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DAYLIGHT ASSESSMENT STATEMENT

**PROPOSED DEVELOPMENT
AT 58 RICHMOND STREET
MANCHESTER, M1 3LY**

**ON BEHALF OF
MR THAIR AHMED Ltd**

Job Ref: 12,764

APRIL 2019



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1.0 Introduction

- 1.1 This statement has been prepared by Howard and Seddon Partnership on behalf of Mr Tahir Ahmed and seeks to show the significance with respect to daylight and sunlight of the proposed extension. In order to achieve this the present statement will be comparing the amount of daylight that the buildings on the back of the 58 Richmond Street are receiving now with just the existing building, and how the extension will affect that.
- 1.2 This statement is submitted in support of this application and should be read in conjunction with drawings and other information submitted.

2.0 Planning policies

Planning Practice Guidance

- 2.1 The National Planning Practice Guidance (2014) does not include any further provisions in terms of daylight, sunlight, overshadowing and solar glare beyond that stated for the NPPF.

National Planning Policy Framework

- 2.2 The NPPF states the following:
"...planning policies and decisions should always seek to secure a good standard of amenity for existing and future occupants of lands and buildings".

Manchester Core Strategy

- 2.3 Policy DM1-Development Management:
"Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions, such as noise."

Guidance Documents

- 2.4 The Building Research Establishment Guidelines (BRE "Site Layout Planning for Daylight and Sunlight") states:
"This guide is a comprehensive revision of the 1991 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."

"The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. In special circumstances the developer or planning authority may wish to use different target values... in an area with modern high rise buildings, a higher degree of obstruction maybe unavoidable if new developments are to match the height and proportions of existing building"



“Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required... The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied”.

3.0 Site Location and Surrounding Area

- 3.1 The existing building is located 58 Richmond Street, within Manchester's Gay Village. The rear of the properties located on Bloom Street will be facing the site and are due to be studied as the windows on the back could be compromised by the proposed extension.
- 3.2 Most of the properties on Bloom Street generally have commercial use, from pubs and take away shops to Academies and clinics. Some lodges can be found on both Canal Street and Richmond Street.

4.0 Methodology and Significance Criteria

- 4.1 A 3-D model was constructed of the proposed situation. A generic matte grey was applied for the surrounding buildings and land, with a matte cream tone for the buildings potentially affected on the rear of the proposal.
- 4.2 The chosen dates to provide a good all-round perception of the sunlight hours and shadowing periods for both cases, existing and proposed, will be both solstices (21st of June and 22nd of December) and both equinoxes (20th of March and 23rd of September). The times taken in consideration will be the midday (180 degrees South Azimuth) as well as 8.30 am and 17.00 pm to represent the times when people go to and back to work/school.
- 4.3 The BRE guidance offers no express numerical values for this type of assessment, consequently it is purely subjective. Nonetheless, significance criteria may be derived from the aforementioned assessments to enable a prediction of the potential effects of the proposed development on surrounding amenity areas. These are shown in Table 4.4 below

4.4

Criteria	Description
Major adverse	Substantial increase in shadow during part of the day More than 50%
Moderate adverse	Moderate increase in shadow during part of the day Between a 30% and a 50%.
Minor adverse	Minor increase in shadow during part of the day Between a 20% and a 30%.
Negligible	Slight increase in shadow during part of the day Less than 20%.



- 4.5 Therefore the entire purpose of the cases studied will be to determine the amount of daylight lost on the windows behind the site, and evaluate the impact by comparing the shadow casted by the exiting building in comparison with the proposed side extension.
- 4.6 Only those surrounding properties which have windows facing towards the Site were included in the assessment. If a nearby property has no windows facing the Site, these properties would not be affected by the Proposed Development in terms of light.
- 4.7 Where no obstruction exists the total annual probable sunlight hours would amount to 1486 and therefore each spot equates to 14.86 hours of the total annual sunlight hours
- 4.8 In regards to existing surrounding receptors, the BRE Guidelines provide that a window may be adversely affected if a point at the centre of the window receives for the whole year, less than 25% of the annual probable sunlight hours (APSH), including at least 5% of the APSH during the winter months (23rd September to 20th March) and less than 0.8 times its former sunlight hours during either period, and if there is a reduction in total APSH which is greater than 4%.
- 4.9 As stated on the BRE:

“Where the loss of skylight or sunlight fully meets the guidelines, 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 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.”

Following this criteria the cases where the loss of daylight/sunlight is not significant are:

- Only a small number of windows are affected
 - The loss of light is only marginally outside the guidelines
 - The affected building only has a low level of requirements for skylight or sunlight
- 4.10 As stated on the BRE It is important that the location and nature of the Site and surrounding area is considered when determining the significance of any impacts identified. The BRE Guide is very clear that the targets provided are not mandatory. The location of the development could be deemed to be special circumstances in which the planning authority may wish to use different target values. This scope and view should also be followed through to the sensitivity of the surrounding receptors. There should be an expectation that a higher degree of obstruction is inevitable in an area where buildings are close to each other.



- 4.11 The surrounding buildings are mainly commercial rather than residential. For these reasons, the surrounding receptors may have a lower sensitivity to change in an urban location, than those located in sub-urban, less dense areas. Sensitivity classification is assigned on how the proposed receptor is able to accommodate or adapt to the effect of the development. The existing residential receptors surrounding the site reside in a city centre location where there is an expectation for a higher density of development, these receptors are therefore deemed to have a medium to low sensitivity. The Proposed Development residential receptors are deemed to have a low sensitivity given that there are no residents within these blocks yet to receive any impact.
- 4.12 When assigning significance criteria for daylight and sunlight effects, professional judgement has been used. Consideration has been given to the proportion windows affected, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors, there may be mitigating factors such as location and nature of development or design features which may also affect the determination of assigning the criteria.

5.0 Baseline Conditions

- 5.1 The site lays right in city centre, on a street 6.2 meters wide where buildings are really close to each other, especially on their rear side, as can be seen on both adjacent streets, Bloom Street and Canal Street. The existing building is already under 2 meters away from the building on 53 Bloom Street.

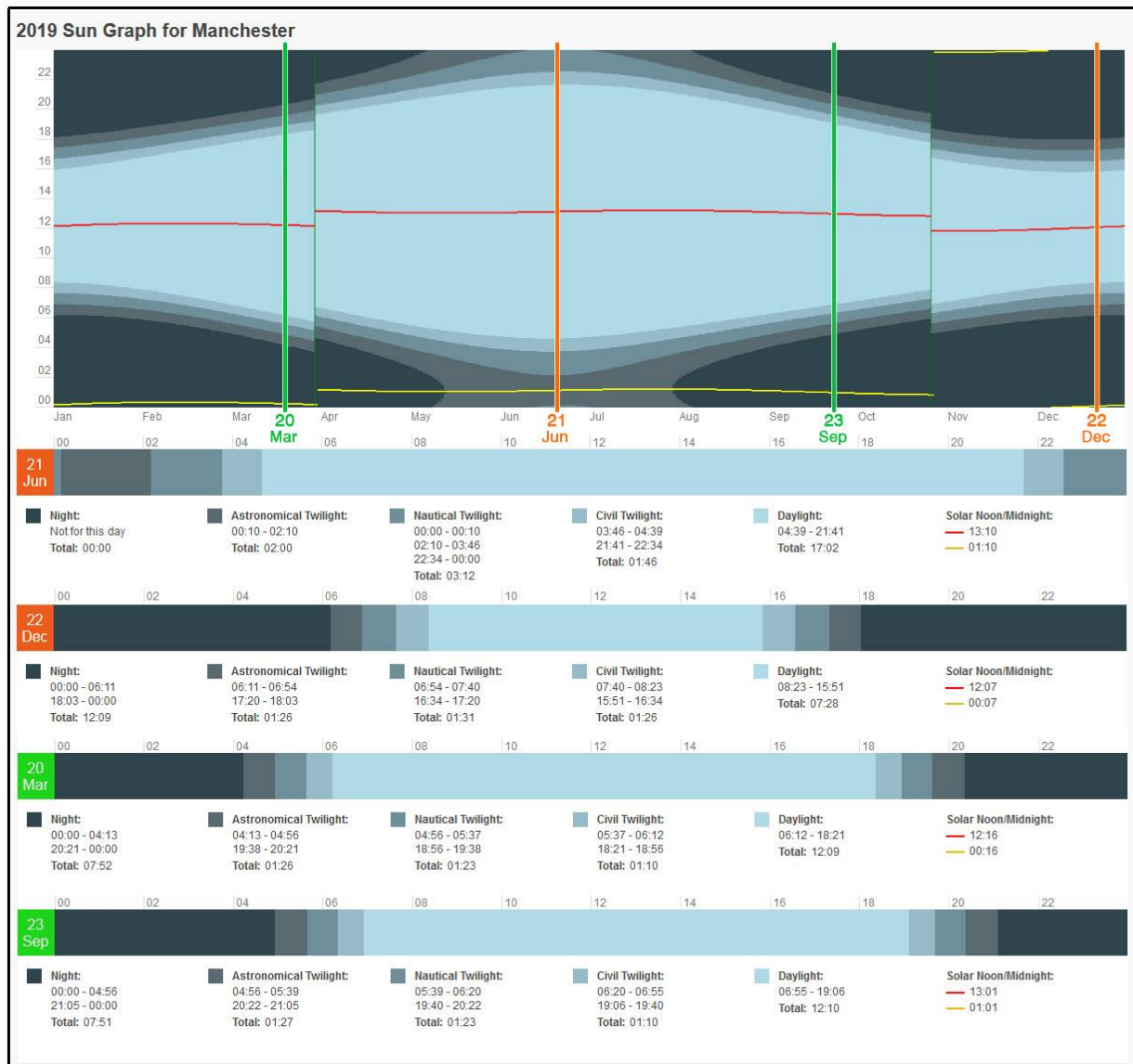




- 5.2 There are no adjacent residential units, therefore any of the windows facing the rear of the plot correspond to living rooms or any other use that has a big sensitivity towards daylight loss. As can be seen on the picture below, the existing buildings on Bloom Street have a similar condition to the ones on Canal Street, where the proximity to the buildings on Richmond Street was never an issue as the morphology of the area was supposed to follow this pattern.

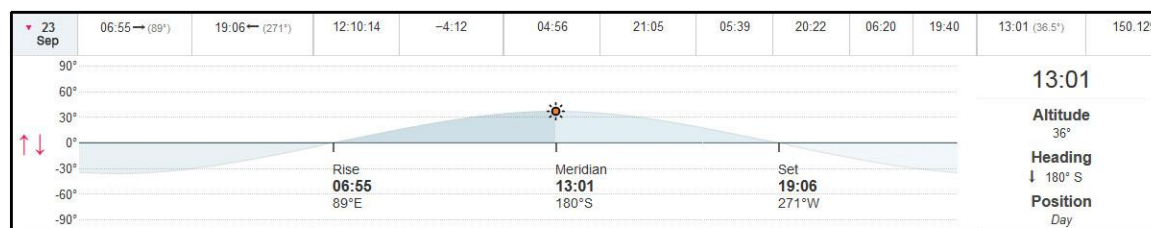
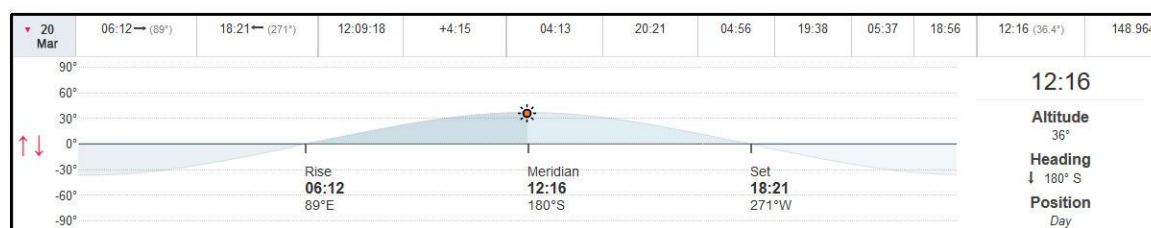
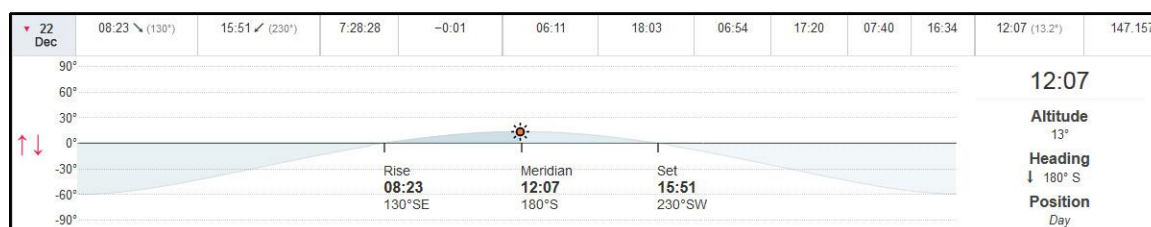
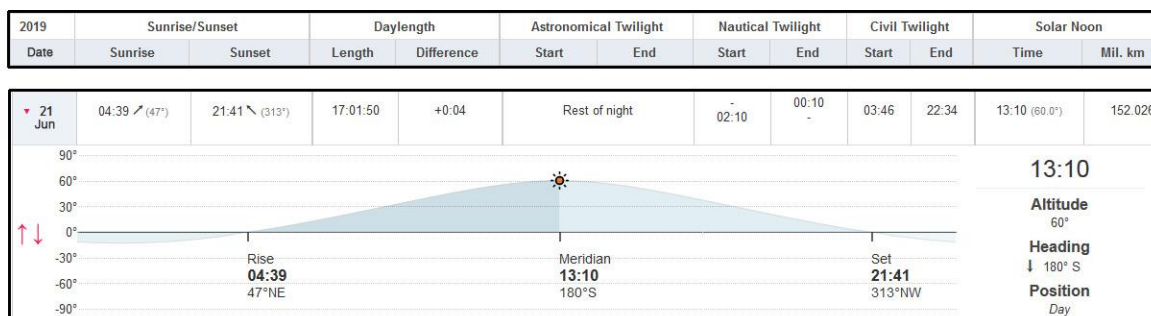
6.0 Significant Cases of study

- 6.1 In order to determine the impact of the sunlight hours there are 4 main scenarios are the most revealing, the summer and winter solstice as well as both equinoxes, 21st of June, 22nd of December, 20th of March and 23rd of September are the dates shown for the shadow study. The hours to focus on will be 8.30-9.00, 12.00-13.00 (mid-day depending if summer or wintertime) and at last 16.30-17.00 as they will correspond to significant times of the day.





6.2 The daylight times for Manchester on these dates can be seen on the graphic above, showing the precise time of sunrise and sunset. The azimuth and altitude for the sun during the year can be found on the grid below:



6.3 21st June – Summer Solstice

6.3.1 The summer solstice is the day of the year when the night is shortest, meaning the maximum amount of daylight hours is given on this date. As it lays on summer time, the 180° South azimuth occurs at 1.00pm rather than 12.00pm; the solar altitude on this date is 60° (year's maximum). Sunrise occurs at 4.39 am (with an azimuth direction of 47° NE) and sunset is at 9.41pm (with an azimuth direction of 313° NW) providing a total of 17 hours of daylight as can be seen on the image above.



6.3.2 For the daylight study at 9.00, the azimuthal orientation is 104° SE and the solar elevation is 39°.



6.3.3 At 13.00, the azimuthal orientation is obviously 180° S and the solar elevation is 60°.



6.3.4 At 17.00 (after work/tea time), the azimuthal orientation is 251° SW and the solar elevation is 42°.





6.3.5 The conclusion on the summer solstice would be as follow; the amount of direct daylight hours lost is 4 hours, and the biggest difference between the proposed and existing situation will occur in the morning, when the side extension will cast a shadow on the windows at 53-55 Bloom Street.

After 12.00, right before meridian time, there will be no difference in the amount of sunlight received on the mentioned windows including the highest point of sunlight produced at 13.00pm.

As the entire afternoon daylight won't be affected by the side extension, there will be no difference on the situation for the time when people get home after work.



Projected shadows on purple tone

6.4 22nd December – Winter Solstice

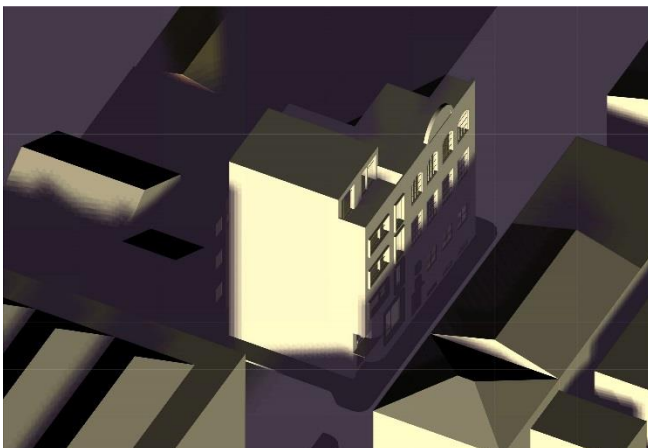
6.4.1 The winter solstice is the day of the year when the night is longest, meaning the minimum amount of daylight hours is given on this date. As it lays on winter time, the 180° South azimuth occurs at 12.00pm; the solar altitude on this date is 13° (year's minimum). Sunrise occurs at 8.23 am (with an azimuth direction of 130° SE) and sunset is at 15.51pm (with an azimuth direction of 230° SW) providing a total of 7.5 hours of daylight but having in mind the low solar altitude the brightness will be much lower.



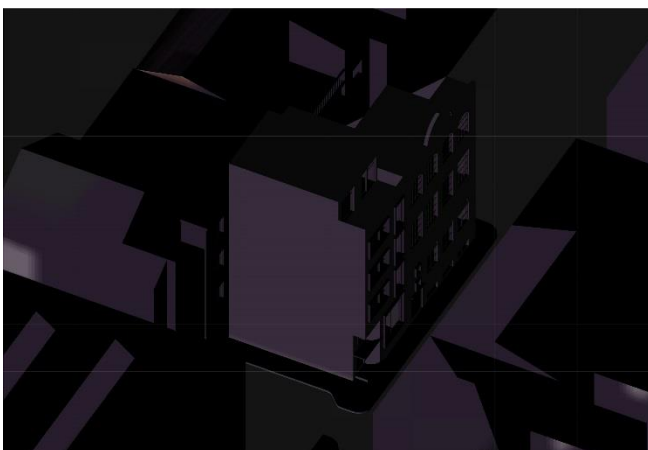
6.4.2 For the daylight study at 9.00, the azimuthal orientation is 131° SE and the solar elevation is close to 0° as it is just half an hour after sunrise.



6.4.3 At 12.00, the azimuthal orientation is obviously 180° S and the solar elevation is 13°.



6.4.4 At 17.00 (after work/tea time), the azimuthal orientation is 237° SW and the solar elevation is -5°, as it is after sun set.

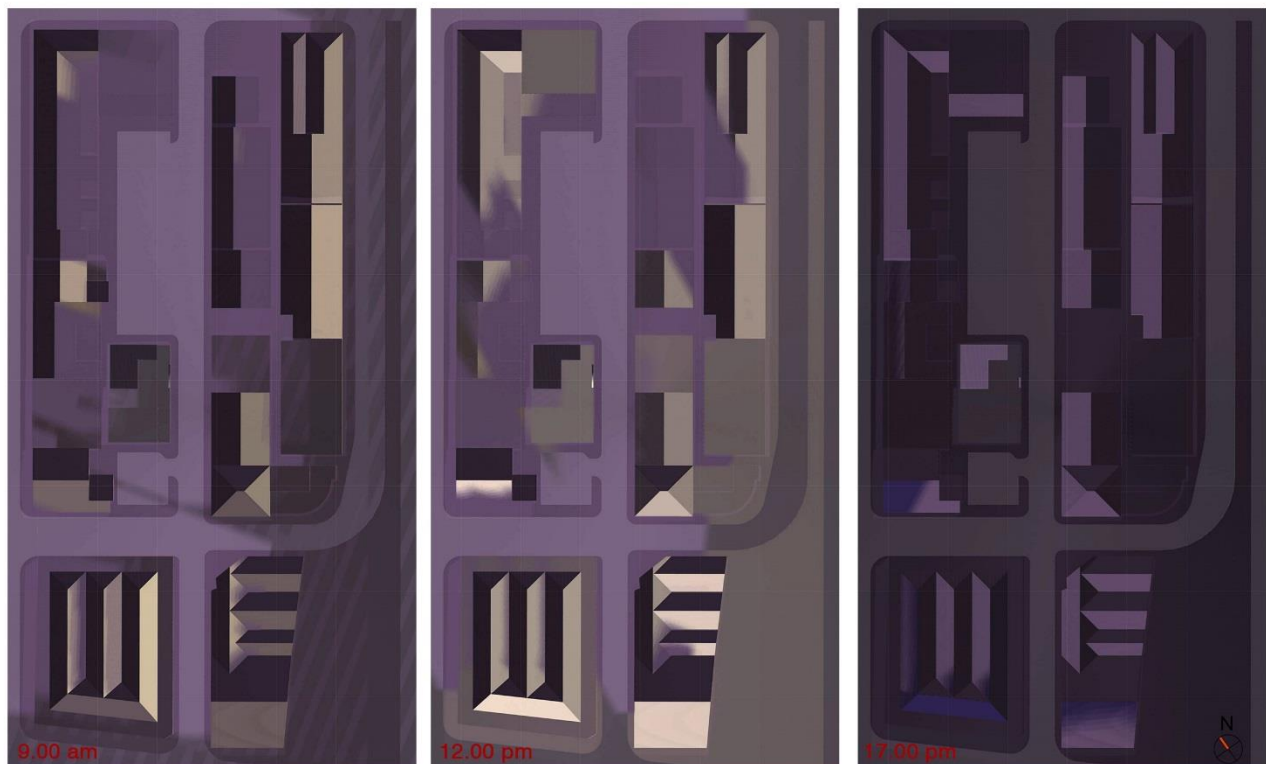




6.4.5 The conclusion on the winter solstice would be as follow; the amount of direct daylight hours lost is 3 and a half hours, and the biggest difference between the proposed and existing situation will occur in the morning, when the side extension will cast a shadow on the windows at 53-55 Bloom Street.

After 11.10, right before meridian time, there will be no difference in the amount of sunlight received on the mentioned windows including the highest point of sunlight produced at 12.00pm.

As the entire afternoon daylight won't be affected by the side extension, there will be no difference on the situation for the time when people get home after work. Having in mind that the maximum solar elevation for this period will only be 13°, just the windows on second floor will be affected, as the ones on ground and first floor will not receive direct sunlight as the buildings on the opposite side of the road will be casting a shadow all day long.



Projected shadows on purple tone

6.5 20th March – Vernal Equinox

6.5.1 The Vernal or summer equinox is one of the two days of the year when the night and day last the same time, around 12 hours each. As it lays on summer time, the 180° South azimuth occurs at 13.00pm; the solar altitude on this date is 36°. Sunrise occurs at 6.12 am (with an azimuth direction of 89° E) and sunset is at 18.21pm (with an azimuth direction of 271° W) providing a total of 12 hours of daylight.



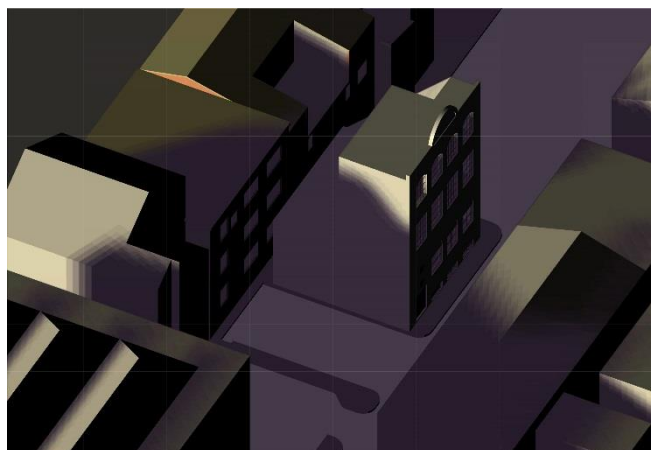
6.5.2 For the daylight study at 9.00, the azimuthal orientation is 118° SE and the solar elevation is 20°.



6.5.3 At 13.00, the azimuthal orientation is obviously 180° S and the solar elevation is 36°.



6.5.4 At 17.00 (after work/tea time), the azimuthal orientation is 250° SW and the solar elevation is 18°.

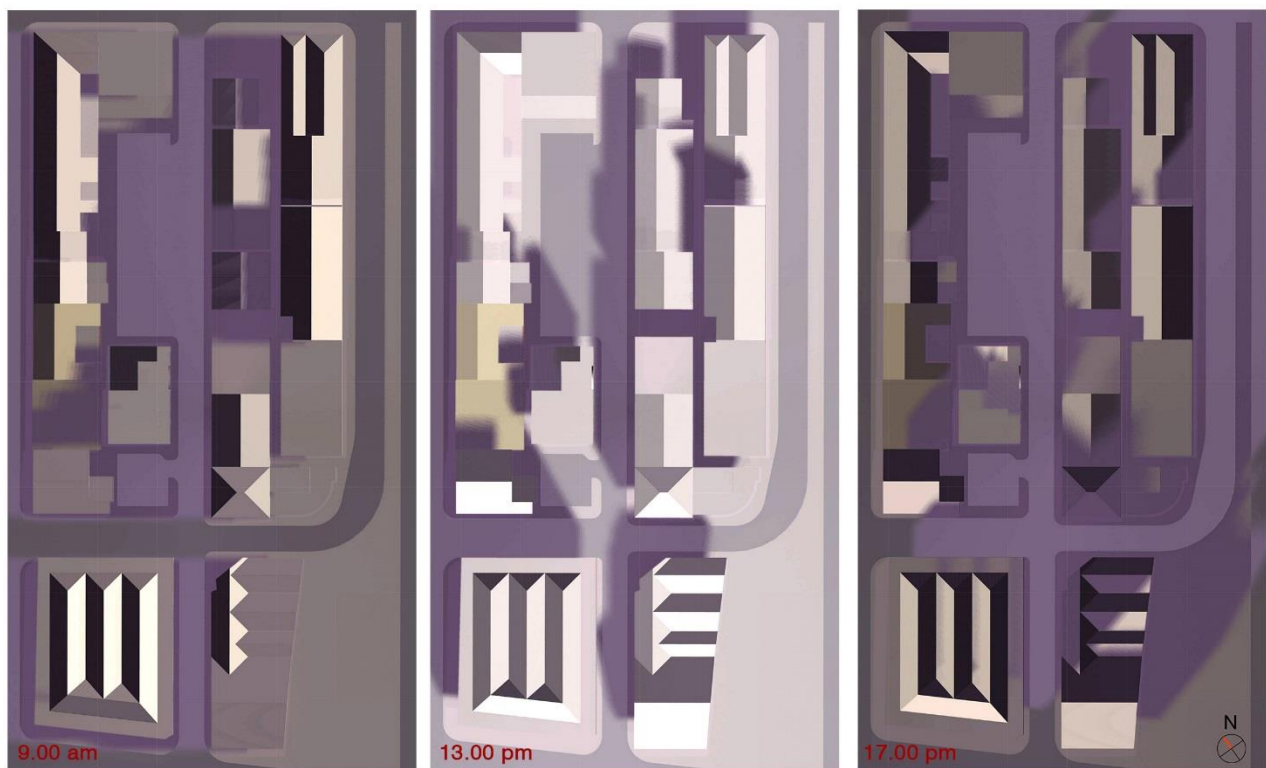




6.5.5 The conclusion on the summer solstice would be as follow; the amount of direct daylight hours lost is 4 hours, and the biggest difference between the proposed and existing situation will occur in the morning, when the side extension will cast a shadow on the windows at 53-55 Bloom Street.

After 12.00, right before meridian time, there will be no difference in the amount of sunlight received on the mentioned windows including the highest point of sunlight produced at 13.00pm.

As the entire afternoon daylight won't be affected by the side extension, there will be no difference on the situation for the time when people get home after work.



Projected shadows on purple tone

6.6 23rd September – Fall Equinox

6.6.1 The Fall or winter equinox is one of the two days of the year when the night and day last the same time, around 12 hours each. As it lays on summer time, the 180° South azimuth occurs at 12.00pm; the solar altitude on this date is 36°. Sunrise occurs at 6.55 am (with an azimuth direction of 89° E) and sunset is at 19.06pm (with an azimuth direction of 271° W) providing a total of 12 hours of daylight.



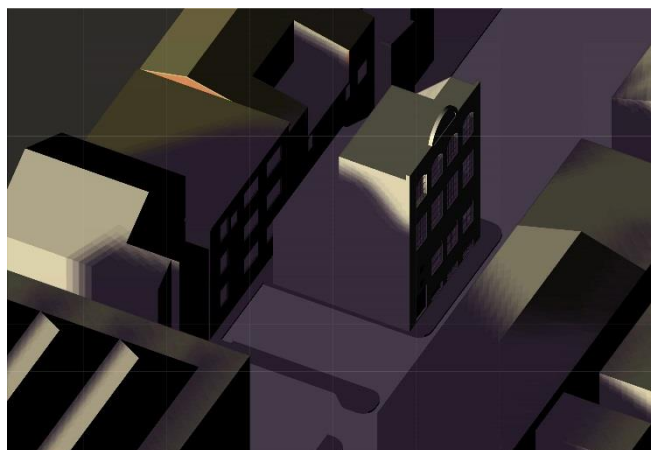
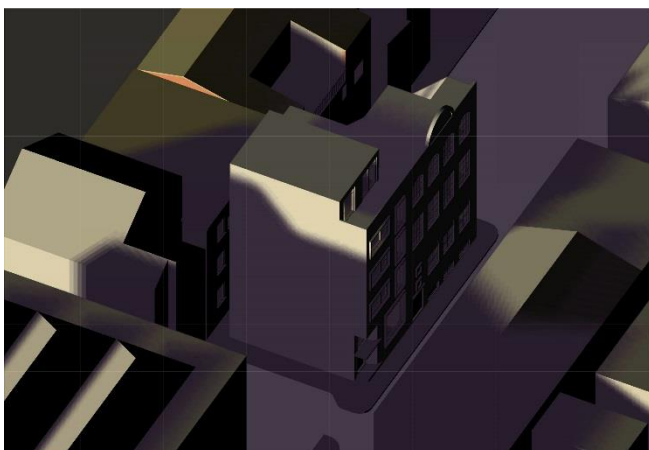
6.6.2 For the daylight study at 9.00, the azimuthal orientation is 121° SE and the solar elevation is 21°.



6.6.3 At 12.00, the azimuthal orientation is obviously 180° S and the solar elevation is 36°.



6.6.4 At 17.00 (after work/tea time), the azimuthal orientation is 251° SW and the solar elevation is 18°.

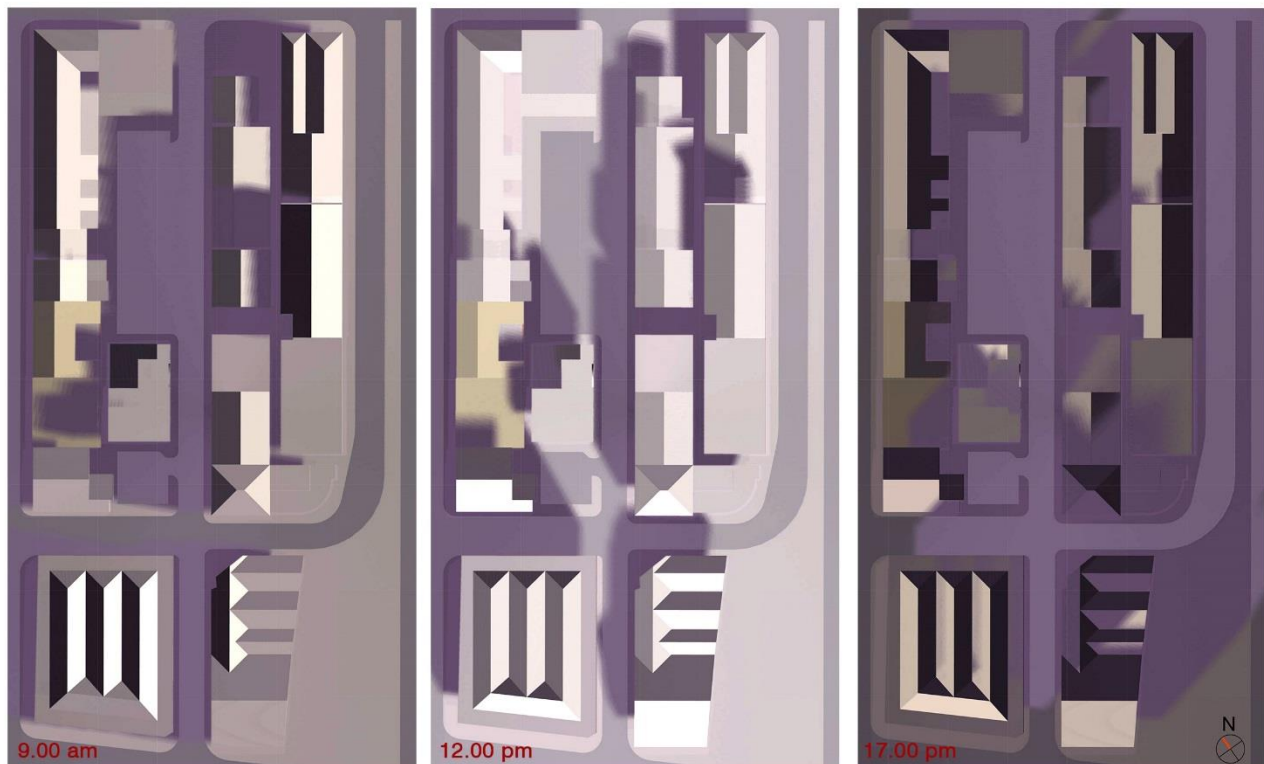




6.6.5 The conclusion on the winter solstice would be quite similar to the summer one; the amount of direct daylight hours lost is 4 hours, and the biggest difference between the proposed and existing situation will occur in the morning, when the side extension will cast a shadow on the windows at 53-55 Bloom Street.

After 12.00, right before meridian time, there will be no difference in the amount of sunlight received on the mentioned windows including the highest point of sunlight produced at 13.00pm.

As the entire afternoon daylight won't be affected by the side extension, there will be no difference on the situation for the time when people get home after work.



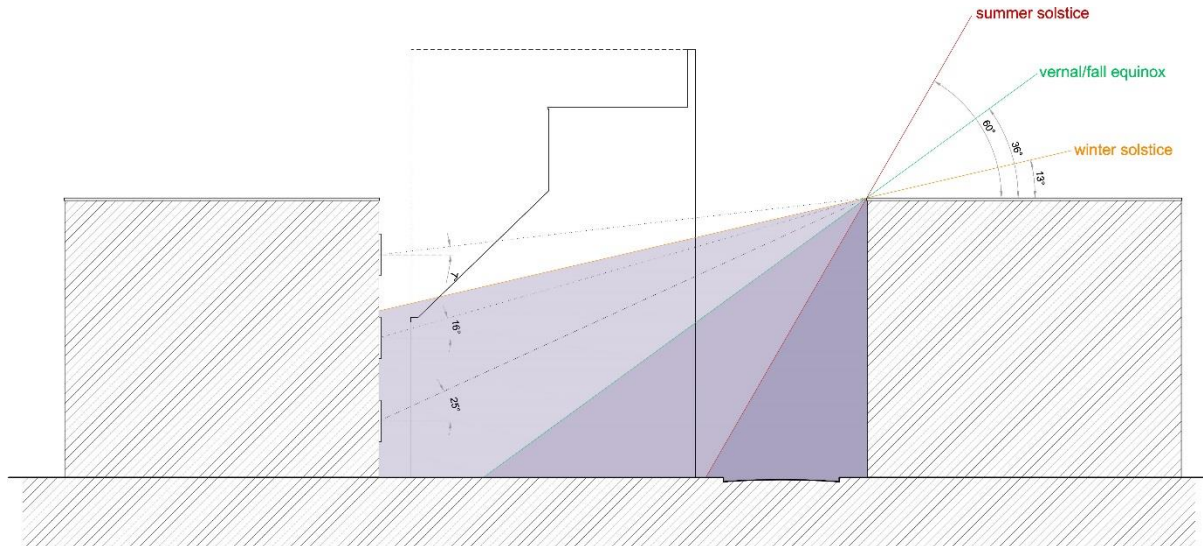
Projected shadows on purple tone

7.0 Conclusion

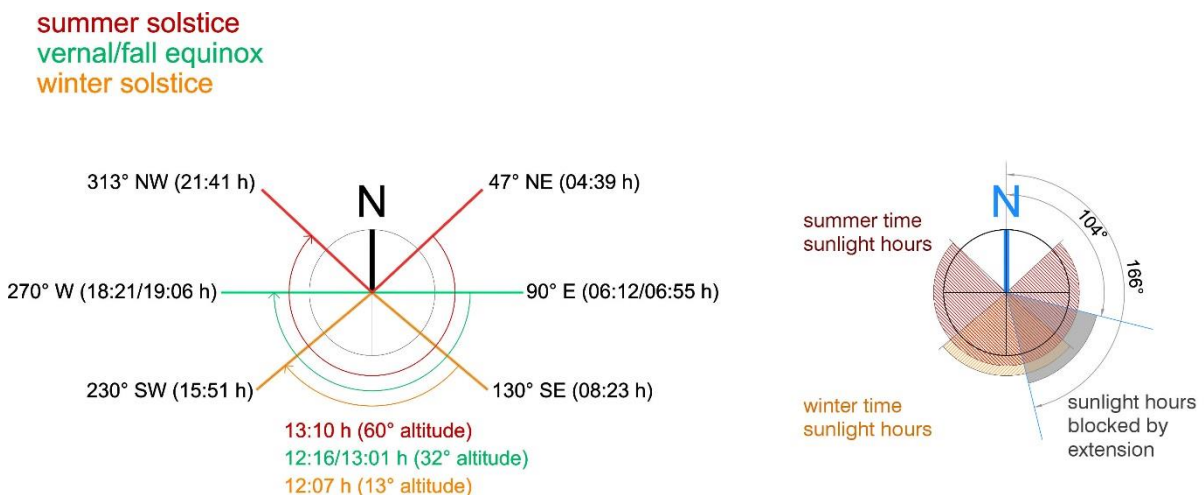
- 7.1 The average loss of direct daylight is 4 hours, and 3 and a half hours on the winter solstice, which depending on the cases considered it represents a different percentage, a 25 % on the summer solstice, a 43% on the winter one and a 33% on both equinoxes.
- 7.2 The proposed side extension will only cast a shadow on the morning hours, before the meridian time, leaving the highest elevation time intact, when the sun is at its highest intensity (azimuth 180° S) as well as the afternoon period.



- 7.3 During the winter period when the highest percentage of daylight is lost, this will not be that significant as just the upper windows would really be affected as the lower ones are already blocked due to the angle made by the height of the buildings on the opposite side of the road and the horizontal distance between them as can be seen on the drawing below.



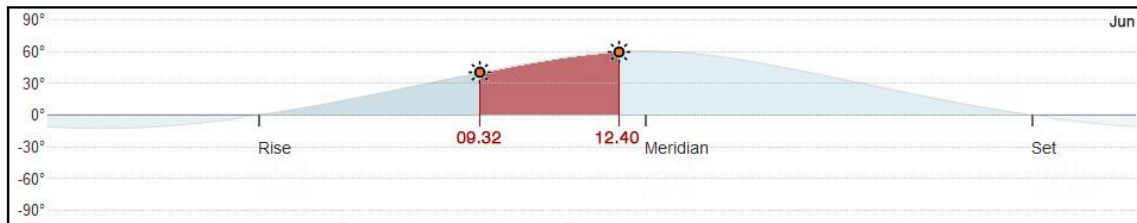
- 7.4 The overall effect of the proposed extension would be considered moderate on the winter period (from the summer to the winter equinoxes) with a loss percentage above 30%, but the loss can be considered as minor during the summer period as this would be lower than the mentioned 30% as can be seen on the following diagram.



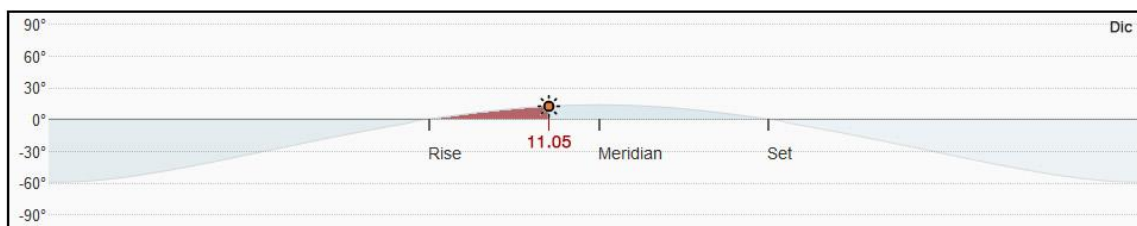
- 7.5 In conclusion the hours of direct light are not significant even in the worst case scenario which is the winter solstice as most of them were not receiving any direct light to anyway, as well as maintaining the best hours of the day which go from meridian time onto the afternoon.



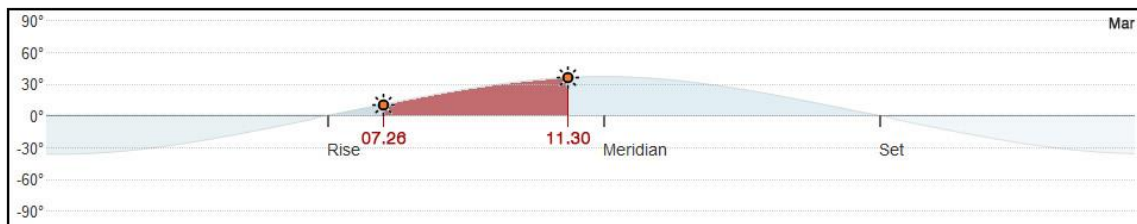
- 7.6 As a resume of the difference of direct sunlight received on the windows on the backside of 53-55 Bloom Street, the following diagram illustrates this loss of hours in red.



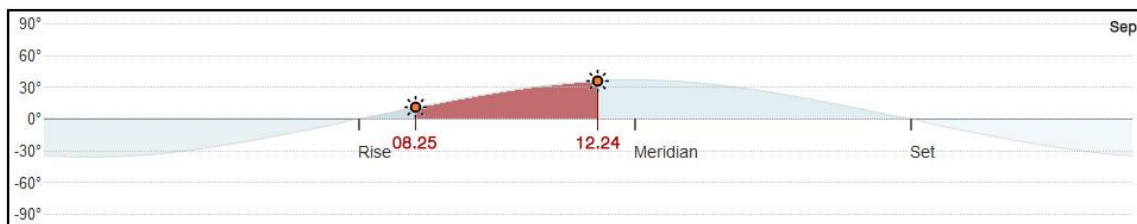
SUMMER SOLSTICE



WINTER SOLSTICE



VERNAL EQUINOX



FALL EQUINOX



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