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1-11 HAWLEY CRESCENT ROOF EXTENSION

Daylight and Sunlight Report

Director: Date: Project: JUSTIN BOLTON AUGUST 2016 P1042

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## 1 <u>Executive Summary</u>

- 1.1 This report has considered the potential daylight and sunlight effects to the surrounding residential properties as a result of the implementation of the proposed Chassay + Last architect's scheme for the site at 1-11 Hawley Crescent, Camden Town, NW1 8NP.
- 1.2 The assessments contained within this report have been undertaken in accordance with the BRE report entitled 'Site layout planning for daylight and sunlight: A guide to good practice', more commonly known as "the BRE guidelines".
- 1.3 The report assesses the daylight and sunlight effects of the proposed scheme against the existing site conditions.
- 1.4 Overall, the sunlight results are 100% compliant with the recommendations of the BRE guidelines. The majority of neighbouring properties fall within the recommended levels of daylight amenity with all windows and rooms retaining good daylighting potential. Overall, the Chassay + Last scheme falls within the practical application of BRE guidance.

## 2 <u>Introduction</u>

- 2.1 Point 2 Surveyors have been appointed on behalf of Castlehaven Row Ltd to assess the potential daylight and sunlight effects to the surrounding residential properties.
- 2.2 The site is located in the London Borough of Camden. The extents of the current site (drawings P1039-01 to 03) and proposed buildings (drawings P1039-04 to 06) can be found in Appendix A.
- 2.3 This report assesses the potential daylight and sunlight effects as a result of the proposal on the surrounding residential properties or those properties with a residential component.
- 2.4 The calculations in this report have been based on the Chassay + Last architect's 3D model. The model and surrounds are demonstrated in Plate 01 below.

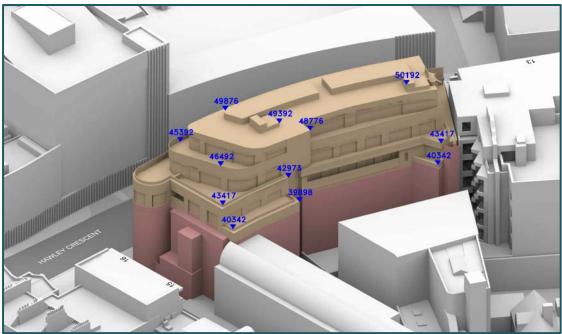


PLATE 01-IMAGE DEMONSTRATING THE PROPOSED SCHEME WITHIN CONTEXTUAL 3D MODEL

### 3 <u>Methodology</u>

3.1 When assessing any potential effects on the surrounding properties, the BRE guidelines suggest that only those windows that have a reasonable expectation of daylight or sunlight need to be assessed. In particular the BRE guidelines at paragraph 2.2.2 state:

The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices.

- 3.2 Further to the above statement, it is considered that the vast majority of commercial properties do not have a reasonable expectation of daylight or sunlight. This is because they are generally designed to rely on artificial electric lighting rather than natural light.
- 3.3 If a property is considered to have a reasonable expectation of daylight or sunlight the following methodology to assess the impacts has been used:

## Daylighting

- 3.4 It is common to consider the local authorities planning policy in order to establish the basis for which consideration in relation to light should be approached. The following can be used as a quick test to assess the likely effect on existing surrounding properties:
  - a) Project a 25 degree line from the centre of the lowest window on the existing building;
  - b) If the whole of your new development is lower than this line then it is unlikely to have a substantial effect on the daylight enjoyed by occupants in the existing building.
- 3.5 The above test is also known as the 25° angle test but has not been used for this assessment as it does not reflect the differing heights and layouts of the buildings in the local area.
- 3.6 More detailed tests can be undertaken to fully assess the loss of daylight in existing buildings, in particular the use of the Vertical Sky Component (VSC) method of assessment.

The Vertical Sky Component is expressed as a ratio of the maximum value of daylight achievable for a completely unobstructed vertical wall. The maximum value is almost 40%. This is because daylight hitting a window can only come from one direction immediately halving the available light. The value is limited further by the angle of the sun. This is why if the VSC is greater than 27% enough sunlight [SIC] should be reaching the existing window. Any reduction below this level should be kept to minimum.

Windows to some existing rooms may already fail to achieve this target under existing conditions. In these circumstances it is possible to accept a reduction to the existing level of daylight to no less than 80% of its former value.

- 3.7 In summary to the above, a room is considered to continue to receive good levels of daylight if the window can receive a VSC of at least 27%. If the window receives a VSC below 27% in the existing scenario a reduction of less than 0.8 times its former value (20%), as a result of the proposed development, is considered acceptable.
- 3.8 In conjunction with the VSC tests, the BRE guidelines and British Standard 8206-Part2:2008 suggest that the distribution of daylight is assessed using the No Sky Line (NSL) test. This test separates those areas of the working plane that can receive direct skylight and those that cannot.
- 3.9 The BRE guidelines suggest that the daylight distribution test is undertaken to existing surrounding properties when the internal arrangements are known. To assess the impact of any reduction the BRE guidelines suggest:

*If, following construction of a new development, the no sky line moves so that the area of the existing room, which does receive direct skylight, is reduced to less than 0.8 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit.* 

## Sunlighting

3.10 The amount of direct sunlight a window can enjoy is dependent on its orientation and the extent of any external obstructions. For example, a window that faces directly north, no matter what external obstructions are present, will not be able to receive good levels of sunlight throughout the year. However, a window that faces directly south with no obstructions will enjoy very high levels of sunlight throughout the year. As the potential to receive sunlight is dependent on a window's orientation, the BRE guidelines state:

To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

3.11 To consider any sunlight effect to the surrounding properties the BRE guidelines suggest calculating the Annual Probable Sunlight Hours (APSH) at the centre of each window on the outside face of the window wall. The BRE guidelines suggest that:

If this window point can receive more than one quarter of APSH (see section 3.1), including at least 5% of APSH in the winter months between 21st September and 21st March, then the room should still receive enough sunlight.

3.12 If the above criteria is not met, the BRE guidelines suggest calculating the APSH at the window in the existing situation, i.e. before redevelopment. If the reduction of APSH between the existing and proposed situations is less than 0.8 times its former value for either the total APSH or in the winter months; and greater than 4% for the total APSH, then the occupants of the adjoining building are likely to notice the reduction in sunlight.

- 3.13 In assessing the daylight and sunlight to the neighbouring buildings as well as assessing the quality of light within the proposed habitable rooms that make up the residential units, the true existing baseline condition has been observed. This includes all neighbouring buildings and obstructions within the vicinity that could be affected by the scheme proposal and or affect the potential for light entering into the proposed residential rooms within the scheme.
- 3.14 Trees and any other foliage have not been considered as part of the assessments as their size, shape, and density are impossible to predict. The BRE do recognise that certain tree types can be obstructive in allowing light penetration and further provide a transparency (% radiation passing) to apply within the calculation of daylight.
- 3.15 The obstruction produced by trees will in any event be blocking a certain view of the skydome and thus the actual impact produced by testing the changes in light (or view of the skydome) by the scheme can be slightly misleading given that in some instances no view of the existing and proposal will be prevalent and thus no recording of any alteration observed. The results are therefore a clear indication as to what would be available in the event that no trees were present and therefore what the worst case impacts would be by the implementation of the proposal.

## Overshadowing

3.16 The BRE Guide acknowledges that new development should not adversely affect the availability of sunlight to neighbouring amenity areas. The availability of sunlight should be checked for all open spaces where it will be required. This is listed in the BRE as normally including back gardens, parks, playing fields, playgrounds, public squares and monuments.

As a check, it is recommended that at least half of the amenity area should receive at least two hours of sunlight on the 21<sup>st</sup> March or less than 0.8 times its former value.

## 4 <u>Surrounding Properties</u>

- 4.1 The site is located in the London Borough of Camden. It is understood that only the following properties are registered as a residential property, or include a residential component:
  - 13 Hawley Crescent 15 to 16 Stucley Place
- 4.2 In addition, consideration has been given to Hawley Infant and Nursery School, which is considered to have a reasonable expectation for daylight and sunlight amenity as advised in the BRE guidelines.
- 4.3 A site plan illustrating the position of the above surrounding properties is shown on Plate 02 below. The BRE guide requires that only residential properties are assessed in terms of daylight impacts. The residential receptors in the vicinity of the site with a clear view of the proposed massing are shown in *blue highlight*.



PLATE 01-PLAN SHOWING RESIDENTIAL (BLUE) AND COMMERCIAL (RED) PROPERTIES SURROUNDING THE SITE

- 4.4 The tabulated results of our daylight & sunlight assessments are included within Appendix B. A detailed explanation of the results for each property is set out in Section 5 of this report.
- 4.5 The remaining surrounding properties are either too far away to be affected by the implementation of the proposed development or understood to be of commercial use and not considered to have the same expectation for daylight or sunlight as those buildings with habitable uses. Detailed assessments have not therefore been undertaken to these properties.

## 5 Assessment Results for Daylight & Sunlight to Neighbouring Buildings

#### 13 Hawley Crescent

- 5.1 13 Hawley Crescent is a mix-use block comprising of 22 residential studios with windows containing an oblique view of the proposed development.
- 5.2 The results demonstrate that all windows and rooms are fully compliant with the recommendations of the BRE Guidelines in that their residential habitable rooms will experience no change in their daylighting condition or less than a 20% reduction in both Vertical Sky Component (VSC) and No Sky Line (NSL) with the proposed development in place.
- 5.3 The sunlight results demonstrate that all (100%) of the residential windows facing within 90 degrees of due South meet the recommendations of the BRE Guidelines in that they will experience no change in their sunlighting condition or less than a 20% reduction in Annual Probable Sunlight Hours (APSH) with the proposed development in place.

#### 15 to 16 Stucley Place

- 5.4 15 to 16 Stucley Place was converted to a mix-use block circa 2004. It has been possible to obtain floorplans for a scheme designed by Huw Owen Architect's that demonstrate the ground floor windows along the Stucley Place frontage serve a commercial office, bin store and entranceway, whilst the first and second floor windows serve apartments comprising of a living-room and 2 bedrooms on each floor respectively.
- 5.5 The daylight results demonstrate all rooms on ground floor meet the recommended levels of VSC and NSL. These carry less significance as the premises are in commercial use in accordance with the BRE guidelines.
- 5.6 There are two windows at first floor (window references W1/423 & W2/423) serving a livingroom that experience reductions in VSC of 21-22% respectively, which is marginally outside of the level recommended set out in the BRE guidelines. However, the second daylight test, NSL, demonstrates that the living-room would comfortably meet the recommended target, with well over half the room's area receiving a clear view of sky, which is a strong indication of good daylighting. Both bedrooms contained on first floor meet the BRE recommended levels for VSC, demonstrating that the proposed development does not lead to an adverse daylighting effect.
- 5.7 The VSC results demonstrate that the four windows at second floor level (window references W1/423 to W4/423) would experience reductions in ranging from 39-68%. Ordinarily it is expected that windows housed on the upper floors would perform better than corresponding windows on the floors below them. However, in this instance the second floor windows are set back and contain projecting elements overhead, which is inherent in the design of 15 to 16 Stucley Place. This feature limits the window's view of the top of the sky-dome, rendering them more sensitive to light received in the direction of the proposed development.

- 5.8 Despite the relative change in VSC, all rooms record excellent levels of NSL, with over 90% of the rooms' surface area receiving a clear view of sky, which is a very strong indication of good daylighting.
- 5.9 Owing to the predominant north facing aspect of these windows, it is not necessary to undertake sunlight tests in accordance with the BRE guidelines.

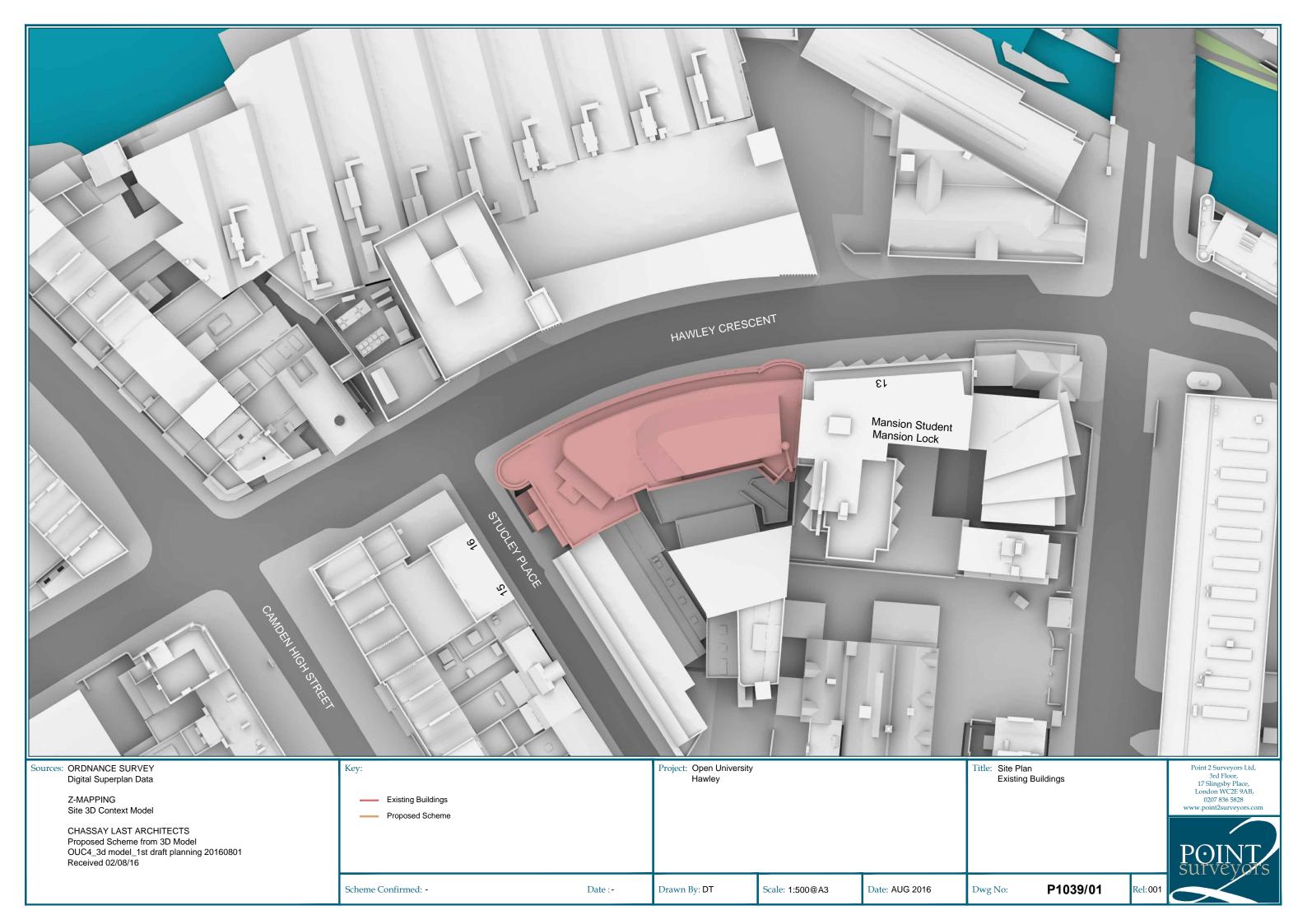
Overshadowing to Hawley Infant and Nursery School

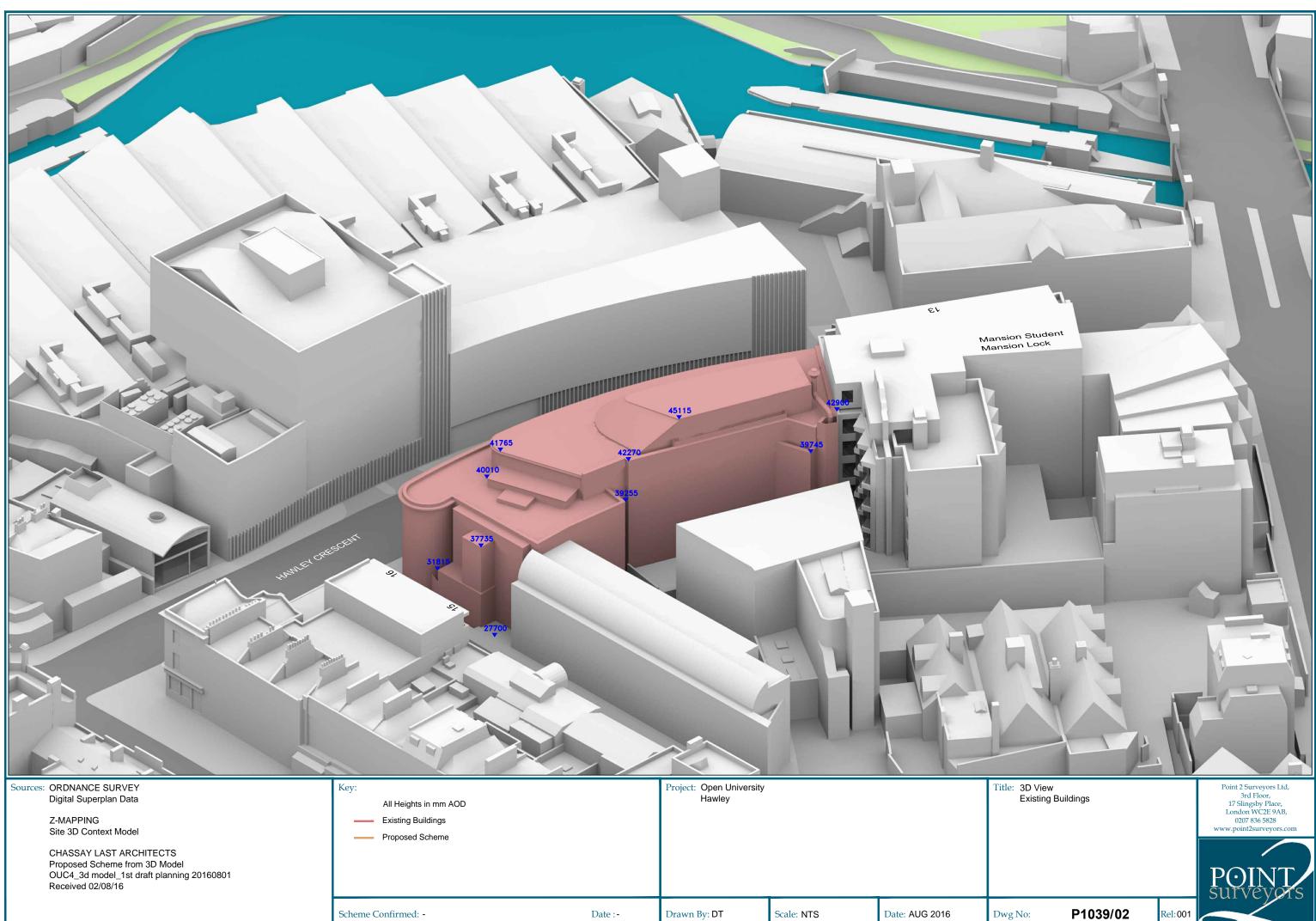
- 5.10 In accordance with the BRE guidelines, the overshadowing impacts to amenity spaces have been assessed by virtue of the BRE guide's 'Sun Hours on Ground' test, whereby it is recommended that at least half of the amenity area should receive at least two hours of sunlight on the 21 March or experience no greater than a 20% change where the amenity space already exists. The results are attached within Appendix C on drawings P/OS1 to P/OS4.
- 5.11 The results demonstrate that the school grounds will receive no change in available sun hours on the 21 March or in summer months as tested on the 21<sup>st</sup> June. The results are therefore fully compliant with the BRE requirement.

## 6 <u>Conclusions</u>

- 6.1 This report has considered the potential daylight and sunlight effects to the surrounding residential properties as a result of the implementation of the proposed Chassay + Last architect's scheme for the site at 1-11 Hawley Crescent, Camden Town, NW1 8NP.
- 6.2 The assessments contained within this report have been undertaken in accordance with the BRE report entitled 'Site layout planning for daylight and sunlight: A guide to good practice', more commonly known as "the BRE guidelines".
- 6.3 The report assesses the daylight and sunlight effects of the proposed scheme against the existing site conditions.
- 6.4 Overall, the sunlight results are 100% compliant with the recommendations of the BRE guidelines. The majority of neighbouring properties fall within the recommended levels of daylight amenity with all windows and rooms retaining good daylighting potential. Overall, the Chassay + Last scheme falls within the practical application of BRE guidance.

Appendix A – Drawings





Sources: ORDNANCE SURVEY Digital Superplan Data Z-MAPPING Site 3D Context Model CHASSAY LAST ARCHITECTS Proposed Scheme from 3D Model OUC4_3d model_1st draft planning 20160801 Received 02/08/16	Key: All Heights in mm AOD Existing Buildings Proposed Scheme		Project: Open University Hawley			Title
	Scheme Confirmed: -	Date :-	Drawn By: <b>DT</b>	Scale: NTS	Date: AUG 2016	Dw

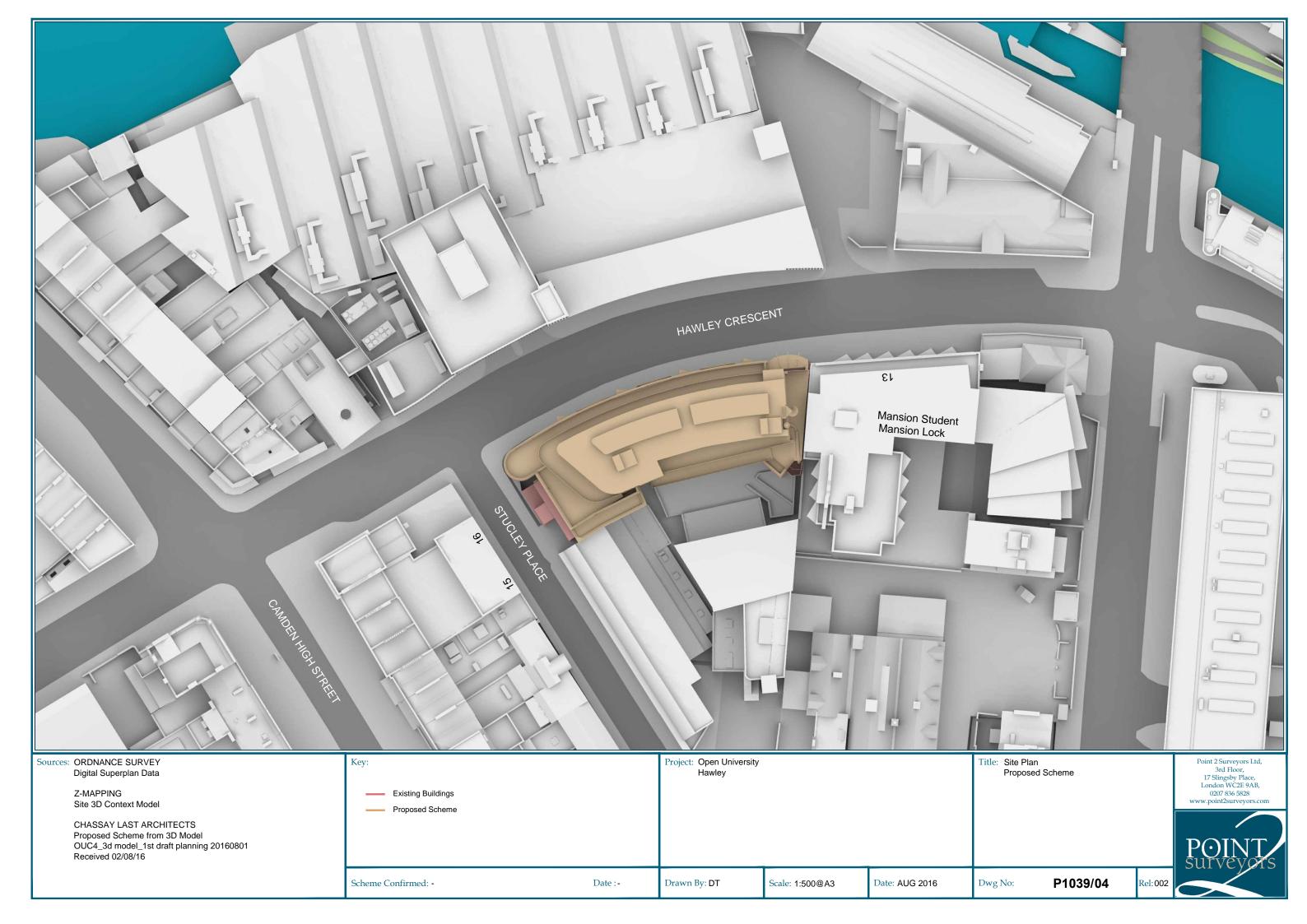
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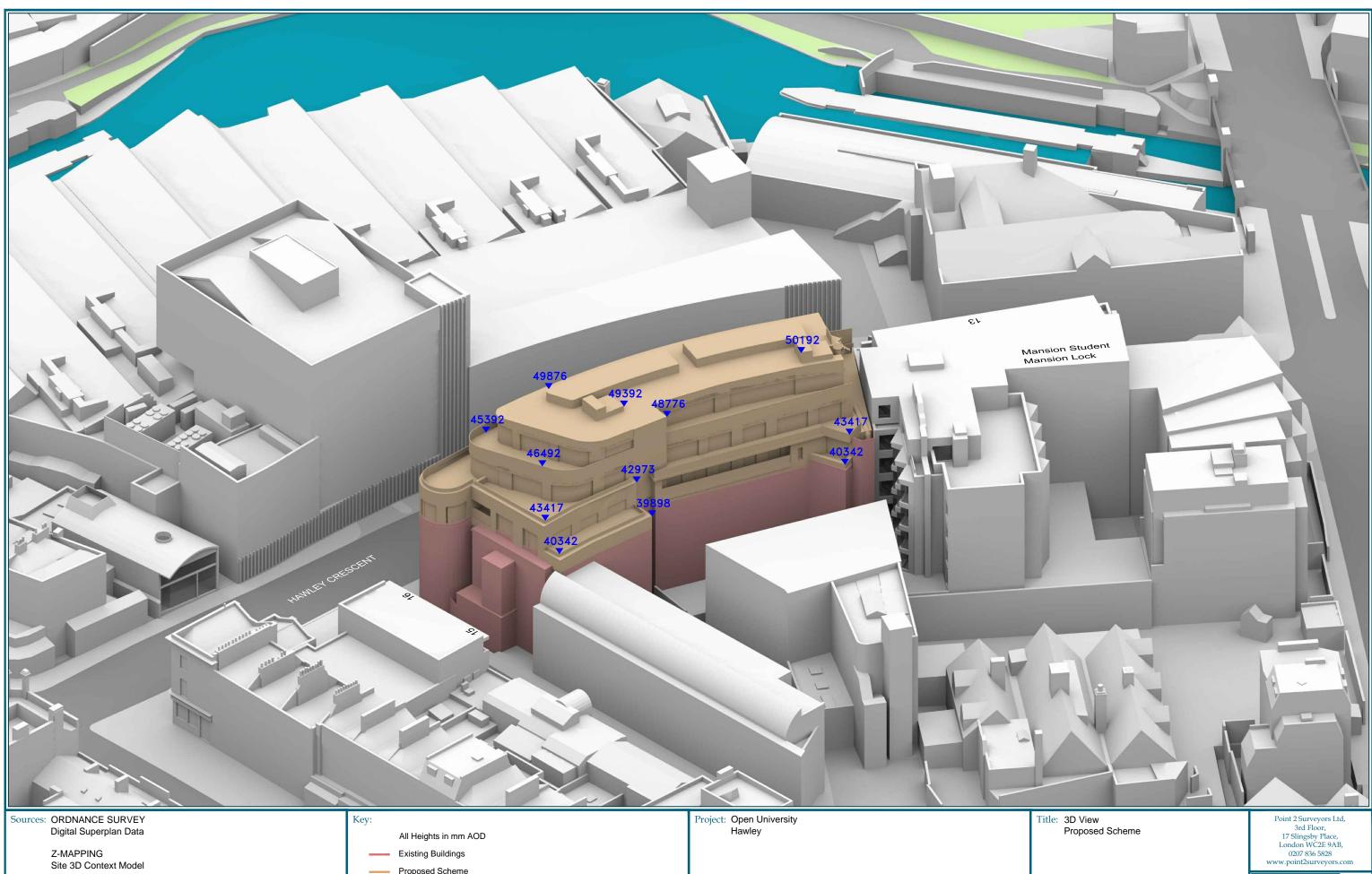
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Sources: ORDNANCE SURVEY	Key:	Project: Open University	Titl

ORDNANCE SURVEY Digital Superplan Data Z-MAPPING Site 3D Context Model CHASSAY LAST ARCHITECTS Proposed Scheme from 3D Model OUC4_3d model_1st draft planning 20160801 Received 02/08/16	Key: ALL Heights in mm AOD Existing Buildings Proposed Scheme		Project: Open University Hawley			Titl
	Scheme Confirmed: -	Date :-	Drawn By: DT	Scale: NTS	Date: AUG 2016	Dw







DRDNANCE SURVEY Digital Superplan Data Z-MAPPING Site 3D Context Model CHASSAY LAST ARCHITECTS Proposed Scheme from 3D Model DUC4_3d model_1st draft planning 20160801 Received 02/08/16	Key: All Heights in mm AOD Existing Buildings Proposed Scheme		Project: Open University Hawley			Ti
	Scheme Confirmed: -	Date :-	Drawn By: DT	Scale: NTS	Date: AUG 2016	D



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Z-MAPPING Site 3D Context Model CHASSAY LAST ARCHITECTS Proposed Scheme from 3D Model OUC4_3d model_1st draft planning 20160801 Received 02/08/16			49876				
CHASSAY LAST ARCHITECTS Proposed Scheme from 3D Model OUC4_3d model_1st draft planning 20160801 Received 02/08/16	Digital Superplan Data Z-MAPPING	ALL Heights in mm AOD Existing Buildings		Hawley			
Scheme Confirmed: -Date :-Drawn By: DTScale: NTSDate: AUG 2016	CHASSAY LAST ARCHITECTS Proposed Scheme from 3D Model OUC4_3d model_1st draft planning 20160801	Proposed Scheme					
		Scheme Confirmed: -	Date :-	Drawn By: DT	Scale: NTS	Date: AUG 2016	D



Appendix B – Results

# DAYLIGHT ANALYSIS PROPOSED SCHEME RECEIVED 02/08/16

Room	Room Use	Window	EXISTING VSC	PROPOSI VSC	ED LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXIST ADF	ING TOTAL		OSED TOTAL	TOTAL LOSS	%LOSS ADF
	ey Crescent							ey Crescent							
R1/501	STUDIO_TW	W1/501	5.46	5.46	0.00	0.00		STUDIO TW	W1/501	0.43	0.43	0.43	0.43	0.00	0.00
-	_	-					-	_	·		0.45		0.45	0.00	0.00
R2/501 R2/501	STUDIO STUDIO	W2/501 W3/501	2.56 12.61	2.57 12.32	-0.01 0.29	-0.39 2.30	R2/501 R2/501	STUDIO STUDIO	W2/501 W3/501	0.41 0.56	0.97	0.41 0.56	0.97	0.01	0.52
R3/501 R3/501	STUDIO STUDIO	W4/501 W5/501	10.36 11.07	9.60 10.47	0.76 0.60	7.34 5.42	R3/501 R3/501	STUDIO STUDIO	W4/501 W5/501	0.81 0.51	1.32	0.77 0.49	1.26	0.06	4.55
R4/501 R4/501	STUDIO STUDIO	W6/501 W7/501	12.56 13.76	11.32 13.16	1.24 0.60	9.87 4.36	R4/501 R4/501	STUDIO STUDIO	W6/501 W7/501	0.86 0.53	1.39	0.81 0.51	1.32	0.07	5.31
R5/501	STUDIO	W8/501	8.51	8.37	0.00	1.65	R5/501	STUDIO	W8/501	0.50	1.55	0.31	1.52	0.07	5.51
R5/501	STUDIO	W9/501	19.84	19.84	0.00	0.00	R5/501	STUDIO	W9/501	0.89	1.39	0.89	1.38	0.01	0.36
R1/502	STUDIO_TW	W1/502	7.52	7.52	0.00	0.00	R1/502	STUDIO_TW	W1/502	0.52	0.52	0.52	0.52	0.00	-0.19
R2/502 R2/502	STUDIO STUDIO	W2/502 W3/502	3.21 16.04	3.23 15.72	-0.02 0.32	-0.62 2.00	R2/502 R2/502	STUDIO STUDIO	W2/502 W3/502	0.50 0.72	1.22	0.50 0.71	1.21	0.01	0.57
R3/502 R3/502	STUDIO STUDIO	W4/502 W5/502	13.24 14.70	12.38 13.99	0.86 0.71	6.50 4.83	R3/502 R3/502	STUDIO STUDIO	W4/502 W5/502	1.03 0.68	1.72	0.99 0.66	1.65	0.07	3.97
R4/502	STUDIO	W6/502	15.90	13.99	1.61	10.13	R4/502	STUDIO	W6/502	1.10	1.72	1.03	1.05	0.07	5.57
R4/502	STUDIO	W7/502	16.43	15.75	0.68	4.14	R4/502	STUDIO	W7/502	0.66	1.76	0.64	1.67	0.10	5.40
R5/502 R5/502	STUDIO STUDIO	W8/502 W9/502	14.17 22.34	13.95 22.34	0.22 0.00	1.55 0.00	R5/502 R5/502	STUDIO STUDIO	W8/502 W9/502	0.74 0.98	1.72	0.73 0.98	1.71	0.01	0.41
R1/503	STUDIO_TW	W1/503	10.50	10.51	-0.01	-0.10	R1/503	STUDIO_TW	W1/503	0.62	0.62	0.62	0.62	-0.01	-0.81
R2/503 R2/503	STUDIO STUDIO	W2/503 W3/503	4.57 21.12	4.69 20.78	-0.12 0.34	-2.63 1.61	R2/503 R2/503	STUDIO STUDIO	W2/503 W3/503	0.58 0.84	1.42	0.58 0.83	1.41	0.00	0.21
R3/503	STUDIO	W4/503	17.74	16.51	1.23	6.93	R3/503	STUDIO	W4/503	1.25		1.18			
R3/503	STUDIO	W5/503	21.36	20.55	0.81	3.79	R3/503	STUDIO	W5/503	0.86	2.10	0.84	2.02	0.08	3.85
R4/503 R4/503	STUDIO STUDIO	W6/503 W7/503	21.53 22.78	19.25 22.02	2.28 0.76	10.59 3.34	R4/503 R4/503	STUDIO STUDIO	W6/503 W7/503	1.32 0.84	2.16	1.22 0.82	2.04	0.12	5.61
R5/503 R5/503	STUDIO STUDIO	W8/503 W9/503	24.31 24.90	23.90 24.90	0.41 0.00	1.69 0.00	R5/503 R5/503	STUDIO STUDIO	W8/503 W9/503	1.05 1.05	2.10	1.03 1.05	2.08	0.02	0.76
R1/504	STUDIO_TW	W1/504	15.66	15.72	-0.06	-0.38	R1/504	STUDIO_TW	W1/504	0.77	0.77	0.78	0.78	-0.01	-0.65
R2/504 R2/504	STUDIO STUDIO	W2/504 W3/504	10.31 26.62	9.64 26.17	0.67 0.45	6.50 1.69	R2/504 R2/504	STUDIO STUDIO	W2/504 W3/504	0.93 0.95	1.89	0.89 0.95	1.83	0.05	2.81
R3/504	STUDIO	W4/504	25.29	23.01	2.28	9.02	R3/504	STUDIO	W4/504	1.56	1.05	1.44	1.05	0.05	2.01
R3/504	STUDIO	W5/504	29.44	28.63	0.81	2.75	R3/504	STUDIO	W5/504	1.03	2.59	1.01	2.45	0.15	5.63
R4/504 R4/504	STUDIO STUDIO	W6/504 W7/504	30.00 38.05	26.32 37.35	3.68 0.70	12.27 1.84	R4/504 R4/504	STUDIO STUDIO	W6/504 W7/504	1.64 1.14	2.78	1.49 1.12	2.61	0.18	6.33
R5/504	STUDIO	W8/504	33.48	31.90	1.58	4.72	R5/504	STUDIO	W8/504	1.28		1.24			
R5/504 R1/505	STUDIO	W9/504 W1/505	27.25 30.01	27.25 29.92	0.00	0.00	R5/504 R1/505	STUDIO	W9/504 W1/505	1.10 1.10	2.38 1.10	1.10 1.10	2.33 1.10	0.05 0.00	2.06
R2/505	LOUNGE_TW	W2/505	35.82	31.65	4.17	11.64	R1/505	LOUNGE_TW	W1/505 W2/505	2.40	1.10	2.16	1.10	0.00	0.03
R2/505 R2/505 R2/505	LOUNGE_TW LOUNGE_TW	W3/505 W4/505	25.99 35.85	25.99 35.85	0.00	0.00	R2/505 R2/505	LOUNGE_TW LOUNGE_TW	W3/505 W4/505	0.91 2.42	5.73	0.91 2.42	5.49	0.24	4.15
15 - 16 Si	ucley Place						15 - 16 S	tucley Place							
R1/421	HALL	W1/421	15.28	12.96	2.32	15.18	R1/421	HALL	W1/421	3.75	3.75	3.33	3.33	0.42	11.17
R1/422 R1/422	LIVINGROOM LIVINGROOM	W1/422 W2/422	22.68 23.68	17.68 18.59	5.00 5.09	22.05 21.49	R1/422 R1/422	LIVINGROOM LIVINGROOM	W1/422 W2/422	0.77 0.81	1.58	0.64 0.68	1.32	0.26	16.24
R2/422	BEDROOM	W3/422	24.33	19.78	4.55	18.70	R2/422	BEDROOM	W3/422	1.70	1.70	1.46	1.46	0.20	14.15
R3/422	BEDROOM	W4/422	24.83	21.48	3.35	13.49	R3/422	BEDROOM	W4/422	1.74	1.74	1.56	1.56	0.18	10.24
R1/423		W1/423	8.53	2.69	5.84	68.46	R1/423		W1/423	0.73	1 40	0.37	0.70	0.64	AE 20
R1/423 R2/423	LIVINGROOM	W2/423 W3/423	9.07 9.44	3.51 4.76	5.56 4.68	61.30 49.58	R1/423 R2/423	LIVINGROOM	W2/423 W3/423	0.67 1.40	1.40 1.40	0.39 0.96	0.76 0.96	0.64 0.44	45.39 31.31
R3/423	BEDROOM	W4/423	9.44	5.94	3.85	39.33	R3/423	BEDROOM	W3/423	1.40	1.40	1.15	1.15	0.44	24.02
					2.00		, 120							2.20	

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# DAYLIGHT ANALYSIS PROPOSED SCHEME RECEIVED 02/08/16

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTI ADF	ING TOTAL	PROP ADF	OSED TOTAL	TOTAL LOSS	%LOSS ADF
R1/431	OFFICE	W1/431	15.66	13.21	2.45	15.64	R1/431	OFFICE	W1/431	1.08	1.08	0.96	0.96	0.12	10.92
R2/431	BINS	W2/431	18.38	15.70	2.68	14.58	R2/431	BINS	W2/431	0.06	0.06	0.05	0.05	0.02	29.69



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# DAYLIGHT DISTRIBUTION ANALYSIS PROPOSED SCHEME RECEIVED 02/08/16

Room/		Whole	Prev	New	Loss	%Loss
Floor	Room Use	Room	sq ft	sq ft	sq ft	
13 Hawley Cr	escent					
R1/501	STUDIO_TW	261.9	118.0	118.0	0.0	0.0
R2/501	STUDIO	179.2	121.3	111.9	9.4	7.7
R3/501	STUDIO	171.1	152.9	144.5	8.4	5.5
R4/501	STUDIO	195.0	178.8	158.3	20.5	11.5
R5/501	STUDIO	240.7	195.3	193.7	1.5	0.8
R1/502	STUDIO_TW	261.9	145.5	145.5	0.0	0.0
R2/502	STUDIO	179.2	130.6	120.0	10.6	8.1
R3/502	STUDIO	171.1	165.7	155.5	10.2	6.2
R4/502	STUDIO	195.0	190.4	181.7	8.6	4.5
R5/502	STUDIO	240.7	207.4	206.6	0.8	0.4
R1/503	STUDIO_TW	261.9	226.3	226.4	-0.2	-0.1
R2/503	STUDIO	179.2	143.6	129.2	14.3	10.0
R3/503	STUDIO	171.1	169.2	161.9	7.2	4.3
R4/503	STUDIO	195.0	195.0	192.7	2.3	1.2
R5/503	STUDIO	240.7	227.4	227.4	0.0	0.0
R1/504	STUDIO_TW	261.9	230.8	231.3	-0.5	-0.2
R2/504	STUDIO	179.2	153.9	142.7	11.2	7.3
R3/504	STUDIO	171.1	169.2	166.5	2.7	1.6
R4/504	STUDIO	195.0	195.0	195.0	0.0	0.0
R5/504	STUDIO	240.7	227.4	227.4	0.0	0.0
R1/505	STUDIO	160.4	146.1	146.1	0.0	0.0
R2/505	LOUNGE_TW	486.9	486.7	486.6	0.1	0.0
15 10 Churche						
15 - 16 Stucle	y Place					

F	R1/421	HALL	58.6	58.3	56.8	1.5	2.6
F	R1/422	LIVINGROOM	337.1	240.7	213.2	27.5	11.4
F	R2/422	BEDROOM	135.9	131.9	100.4	31.6	24.0
F	83/422	BEDROOM	134.8	125.0	114.8	10.2	8.2
F	R1/423	LIVINGROOM	222.1	219.1	201.5	17.7	8.1
F	R2/423	BEDROOM	87.8	86.1	82.0	4.1	4.8
F	R3/423	BEDROOM	93.8	91.5	83.7	7.8	8.5
F	R1/431	OFFICE	372.4	95.3	86.7	8.7	9.1
F	R2/431	BINS	42.4	29.3	26.2	3.1	10.6

# SUNLIGHT ANALYSIS PROPOSED SCHEME RECEIVED 02/08/16

				Wi	ndow			Room						
			Ex	isting	Pro	posed			Ex	isting	Pro	posed		
		Room	Winter	Annual										
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
13 Hawle	ey Crescent													
R1/501	W1/501	STUDIO_TW	3	12	3	12	0.0	0.0	3	12	3	12	0.0	0.0
R2/501	W2/501	STUDIO	0	11	0	11	-/	0.0						
R2/501	W3/501	STUDIO	1	20	1	20	0.0	0.0	1	21	1	21	0.0	0.0
R3/501	W4/501	STUDIO	1	14	1	13	0.0	7.1						
R3/501	W5/501	STUDIO	0	10	0	9	-	10.0	1	16	1	15	0.0	6.3
R4/501	W6/501	STUDIO	0	5	0	5	-	0.0						
R4/501	W7/501	STUDIO	12	31	12	29	0.0	6.5	12	34	12	32	0.0	5.9
R5/501	W8/501	STUDIO	7	20	7	20	0.0	0.0						
R5/501	W9/501	STUDIO	14	40	14	40	0.0	0.0	21	60	21	60	0.0	0.0
R1/502	W1/502	STUDIO_TW	5	14	5	14	0.0	0.0	5	14	5	14	0.0	0.0
R2/502	W2/502	STUDIO	1	12	1	12	0.0	0.0						
R2/502	W3/502	STUDIO	2	24	2	24	0.0	0.0	2	24	2	24	0.0	0.0
R3/502	W4/502	STUDIO	1	19	1	19	0.0	0.0						
R3/502	W5/502	STUDIO	0	17	0	17	-	0.0	1	22	1	22	0.0	0.0
R4/502	W6/502	STUDIO	0	8	0	6	-	25.0						

# SUNLIGHT ANALYSIS PROPOSED SCHEME RECEIVED 02/08/16

				Room										
			Exi	isting	Pro	posed			Exi	sting	Pro	posed		
		Room	Winter	Annual										
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
R4/502	W7/502	STUDIO	12	33	12	30	0.0	9.1	12	37	12	34	0.0	8.1
R5/502	W8/502	STUDIO	7	25	7	25	0.0	0.0						
-	•								24	60	24	60	0.0	0.0
R5/502	W9/502	STUDIO	14	44	14	44	0.0	0.0	21	69	21	69	0.0	0.0
R1/503	W1/503	STUDIO_TW	8	18	8	18	0.0	0.0	8	18	8	18	0.0	0.0
KT/ 303	W1/505	310010_100	0	10	0	10	0.0	0.0	0	10	0	10	0.0	0.0
R2/503	W2/503	STUDIO	3	14	3	14	0.0	0.0						
R2/503	W3/503	STUDIO	8	32	8	32	0.0	0.0	8	32	8	32	0.0	0.0
NZ/ 303	VV3/303	310010	0	52	0	52	0.0	0.0	0	52	0	52	0.0	0.0
R3/503	W4/503	STUDIO	4	25	4	23	0.0	8.0						
R3/503	W5/503	STUDIO	5	32	5	29	0.0	9.4	7	34	7	31	0.0	8.8
,	,	0.02.0	0		•				ľ	•		0-	0.0	0.0
R4/503	W6/503	STUDIO	0	16	0	12	-	25.0						
R4/503	W7/503	STUDIO	16	46	16	42	0.0	8.7	16	51	16	47	0.0	7.8
-	-													
R5/503	W8/503	STUDIO	11	37	11	37	0.0	0.0						
R5/503	W9/503	STUDIO	15	50	15	50	0.0	0.0	26	87	26	87	0.0	0.0
R1/504	W1/504	STUDIO_TW	9	24	9	24	0.0	0.0	9	24	9	24	0.0	0.0
R2/504	W2/504	STUDIO	5	16	5	16	0.0	0.0						
R2/504	W3/504	STUDIO	11	39	11	39	0.0	0.0	11	39	11	39	0.0	0.0
R3/504	W4/504	STUDIO	7	30	7	27	0.0	10.0						

# SUNLIGHT ANALYSIS PROPOSED SCHEME RECEIVED 02/08/16

			Window						Room					
			Existing		Proposed				Existing		Proposed			
		Room	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
R3/504	W5/504	STUDIO	11	43	11	40	0.0	7.0	11	43	11	40	0.0	7.0
_														
R4/504	W6/504	STUDIO	6	30	6	27	0.0	10.0						
R4/504	W7/504	STUDIO	24	69	24	68	0.0	1.4	24	69	24	68	0.0	1.4
R5/504	W8/504	STUDIO	15	48	15	46	0.0	4.2						
R5/504	W9/504	STUDIO	15	51	15	51	0.0	0.0	30	99	30	97	0.0	2.0
R1/505	W1/505	STUDIO	19	59	19	59	0.0	0.0	19	59	19	59	0.0	0.0
R2/505	W2/505	LOUNGE_TW	15	47	15	45	0.0	4.3						
R2/505	W3/505	LOUNGE_TW	19	50	19	50	0.0	0.0						
R2/505	W4/505	LOUNGE_TW	15	51	15	51	0.0	0.0	30	98	30	96	0.0	2.0
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Appendix C – Overshadowing

