the officer’s response to the objection.

The objection details are summarised in the table below, along with officer responses to the comments raised. The objection letter and applicant’s responses are attached to this addendum report and they have been made available to view on the public website.

| Representations (objections) | |
|----------------------------------|--|
| Wirth Research on behalf of AMTD | <ul style="list-style-type: none">Wirth have submitted a CFD study on behalf of One Crown Place, assessing the effects of the proposed 2-3 Finsbury Avenue development on the wind microclimate surrounding One Crown Place. The assessment was carried out using 8 wind angles in key south and south-westerly wind angles which reflect the most significant winds in the City of London, as well as the proposed developments relative position to One Crown Place. The (old) Lawson criteria was used to assess the impact. <p>Officer Response to Comments: It is acknowledged within the Wirth report that modelling was not undertaken in accordance with the City of London Guidelines, no information has been provided within the report with respect to the extent of surrounding buildings included within the model and other key aspects with respect to the accuracy and detail of their simulations.</p> <p>The CFD modelling has been undertaken from only 8 wind directions which is a conservative approach. These results have been combined with climate data to provide an assessment using the City of London Lawson Criteria. To apply the Lawson Criteria to such a small number</p> |

of wind angles is an incorrect interpretation of the Criteria and is not valid.

The CFD assessment does not include any of the mitigation measures which were developed by the design team to mitigate wind conditions around the site. Therefore, the assessment of wind condition presented by Wirth will be inherently windier than conditions with these wind mitigation measures implemented.

- The gap between the two towers channels air flow in a wind tunnel effect and directs the flow towards the façade of One Crown Place. This effect could cause comfort issues on the façade of One Crown Place. Further testing should be carried out or appropriate conditions should be implemented requiring testing to assess the impact of the proposed 2-3 Finsbury development on the façade of One Crown Place, as wind assessments appear to only focus on pedestrian conditions.

Officer Response to Comments:

The flow visualisation presented in image 1 of Wirth's report show the acceleration in wind speeds which is present between the 2-3FA towers. The review argues that this acceleration persists onto the OCP façade, which is not supported by the streamlines in Image 1 (of Wirth's report) which shows a deceleration as the streamlines approach OCP. No plots of wind speeds on OCP terraces have been provided by Wirth to support the claim that this flow behaviour results in an adverse impact on OCP.

The City of London Wind Guidelines state that pedestrian-level wind speeds should be measured at a height of 1.5m at critical locations to assess the impact on pedestrian safety and comfort. Facades are not expected to be assessed.

- The Wind tunnel does not assess conditions in the One Crown Place courtyard, an amenity space of the One Crown Place development, despite probes being placed in more confined locations such as in the central passage region. The courtyard provides the entrance to the One Crown Place residents as well as outdoor seating areas for the hotel located within the terrace. Wind tunnel testing should be undertaken within this location to understand fully the impacts of this part of the development alongside the CFD assessment. Due to this amenity space falling close to the proposed development, it would be reasonable to expect wind tunnel measurements to be taken at this location, as have been done so at terrace level.

Officer Response to Comments:

The CFD modelling undertaken by Ramboll did assess this space and Frequent Sitting comfort conditions were reported in both the baseline and proposed test scenarios and therefore suitable for the intended amenity use. In addition, Wirth's CFD modelling Frequent Sitting wind comfort conditions with the 2-3FA scheme constructed. Therefore, there is no evidence to suggest that the proposed 2-3FA development has an adverse impact upon the OCP courtyard amenity space.

- The assessment carried out by Wirth indicates a potential region of comfort exceedance (under the old Lawson criteria) at the Sun Street end of the central passage underneath the podium of 2-3 Finsbury. The reverse streamlines indicate the mitigation measures introduced in the applicants CFD and Wind Tunnel reports (in particular the planting in Finsbury Avenue Square and Whitecross Place porous umbrellas) are not in regions through which the stream would pass. This region is of potential concern and should be considered within the post completion wind audit and mitigation introduced if conditions are found to be unsuitable, should this not be considered an area to require further study before commencement of construction.
- The flow around the east of the proposed development creates a significant and focussed flow across Sun St. This generates elevated wind velocities across Sun Street and also, potentially, around the corners of the building onto Sun Street and Appold Street respectively. Wirth recommend that suitable conditions should be implemented to ensure sufficient mitigation is enforced, as well as a requirement to focus on these areas in the post completion wind audit
- The mitigation measures relied on to the east of the proposed 2-3 Finsbury Avenue building to mitigate against potentially unsafe flows is heavily skewed towards tree planting and concerns are raised with regards to the suitability of tree planting to mitigate against winds and maintenance issues.
- Given the wind conditions shown without mitigation measures, when compared to the CFD wind report, provided by Ramboll in the Wind Microclimate Appendix, the impact of the mitigation measures is significant, and sufficient planning conditions should be in place to ensure the necessary levels of mitigation are retained, as well as these regions being a key area of focus for the wind audit.

Officer Response to Comments:

Flow visualisation presented in image 4 (of the Wirth report) shows flow hitting the west tower, travelling down the façade and through the passageway. The Wirth review argues that this behaviour negates the benefit of the proposed wind mitigation umbrellas within Whitecross Place. However, the flow visualisation presented by Wirth only shows flow down a part of the façade, and if the streamline was moved to the west it would likely show an interaction with the proposed umbrellas.

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| | <p>The existing wind conditions at the public passageway through the site ranges between frequent sitting use to standing use with two locations at the northern entrance of the passageway along Sun Street being suitable for walking use. The wind conditions at the northern side of the passageway along Sun Street, would become one category windier and would change from a mix of frequent sitting and occasional sitting to standing and walking conditions, during the windiest season (No safety concerns are raised). Mitigation measures are proposed in the form of 2.5m solid downstand on both sides of the passageway underneath the Proposed Development. With these mitigation measures in place the conditions at the northern end of the passageway would be suitable for its intended use.</p> <p>A condition has been recommended for the submission of details of the wind mitigation measures stated in the ES prior to demolition and for the exploration of further wind mitigation measures to the east of the development (between the proposed development and 5 Broadgate) and the condition requires the wind mitigation measures to be retained and maintained for the life of the building.</p> <ul style="list-style-type: none"> • A Wind Audit would be secured in the S106 Agreement which would require a post-completion audit to assess and compare the results of the Wind Tunnel Test against the results of wind speed assessments carried out in the vicinity of the site over a specified period, to identify if the completed development has material adverse effects not identified in the ES. The applicants would be required to explore further wind mitigation measures to mitigate any impact to the satisfaction of the local planning authority and to secure implementation of measures as required by the local planning authority. |
| GIA on behalf of AMTD | <p>Based on the information provided by the applicant's surveyor, we feel there are key areas of analysis which are not discussed or provided beyond the technical appendices to the Environmental Statement (ES) and the ES Addendum and are therefore not captured within the Committee report. The following additional information is required in order to fully understand the daylight and sunlight impacts that will occur to One Crown Place as a result of the proposed development at 2-3 Finsbury Avenue.</p> <ul style="list-style-type: none"> • There is no discussion on impacted room uses within One Crown Place and of those, how many are dual aspect and how many are single aspect. • There is no discussion or break down on the impacts that fall beyond >40% for VSC to enable a full understanding of the severity of these reductions. • Discussion should have been provided that allows for the marriage of the VSC and NSL assessments to provide sufficient information for the determination of the acceptability of the daylight impacts of |

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| | <p>the development. Currently it is not clear whether it is the same windows / rooms that pass / fail each assessment.</p> <ul style="list-style-type: none"> • Detailed discussion should have been provided on the retained VSC levels to the impacted windows within One Crown Place, as it is currently not possible to gain a full understanding of this just from the retained VSC façade images provided. The information provided focuses on the percentage reductions in the assessment of the revised proposal against the true existing baseline, but this is not sufficient to gain a full appreciation of the impacts to One Crown Place. • The Average Daylight Factor (ADF) methodology has been used to assess the impact on daylight received by One Crown Place. Whilst we appreciate the desire to provide an ADF assessment to enable a side by side comparison to the previously approved application, reliance on this assessment in isolation would not be in keeping with the BRE recommendations. • It would appear that all bedrooms within One Crown Place, regardless of their orientation, have been discounted from the sunlight assessment. Conclusions cannot therefore be drawn on the true impacts of the development on the sunlight received by One Crown Place. <p>Based on the information submitted as part of the application, we can conclude that very significant daylight and sunlight impacts will occur to One Crown Place as result of the proposed scheme at 2-3 Finsbury Avenue, when assessed against the true existing baseline.</p> <p>Without the necessary discussion on daylight impacts and full sunlight analysis, the reports submitted fall short of providing a full and comprehensive picture of the daylight and sunlight impacts caused to One Crown Place as a result of the proposed development. As a consequence, the Committee report lacks the necessary detail for a fully informed decision to be made on this development by members.</p> <p>Officer Response to Comments:</p> <ul style="list-style-type: none"> • The Environmental Statement (ES) chapter on daylight and sunlight, ES Addendum, letter of response to Objection of AMTD London Development Co Limited dated 22 January 2021, and technical appendices which have been submitted, are in line with standard industry practice for assessing daylight and sunlight. The information provided in the ES and its Addendum is considered to be comprehensive and accurate and the technical analysis within the ES is correctly summarised in the officer's report to committee. • The information on room uses is provided in all tables presented in the ES Addendum Appendices. In addition, all appendices include floor plans and window maps, as well as orientation references for all windows within the tables, from which information on single or |
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| | <p>dual aspect rooms can be drawn. The information on VSC and NSL is presented side by side in all the documented Appendices.</p> <ul style="list-style-type: none"> • The ES Addendum clearly sets out the significance and scale of impacts and states that Major Adverse impacts against baseline conditions would be found upon implementation of the Proposed Development. All numerical data on retained VSC values, as well as NSL, ADF and APSH are presented in the appendices. The information submitted also includes letter of response to Objection of AMTD London Development Co Limited dated 22 January 2021, which helps to ease the understanding of the impacts and retained values. • The Average Daylight Factor (ADF) methodology has been used to supplement the VSC and NSL methodologies to assess the impact on daylight received by One Crown Place. The findings of the ADF assessment has been summarised in paragraphs 356 and 357 of the Officer's report. • Bedrooms within One Crown Place have not been assessed for sunlight within the ES submission. This is consistent with the methodology within both the previous One Crown Place planning application submission and the 2016 planning application for 2-3 Finsbury Avenue (ref: 20/00869/FULEIA). Para 3.2.3 of the BRE Guideline 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 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.". In addition, the attached letter from Dr. Paul Littlefair (the author of the BRE publication Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice, 2011) states 'Normally we would not include loss of sunlight to bedrooms in a detailed analysis; and loss of sunlight to bedrooms would not be treated as a material issue except in bedrooms that also comprised a living space, for example a bed sitting room in an old people's home'. • The daylight and sunlight conclusions set out paragraph 364 of the Officer's report remain unchanged. |
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Further Background Papers:

Further Objection:

Email Matthew Evans (Forsters LLP) dated 22 February 2021

GIA re: JRAW/0145 dated 19 February 2021

WR Wirth Research ref: WRC1-A0348 dated 19 February 2021

Response to Objection (on behalf of applicant):

Response to WR Wirth prepared by RWDI dated 22 February 2021

Paul Littlefair Ref: BRE114/6/25 dated 16 December 2014

One Crown Place ES – Statement of Conformity (October 2016)

Comparison Table VSC NSL

Email Tim Holtham (DP9) dated 22 February 2021

Email Stephen Friel (GIA) dated 22 February 2021

From: [REDACTED]
To: [Hart, Liam](#)
Cc: [REDACTED]
Subject: RE: 2-3 Finsbury Avenue (ref: 20/00869/FULEIA) response to objection: daylight and sunlight / wind / thermal comfort
Date: 22 February 2021 10:50:32
Attachments: [REDACTED]

Dear Liam,

Please find attached our further comments on the wind impacts of the proposed development.

As set out more fully in the GIA letter (also attached) AMTD's expert consultants have raised significant concerns about the presentation of the daylight/sunlight assessment accompanying this application. Fundamental information on the daylight and sunlight impacts has failed to be drawn out of the technical analysis and the analysis has failed to be provided with sufficient explanation and clarity such that the Council (or anyone other than a technical daylight/sunlight specialist) could not sensibly understand what is being presented. This means that the information before the Council fails to provide a full and comprehensive picture of the daylight and sunlight impacts. Further, it is simply not possible for the Council to fully reach a reasoned conclusion on the true daylight and sunlight impacts arising from the proposed development. Accordingly, the Report to Committee, in turn, lacks sufficient detail for the Committee members to make a properly considered determination of the application.

This means that any grant of permission would be procedurally unfair due to the issues with the extent of analysis provided, and the Council could not sensibly or rationally reach a conclusion on the extent or acceptability of the daylight/sunlight impacts for One Crown Place.

It is clear from the Report to Committee that the Council intends to rely on the daylight/sunlight information presented by the applicant. As such, there is a significant risk of the Council's Planning Committee being misled and misdirected by the extent of reported daylight/sunlight impacts and their acceptability. Given the misrepresentation of the extent of impacts, the Council cannot lawfully reach a reasoned conclusion on the significant effects of the proposed development on the environment arising from this application.

On the basis of the above, a grant of planning permission would be rendered vulnerable to judicial review. Further, as AMTD continues to hold further concerns about the application and its impact on One Crown Place, as outlined in consultation responses, the comments in this letter are without prejudice to any further grounds of judicial review AMTD is forced to raise following a grant of planning permission.

Accordingly, AMTD respectfully requests that the application is withdrawn from the agenda for the Committee hearing, and that the Council and the applicant meet with AMTD to ensure that AMTD's concerns, and those of their expert team, are adequately addressed, to enable the Council to subsequently make a lawful and rational determination of the planning application.

Kind regards
Matt

Matthew Evans

Counsel



Forsters LLP 31 Hill Street London W1J 5LS





By Email

Mr H Robinson
CBRE Ltd
Henrietta House
Henrietta Place
London
W1G 0NB

DATE / REF

19/02/2021
JRAW/0145

ADDRESS

THE WHITEHOUSE
BELVEDERE ROAD
LONDON SE1 8GA

Dear Henry,

Re: One Crown Place and 2-3 Finsbury Avenue – Daylight and Sunlight Review

You have instructed GIA to review the submitted Daylight and Sunlight Environmental Statement ('ES') chapter and accompanying ES Addendum as part of the planning application for the redevelopment of 2-3 Finsbury Avenue (City of London planning reference: 20/00869/FULEIA). We have previously reviewed the submitted ES chapter and model used for technical assessments and the conclusions reached in the chapter in a letter dated 14th December 2020. This review did not extend to a full detailed review of the analysis provided and focused instead on the conclusions the applicant's surveyors provided.

Since our previous review, we requested a series of additional information from the applicant's surveyors, some of which has been provided. The additional information provided by the applicant's surveyors was enclosed as an appendix to DP9's response to our client's objection (dated 22nd January 2021) and within an Addendum to the ES dated January 2021.

Based on the information provided by the applicant's surveyor, we feel there are key areas of analysis which are not discussed or provided beyond the technical appendices to the ES and the Addendum ES and are therefore not captured within the Committee report. These aspects are:

- There is no discussion on impacted room uses within One Crown Place and of those, how many are dual aspect and how many are single aspect.
- There is no discussion or break down on the impacts that fall beyond >40% for VSC to enable a full understanding of the severity of these reductions.
- Discussion should have been provided that allows for the marriage of the VSC and NSL assessments – currently it is not clear whether it is the same windows/rooms that pass/fail each assessment.
- Detailed discussion should have been provided on the retained VSC levels to the impacted windows within One Crown Place, as it is currently not possible to gain a full understanding of this just from the retained VSC façade images provided. The information provided focuses on the percentage reductions in the assessment of the revised proposal against the true existing baseline, but this is not sufficient to gain a full appreciation of the impacts to One Crown Place.

Existing v Proposed

The original ES chapter submitted focused on the consent v proposed scenario, without proper consideration of the true existing baseline assessed against the proposed scheme in situ. The ES Addendum then provided further information on the existing v proposed scenario, after our client highlighted that legal Counsel had provided an opinion that for the City of London to determine the application solely on the basis of a comparison with the consented scheme would be unlawful:

'It would, in my opinion, be unlawful in this context to fail to have regard to the effects of the new BL Application in combination with the Original BL Permission. To do so would allow incremental increases in environmental impact without consideration of the totality of their effects. That is precisely the kind of salami-slicing that the EIA Directive is designed to prevent. See e.g. Case C-227/01 Commission v Spain [2004] ECR I-8253 at para. 53.

In conclusion, whether or not the Original BL Permission has been commenced, it would in my opinion be legally erroneous for the Council to assess the environmental impacts of the New BL Application on the basis that, as contended in the ES accompanying that application, the only "meaningful" consideration is an assessment of the difference between the Original BL Permission and the New BL Application, as opposed to assessment of the difference between the current 'on the ground' situation and the development proposed by the New BL Application.'

Daylight Analysis

Of the 620 rooms assessed within One Crown Place in the existing v proposed scenario, 390 (62.9%) will meet BRE criteria for both VSC and NSL.

Looking to VSC in isolation, of the 1548 windows assessed, 1052 (68%) will meet BRE criteria. Of the 496 windows which fall below BRE criteria for VSC, 51 will experience a reduction of between 20.1 – 29.9%, 94 will experience a reduction of between 30 – 39.9% and 351 windows will experience a reduction in excess of 40%. To break these figures down further, of the 351 windows which experience greater than a 40% VSC reduction:

- 107 windows will experience between 40 – 49.9% reduction,
- 40 windows will experience between 50 – 59.9% reduction,
- 31 windows will experience between 60 – 69.9% reduction,
- 59 windows will experience between 70 – 79.9% reduction,
- 69 windows will experience between 80 – 89.9% reduction
- 45 windows will experience a reduction in excess of 90%.

Of the 351 windows that experience VSC alterations in excess of 40%, we believe these windows serve:

- 2 living rooms,
- 99 bedrooms, and
- 63 LKD's.

With the time and information available, we have been able to review some of the technical analysis submitted to give a snapshot of the severity of the impacts, which we feel currently the planning application submitted does not detail.

In relation to bedrooms, whilst we acknowledge they may be considered less sensitive than other primary habitable rooms, they should still be considered. The BRE Guidelines acknowledge this at paragraph 2.2.8:

'...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.'

Looking at the results appended to the ES Addendum, it is evident that there are a large number of windows serving bedrooms which will experience high VSC losses, in instances as high as 90% or greater. Of the 99 bedrooms which experience greater than 40% VSC losses, 29 will be served solely by windows which retain less than 10% VSC (and in many instances, less than 5%).

In relation to the two living rooms, one situated on level 07 and the other on level 27, discussion should have been provided on the VSC losses which exceed 40%, the NSL results to these rooms and the retained daylight levels. This would have provided sufficient information for the determination of the acceptability of these impacts.

It is acknowledged that of the 63 LKD's served by windows that experience a VSC reduction of greater than 40%, some are served by multiple windows and as such, when reviewing the room-based assessment of NSL, the retained daylight distribution may still meet BRE criteria. From our high-level review of the technical analysis submitted, we have been able to pick out a number of LKD's that experience in excess of 40% VSC reductions and generally retain very poor VSC levels, and also fall below the BRE criteria for NSL. To give a snapshot of these worst impacted rooms in One Crown Place, we have pulled the information from the results below:

| LKD's | Window Ref. | Existing VSC | Proposed VSC | Loss | Percentage Loss | Existing NSL | Proposed NSL | Loss | Percentage Loss |
|-------------------|-------------|--------------|--------------|------|-----------------|--------------|--------------|------|-----------------|
| Level 07/Room 6 | 6SE1 | 31.4 | 16.1 | 15.3 | 48.7 | 99.7 | 65.4 | 34.3 | 34.4 |
| | 6SW1 | 34.5 | 3.3 | 31.2 | 90.4 | | | | |
| | 6SW2 | 34.2 | 3.3 | 30.9 | 90.4 | | | | |
| | 6SW3 | 34.1 | 3.3 | 30.8 | 90.3 | | | | |
| Level 07/Room 8 | 8SW1 | 35.3 | 3.2 | 32.1 | 90.9 | 97.6 | 24.7 | 72.9 | 74.7 |
| | 8SW2 | 35.1 | 3.2 | 31.9 | 90.9 | | | | |
| | 8SW3 | 34.9 | 3.2 | 31.7 | 90.8 | | | | |
| Level 08/Room 26 | 26SW1 | 35.6 | 2.5 | 33.1 | 93.0 | 99.8 | 11.2 | 88.6 | 88.8 |
| | 26SW2 | 35.4 | 2.6 | 32.8 | 92.7 | | | | |
| Level 09/Room 62 | 62SW1 | 35.9 | 3.0 | 32.9 | 91.6 | 99.8 | 14.5 | 85.3 | 85.5 |
| | 62SW2 | 35.8 | 3.0 | 32.8 | 91.6 | | | | |
| Level 10/Room 91 | 91SW1 | 36.3 | 3.6 | 32.7 | 90.1 | 99.8 | 20.0 | 79.8 | 80.0 |
| | 91SW2 | 36.2 | 3.7 | 32.5 | 89.8 | | | | |
| Level 11/Room 121 | 121SW1 | 36.6 | 4.3 | 32.3 | 88.3 | 99.8 | 28.3 | 71.5 | 71.6 |
| | 121SW2 | 36.5 | 4.5 | 32.0 | 87.7 | | | | |
| Level 12/Room 153 | 153SW1 | 37.3 | 5.5 | 31.8 | 85.3 | 99.8 | 50.4 | 49.4 | 49.5 |
| | 153SW2 | 37.2 | 5.8 | 31.4 | 84.4 | | | | |

Whilst it is acknowledged that a surveyor would be able to obtain some or all of the above information from the technical appendices provided, we would question the willingness or ability for a lay person or indeed a case officer who is not a specialist daylight and sunlight surveyor to be able to do so. The above goes some way to demonstrate the severity of the daylight impacts that will occur to One Crown Place which the applicant's surveyor has not detailed within their reports. Without this information and further analysis on retained daylight levels to all windows/rooms, room uses, which rooms are dual aspect etc. we do not feel that conclusions can be fully drawn on the true impacts on daylight to One Crown Place as a result of the 2-3 Finsbury Avenue proposals.

In addition to the VSC and NSL assessments, the applicant's surveyor has also reported on the Average Daylight Factor methodology for the daylight effects to One Crown Place. We acknowledge that One Crown Place is not currently occupied as construction is being completed, and that ADF was used in the assessment of the 2016 Consented Scheme. Whilst we therefore appreciate the desire to provide an ADF assessment on One Crown Place to enable a side by side comparison to the previous application, reliance on this assessment in isolation would not be in keeping with BRE recommendations, which state in Appendix F7:

'Use of the ADF for loss of light to existing buildings is not generally recommended. The use of the ADF as a criterion tends to penalise well-daylit existing buildings because they can take a much bigger and closer obstruction and still remain above the minimum ADF's recommended in BS 8206-2.'

Appendix F goes on to state certain situations within which the use of ADF may be appropriate for an existing building, none of which apply to One Crown Place.

Sunlight Analysis

Of the 506 windows assessed for sunlight, 326 (64.4%) will meet BRE criteria for APSH. Looking at the 180 windows which fall below BRE recommendations, 4 windows will experience an annual probable sunlight hours reduction of between 30-40% and 130 will experience a reduction in excess of 40%. In relation to winter probable sunlight hours, 161 windows will experience a reduction of greater than 40%.

It is unclear from the results submitted but it appears that all bedrooms, regardless of whether they face within 90° due south of the development site, have been discounted from the sunlight assessment. It is not therefore clear whether the sunlight summary set out above provided by the applicant's consultant relates to just the living rooms and LKD's full technical analysis are provided for, or whether these figures also relate to the bedrooms. We cannot see any reasons given for discounting all bedrooms within One Crown Place and these results should have therefore been provided as part of the planning application.

Conclusions cannot therefore be drawn on the true impacts to the sunlight to One Crown Place, beyond the fact major adverse sunlight reductions are caused to the LKD's that have been assessed, without full technical analysis on all relevant rooms including bedrooms.

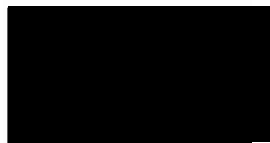
Summary/Conclusion

The purpose of this letter was to set out the additional information that we felt was required in order to fully understand the daylight and sunlight impacts that will occur to One Crown Place as a result of the proposed 2-3 Finsbury Avenue development.

Based on the information submitted as part of the application, we can conclude that very significant daylight and sunlight impacts will occur to One Crown Place as result of the proposed scheme at 2-3 Finsbury Avenue, when assessed against the true existing baseline. The true existing baseline will be the baseline that occupiers will experience as they will move in long before this development takes place. Full conclusions cannot however be drawn until full sunlight results are provided.

Without the necessary discussion on daylight impacts and full sunlight analysis, the reports submitted fall short of providing a full and comprehensive picture of the daylight and sunlight impacts caused to One Crown Place as a result of the proposed development. As a consequence, the Committee report also lacks the necessary detail for a fully informed decision to be made on this development by members.

Yours sincerely
For and on behalf of GIA



Jessica Rawlings
Associate Partner



Cc. Jerome Webb - GIA

Matthew Evans
Counsel
Forsters LLP

19th February 2021
Our Reference: WRC1-A0348

Dear Matthew Evans,

Please find below our comments following the CFD study assessing the effects of the proposed 2-3 Finsbury Avenue development in the City of London on the wind microclimate surrounding One Crown Place.

This assessment covers adverse impact on the One Crown Place development as well as potential adverse impacts on the wider surrounds. It was carried out using 8 wind angles spaced at 20° increments over the key south and south-westerly wind angles which reflect the most significant winds in the City of London, as well as the proposed developments relative position to One Crown Place. A fine mesh providing high levels of resolution and allowed us to identify complex flows around the development. An identical study was carried out with the existing 2-3 Finsbury to assess current conditions. Lawson plots were formed from the results of the 8 angles using the City of London Weibull Coefficients at both 10° and 20° increments. Probabilities outside the range of the angles tested were discarded from consideration. These are reasonable indicative representations of the results resulting from the wind angles tested, to inform of potential areas of concern. No mitigation measures were included in the tests.

The CFD assessment identifies several potential wind issues arising as a result from the proposed development.

- The gap between the two towers channels air flow in a wind tunnel effect and directs the flow towards the façade of One Crown Place. This effect could cause comfort issues on the façade of One Crown Place. Image 1 in Appendix A highlights this.
 - The effect is most pronounced at south-westerly wind angles, which coincides with some of the most frequent winds in the City of London as per the wind parameters provided by the City of London Corporation.
 - Further testing should be carried out or appropriate conditions should be implemented requiring testing to assess the impact of the proposed 2-3 Finsbury development on the façade of One Crown Place, as wind assessments appear to only focus on pedestrian conditions.
- The flow around the east of the proposed development creates a significant and focussed flow across Sun St. This generates elevated wind velocities across Sun Street and also, potentially, around the corners of the building onto Sun Street and Appold Street respectively. A comment made on the wind mitigation method in this region of the development is provided below. We recommend that suitable conditions should be implemented to ensure sufficient mitigation is enforced, as well as a requirement to focus on these areas in the post completion wind audit.
- The Wind tunnel does not assess conditions in the One Crown Place courtyard, an amenity space of the One Crown Place development, despite probes being placed in more confined locations such as

in the central passage region. The courtyard provides the entrance to the One Crown Place residents as well as outdoor seating areas for the hotel located within the terrace. This is a very important amenity space as part of the hotel, which will be used by residents as well as hotel guests and visitors, and wind tunnel testing should be undertaken within this location to understand fully the impacts of this part of the development alongside the CFD assessment. Due to this amenity space falling close to the proposed development, it would be reasonable to expect wind tunnel measurements to be taken at this location, as have been done so at terrace level.

Whilst it is recognised that using a Lawson assessment does not reflect the City of London microclimate more stringent guidelines, our assessment indicates a potential region of comfort exceedance at the Sun St end of the central passage underneath the podium of 2-3 Finsbury when expanding the probabilities to reflect the 20° increments. The reverse streamlines from the region of interest indicate the mitigation measures introduced in the applicants CFD and Wind Tunnel reports (in particular the planting in Finsbury Avenue Square and Whitecross Place porous umbrellas) are not in regions through which the stream would pass. This stream is shown in Image 4. This region is of potential concern and should be considered within the post completion wind audit and mitigation introduced if conditions are found to be unsuitable, should this not be considered an area to require further study before commencement of construction.

At 10° increments probabilities this region is close to the limit of walking/uncomfortable categories, and no mitigation measures are either proposed in this area or part of the future planning condition. This region is highlighted in images 2 and 3 of Appendix A. Image 2 represents the 10° increment probabilities and therefore gaps are present in the sector measured. Image 3 expands the probability to fill the gaps between the probabilities tested within the sector.

The mitigation measures relied on to the east of the proposed 2-3 Finsbury Avenue building to mitigate against potentially unsafe flows is heavily skewed towards tree planting. The suitability of tree planting to mitigate against the strongest winds could lead to a parallel situation to 20 Fenchurch St requiring replacement of trees to maintain the necessary mitigation for safe wind conditions, where architectural considerations could be made.

Given the wind conditions shown without mitigation measures, when compared to the CFD wind report, provided by Ramboll in the Wind Microclimate Appendix, the impact of the mitigation measures is significant, and sufficient planning conditions should be in place to ensure the necessary levels of mitigation are retained, as well as these regions being a key area of focus for the wind audit.

We hope that the above assists your understanding of potential wind effects arising from the proposed development on One Crown Place, as well as analysing on the testing carried out on the proposed 2-3 Finsbury development. We are happy to work with the 2-3 Finsbury Avenue wind consultants on any future testing and offer any further clarification on our processes and testing as required.

Yours Sincerely,

Wirth Research



Appendix A – Selected Key Wind Stream Image

Image 1 – Example streamline indicating channelling of flow between the proposed 2-3 Finsbury towers directly at One Crown Place

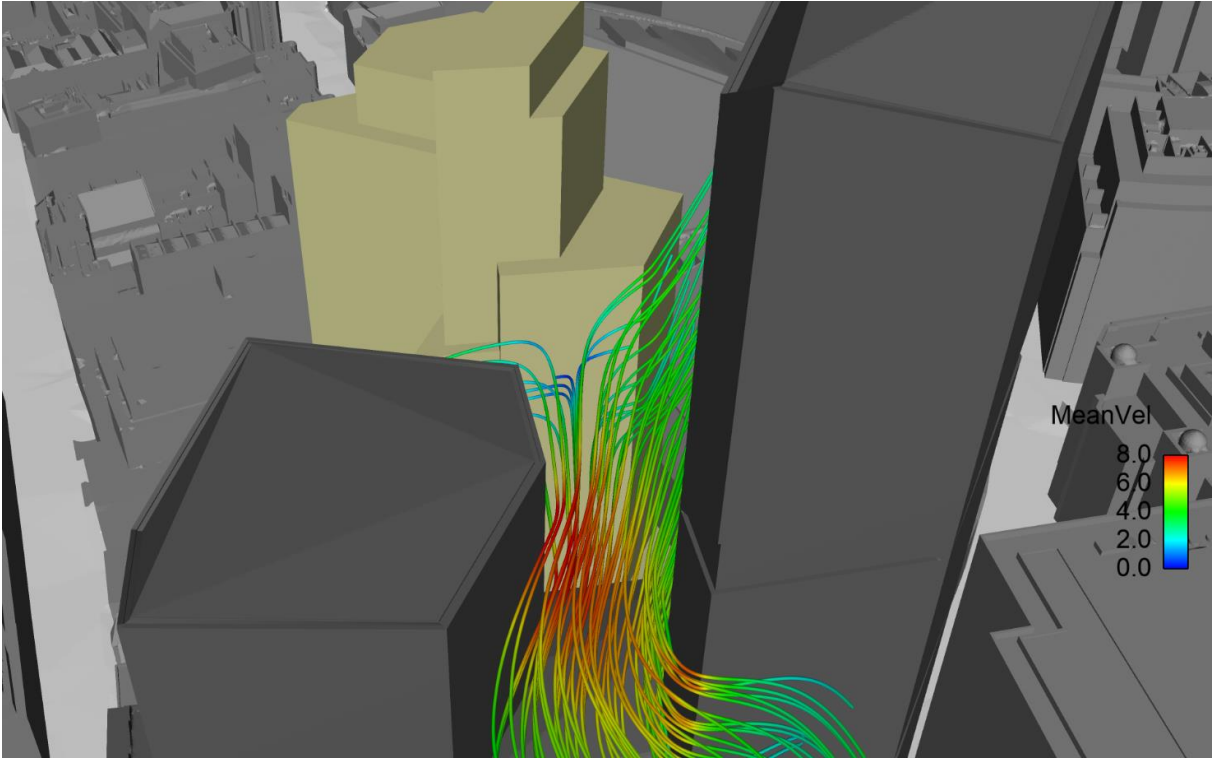
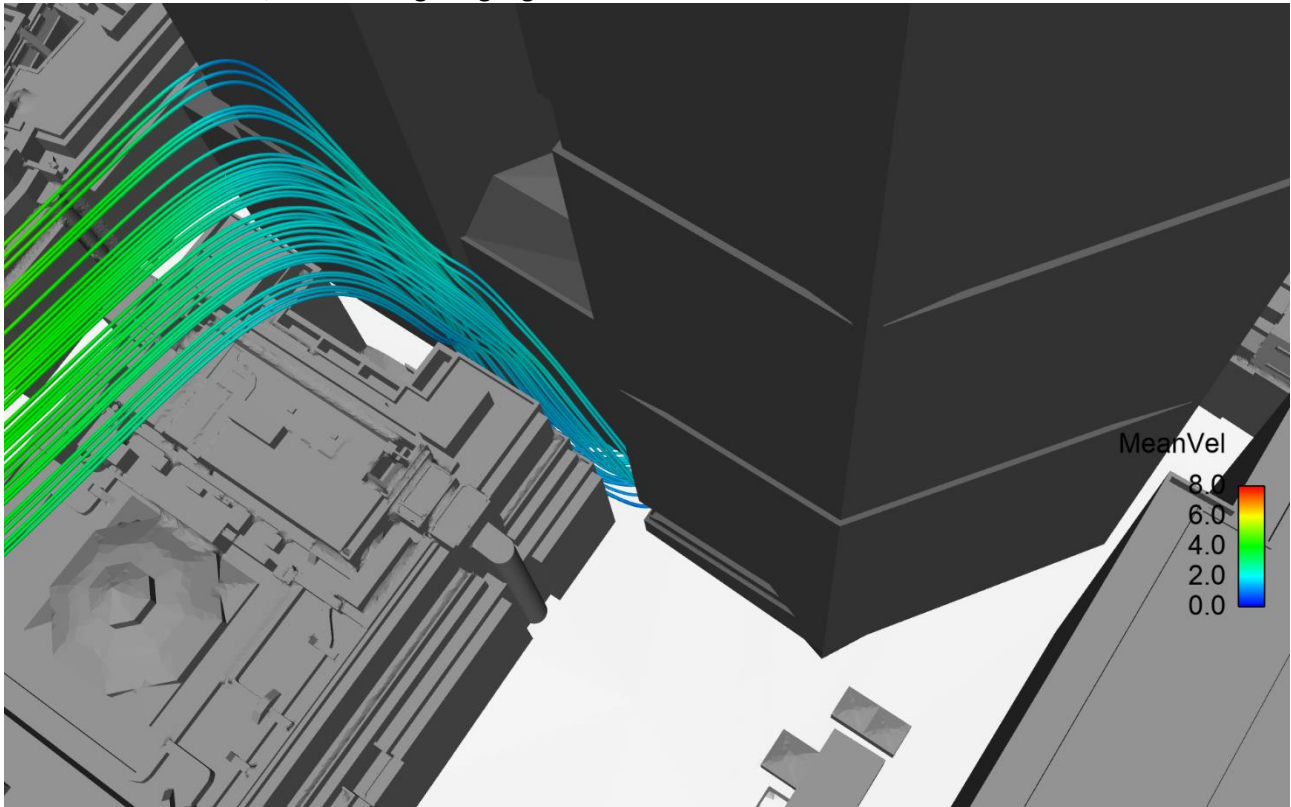


Image 4 – Streamlines highlighting origins of flow through the central passage responsible for elevated comfort levels at 220°, a critical angle highlighted in Lawson Plots



From: [REDACTED]
Subject: FW: 2 Finsbury Avenue: OCP further comments on wind / DLSL / procedure
Date: 22 February 2021 22:04:18
Attachments: [REDACTED]
[20210222 2-3FA response to WR wind review RWDI 2000236.pdf](#)
Importance: High

Liam,

Please see below response from GIA to the further comments from the One Crown Place team received this morning.

Separate to GIA's comments, we believe it is also of relevance to note the following:

- The information provided in the ES and its Addendum is comprehensive and accurate and the technical analysis within the ES is correctly summarised in the officer's report to committee.
- The OCP site is located in the City Fringe Opportunity Area within an area designated by Hackney as a 'Priority Office Area' (formerly referred to as 'Priority Employment Areas'). Policy DM17 of Hackney's Development Management Local Plan (2015) (in place at the time OCP was approved) notes that the provision of C1 and C3 uses as part of mixed use schemes in Priority Employment Areas are only acceptable where they are *'Appropriate to the characteristics and functioning of the site and will not compromise the on-going operations of businesses in the PEA'*. The same wording has been carried across into Policy LP27 of Hackney's new Local Plan (July 2020) relating to the Priority Office Areas.
- In 2016, a Daylight/Sunlight report submitted by AMTD in support of a non-material amendment made to the OCP planning permission states, *'With the proposed context in place (cumulative scenario), the rooms facing the proposed 2-3 Finsbury Avenue will see reduced daylight and sunlight levels due to the proximity between the two schemes. Notwithstanding the above, the vast majority of rooms still offer adequate daylight and sunlight amenity. 77.5% of the assessed habitable rooms offer adequate daylight levels and this percentage would increase to 81.9% if all proposed rooms were assessed. **These results are considered acceptable, especially as the site is located within the dense urban grain of central London. Overall therefore, the proposed One Crown Place development is considered to offer acceptable daylight and sunlight amenity, in line with expectations for residential accommodation in central London within both existing and proposed context.***
- The ES Statement of Conformity for the same 2016 NMA application summarises, *'The internal daylight and sunlight assessments have been undertaken for the latest scheme*

iteration. Overall, the Revised Scheme is considered to offer acceptable daylight and sunlight amenity, in line with expectations for residential accommodation in central London within both existing and proposed context.'

- A copy of the ES Statement of Conformity including the daylight/sunlight appended to it can be downloaded here (please refer to slide 8 & 32 of the PDF for above references): <https://we.tl/t-BsdaRp8L5P> Alternatively, the relevant extracts from the document are attached.
- A response from RWDI to the comments from Wirthresearch is attached.

Best,

Tim Holtham

Director

[REDACTED]
[REDACTED]
[REDACTED]

DP9 Ltd

100 Pall Mall

London

SW1Y 5NQ

[REDACTED]

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From: Stephen Friel [REDACTED]

Sent: 22 February 2021 20:14

To: Tim Holtham [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Subject: RE: 2 Finsbury Avenue: OCP further comments on wind / DLSL / procedure

Importance: High

Evening Tim,

I have now reviewed the latest submission on behalf of One Crown Place and provide my response to the pertinent points below;

- The ES Chapter, Addendum, Standalone Letter and technical appendices which have been submitted, are in line with standard industry practice. Furthermore, the information on room uses is provided in all tables presented in the ES Addendum Appendices. In addition, all appendices include floor plans and window maps, as well as orientation references for all windows within the tables, from which information on single or dual aspect rooms can be drawn. The information on VSC and NSL is presented side by side in all the documented Appendices.

- The ES Addendum clearly sets out significance and scale of impacts and states that Major Adverse impacts against baseline conditions would be found upon implementation of the Proposed Development. All numerical data on retained VSC values, as well as NSL, ADF and APSH are presented in the appendices. The information submitted also include a stand-alone report to ease the understanding of the impacts and retained values.
- Page three of the objection letter *'picks out'* a number of LKD's that experience *'..in excess of 40% VSC reductions and generally retain very poor VSC levels, and also fall below the BRE criteria for NSL...'*. This table only focuses on the Existing Vs Proposed scenario. There is no reference as to how the same windows and rooms perform against the consented scheme.
- The attached table shows the same data with corresponding reference to the consented scheme. This provides an appropriate contextual basis for reviewing the results. The results show that the **average VSC reduction beyond the consented scheme is 1%**. Furthermore, when the **seven rooms are assessed against the NSL methodology, three rooms will experience a gain in daylight, one will experience no change and three will experience a small change of up to 0.9%.**
- Bedrooms within One Crown Place have not been assessed within the ES submission. This is consistent with the methodology within both the previous One Crown Place submission and the 2016 planning consent for 2 Finsbury Avenue. Para 3.2.3 of the BRE Guideline 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 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun."*. In addition, the attached letter from the author of the BRE Guidelines (Dr. Paul Littlefair) states *'Normally we would not include loss of sunlight to bedrooms in a detailed analysis; and loss of sunlight to bedrooms would not be treated as a material issue except in bedrooms that also comprised a living space, for example a bed sitting room in an old people's home'*.

In summary, the information submitted provides a comprehensive assessment of the daylight and sunlight impacts of the development in accordance with the EIA Regulations and is sufficient to enable the City to reach a reasoned conclusion on the likely significant effects of the development.

Kind regards,
 Stephen Friel
 Senior Partner & Head of Department



Coronavirus (COVID 19): Whilst we accept that these are difficult times for all, and acknowledge the human cost, it is business as usual for us. We have robust Remote Working capabilities and, as such, are continuing to work and adapt to the new reality.



Unit 1 Tilers Road, Milton Keynes
Buckinghamshire UK
MK11 3LH



MEMORANDUM

| | | |
|--------------|---|--|
| DATE: | 2021-02-22 | RWDI REFERENCE #: 2000236 |
| TO: | Liam Hart | EMAIL: [REDACTED] |
| | CC: Tim Holtham | EMAIL: [REDACTED] |
| FROM: | Ruth Shilston Stefano Capra | Email: [REDACTED] [REDACTED] |
| RE: | Response to Wirth Research Wind Review 2-3 Finsbury Avenue | |

Dear Liam,

RWDI undertook physical wind tunnel testing of the proposed 2-3 Finsbury Avenue development (2-3FA) to support the planning submission for this scheme. This assessment was undertaken in collaboration with Ramboll who undertook a computational fluid dynamics (CFD) assessment of the scheme. Both assessments were undertaken in accordance with the City of London Wind Microclimate Guidelines 2019 (CoL Guidelines).

Wirth Research (WR) have been retained by Forsters LLP on behalf of the One Crown Place development (OCP) to review the wind assessments which supported the planning submission and to undertake an independent CFD assessment. The reference for this report is WRC1-A0348 dated 19th February 2021.

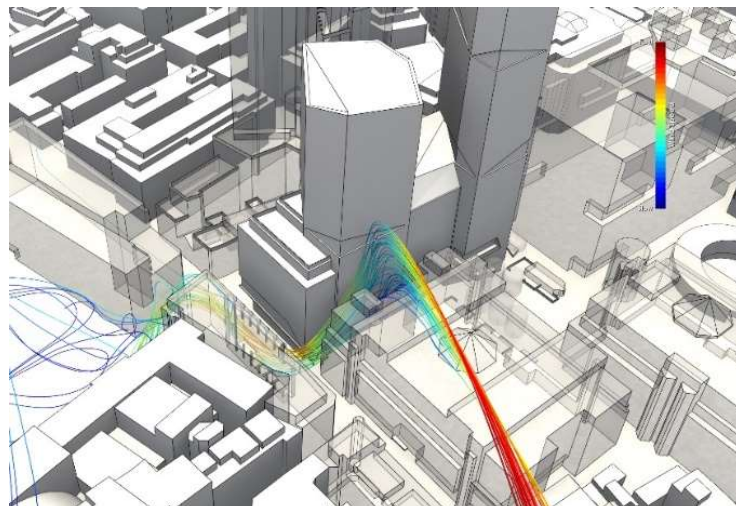
RWDI and Ramboll have reviewed this report and provide the following response to the modelling undertaken and points raised within the review.

Response to WR CFD modelling,

- It is acknowledged within the WR report that modelling was not undertaken in accordance with the CoL Guidelines, no information has been provided within the report with respect to the extent of surrounding buildings included within the model and other key aspects with respect to the accuracy and detail of their simulations.
- The CFD modelling has been undertaken from only 8 wind directions which is a conservative approach and overweights the prevailing winds. These results have been combined with climate data to provide an assessment using the City of

London Lawson Criteria. To apply the Lawson Criteria to such a small number of wind angles is an incorrect interpretation of the Criteria and is not valid.

- Image 3 presents results with an interpolation between the assessed angles to consider all wind directions. Given the impact that a small change in wind direction can have on local wind conditions, and the small number of angles tested, interpolation between wind angles is not a valid methodology. The results presented show a one category increase in comfort conditions across most spaces once the interpolation is applied which is unrealistic, further raising concerns with the interpolation approach used.
- The CFD assessment does not include any of the mitigation measures which were developed by the design team to mitigate wind conditions around the site. Therefore, the assessment of wind condition presented by WR will be inherently windier than conditions with these wind mitigation measures implemented.
- The flow visualisation presented in image 1 show the acceleration in wind speeds which is present between the 2-3FA towers, an unoccupied space. The review argues that this acceleration persists onto the OCP façade, which is not supported by the streamlines in Image 1 which change from red to green (a deceleration) as they approach OCP. No plots of wind speeds on OCP terraces have been provided by WR to support the claim that this flow behaviour results in an adverse impact on OCP.
- Flow visualisation presented in image 4 shows flow hitting the west tower, travelling down the façade and through the passageway. The review argues that this behaviour negates the benefit of the proposed wind mitigation umbrellas within Whitecross Place. However, the flow visualisation presented by WR only shows flow down a part of the façade, and if the streamline was moved to the west it would likely show an interaction with the proposed umbrellas as per the image below (from Ramboll CFD, wind direction 240°).





Response to other points raised,

The WR review states that the wind tunnel testing undertaken by RWDI did not include probes within the OCP courtyard, this observation is correct. However, the CFD modelling undertaken by Ramboll did assess this space which was found to be unaffected by the construction of 2-3FA. Specifically, Frequent Sitting comfort conditions were reported in both the baseline and proposed test scenarios and therefore suitable for the intended amenity use. In addition, WR's own CFD modelling (notwithstanding the concerns raised above), reports Frequent Sitting wind comfort conditions with the 2-3FA scheme constructed. Therefore, there is no evidence to suggest that the proposed 2-3FA development has an adverse impact upon the OCP courtyard amenity space.

The WR review questions the viability of tree planting as a mitigation approach, in particular to the east of the 2-3FA scheme. Several architectural approaches were tested to mitigate wind flow in this location, these were discussed with the City of London during the pre-application process and it was agreed that a tree planting methodology was preferable. It is accepted by the applicant that any trees introduced as wind mitigation need to be of a sufficient size to fully mitigate wind issues and to be maintained throughout the life of the building.

In summary, the CFD modelling undertaken by WR has not been undertaken in accordance with the Col Guidelines. The CFD modelling approach used by WR is significantly less accurate than those presented within the submission and the conclusions drawn from this assessment misleading. In addition, we have addressed the other points raised within the WR review.

Yours truly,

A black rectangular box redacting the signature of Ruth Shilston.

Ruth Shilston, MEng, CEng FIMechE
Associate, RWDI

A black rectangular box redacting the signature of Stefano Capra.

Stefano Capra, MSc, CEng MIMechE
Senior Engineer, Ramboll

Mr A Buckley
GIA
The Whitehouse
Belvedere Road
London SE1 8GA

16 December 2014

Our Ref. BRE114/6/25

Dear Mr Buckley

XXXXX XXXXX DAYLIGHT AND SUNLIGHT QUERIES

Thank you for your email of 11 December.

You asked about loss of sunlight to existing bedrooms. The BRE Report 'Site layout planning for daylight and sunlight: a guide to good practice' recommends 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 we would not include loss of sunlight to bedrooms in a detailed analysis; and loss of sunlight to bedrooms would not be treated as a material issue except in bedrooms that also comprised a living space, for example a bed sitting room in an old people's home. Loss of diffuse daylight to bedrooms does need to be taken into account, as stated in paragraph 2.2.2 of the BRE Report.

You also asked about a situation where the winter probable sunlight hours decreased, but the annual probable sunlight hours over the whole year increased (because some parts of the obstructing building were being removed while others were added). 'Site layout planning for daylight and sunlight: a guide to good practice' states that sunlight loss is only significant if the reduction of sunlight received over the whole year is greater than 4% of annual probable sunlight hours. Thus in the situation you describe there would not be a significant loss of sunlight, because loss of winter sun would be more than compensated by extra sunlight at different times of year, and therefore the window would comply with the guidelines as far as sunlight is concerned.

Your email also explained that the courtyard part of the proposed building would be clad in white glazed bricks to reflect extra light to the nearby windows. The vertical sky component, which is the basis for the BRE guidance) does not take account of reflected light. However, having light coloured external surfaces does increase the daylight to neighbouring windows and could offset the loss of light. One way to check this would be to carry out a detailed analysis using software

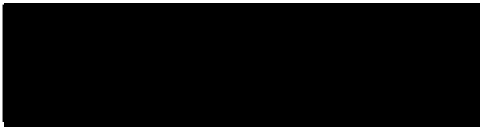


BRE's Quality Management System is approved to BS EN ISO9001:2008, certificate number LRQ 4001063.

BRE's Environmental Management System is approved to BS EN ISO14001:2004, certificate number LRQ 4001064.

that can model the effects of interreflection (the Radiance software you mentioned is an example of this). It is important to use realistic reflectance values and include the effects of windows in the reflecting façade, as windows tend to absorb light. You stated that your modelling resulted in an increase in the internal daylight levels. In this case there would not be any loss of diffuse daylight and therefore there would not be an adverse effect on the amount of daylight in the existing rooms.

Yours sincerely

A large black rectangular redaction box covering the signature area.

Dr Paul Littlefair
Principal Lighting Consultant
For and on behalf of BRE

A black rectangular redaction box covering contact information.

One Crown Place

ES – Statement of Conformity (October 2016)

Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

There has been a minor increase in height of 2m for the South Tower and 0.5 m for the North Tower compared to the Permitted Scheme. There are also some minor massing changes. In relation to daylight and sunlight the only sensitive residential receptor identified to be within close proximity to the site was the Flying Horse Public House. This position has not changed and as with the March 2015 ES there are no habitable rooms relevant for assessment within this property as they do not overlook the site. For overshadowing, the changes to the height are relatively small and are unlikely to result in any noticeable alteration to the levels of overshadowing on the neighbouring areas of amenity space compared to the March 2015 ES. The changes to the height and massing changes are not considered to be material and warrant reassessment. The changes will not alter the overall significance of effects or conclusions of the daylight, sunlight and overshadowing assessments for external receptors.

In terms of the internal layout and façade changes, these will affect both the result of the internal daylight studies and the solar glare assessment. For solar glare the changes to the façade design may affect viewpoint 1 and therefore a review of the previous assessment has been undertaken for this viewpoint. The result of this review is included within Appendix B and is summarised below.

For viewpoint 1, instances of reflection will be visible within 10 degrees of a driver's line of sight and will be visible in late afternoon (from 5pm) between late March to late May, and also from late July to late September. Instances of reflection will also be visible between 10 degrees and 30 degrees of a driver's line of sight predominantly between 12pm to 1pm from late October to late February. Reflections will also be visible late afternoon (from 5pm) between late March to late May and from late July to late September. This is slightly different from the times and dates reported in the March 2015 ES; however the angle from the line of sight in which reflections will occur is unchanged from the Permitted Scheme. The effect significance of minor adverse is consistent with the March 2015 ES. The effects for the remaining viewpoints will be unaffected by the façade changes, and as such the conclusions of the March 2015 ES remain valid.

The internal daylight and sunlight assessments have been undertaken for the latest scheme iteration. Overall, the Revised Scheme is considered to offer acceptable daylight and sunlight amenity, in line with expectations for residential accommodation in central London within both existing and proposed context. A copy of the full detailed assessment can be found in Appendix C.

Overall, the residual effects and conclusions reported in the March 2015 ES remain valid.

Air Quality

The change in opening year to 2020, instead of 2019, does not make any material difference to the previous assessment undertaken.

The assessment of dust effects resulting from demolition and construction activities were based on scenarios which account for periods of high demolition and construction activity. The March 2015 ES is therefore considered to represent a reasonable worst case in relation to demolition and construction dust effects.

The arrangement for boiler flue has not changed, the boiler flue will terminate at roof level in the North Tower as described within the March 2015 ES. There has been a minor increase in height of 2m for the South Tower and 0.5 m for the North Tower compared to the Permitted Scheme assessed within the March 2015 ES. The change is not expected to alter the conclusions of the previous assessment undertaken for site suitability and external receptors. As such it is not considered necessary to re-model the energy centre assessment.

The proposed energy centre specification remains as assessed in the March 2015 ES and the proposed changes to the area schedule will not affect the projected traffic flows. Therefore, the assessment of effects resulting from for traffic and the energy centre emissions remain unchanged



Internal Daylight and Sunlight Report

0145 – One Crown Place

Sources of information:
IR35-0145
Rel_09_DSD_0145

Issue No: IS14-0145
Page No: 3
Date: 04 October 2016

1. EXECUTIVE SUMMARY

The purpose of this report is to ascertain whether the daylight and sunlight amenity provided within the proposed One Crown Place development can be considered acceptable either with the existing context or with the proposed surrounding buildings in place (cumulative scenario).

To this end, a selection of residential floors have been technically assessed. As the lower six floors are commercial, the assessment of daylight and sunlight levels starts on the seventh floor and has been undertaken up to the twentieth floor. This selection of floors represents a worst-case scenario where the obstruction caused by the surrounding buildings is greatest. In order to provide an overall level of compliance with BRE's recommendations, the daylight levels on the upper floors have been estimated based on the results achieved on the floors assessed.

The results show that in the existing scenario the proposed One Crown Place scheme will provide good quality residential accommodation in terms of daylight and sunlight, with the vast majority of rooms meeting or exceeding BRE's recommendations.

91.7% of the tested rooms achieve daylight levels meeting or exceeding BRE's recommendation and this percentage is estimated to reach 93.4% considering all proposed habitable rooms.

The proposed surrounding building located in closest proximity to the site is 2-3 Finsbury Avenue and the design of One Crown Place has taken its massing into account by rearranging the internal layouts and facades in order to maximise the daylight and sunlight ingress thus making the most out of the daylight available to site.

With the proposed context in place (cumulative scenario), the rooms facing the proposed 2-3 Finsbury Avenue will see reduced daylight and sunlight levels due to the proximity between the two schemes. Notwithstanding the above, the vast majority of rooms still offer adequate daylight and sunlight amenity. 77.5% of the assessed habitable rooms offer adequate daylight levels and this percentage would increase to 81.9% if all proposed rooms were assessed. These results are considered acceptable, especially as the site is located within the dense urban grain of central London.

Overall therefore, the proposed One Crown Place development is considered to offer acceptable daylight and sunlight amenity, in line with expectations for residential accommodation in central London within both existing and proposed context.

2. INTRODUCTION AND OBJECTIVE

GIA has been instructed to provide a report upon the potential availability of Daylight and Sunlight to the proposed accommodation within the residential scheme prepared by KPF Architects. GIA was specifically instructed to carry out the following:

- To create a 3D computer model of the proposal based upon drawings prepared by KPF Architects.
- Carry out a daylight assessment using the methodologies set out in the BRE guidelines for Average Daylight Factor, No-Sky Line and Room Depth Criterion.
- Carry out a sunlight assessment using the methodologies set out in the BRE guidelines for Annual Probable Sunlight Hours (APSH) to the fenestration facing within 90 degrees of due south.
- Prepare a report setting out the analysis and our findings.

| LKD's | Window Ref. | Existing VSC | Proposed VSC | Loss | Percentage Loss | Consented VSC | Loss | Percentage Loss | VSC change Consented V Proposed | Existing NSL | Proposed NSL | Loss | Percentage Loss | Consented NSL | Loss | Percentage Loss | NSL change Consented V Proposed |
|-------------------|-------------|--------------|--------------|------|-----------------|---------------|------|-----------------|---------------------------------|--------------|--------------|------|-----------------|---------------|------|-----------------|---------------------------------|
| Level 07/Room 6 | 6SE1 | 31.4 | 16.1 | 15.3 | 48.7 | 16.5 | 14.9 | 47.5 | 0.4 | 99.7 | 65.4 | 34.3 | 34.4 | 66.3 | 33.4 | 33.5 | 0.9 |
| | 6SW1 | 34.5 | 3.3 | 31.2 | 90.4 | 4 | 30.5 | 88.4 | 0.7 | | | | | | | | |
| | 6SW2 | 34.2 | 3.3 | 30.9 | 90.4 | 3.9 | 30.3 | 88.6 | 0.6 | | | | | | | | |
| | 6SW3 | 34.1 | 3.3 | 30.8 | 90.3 | 4 | 30.1 | 88.3 | 0.7 | | | | | | | | |
| Level 07/Room 8 | 8SW1 | 35.3 | 3.2 | 32.1 | 90.9 | 4.3 | 31 | 87.8 | 1.1 | 97.6 | 24.7 | 72.9 | 74.7 | 25.1 | 72.5 | 74.3 | 0.4 |
| | 8SW2 | 35.1 | 3.2 | 31.9 | 90.9 | 4.1 | 31 | 88.3 | 0.9 | | | | | | | | |
| | 8SW3 | 34.9 | 3.2 | 31.7 | 90.8 | 4 | 30.9 | 88.5 | 0.8 | | | | | | | | |
| Level 08/Room 26 | 26SW1 | 35.6 | 2.5 | 33.1 | 93 | 3.6 | 32 | 89.9 | 1.1 | 99.8 | 11.2 | 88.6 | 88.8 | 11.8 | 88 | 88.2 | 0.6 |
| | 26SW2 | 35.4 | 2.6 | 32.8 | 92.7 | 3.5 | 31.9 | 90.1 | 0.9 | | | | | | | | |
| Level 09/Room 62 | 62SW1 | 35.9 | 3 | 32.9 | 91.6 | 4.2 | 31.7 | 88.3 | 1.2 | 99.8 | 14.5 | 85.3 | 85.5 | 14.5 | 85.3 | 85.5 | 0.0 |
| | 62SW2 | 35.8 | 3 | 32.8 | 91.6 | 4.1 | 31.7 | 88.5 | 1.1 | | | | | | | | |
| Level 10/Room 91 | 91SW1 | 36.3 | 3.6 | 32.7 | 90.1 | 4.8 | 31.5 | 86.8 | 1.2 | 99.8 | 20 | 79.8 | 80 | 19.8 | 80 | 80.2 | -0.2 |
| | 91SW2 | 36.2 | 3.7 | 32.5 | 89.8 | 4.8 | 31.4 | 86.7 | 1.1 | | | | | | | | |
| Level 11/Room 121 | 121SW1 | 36.6 | 4.3 | 32.3 | 88.3 | 5.6 | 31 | 84.7 | 1.3 | 99.8 | 28.3 | 71.5 | 71.6 | 27.2 | 72.6 | 72.7 | -1.1 |
| | 121SW2 | 36.5 | 4.5 | 32 | 87.7 | 5.6 | 30.9 | 84.7 | 1.1 | | | | | | | | |
| Level 12/Room 153 | 153SW1 | 37.3 | 5.5 | 31.8 | 85.3 | 6.8 | 30.5 | 81.8 | 1.3 | 99.8 | 50.4 | 49.4 | 49.5 | 46.9 | 52.9 | 53.0 | -3.5 |
| | 153SW2 | 37.2 | 5.8 | 31.4 | 84.4 | 6.9 | 30.3 | 81.5 | 1.1 | | | | | | | | |