APPENDIX H

PLANNING, SUNLIGHT, DAYLIGHT

& OVERSHADOWING REPORT

593 – ST. PANCRAS WAY – PHASE 2

Cartwright Pickard Architects

BLDAconsultancy

Planning Sunlight, Daylight and Overshadowing Report

At

No. 8 -14 St Pancras Way

London

NW1 0QG

for

Cartwright Pickard Architects

3rd October 2014

BLDA Consultancy,
211 Design Centre East, Chelsea Harbour, London, SW10 0XF
Tel: **020 7838 5555** Fax 020 7838 5556
Email: consultancy@blda.co.uk

BLDA Architects Ltd.

6093/GO/TJ

revision:	**0**	**OCT 2014**

CONTENTS

1. INTRODUCTION
2. SCOPE OF THIS REPORT
3. METHODOLOGY
4. THE DRAWINGS
5. THE SCHEME
6. DESCRIPTION OF THE SURROUNDINGS
7. SUNLIGHT
8. OVERSHADOWING
9. DAYLIGHT
10. CONCLUSION

APPENDIX 1 – DRAWING LIST

APPENDIX 2 - WINDOW LOCATION PLANS FOR SUNLIGHT AND DAYLIGHT

APPENDIX 3 - SUNLIGHT AND DAYLIGHT RESULT TABLES

APPENDIX 4 - 25 DEGREE ASSESSMENT FOR EXISTING APARTMENTS

APPENDIX 5 - SHADOW PATH ANALYSIS OF EXISTING AND PROPOSED SCHEME OVERLAID

1 Introduction

1.1 The development site is located at No. 8-14 St. Pancras Way, North-West London in the London Borough of Camden.

1.2 This report assesses the Sunlight, Daylight and Overshadowing impact on to existing residential properties and amenity spaces surrounding the development site, and looks at the levels of Sunlight and Daylight the proposed apartments will receive following development. This report also considers the potential overshadowing of the adjacent Regents Canal.

1.3 The development site is shown outlined in in red on Figure 1 below.

Figure 1: Proposed development site at No. 8-14 St. Pancras Way

2 The scope of this report

2.1 This report considers the sunlight and daylight issues against the criteria set out for national discretionary guidance in the publication Site Layout Planning for Daylight and Sunlight[1] (SLP) published by the Building Research Establishment in 2011. The document SLP refers both to particular amounts of daylight and sunlight and to a method of setting alternative target values for skylight. The LPA has not set such alternative target values.

The document SLP states in its own introduction on page 1 that:

"The advice given here is not mandatory and this document should not be seen as an instrument of planning policy"

2.2 Government policy has encouraged increases in density of development, in some cases significantly, since SLP was first published in 1991.

2.3 The British Standard current for this subject is BS 8206-2:2008 – code of practice for daylighting[2].

2.4 The Code for Sustainable Homes (CSH)[3], first launched in December 2006, became operational in April 2007. The CSH refers back to the benchmark levels set out in SLP for daylight, but has no criteria for bedrooms, nor any criteria for sunlight at all.

2.5 This report considers the possible sunlight, daylight and overshadowing impact to existing residential properties and amenity areas, and as well as sunlight and daylight levels within the proposed new apartments.

2.6 The sunlight and daylight impact to non-residential buildings are not considered in this report because sunlight and daylight levels within commercial buildings are not generally town-planning issues. Therefore, No. 6 St. Pancras Way has not been considered in this report.

The analyses used in this chapter are:

2.6.1 **For sunlight**: The sun light protractor method and sunlight availability indicator for 51.5° N as set out in Appendix A of SLP.

2.6.2 **For daylight to existing**: The principles set out in section 2 of SLP together with the concept of Vertical Sky Component (***VSC%***) as set

[1] Littlefair, P.J (2011) Site Layout Planning for Daylight and Sunlight, A guide to good practice, BRE

[2] Lighting for Buildings. Code of Practice for Daylighting BS 8206-2: 2008, British Standards Institution, 2008

out in both Appendix A of SLP – and in BS 8206-2:2008:code of practice for daylighting.

2.6.3 **For daylight to proposed**: The principles set out in section 2 of SLP together with the concept of average daylight factor (***ADF***) as set out in both Appendix C of SLP - interior daylighting recommendations – and in BS 8206-2:2008:code of practice for daylighting. Also an assessment of percentage loss.

2.6.4 **For shadow paths**: The proposals are digitally modelled in Integrated Environmental Solutions' (IES) ModelIT software and then analysed in IES suncast, version v5.9.0.1. Shadows are predicted at hourly intervals on the equinox date, 21st March, in accordance with the BRE criteria.

3 Methodology

3.1 For Sunlight at a Building

3.1.1 The methodology used is that of the sun light protractor method and sunlight availability indicator for 51.5° N as set out in Appendix A of Site Layout Planning for daylight and sunlight: A guide to good practice (SLP).

3.1.2 This method considers sunlight at a reference point. On looking out from the reference point the angular size of an obstructing building is assessed by reference to its ratio of Distance/Height relative to the reference point. The composite obstruction profile is plotted using this ratio. The resultant plot of obstructions for any given reference point is then overlaid on the Building Research Establishment (BRE) sunlight availability indicator for 51.5 degrees north.

3.1.3 The concept of available sunlight takes into account the probability of cloud obscuring the sun from a given reference point in addition to the change of sunrise and sunset times. Very approximately at 51.5 degrees north, BRE anticipate an average of 4 hours and 4 minutes of sunlight per day throughout the year on the basis only of cloud as an obstruction. The sunlight indicator takes into account the lower sun angles of the winter months.

[3] Code for Sustainable Homes, BRE Global, DCLG, November 2010

3.1.4 The resultant assessment provides a percentage of annual probable sunlight hours at a given point. This assessment is for sunlight on the outside face of a building.

3.1.5 The recommended levels of sunlight stated in BS code of practice is given as:

"Interiors in which the occupants have a reasonable expectation of direct sunlight and should receive at least 25% of probable sunlight hours.

3.1.6 BRE discretionary guidance states that on a window wall facing within 90 degrees of due south there will be adequate potential for sunlight if the reference point receives at least 25% of annual probable sunlight hours, including at least 5% of probable sunlight hours during the winter months (21st September to 21st March). If the subject window receives less than 0.8 times its former sunlight hours during either period (a reduction greater than 20% with the development in place), and has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours, then the reduction may be noticeable to the occupants.

There is a rider to the above which states:

"The degree of satisfaction is related to the expectations of sunlight. If a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when its exclusion seems arbitrary."

3.1.7 There is no requirement for a dwelling to receive sunlight, and of course many do not. The BRE guidance suggests that sunlight assessments should only be made for windows, or walls in which there are windows, that face within 90° of due south. Therefore there is no requirement to assess north-facing windows.

3.2 For Sunlight at an Open Space

3.2.1 The test used is as set out by BRE in SLP as a simple statement. This is determined only by the presence or absence of physical obstruction to sunlight. The concept of annual probable hours is not used. An assessment is made of sunlight reaching the subject space at the equinox dates of 21st March and 21st September.

3.3 For Shadow Paths

3.3.1 The proposals are digitally modelled in Integrated Environmental Solutions' (IES) ModelIT software and then analysed in IES suncast, version v6.2 Shadows are predicted at hourly intervals on 21st March the equinox month.

3.3.2 For overshadowing, the BRE guidance suggests for an amenity area, like a garden, to appear sunlit throughout the year, at least 50% of the garden or amenity area should receive 2 hours of sunlight on 21st March (21st March is the equinox month and is the set day for testing overshadowing in accordance with the BRE criteria). If a new development causes overshadowing of existing open areas that do not meet these criteria and the area which can receive 2 hours of sun on 21st March reduce by more than 20% of its former value, then the loss of sunlight may be noticeable, representing an adverse impact. This assessment would be analysed by producing a shadow path analysis from a computer simulation of the proposed development.

3.4 For Daylight at a Building

3.4.1 The daylight VSC procedure is, as with the sunlight analysis, to calculate in terms of the Distance/Height ratio all physical obstructions to light paths with reference to a subject position. These obstructions are then plotted against the light distribution from a CIE Standard Overcast Sky[4] as defined by the Commission Internationale de l'Eclairage (CIE).

3.4.2 The resulting daylight level at the external face of the building can then be computed. This is known as the Vertical Sky Component (VSC). The parameters of window size, glass transmissivity, room size and internal surface reflectances are then evaluated against the VSC for the window location. The resulting assessment gives a measure of internal daylight as a *df* value known as Average Daylight Factor.

3.4.3 The approach advocated by SLP, but not by BS 8206-2:2008, is to use only the external VSC measurement at existing surrounding property. However, as stated above, this approach does not consider any of the window or room qualities, including window sizes.

- [4] This is a completely overcast sky, the mathematical definition of which is given at Appendix H of SLP as a luminance ratio.

3.4.4 The Average Daylight Factor tests takes into account window size, room size, and internal reflectances in addition to external light levels at the window. VSC is a measurement made externally only and does not describe daylight conditions internally.

3.4.5 The suggested average daylight factor levels in SLP are:

- Bedrooms 1.0%df
- Living Room 1.5%df
- Kitchens 2.0%df
- Living/Kitchens 2.0% df

The assessment of adequate light internally in general relates to the quantum of light remaining as set out in BS 8206-2:2008 (in this instance measured as average daylight factor – *df*) rather than how much light is taken away.

3.5 Strategy for Sunlight and Daylight Studies to Existing

3.5.1 The assessments have been carried out at existing neighbouring residential properties with the proposed development in place to evaluate the possible loss of sunlight and daylight at the subject existing/adjacent proposed buildings after redevelopment at the No. 8-14 St. Pancras Way site.

3.5.2 The assessment locations have been chosen as 'worst case' locations and are indicated at Appendix 1. The criteria for selecting 'worst case' locations are to select the window locations to the existing surrounding residential buildings which may be impacted the most by the proposed development at No. 8-14 St. Pancras Way. These locations are at window positions closest to the proposed development site and which either face directly on to the development site or have an unobstructed view of the development site. These window locations are also at lowest residential floor level. By carrying out tests at the 'worst case' locations, we are able to establish the level of impact from the proposed development. Where 'worst case' rooms are not adversely impacted by the development, we are able to conclude that those windows which are located further away from the development site or are located at floor levels above the lowest residential level, would not be adversely affected.

4 The Drawings

4.1 This report has been prepared on the basis of the proposed drawings for the development of No. 8-14 St. Pancras Way, and the drawings of the existing adjacent buildings, received in January and July 2014.

4.2 The drawings used to model the proposed scheme and the existing adjacent properties are listed in Appendix 1.

5 Description of the Scheme

5.1 The proposed development at No. 8-14 St. Pancras Way consists of a roof extension to part of the existing flat roof at second floor level. The existing building at No. 8-14 St. Pancras Way consists of office use at lower levels and residential use at upper levels. The proposed scheme consists of three single storey residential apartments at third floor level.

6 Description of the surroundings

6.1 The development site is located in North-West London. To the north and east of the development site is Regents Canal, and beyond the canal there are a series of two storey dwellings which are part of Ploughman's Close. To the south of the site there is a commercial building known as No. 6 St. Pancras Way. To the west of the site is a parcel force delivery depot, and to the north-west is No. 16 St. Pancras Way which is a residential block of flats.

7 Sunlight

7.1 Sunlight to Existing Surrounding Residential Properties

7.1.1 BRE discretionary guidance states that on a window wall facing within 90 degrees of due south there will be adequate potential for sunlight if the reference point receives at least 25% of annual probable sunlight hours, including at least 5% of probable sunlight hours during the winter months (21st September to 21st March). If the subject window receives less than 0.8 times its former sunlight hours during either period (a reduction greater than 20% with the development in place), and has a reduction in sunlight received over the whole

year greater than 4% of annual probable sunlight hours, then the reduction may be noticeable to the occupants. In accordance with the BRE guidelines set out in SLP there is no sunlight requirement for windows facing within 90 degrees of due north.

7.1.2 We have carried out sunlight assessments at windows to No. 16 St. Pancras Way, to lowest residential floor levels closest to the proposed development at No. 8-14 St. Pancras Way. We have also carried out sunlight assessments at a window to a residential property within Ploughmans Close, located directly opposite the development site across the canal.

7.1.3 The location of each property and the assessment location is shown on Figure 2 at Appendix 2. The assessment locations have been chosen as 'worst case' locations due to the close proximity of each building to the proposed development, as set out in Section 3.5. The sunlight assessment have been carried out with the existing buildings in place and then with the proposed development added in order to evaluate the possible reduction in sunlight to existing residential properties.

7.1.4 The results of the study carried out at No. 16 St Pancreas Way, demonstrate that of the 18 rear facing rooms we have tested for sunlight availability, from first floor up to third floor level, all would achieve levels of sunlight above the guidelines as set by the BRE, apart from one room. Post development, the first floor room would receive a level of sunlight only 6% below the recommended annual sunlight hours. In our opinion, sunlight falling by up to 6% it not unusual in dense London locations such as this. Because the windows at No. 16 St Pancras Way have been angled to overlook No. 8-14 St Pancras Way it is inevitable that any alteration would cause some change to sunlight levels received at the tested windows. The BRE suggests that when designing a building, care should be taken when designing windows at the boundary with another building so as to avoid being a 'bad neighbour' and taking no more than its fair share of light. The fact that the rear side windows of No. 16 St Pancras Way were designed to face directly towards No. 8-14 St Pancras Way, at such a close distance to the boundary, it has meant that they have constrained the development potential of No. 8-14 St Pancras Way. This would need to be considered when reviewing the sunlight results.

7.1.5 The sunlight results of the study taken at an example residential property within Ploughmans Close (No.19 Ploughmans Way) show that following development at No. 8-14 St Pancras Way, there would be no adverse sunlight impact. The

sunlight levels at this property would remain adequate, with no material deviation from the sunlight levels currently received prior to development.

7.1.6 Any residential properties located further away from those we have tested, would also not be adversely impacted by the proposed development at No. 8-14 St. Pancras Way.

7.1.7 The assessment results are shown in Table 1 and 2 at Appendix 3.

7.2 Sunlight to Proposed Apartments at No. 8-14 St. Pancras Way

7.2.1 We have tested the sunlight levels at key habitable rooms of the proposed apartments, these being the living/kitchen rooms and bedrooms. In accordance with the BRE discretionary guidance, there is no sunlight requirement for windows that face within 90 degrees of due north. See Table 3 at Appendix 3 for the sunlight results to the proposed apartments.

8 Overshadowing to Existing Amenity Areas

8.1 The BRE guidance suggests for an amenity area, like a garden, to appear sunlit throughout the year, at least 50% of the garden or amenity area should receive 2 hours of sunlight on 21st March (21st March is the equinox month and is the set day for testing overshadowing in accordance with the BRE criteria). If a new development causes overshadowing of existing open areas that do not meet these criteria, and the area which can receive 2 hours of sun on 21st March reduces by more than 20% of its former value, then the loss of sunlight may be noticeable, representing an adverse impact. Amenity areas include:

- Gardens, usually the main or back garden of a house and allotments
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting-out areas, such as those between non-domestic buildings and public squares
- Focal points for views, such as a group monument or fountains.

8.2 We have carried out a shadow path analysis of the proposed scheme No. 8-14 St. Pancras Way, and the resulting shadow path is shown on a sequence of plans at Appendix 5 to this report. The shadow path studies have been carried out on 21st March, at 1 hour intervals. The 21st March is the set equinox day for testing overshadowing from a new building in accordance with the BRE criteria.

8.3 We have identified the most sensitive existing amenity areas as being the rear balconies of No. 16 St. Pancras Way, and Regents Canal.

8.4 The results of the shadow path analysis demonstrate that following development there will be no adverse overshadowing impact to any amenity areas adjacent to the site.

8.5 We have analysed the impact of the proposed scheme, and including the proposed balconies to the apartments, in order to establish whether these would cause additional adverse overshadowing following development at No. 8-14 St. Pancras Way. The shadow path images at Appendix 5 show the additional overshadowing highlighted in the colour green. It can clearly be seen by the images that the two adjacent properties to No. 8-14 St. Pancras Way already overshadow the canal, and the proposed apartments, along with their proposed balconies, would not cause any adverse additional overshadowing to the canal.

8.6 Therefore, in accordance with the BRE guidelines for overshadowing, the proposed scheme at No. 8-14 St. Pancras Way, would meet the BRE recommendations for overshadowing.

9 Daylight

9.1 Daylight to Existing Residential Properties

9.1.1 For existing buildings, BRE discretionary guidance suggests with a new development in place if the Vertical Sky Component (VSC) at an existing building is 27% or greater, there would still be enough skylight reaching the windows of the existing building. However if the VSC, with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice a reduction in the amount of skylight they receive.

9.1.2 In accordance with the BRE assessment methodology, we have assessed the daylight VSC levels at existing surrounding residential properties.

Assessments have been taken at the same 'worst case' locations as taken with the sunlight analysis.

9.1.3 The daylight VSC study has been carried out with the existing adjacent buildings and the proposed development in place. The results of the assessments demonstrate that due to the reasons set out in paragraph 7.1.4 of the sunlight analysis to No. 16 St. Pancras Way, daylight VSC levels would be low after development at No. 8-14 St. Pancras Way, because of the unusually close proximity of the windows to No. 16 St. Pancras Way. The results of this study is shown in Table 4 in Appendix 3.

9.1.4 As the results of the daylight VSC study recorded lower than recommended daylight levels at some windows to No. 16 St. Pancras Way, we have carried out a detailed daylight Average Daylight Factor (ADF) assessment. The VSC assessments are taken on the outside of the test window only in order to measure the external light levels reaching the subject window. The ADF study takes into account the VSC level but in addition it takes into account the window size and the glazing transmittance, as well as the room dimensions and the use of the room to be tested.

9.1.5 The ADF study is traditionally used for assessing proposed dwellings, because the internal layout and use of the proposed rooms would be known. Because we know the layout of the existing residential flats within No. 16 St. Pancras Way, as the development of this building is relatively recent, it is appropriate to apply this more detailed study for the existing rooms. We have therefore carried out the ADF assessments at No. 16 St. Pancras Way by using the floor layout drawings as listed in Appendix 1 of this report.

9.1.6 As set out in paragraph 9.1.1, the VSC study uses a calculation which evaluates the degree of light loss by calculating whether the light loss at the surface of the existing test window is within 0.8 times its former value (e.g. existing VSC light level vs. after development VSC light level). We have applied the same calculation method for the ADF study, whereby we have evaluated the degree of light loss by calculating whether the internal light loss levels of the existing test room is within 0.8 times its former value (e.g. existing ADF light level of the room vs. after development ADF light level of the room). The results of the daylight ADF study show that following development at No. 8-14 St. Pancras Way there would still be good levels of daylight at all the tested rooms. These results show that many existing rooms currently receive substandard levels of daylight ADF, as shown in Table 5 in

Appendix 3, however the proposed development would not reduce the existing daylight levels to an unacceptable degree following development at No. 8-14 St. Pancras Way, as the results demonstrate that daylight levels will remain within 0.8 times of its former value.

9.1.7 The daylight results of the study taken at an example residential property within Ploughmans Close (No.19 Ploughmans Way) shows that following development at No. 8-14 St Pancras Way, there would be no adverse daylight impact. The daylight levels at this property would remain adequate, with no material deviation from the current daylight levels received prior to development. The assessments results are shown in Table 2 at Appendix 3.

9.1.8 We have considered the possible effect on daylighting to the existing second floor apartments within No. 8-14 St. Pancras Way, which face directly out on to the proposed apartments. For these existing apartments a first stage 25 degree test has been carried out by the architects, and is shown on drawing number 593-AP-225 Rev B. The BRE 25 degree test measures an angle to the horizontal subtended by the new development at the level of the center of the lowest existing window. The BRE states that if the angle is less than 25 degrees for the whole of the development then it is unlikely to have a substantial effect on diffuse skylight enjoyed by the existing building. We have reviewed the first stage assessment undertaken, and we can confirm that the proposed development is below the 25 degree line, and would therefore not cause an adverse impact to existing apartments at second floor or above within No. 8-14 St. Pancras Way. The 25 degree assessment is shown on drawing is shown at Appendix 4.

9.1.9 Any other existing residential properties located further away from the development site, would not be adversely affected.

9.1.10 The assessment locations are indicated at Appendix 2.

9.2 Daylight ADF to Proposed Apartments at No. 8-14 St. Pancras Way

9.2.1 We have carried out ADF studies to the proposed dwellings at No. 8-14 St. Pancras Way. We have carried out the daylight ADF studies at key habitable rooms of the proposed apartments, these being the living/kitchen rooms and bedrooms. The results of the daylight ADF analysis show that all key rooms within the proposed development would meet and exceed the minimum daylight

ADF requirement for the room type. Therefore, the proposed apartments would meet the BRE discretionary guidance following development.

10 Conclusion

10.1 We have assessed the sunlight, daylight and overshadowing impact of the proposed development at No. 8-14 St. Pancras Way on to the existing surrounding residential properties, amenity areas and Regents Canal.

10.2 The results of the analysis show that following development at No. 8-14 St. Pancras Way the existing surrounding residential properties, amenity areas and the canal would not be adversely impacted by the proposed scheme.

10.3 The results of the Sunlight assessments taken at existing properties demonstrates that sunlight levels to each property we have tested would remain sufficient following development at No. 8-14 St. Pancras Way.

10.4 The Overshadowing analysis demonstrates that following development at No. 8-14 St. Pancras Way there would be no adverse additional overshadowing impact to the canal or any other amenity areas adjacent to the development site.

10.5 The results of the Daylight assessments taken at existing properties demonstrates that daylight levels to each property we have considered would remain sufficient following development at No. 8-14 St. Pancras Way.

10.6 The sunlight and daylight analysis undertaken for the proposed apartments at No. 8-14 St. Pancras Way shows that there would be good levels following development, which would meet and exceed the BRE recommendations.

3rd October 2014

Gilsen Osman B.Sc.(Hons)

Sunlight, Daylight and Rights of Light Surveyor
211 Design Centre East
Chelsea Harbour
London
SW10 0XF

tel: 020 7838 5555
fax: 020 7838 5556
email: go@blda.co.uk

Appendix 1

Drawing List

Existing St Pancras Way 2 (Sent to us and drawn by the Client)			
Drawing	**No./Rev**	**Date**	**Received**
Site Location Plan	593-AP-100/A	March 2014	02/10/2014
Existing Ground Floor Plan	593-AP-110/A	January 2014	02/10/2014
Existing First Floor Plan	593-AP-111/A	January 2014	02/10/2014
Existing Second Floor Plan	593-AP-112/A	January 2014	02/10/2014
Existing Third Floor Plan	593-AP-113/A	January 2014	02/10/2014
Existing Fourth Floor Plan	593-AP-114/A	January 2014	02/10/2014
Existing Fifth Floor Plan	593-AP-115/A	January 2014	02/10/2014
Existing Roof Plan	593-AP-116/A	January 2014	02/10/2014
Existing South East Elevation	593-AP-120/A	January 2014	02/10/2014
Existing North East Elevation	593-AP-121/A	January 2014	02/10/2014
Existing Section A-A	593-AP-122/A	January 2014	02/10/2014
Existing Section B-B	593-AP-123/A	January 2014	02/10/2014
Proposed St Pancras Way 2 (Sent to us and drawn by the Client)			
Drawing	**No./Rev**	**Date**	
Proposed Third Floor Plan	593-AP-203/C	January 2014	23/7/2014
Proposed Fourth Floor Plan	593-AP-204/C	January 2014	23/7/2014
Proposed South East Elevation	593-AP-210/B	January 2014	23/7/2014
Proposed North East Elevation	593-AP-211/B	January 2014	23/7/2014
Proposed South East Elevation	593-AP-212/B	January 2014	23/7/2014
Proposed Section A-A	593-AP-220/B	January 2014	23/7/2014
Proposed Section A-A “Daylight Section”	593-AP-225/B	January 2014	23/7/2014
6 St Pancras Way (Blocks A and B Existing) (Taken from Planning Website, Drawn by Polyhedron Architecture Limited)			
Drawing	**No./Rev**	**Date**	
Ground Floor Layout (Level 0)	STPA/611/A	June 2003	23/7/2014
First Floor Layout (Level 1)	STPA/612/B	June 2003	23/7/2014
Second Floor Layout (Level 2)	STPA/613/A	June 2003	23/7/2014
Third Floor Layout (Level 3) & Plant (Level 4)	STPA/614/ -	June 2003	23/7/2014
Fourth Floor Layout (Level 4)	STPA/005/A	June 2003	23/7/2014
16 St Pancras Way (Taken from Planning Website, Drawn by David Wood Architects)			
Drawing	**No./Rev**	**Date**	
Site Layout/Ground Floor Plan	F403/F	December 2004	23/7/2014
First Floor Plan	F403/P11	December 2004	23/7/2014
Second Floor Plan	F403/P12	December 2004	23/7/2014
Third Floor Plan	F403/P13	December 2004	23/7/2014
Fourth Floor Plan	F403/P14	December 2004	23/7/2014
Fifth Floor Plan	F403/P15	December 2004	23/7/2014
Roof Plan	F403/P16	December 2004	23/7/2014
Existing Front & Rear Elevations	F403/P02	December 2004	23/7/2014
Existing Sections	F403/P03	December 2004	
Roof Plan	F403/P16	December 2004	
Front & Rear Elevations	F403/P20	December 2004	
Sections/Elevations A-A and B-B	F403/P21	December 2004	

Appendix 2

Assessment Location Plan for Sunlight and Daylight to Existing Residential Properties

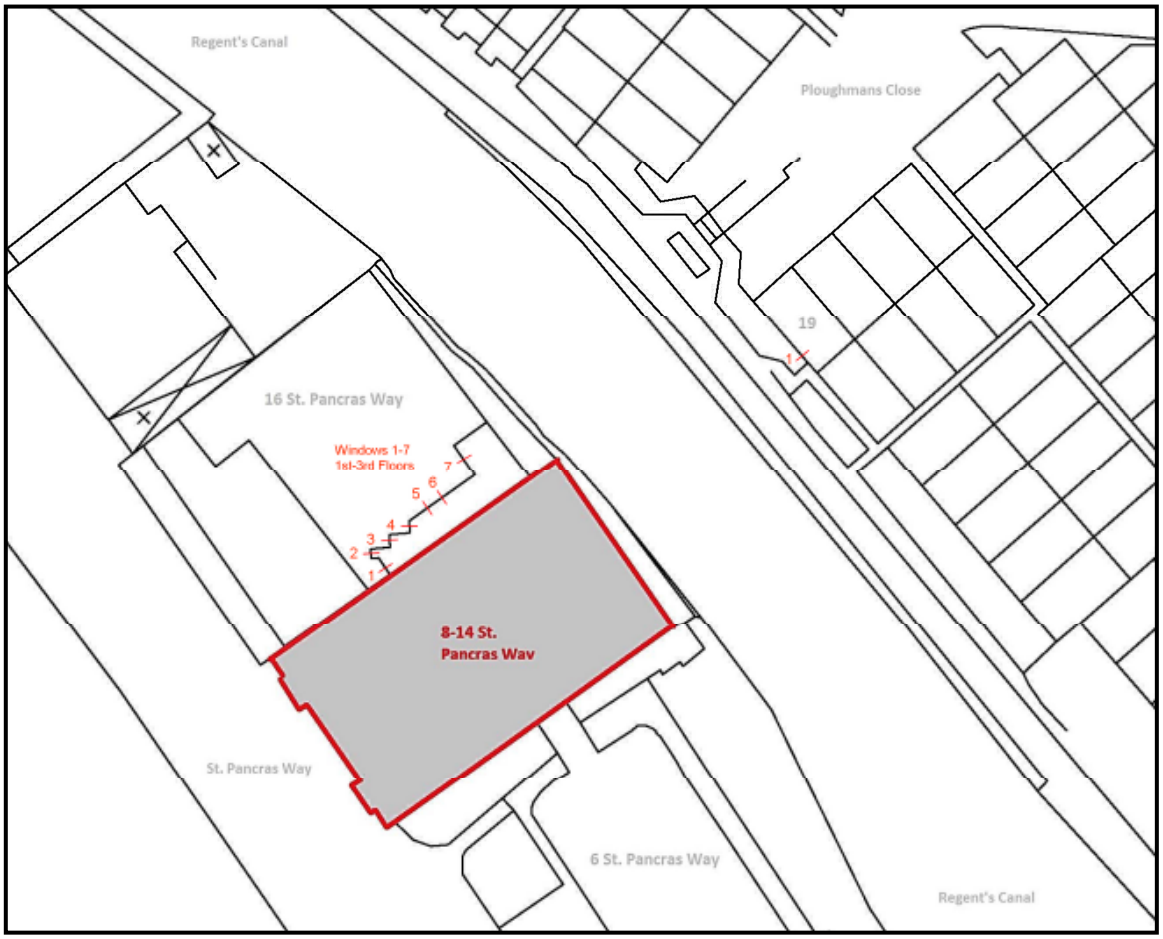


Figure 2: Sunlight and Daylight Assessment Location Plan for Existing Residential Properties

Appendix 3

Sunlight and Daylight Result Tables

Project Name: St Pancras Way - Phase 2
Project No: 6093
Report Title: Sunlight at No.16 St Pancras Way with Proposed Development in Place

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Scenario	Available Sunlight Hours					
					Annual %	Diff % (> 0.8)	Pass / Fail	Winter %	Diff % (> 0.8)	Pass / Fail
16 St Pancras Way										
First	R1	Bedroom	W1	Existing Proposed	*North Facing					
First	R2	Bedroom	W2	Existing Proposed	*North Facing					
First	R3	Bedroom	W3	Existing Proposed	*North Facing					
First	R4	Bedroom	W4	Existing Proposed	*North Facing					
First	R5	Kitchen	W5	Existing Proposed	27 19	0.70	FAIL	0 0	0.00	PASS
First	R5	Kitchen	W6	Existing Proposed	30 19	0.63	FAIL	0 0	0.00	PASS
First	R6	Living room	W7	Existing Proposed	*North Facing					
Second	R1	Bedroom	W1	Existing Proposed	*North Facing					
Second	R2	Bedroom	W2	Existing Proposed	*North Facing					
Second	R3	Bedroom	W3	Existing Proposed	*North Facing					
Second	R4	Bedroom	W4	Existing Proposed	*North Facing					
Second	R5	Kitchen	W5	Existing Proposed	43 35	0.81	PASS	9 6	0.67	PASS
Second	R5	Kitchen	W6	Existing Proposed	52 39	0.75	PASS	13 10	0.77	PASS
Second	R6	Living room	W7	Existing Proposed	*North Facing					
Third	R1	Bedroom	W1	Existing Proposed	*North Facing					
Third	R2	Bedroom	W2	Existing Proposed	*North Facing					
Third	R3	Bedroom	W3	Existing Proposed	*North Facing					
Third	R4	Bedroom	W4	Existing Proposed	*North Facing					
Third	R5	Kitchen	W5	Existing Proposed	48 48	1.00	PASS	12 12	1.00	PASS
Third	R5	Kitchen	W6	Existing Proposed	56 56	1.00	PASS	15 15	1.00	PASS
Third	R6	Living room	W7	Existing	*North Facing					

Proposed	

Table 1 – Sunlight to No. 16 St Pancras Way

Project Name: St Pancras Way Model
Project No: 6093
Report Title: Sunlight at 19 Ploughmans Way (directly opposite site) with Proposed Development in Place

Date of Analysis: 10/09/2014

Floor Ref.	Window Ref.	Scenario	Daylight VSC	Difference % (above 0.8 to pass	Pass / Fail	Available Sunlight Hours					
						Annual %	Diff %	Pass / Fail	Winter %	Diff %	Pass / Fail
19 Ploughmans Way											
Ground	W1	Existing	32.57	0.99	PASS	64	1.00	PASS	21	1.00	PASS
		Proposed	32.3			64			21		

Table 2 – Sunlight and Daylight VSC to No. 19 Ploughmans Way

Sunlight to Proposed Apartments at No. 8-14 St. Pancras Way						
				Available Sunlight Hours		
Floor Ref.	Room Ref.	Room Use.	Window Ref.	Annual %	Winter %	Pass BRE Criteria
Propsed Apartments at No.8-14 St Pancras Way						
Second	R1	Living room Kitchen area	W1	*North Facing		Pass
Second	R2	Bedroom	W3	*North Facing		Pass
Second	R3	Bedroom	W4	*North Facing		Pass
Second	R4	Living room Kitchen area	W5	*North Facing		Pass
Second	R5	Living room Kitchen area	W7	*North Facing		Pass
Second	R6	Bedroom	W9	*North Facing		Pass
* Window faces within 90 degrees of North						

Table 3 – Sunlight to Proposed Apartments at No. 8-14 St Pancras Way

Project Name: St Pancras Way - Phase 2
Project No: 6093
Report Title: Daylight VSC at No.16 St Pancras Way with Proposed Development in Place

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Scenario (existing = before, proposed = after)	VSC%	Difference above 0.8	Pass / Fail
16 St Pancras Way							
First	R1	Bedroom	W1	Existing Proposed	9.58 7.78	0.81	PASS
First	R2	Bedroom	W2	Existing Proposed	8.18 5.99	0.73	FAIL
First	R3	Bedroom	W3	Existing Proposed	11.47 8.21	0.72	FAIL
First	R4	Bedroom	W4	Existing Proposed	17.12 12.47	0.73	FAIL
First	R5	Kitchen	W5	Existing Proposed	15.67 11.43	0.73	FAIL
First	R5	Kitchen	W6	Existing Proposed	16.97 11.39	0.67	FAIL
First	R6	Living room	W7	Existing Proposed	8.53 6.61	0.77	FAIL
Second	R1	Bedroom	W1	Existing Proposed	23.64 16.44	0.70	FAIL
Second	R2	Bedroom	W2	Existing Proposed	14.66 10.22	0.70	FAIL
Second	R3	Bedroom	W3	Existing Proposed	22.65 16.03	0.71	FAIL
Second	R4	Bedroom	W4	Existing Proposed	29.4 20.96	0.71	FAIL
Second	R5	Kitchen	W5	Existing Proposed	27.61 20.62	0.75	FAIL
Second	R5	Kitchen	W6	Existing Proposed	29.87 20.84	0.70	FAIL
Second	R6	Living room	W7	Existing Proposed	15.94 11.71	0.73	FAIL
Third	R1	Bedroom	W1	Existing Proposed	25.04 24.67	0.99	PASS
Third	R2	Bedroom	W2	Existing Proposed	14.4 14.1	0.98	PASS
Third	R3	Bedroom	W3	Existing Proposed	24.21 23.79	0.98	PASS
Third	R4	Bedroom	W4	Existing Proposed	30.7 30.12	0.98	PASS
Third	R5	Kitchen	W5	Existing Proposed	30.97 30.73	0.99	PASS

Third	R5	Kitchen	W6	Existing Proposed	33.27 32.97	0.99	PASS
Third	R6	Living room	W7	Existing Proposed	39.61 39.24	0.99	PASS

Table 4 – Daylight VSC to Existing Apartments at No. 16 St Pancras Way

Project Name: St Pancras Way - Phase 2
Project No: 6093
Report Title: Daylight ADF to No. 16 Pancras Way with Proposed Development in Place

Floor Ref.	Room Ref.	Room Use.	Window Ref.	ADF Existing (Before Development)	ADF Proposed (After Development)	Min Daylight ADF Req'd Value	% Diff < 0.8 times former value (e.g above 0.80 = Pass)	Not more than 20% Reduction from existing Daylight Level
16 St Pancras Way								
First	R1	Bedroom	W1-L	0.01	0.01			
			W1-U	0.35	0.31			
				0.36	0.32	1.00	0.89	PASS
First	R2	Bedroom	W2-L	0.01	0.01			
			W2-U	0.46	0.39			
				0.47	0.40	1.00	0.85	PASS
First	R3	Bedroom	W3-L	0.01	0.01			
			W3-U	0.58	0.48			
				0.59	0.49	1.00	0.83	PASS
First	R4	Bedroom	W4-L	0.02	0.02			
			W4-U	0.95	0.79			
				0.97	0.80	1.00	0.83	PASS
First	R5	Kitchen	W5	0.58	0.49			
			W6	0.78	0.62			
				1.36	1.11	2.00	0.81	PASS
First	R6	Living room	W7-L	0.07	0.06			
			W7-U	0.58	0.51			
				0.65	0.58	1.50	0.88	PASS
Second	R1	Bedroom	W1-L	0.02	0.01			
			W1-U	0.59	0.47			
				0.61	0.49	1.00	0.80	PASS
Second	R2	Bedroom	W2-L	0.02	0.01			
			W2-U	0.62	0.51			
				0.63	0.52	1.00	0.82	PASS
Second	R3	Bedroom	W3-L	0.02	0.02			
			W3-U	0.84	0.68			
				0.87	0.70	1.00	0.81	PASS
Second	R4	Bedroom	W4-L	0.04	0.03			
			W4-U	1.33	1.06			
				1.36	1.09	1.00	0.80	PASS
Second	R5	Kitchen	W5	0.84	0.69			
			W6	1.13	0.88			
				1.97	1.57	2.00	0.80	PASS
Second	R6	Living	W7-L	0.10	0.08			

		room						
			W7-U	0.89	0.74			
				0.99	0.82	1.50	0.83	PASS
Third	R1	Bedroom	W1-L	0.02	0.02			
			W1-U	0.69	0.69			
				0.71	0.71	1.00	0.99	PASS
Third	R2	Bedroom	W2-L	0.02	0.02			
			W2-U	0.61	0.61			
				0.63	0.62	1.00	0.99	PASS
Third	R3	Bedroom	W3-L	0.03	0.03			
			W3-U	1.05	1.04			
				1.08	1.07	1.00	0.99	PASS
Third	R4	Bedroom	W4-L	0.04	0.04			
			W4-U	1.36	1.35			
				1.40	1.39	1.00	0.99	PASS
Third	R5	Kitchen	W5	0.88	0.88			
			W6	1.20	1.19			
				2.08	2.07	2.00	0.99	PASS
Third	R6	Living room	W7-L	0.16	0.15			
			W7-U	1.77	1.76			
				1.93	1.92	1.50	0.99	PASS

Table 5 – Daylight ADF to Existing Apartments at No. 16 St Pancras Way

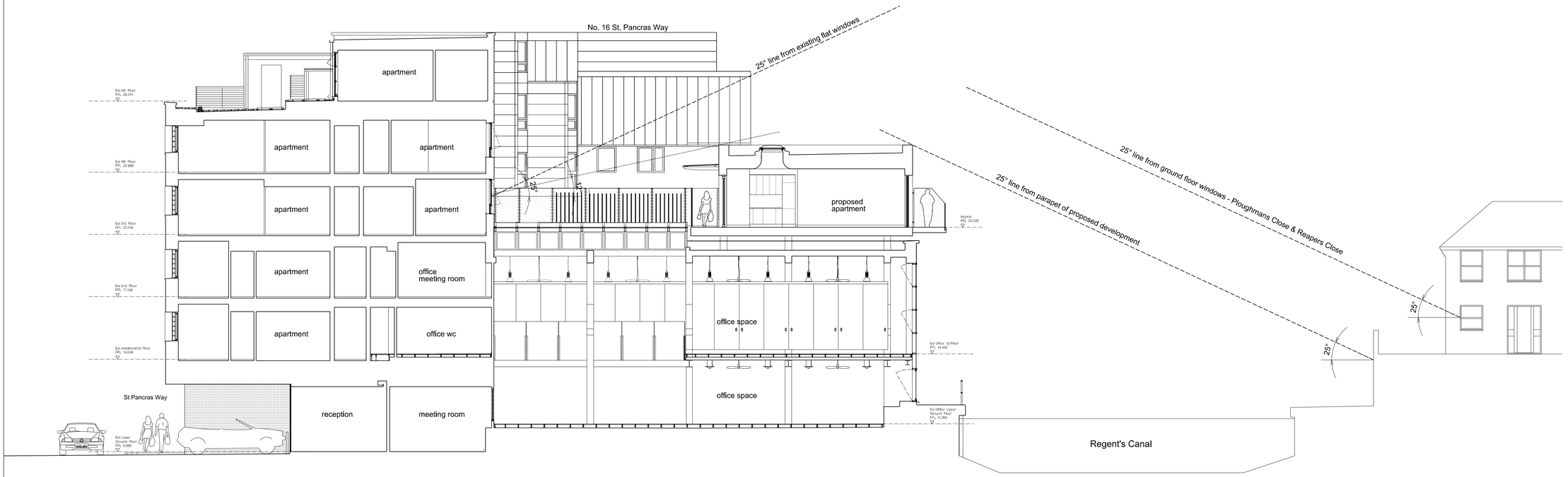
Project Name: St Pancras Way - Phase 2
Project No: 6093
Report Title: Internal ADF Levels Proposed Scheme

Floor Ref.	Room Ref.	Room Use.	Window Ref.	Glazed Area	Daylight ADF of Proposed Rooms	ADF Req'd Value	Pass/Fail
Proposed No. 8-14 St Pancras Way Apartments							
Second	R1	Living room/ Kitchen	W1-L W1-U W2	1.53 2.94 0.80	0.15 1.89 0.38		
					2.42	2.00	PASS
Second	R2	Bedroom	W3-L W3-U	1.19 2.27	0.26 3.28		
					3.54	1.00	PASS
Second	R3	Bedroom	W4-L W4-U	1.19 2.27	0.26 3.31		
					3.57	1.00	PASS
Second	R4	Living room/ Kitchen	W5-L W5-U W6	1.53 2.94 0.80	0.15 1.89 0.36		
					2.40	2.00	PASS
Second	R5	Living room/ Kitchen	W7-L W7-U W8	1.53 2.94 0.80	0.15 1.89 0.34		
					2.38	2.00	PASS
Second	R6	Bedroom	W9-L W9-U	1.19 2.27	0.26 3.28		
					3.54	1.00	PASS

Table 6 – Daylight ADF to Proposed Apartments at No. 8-14 St Pancras Way

Appendix 4

25 degree Assessment for Existing Apartments



Notes:

Unless indicated, this drawing is for information only.
Do not scale, use figured dimensions only.
All dimensions to be checked on site

0 Drwg. original size: A1

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Revisions:

Date:	Rev:	Note:	Check:
17.03.14	-	Issued for information	IH
23.07.14	A	Issued for Daylight/sunlight analysis	DC
06.10.14	B	Planning Application Issue	JP

Revisions:

Date:	Rev:	Note:	Check:

cartwright pickard architects

1 Canal Side Studios
8 - 14 St Pancras Way
London
NW1 0QG

tel 020 7554 3830
fax 020 7388 9312
e-mail mail@cartwrightpickard.com

Project: 593
St. Pancras Way 2

Drawing Title: Proposed Section A-A
Daylight section

Scale: 1:100 @ A1

Drwg. Created: March 2014

Drwg. No: 593-AP-225

Status: Planning Application
(Not for Construction)

Revision: B

Appendix 5

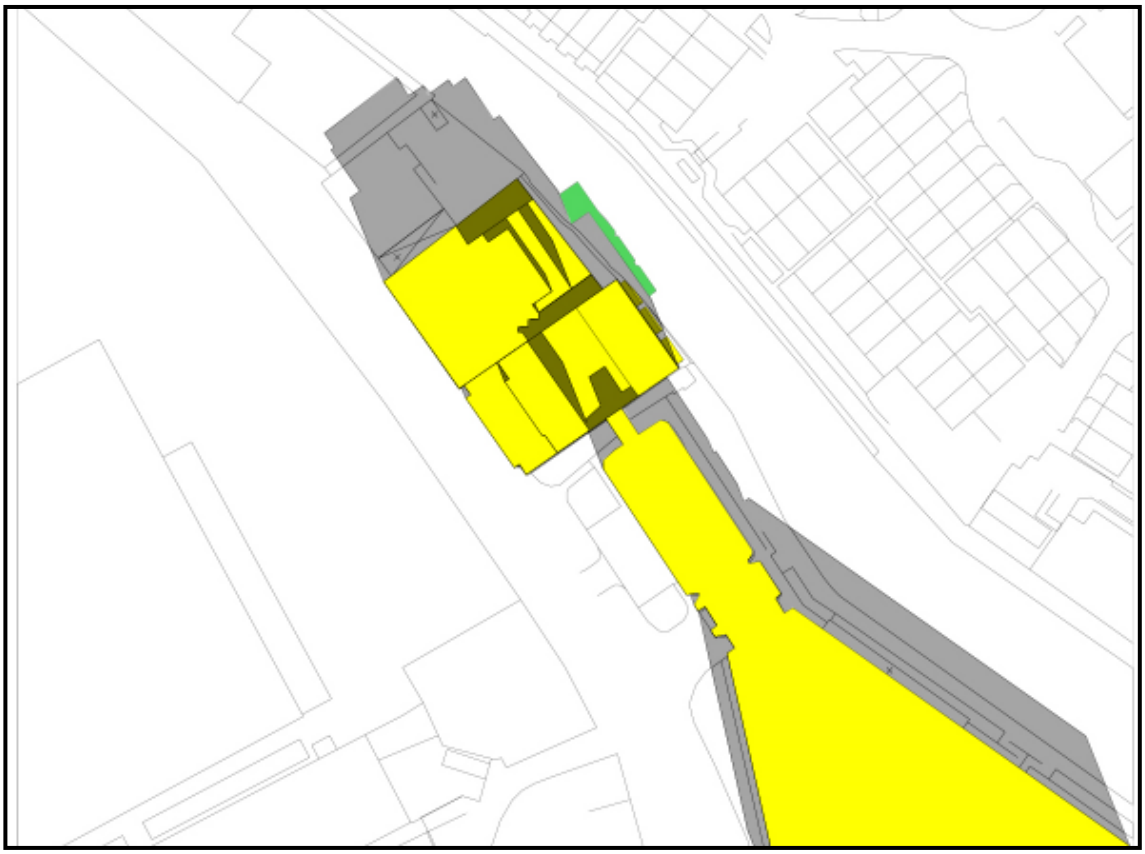
Shadow Path Analysis

Shadow Path Analysis of the existing buildings (No. 8-14, 6 and 16 St Pancras Way) overlaid with proposed scheme at No.8-14 St Pancras Way, including proposed balconies.

March 21st 08:00

March 21st 09:00

March 21st 10:00



March 21st 11:00

March 21st 12:00

March 21st 13:00

March 21st 14:00

March 21st 15:00

March 21st 16:00

March 21st 17:00

March 21st 18:00