

John Sheehy
London Borough of Camden
5 Pancras Square
London
N1C 4AG



17 SLINGSBY PLACE
LONDON | WC2E 9AB

19th May 2021

Dear John,

RE: 14-19 TOTTENHAM MEWS - INTERNAL DAYLIGHT SUMMARY

Point 2 have been instructed by the applicant to undertake revised internal daylight analysis for the proposed development at 14-19 Tottenham Mews, London (the 'Site').

Amendments have been made to the internal layouts within the proposed development. The changes also include adding deck access to the rear of the building as well as making a number of the living, kitchen, dining rooms (LKD's) dual aspect. These changes have been made in response to comments received from Officers during the application determination period.

This summary assesses the internal levels of daylight in accordance with the advice and recommendations set out in the BRE Guidelines 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (2011).

The calculations within this report are based upon a 3D contextual model created from measured survey data, alongside the submitted 3D model, plans, elevations and sections that have been prepared by Piercy and Co.

Internal Daylight – Average Daylight Factor (ADF)

Typically, the recognised methodology for undertaking internal daylight assessments is set out in the BRE Guidelines and also the previous British Standard, BS 8206-2:2008. The British Standard BS 8206-2:2008 was superseded in May 2019 by the new British Standard EN 17037:2018, which provides a new methodology for assessing daylight within new buildings and focuses on climate-based modelling.

Whilst the current BRE Guidelines continue to reference BS8206-2:2008, we have sought the advice of Dr Paul Littlefair who is the author of the BRE Guidelines as to how one should approach the assessment of daylighting to new developments in the absence of an updated BRE guideline document, and he advised the following:

"Until new BR209 guidance is written, we (the BRE Guidelines) are adopting a flexible approach to applying the two standards, for example in assessing the daylight and sunlight in new buildings...We would consider it reasonable to accept either average daylight factor tables calculated using BS8206 or median daylight factors/median illuminances calculated using EN17037, provided they were calculated and presented properly."

Based upon the above advice, we have therefore adopted the BS8206-2:2008 methodology of Average Daylight Factor for the purposes of this summary.

There is no specific guidance for living/kitchen/dining rooms (LKD's) within the BRE Guidelines; however, the British Standard states that:

"Where one room serves more than one purpose, the minimum average daylight factor should be that for the room type with the highest value." (Section 5.6 page 10)

Dr Paul Littlefair has however provided advice on this matter:

"Where a room has a shared use [such as a living/kitchen/dining room], the British Standard states that the higher minimum value should apply. However, local authorities frequently accept the living room standard for a shared living/kitchen/dining room, as a small kitchen would not be considered as a habitable room. This is a practical approach, as it is seldom in the final resident's interest to have a closed off, small kitchen which is completely artificially lit in order to force compliance with the Standard for the living room. In this case, an average daylight factor of 1.5% or more might be acceptable." Dr. Paul Littlefair, 7 May 2020

In consideration of the above the following ADF target values for the specific room uses has been used. Please note that we have set the target for an LKD at 2% however, we have also referred to the number of LKD's which achieve an ADF of 1.5%, as per Dr Littlefair's advice.

- Kitchens and Living/Kitchen/Diners (LKD's): 2.0%
- Living rooms, Living/Dining rooms: 1.5%
- Bedrooms: 1.0%

The ADF calculation is designed to quantify the amount of daylight in a room as a whole and does not therefore illustrate the likely levels of daylight in the different areas of a large multi-use room. For example, where the living room is generally situated at the front of the room, followed by the dining area and then the kitchen at the rear (which is the case for many of the rooms within the proposed development), the living room area may actually receive good levels of daylight which meet the suggested BRE thresholds whilst the kitchen at the rear may not.

The BRE states in Section 2.1.14 that *"If the layout means that small internal galley-type kitchen is inevitable, it should be directly linked to a well daylighted living room."* This is the case for some of the LKD's within the proposed development. As such and where appropriate, we have carried out an additional assessment to understand whether the living room area, which is likely to be the most used area of the flat and where daylight is normally most valued, receives good levels of daylight when assessed on its own.

In performing the ADF assessments the following constants have been applied. Other factors such as the size of the room, angle of visible sky and amount of glazing has been taken from the architect's drawings:

- Window Transmittance – 0.68
- Maintenance Factor – 8
- Wall Reflectance – 0.81
- Ceiling Reflectance – 0.85

- Floor Reflectance – 0.40

The Technical Analysis

This Site presents a number of challenges from an internal daylighting perspective. Mews locations in central London are by their very nature situated amongst a tightly knit urban grain. The proximity of Middlesex House to the rear of the Site dictates that any room located within the rear of the scheme have a restricted view of the sky and so daylight is compromised. This constraint informed the original internal arrangement of the scheme which sought to locate the main living rooms along the mews elevation where there is increased daylight availability.

Wherever possible, rooms with a lesser requirement for daylight such as bedrooms have intentionally been positioned in areas that receive less daylight. This design approach maximises daylight to the main habitable accommodation within the flat (LKD's) with the living rooms positioned in front of the main windows facing Tottenham Mews. In some instances, the bedrooms achieve low levels of daylight in order to prioritise the daylight to main habitable spaces. Where rooms are below desirable levels, for the most part they have access to alternative habitable rooms with better opportunity for daylight amenity.

We have assessed the ADF levels to each of the habitable rooms within the proposed development. A full set of detailed technical results are attached in Appendix 1 of this report. The individual ADF values are also presented on the internal layout plan drawings numbered P1681_INT_24-25.

In total we have assessed 68 rooms within the proposed development which includes 21 LKD's, 2 studios and 45 bedrooms.

45 of the 68 rooms (66%) will achieve the suggested ADF values for their relevant room use. If we consider 1.5% as the suggested ADF value for the LKD's then this figure increases to 48/68 (71%). These levels of compliance are in line with the original application.

The results from each floor of the building are discussed in greater detail below.

5th Floor

Five bedrooms and three LKD are located on the 5th floor. All of these rooms will achieve the suggested ADF values for their relevant room use.

4th Floor

Eight bedrooms, four LKD's and one studio are located on the 4th floor. Of the 13 rooms assessed 11 will achieve the suggested ADF values for their relevant room use.

One of the remaining two rooms is an LKD (R10/604) which achieves an ADF of 1.9%, which is fractionally below the 2% suggested within the BRE and is considered a good level of ADF for a central London mews.

The remaining room is a bedroom (R13/604), which achieves an ADF of 0.2%. This bedroom is located to the rear of the Site and therefore its receipt of daylight is heavily restricted by the deck access which overhangs the windows as well as the proximity of Middlesex House to the rear. It is worth noting that

this flat contain a second bedroom (R1/604) that adheres to the BRE Guidelines and achieves an ADF of 2.5%, which is a very good level of daylight for a bedroom.

3rd Floor

Eight bedrooms, four LKD's and one studio are located on the 3rd floor. Of the 13 rooms assessed 11 will achieve the suggested ADF values for their relevant room use. The two rooms below guidance are located in the same position as the non-compliant 4th floor rooms.

One of the remaining two rooms is an LKD (R10/603) which achieves an ADF of 1.4%, which is just below the 1.5% suggested for a living room. As discussed in the internal daylight section of this summary an ADF of 1.5% is frequently accepted by local authorities as a reasonable level of daylight for a multiuse room. Given this mews location, where daylight is naturally more constrained, this is considered a good level of daylight for the urban context.

The remaining room is a bedroom (R13/603), which achieves an ADF of 0.1%. This bedroom is located to the rear of the Site and its receipt of daylight is heavily restricted by the proximity of Middlesex House to the rear and also its location beneath the overhanging deck access. It is worth noting that this flat contain a second bedroom (R1/603) that adheres to the BRE Guidelines and achieves an ADF of 2.1%, which is very good level of daylight for a bedroom.

2nd Floor

10 bedrooms and four LKD's are located on the 2nd floor. Of the 14 rooms assessed eight will achieve the suggested ADF values for their relevant room use.

The remaining six rooms consist of three LKD's and three bedrooms.

Of the three LKD's, two (R5/602 & R6/602) will achieve an ADF of 1.6%, which is above the 1.5% suggested for a living room and considered a good level of daylight for a central London mews setting, particularly on a mews in central London.

Both rooms are deep multi-use rooms with the living rooms positioned adjacent to the main windows (facing the mews) and the kitchens to the rear served by a secondary window. To understand whether the living room area receives good levels of daylight we have undertaken a separate assessment of the living room in isolation. These results, which are located in Appendix 2, demonstrate that both living rooms would achieve very good levels of daylight of between 2.8%-2.9%, demonstrating that while the rooms as a whole do not meet the BRE recommendations, the main living space will receive very good levels of daylight and the kitchen area to the rear of the flat will be linked to a well daylight living room.

The remaining LKD (R10/602) is located to the north west corner of the building and achieves an ADF of 1%. The room has generous window openings to maximise the feeling of daylight however, a lower ADF is a consequence of the facing towards the 44 Cleveland Street scheme (*Planning ref: 2018/1789/P*) which is currently under construction to the north of the Site.

Of the three bedrooms, one (R11/602) faces north and achieves an ADF of 0.6%. The remaining two bedrooms (R13/602 & R14/602) face the rear and achieve an ADF of 0%. This is partly due to the

proximity of Middlesex House but also because their view of the sky is restricted by the overhanging deck access.

Achieving an ADF of 0% doesn't mean that a room will not receive any daylight or it will be pitch black. That would only occur if you had a windowless room such as an internalised WC. There are multiple ways in which daylight enters a room which includes both light directly from the sky and through reflected light which the BRE formula has limited capacity to account for.

1st Floor

10 bedrooms and four LKD's are located on the 1st floor. Of the 14 rooms assessed seven will achieve the suggested ADF values for their relevant room use.

The remaining seven rooms consist of three LKD's and four bedrooms.

Two of the LKD's (R5 & R6/601) achieve an ADF of 1.1% and 1.2%. These are the same dual aspect LKD's discussed above and so we have examined the daylight availability in the main living space. The results of the living room assessment demonstrate that both living rooms would achieve good levels of daylight of between 2%-2.2% when assessed in isolation.

The remaining LKD (R10/602) is located to the north west corner of the building and achieves an ADF of 0.7%. This ADF value is primarily driven by the proximity of the consented 44 Cleveland Street scheme to the north of the Site.

Of the four bedrooms one (R12/601), which is located to the north of the Site, benefits from being dual aspect and achieves an ADF of 0.8%, which is just below the 1% suggested within the BRE. The neighbouring bedroom (R11/601), which is also located to the north of the Site, is single aspect and achieves an ADF of 0.3%.

The remaining two rooms (R13 & R14/601) are located to the rear of the site and as a result achieve an ADF of 0%. As mentioned above, this doesn't mean that a room will not receive any daylight or it will be pitch black as they will receive daylight from the sky as well as through reflected light.

Ground Floor

Four bedrooms and two LKD's are located on the ground floor.

The ground floor rooms are slightly set back at the Tottenham Mews side to provide relief between the pavement and the windows to the ground floor apartments. As a result, the receipt of daylight to these rooms is restricted by the overhang at the floor above.

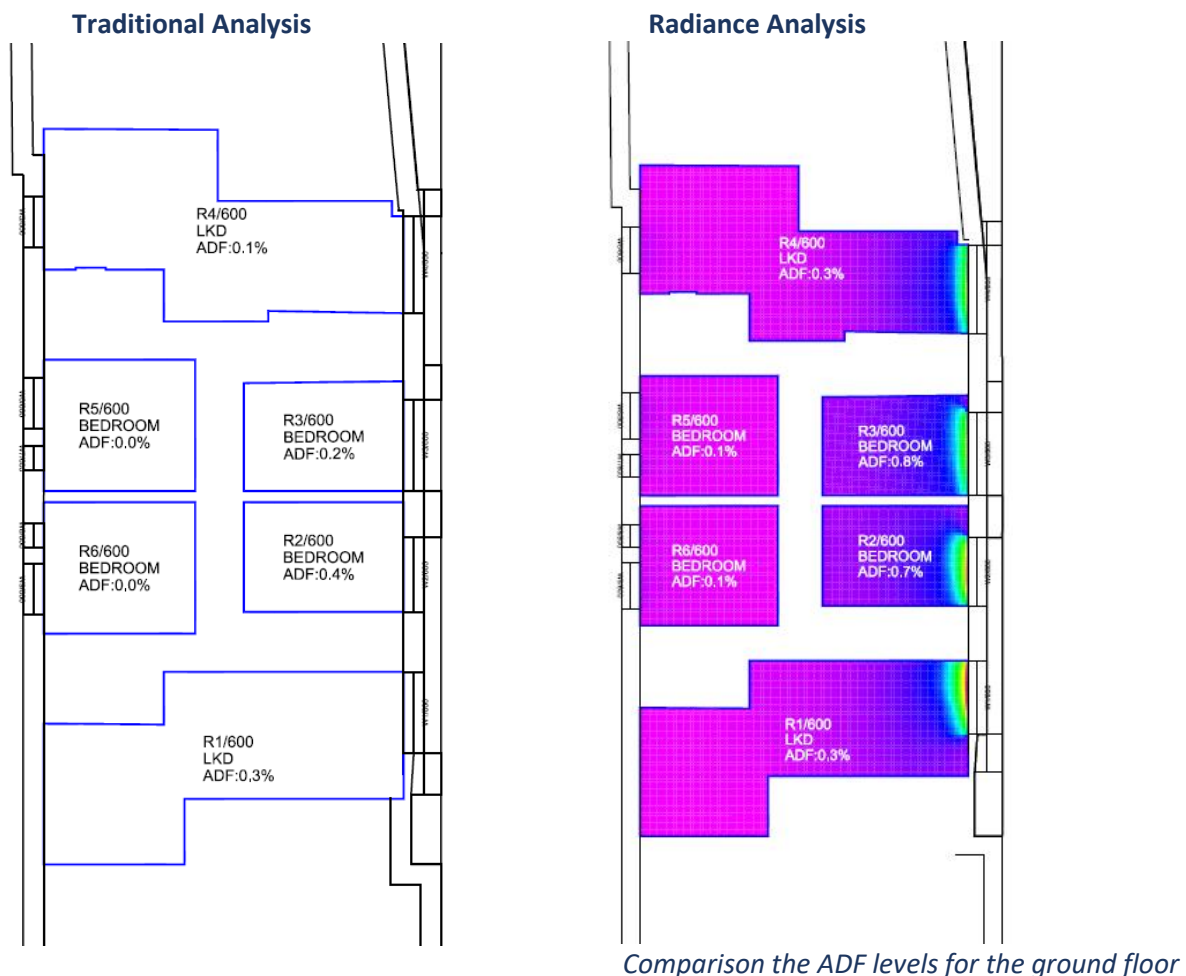
In a similar way to the original application, the two LKD's receive low levels of ADF of 0.1% or 0.3%

Two of the bedrooms face the mews (R2 & R3/600) and achieve an ADF of 0.2% and 0.4%. As mentioned above this is partly due to the slightly recessed position of the windows which is key to maintaining an element of privacy for the ground floor occupants.

The remaining two bedrooms (R5 & R6/600) face the rear of the site and therefore their receipt of daylight is heavily restricted by the overhanging deck access and the proximity of Middlesex House. As a result, these rooms achieve an ADF of 0%.

As discussed above achieving an ADF of 0% using the BRE assessment formula rarely means that a room will not receive any daylight or it will be pitch black. To demonstrate this and to further understand the levels of daylight the ground floor rooms will receive, we have undertaken a detailed radiance-based assessment which takes into consideration other external factors such as the reflectance of buildings, building materials as well as diffuse light.

The images below illustrate the difference between the BRE ADF analysis (which is heavily reliant on vertical sky component) and the more detailed radiance analysis for the ground floor rooms.



The results demonstrate that all of the rooms will receive some daylight albeit the values are notably below the recommended levels. The bedrooms that achieve 0% under the BRE assessment (R5 & R6/600) receive a small quantity of daylight around the window although supplemental artificial lighting will be required.

The two bedrooms facing the mews (R2 & R3/600) can be seen to enjoy levels of 0.7-0.8% which is below guidance but not unusual for a central London mews location.

The two LKD's (R1 & R4/600) achieve either the same level of ADF or an improvement of 0.2%, when considering the more detailed analysis.

The radiance analysis demonstrates that the most heavily restricted rooms will still achieve some daylight, albeit the values achieved are below those suggested within the BRE and will most likely require supplemental artificial lighting.

I hope the above provides a good summary of the internal daylight results, however, please do not hesitate to contact me should you have any questions.

Yours Sincerely



Andrew Gilmour

Senior Surveyor

For and on behalf of Point 2 Surveyors

Appendix 1: Results



DAYLIGHT ANALYSIS

Middlesex Annex, LONDON
PR120521 CUMULATIVE WITH KITCHEN
P1681 - rel18

INTERNAL DAYLIGHT

Room	Room Use	Window	VSC(%)	ADF(%)	Total ADF(%)
Middlesex Annex					
R1/600	LKD	W1/600	9.75	0.3	0.3
R2/600	BEDROOM	W2/600	8.98	0.4	0.4
R3/600	BEDROOM	W3/600	8.19	0.2	0.2
R4/600	LKD	W4/600	7.35	0.1	
R4/600	LKD	W5/600	1.24	0.0	0.1
R5/600	BEDROOM	W6/600	1.32	0.0	
R5/600	BEDROOM	W7/600	1.41	0.0	0.0
R6/600	BEDROOM	W8/600	1.34	0.0	
R6/600	BEDROOM	W9/600	1.16	0.0	0.0
R1/601	BEDROOM	W1/601	20.21	1.8	1.8
R2/601	LKD	W2/601	19.88	1.6	
R2/601	LKD	W3/601	18.99	0.7	2.3
R3/601	BEDROOM	W4/601	18.06	1.6	1.6
R4/601	BEDROOM	W5/601	17.52	1.6	1.6
R5/601	LKD	W6/601	16.41	1.2	
R5/601	LKD	W17/601	0.00	0.0	1.2
R6/601	LKD	W7/601	15.11	1.1	
R6/601	LKD	W16/601	0.00	0.0	1.1
R7/601	BEDROOM	W8/601	13.73	1.2	1.2
R8/601	BEDROOM	W9/601	12.54	1.2	1.2
R9/601	BEDROOM	W10/601	8.12	1.0	1.0
R10/601	LKD	W11/601	11.72	0.5	
R10/601	LKD	W12/601	7.69	0.2	0.7



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P1681 - rel18

INTERNAL DAYLIGHT

Room	Room Use	Window	VSC(%)	ADF(%)	Total ADF(%)
R11/601	BEDROOM	W13/601	7.10	0.3	0.3
R12/601	BEDROOM	W14/601	7.08	0.2	
R12/601	BEDROOM	W15/601	14.65	0.6	0.8
R13/601	BEDROOM	W18/601	0.00	0.0	0.0
R14/601	BEDROOM	W19/601	0.68	0.0	
R14/601	BEDROOM	W20/601	0.58	0.0	0.0
R1/602	BEDROOM	W1/602	26.31	2.2	2.2
R2/602	LKD	W2/602	25.99	2.0	
R2/602	LKD	W3/602	25.36	0.9	2.9
R3/602	BEDROOM	W4/602	24.52	2.1	2.1
R4/602	BEDROOM	W5/602	23.93	2.1	2.1
R5/602	LKD	W6/602	22.58	1.6	
R5/602	LKD	W17/602	0.00	0.0	1.6
R6/602	LKD	W7/602	20.96	1.6	
R6/602	LKD	W16/602	0.00	0.0	1.6
R7/602	BEDROOM	W8/602	19.46	1.8	1.8
R8/602	BEDROOM	W9/602	18.31	1.7	1.7
R9/602	BEDROOM	W10/602	11.60	1.4	1.4
R10/602	LKD	W11/602	14.60	0.6	
R10/602	LKD	W12/602	10.51	0.4	1.0
R11/602	BEDROOM	W13/602	9.82	0.6	0.6
R12/602	BEDROOM	W14/602	9.78	0.4	
R12/602	BEDROOM	W15/602	17.46	1.2	1.6



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P1681 - rel18

INTERNAL DAYLIGHT

Room	Room Use	Window	VSC(%)	ADF(%)	Total ADF(%)
R13/602	BEDROOM	W18/602	0.00	0.0	0.0
R14/602	BEDROOM	W19/602	1.45	0.0	
R14/602	BEDROOM	W20/602	1.30	0.0	0.0
R1/603	BEDROOM	W1/603	31.84	2.1	2.1
R2/603	LKD	W2/603	31.84	2.2	
R2/603	LKD	W18/603	0.30	0.0	2.2
R3/603	BEDROOM	W3/603	31.67	2.4	2.4
R4/603	LKD	W4/603	31.15	1.1	
R4/603	LKD	W5/603	30.59	1.0	
R4/603	LKD	W17/603	0.00	0.0	2.1
R5/603	STUDIO	W6/603	29.30	2.8	2.8
R6/603	LKD	W7/603	27.86	2.0	
R6/603	LKD	W16/603	0.00	0.0	2.0
R7/603	BEDROOM	W8/603	26.59	2.3	2.3
R8/603	BEDROOM	W9/603	25.78	2.3	2.3
R9/603	BEDROOM	W10/603	17.58	2.0	2.0
R10/603	LKD	W11/603	18.75	0.8	
R10/603	LKD	W12/603	14.97	0.6	1.4
R11/603	BEDROOM	W13/603	13.87	1.3	1.3
R12/603	BEDROOM	W14/603	13.84	1.2	
R12/603	BEDROOM	W15/603	21.46	1.3	2.5
R13/603	BEDROOM	W19/603	3.19	0.0	
R13/603	BEDROOM	W20/603	2.57	0.1	0.1
R1/604	BEDROOM	W1/604	35.80	2.5	2.5



DAYLIGHT ANALYSIS

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PR120521 CUMULATIVE WITH KITCHEN
P1681 - rel18

INTERNAL DAYLIGHT

Room	Room Use	Window	VSC(%)	ADF(%)	Total ADF(%)
R2/604	LKD	W2/604	35.91	2.4	
R2/604	LKD	W18/604	3.35	0.2	2.6
R3/604	BEDROOM	W3/604	35.92	2.9	2.9
R4/604	LKD	W4/604	35.80	1.2	
R4/604	LKD	W5/604	35.66	1.2	
R4/604	LKD	W17/604	0.08	0.0	2.4
R5/604	STUDIO	W6/604	35.18	3.3	3.3
R6/604	LKD	W7/604	34.68	2.4	
R6/604	LKD	W16/604	0.26	0.0	2.4
R7/604	BEDROOM	W8/604	34.06	2.7	2.7
R8/604	BEDROOM	W9/604	33.59	3.0	3.0
R9/604	BEDROOM	W10/604	24.97	2.7	2.7
R10/604	LKD	W11/604	24.41	1.0	
R10/604	LKD	W12/604	21.39	0.9	1.9
R11/604	BEDROOM	W13/604	19.81	2.0	2.0
R12/604	BEDROOM	W14/604	19.87	1.9	
R12/604	BEDROOM	W15/604	26.64	1.4	3.3
R13/604	BEDROOM	W19/604	7.56	0.0	
R13/604	BEDROOM	W20/604	5.89	0.2	0.2
R1/605	LKD	W1/605	28.56	2.6	
R1/605	LKD	W2/605	38.69	1.4	
R1/605	LKD	W3/605	38.67	1.4	5.4
R2/605	BEDROOM	W4/605	38.52	3.5	3.5
R3/605	BEDROOM	W5/605	38.32	3.8	3.8
R4/605	LKD	W6/605	37.93	3.4	

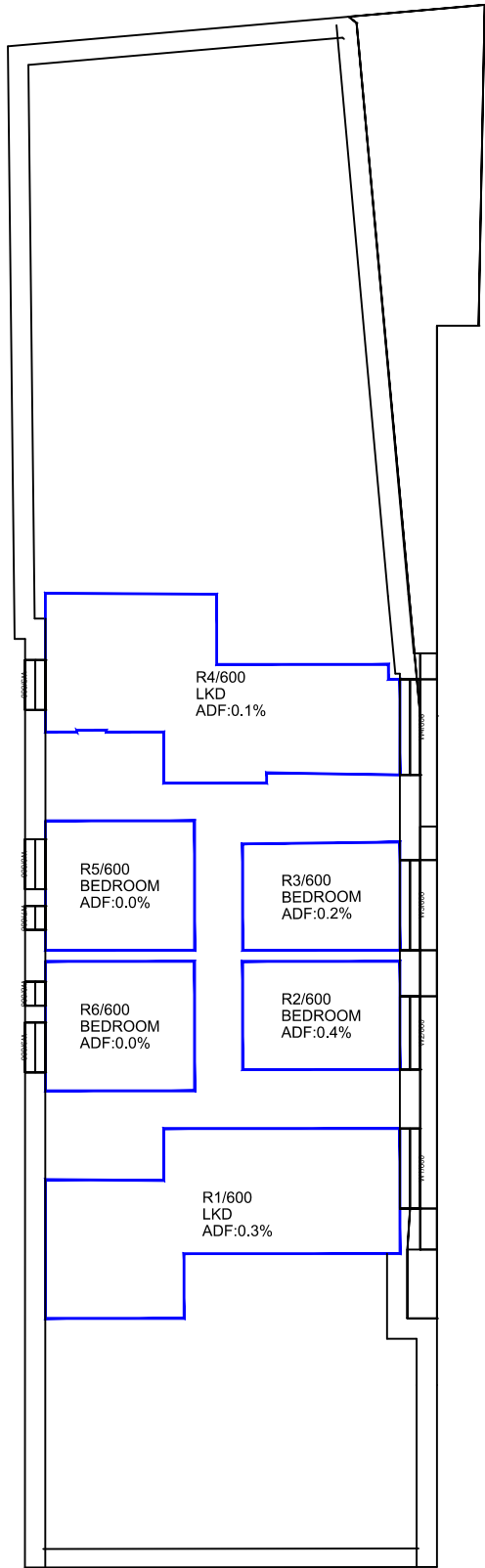


DAYLIGHT ANALYSIS

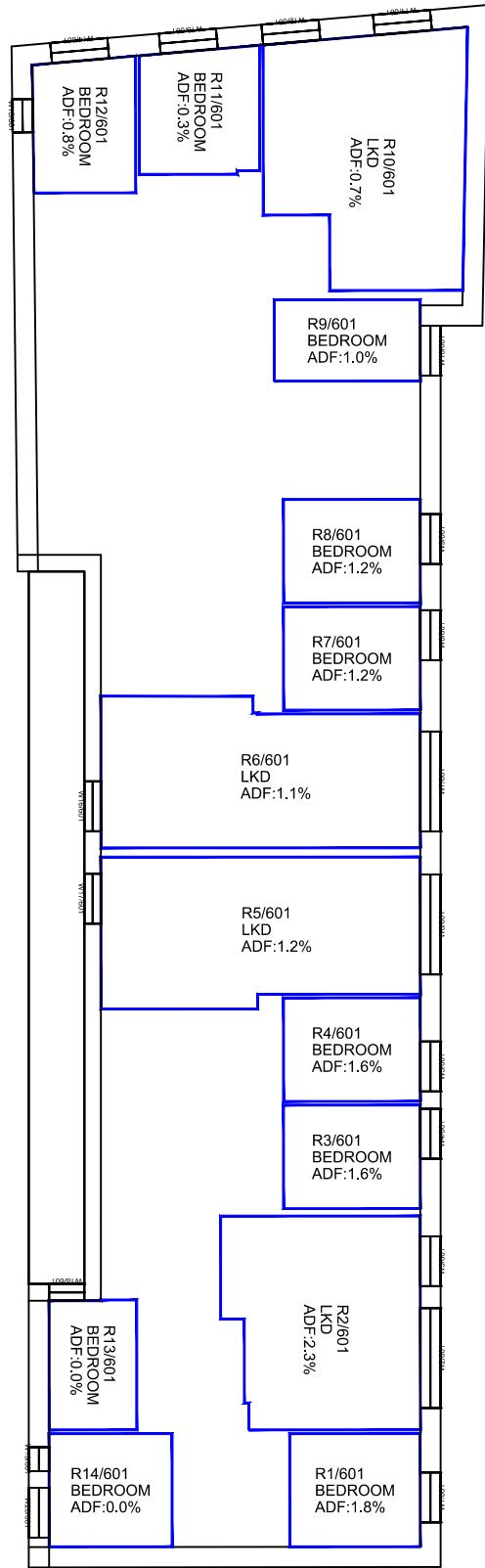
Middlesex Annex, LONDON
PR120521 CUMULATIVE WITH KITCHEN
P1681 - rel18

INTERNAL DAYLIGHT

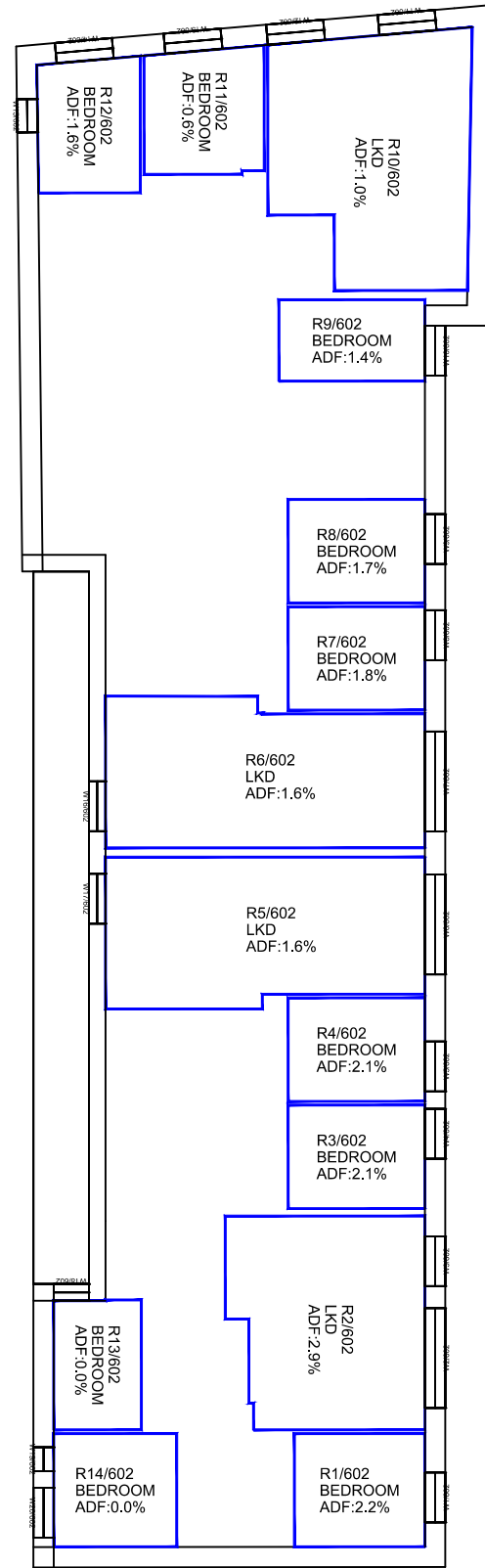
Room	Room Use	Window	VSC(%)	ADF(%)	Total ADF(%)
R4/605	LKD	W7/605	37.70	1.4	5.1
R4/605	LKD	W14/605	2.92	0.3	
R5/605	LKD	W8/605	36.45	1.2	6.0
R5/605	LKD	W9/605	35.96	2.8	
R5/605	LKD	W10/605	30.02	1.0	
R5/605	LKD	W11/605	29.32	1.0	
R6/605	BEDROOM	W12/605	29.01	2.7	4.3
R6/605	BEDROOM	W13/605	33.12	1.6	
R7/605	BEDROOM	W15/605	14.46	1.9	1.9
R8/605	BEDROOM	W16/605	15.01	1.5	1.5



GROUND FLOOR



FIRST FLOOR



SECOND FLOOR

Sources: Point2 Surveyors
Point Cloud Data
Site Photos

Ordnance Survey

Piercy & Company
Proposed Scheme Info Received: 12-05-21
13565-A-00-PROPOSED - VP F.dwg

Proposed Scheme Info Received: 13-05-21
13565-A-00-PROPOSED - VP J.dwg

Key:



Scheme Confirmed:

Date:

Project: Middlesex Annex,
London

Drawn By:
SA

Scale:
1:350 @ A3

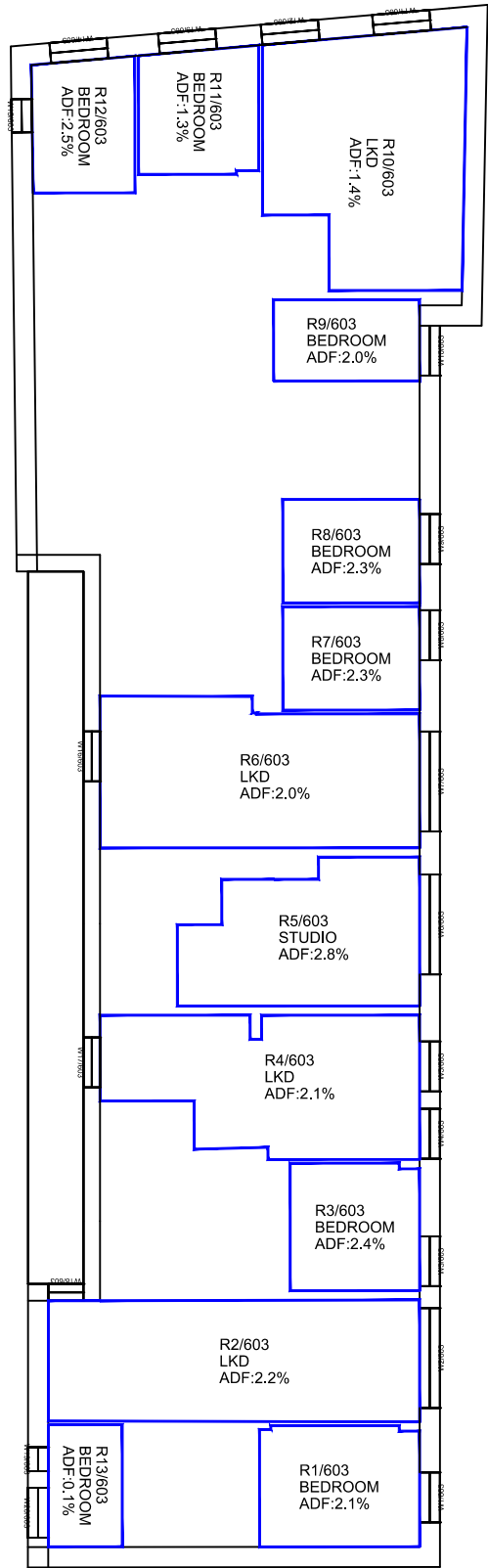
Date:
May 21

Title: Plan View
Internal ADF Results
Proposed Scheme Received 12/05/21
Cumulative Scenario

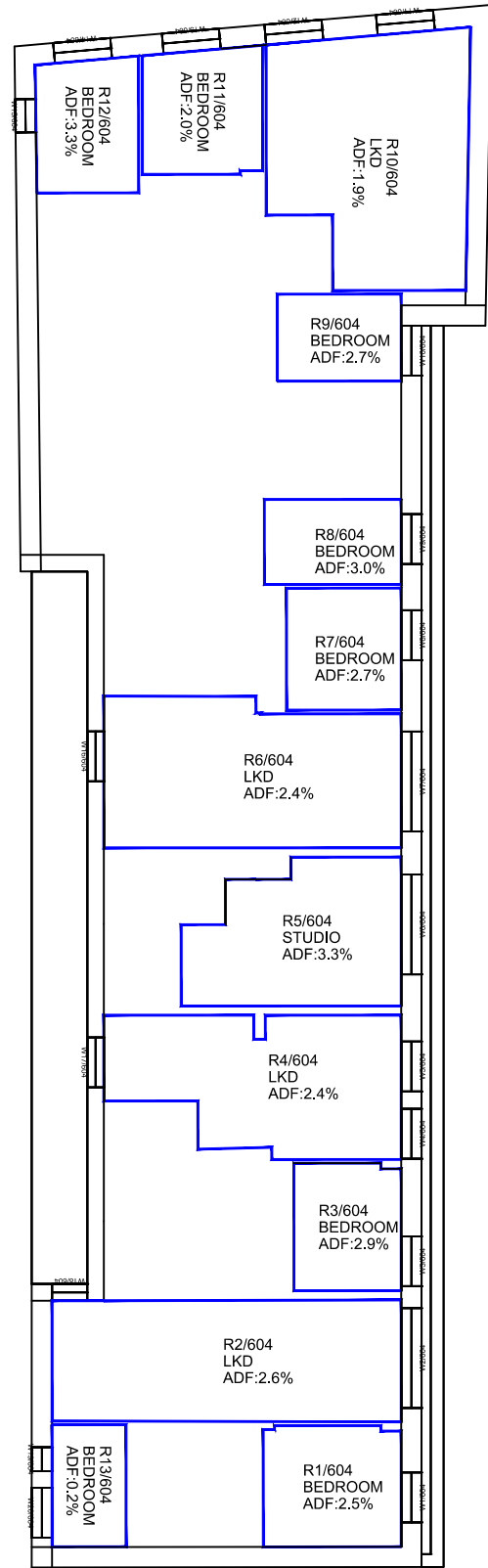
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P1681/INT/24

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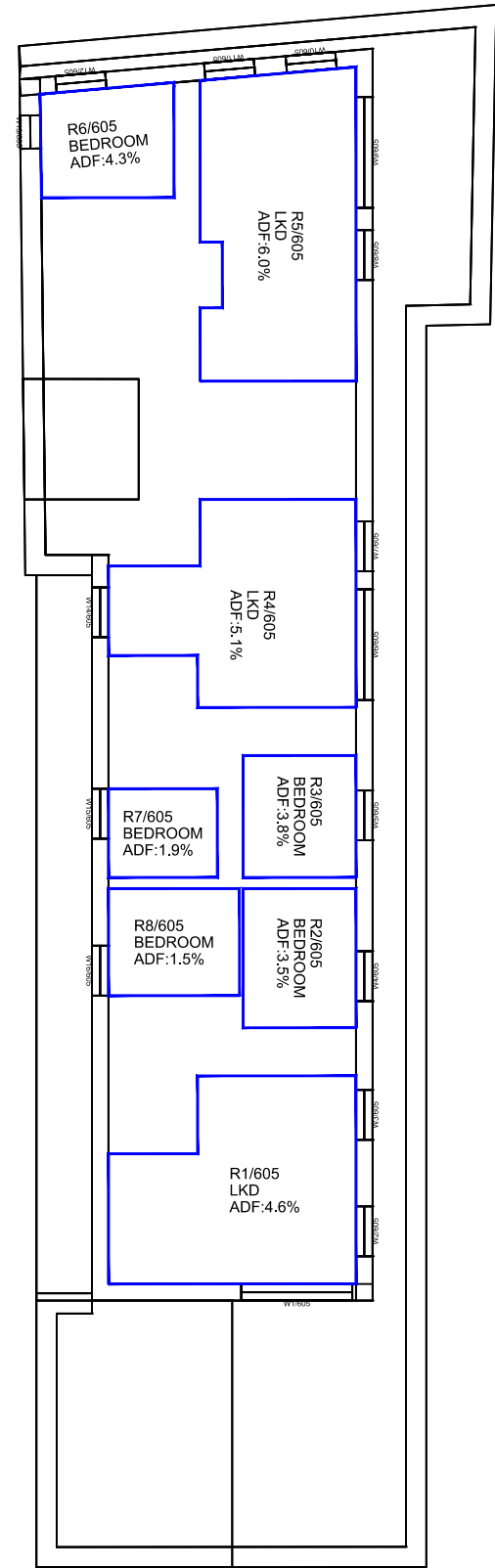





THIRD FLOOR



FOURTH FLOOR



FIFTH FLOOR

<div>Sources:</div> <div><div>Point2 Surveyors</div><div>Point Cloud Data</div><div>Site Photos</div></div> <div><div>Ordnance Survey</div></div> <div><div>Piercy & Company</div><div>Proposed Scheme Info Received: 12-05-21</div><div>13565-A-00-PROPOSED - VP F.dwg</div></div> <div><div>Proposed Scheme Info Received: 13-05-21</div><div>13565-A-00-PROPOSED - VP J.dwg</div></div>	<div>Key:</div> <div></div>		<div>Project:</div> <div>Middlesex Annex, London</div>			<div>Title:</div> <div>Plan View</div> <div>Internal ADF Results</div> <div>Proposed Scheme Received 12/05/21</div> <div>Cumulative Scenario</div>	
	<div>Scheme Confirmed:</div>		<div>Date:</div>	<div>Drawn By:</div> <div>SA</div>	<div>Scale:</div> <div>1:350 @ A3</div>	<div>Date:</div> <div>May 21</div>	<div>Dwg No:</div> <div>P1681/INT/25</div>



Appendix 2: Living Room Results



DAYLIGHT ANALYSIS

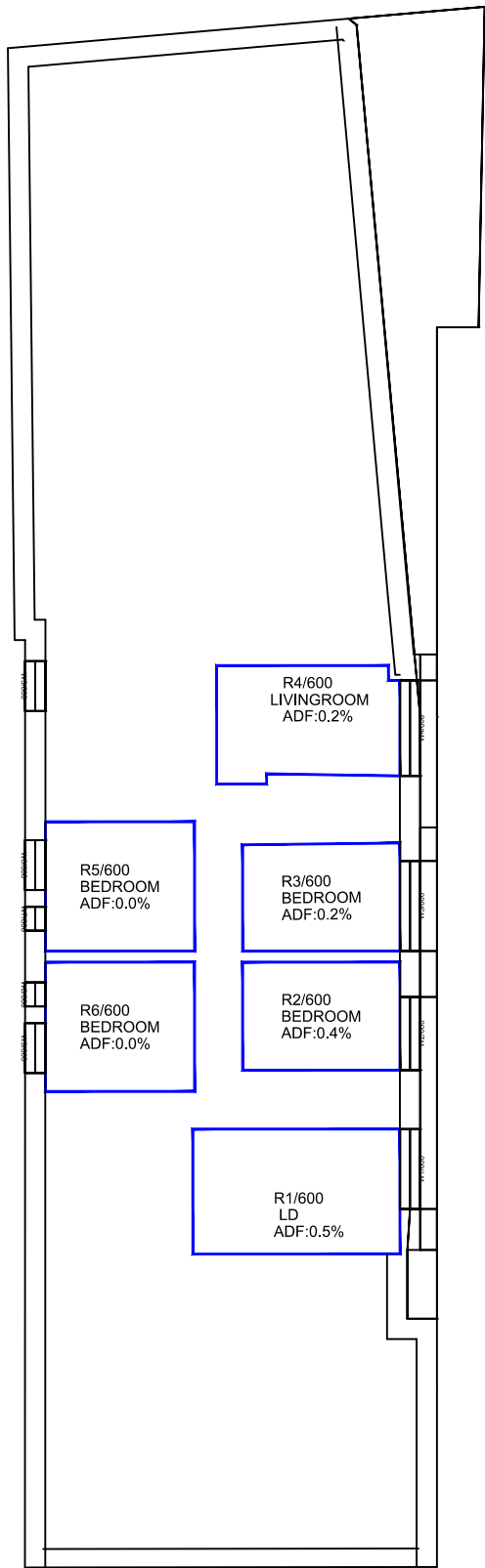
Middlesex Annex, LONDON
PR120521 CUMULATIVE WITHOUT KITCHEN
P1681 - rel18

INTERNAL DAYLIGHT

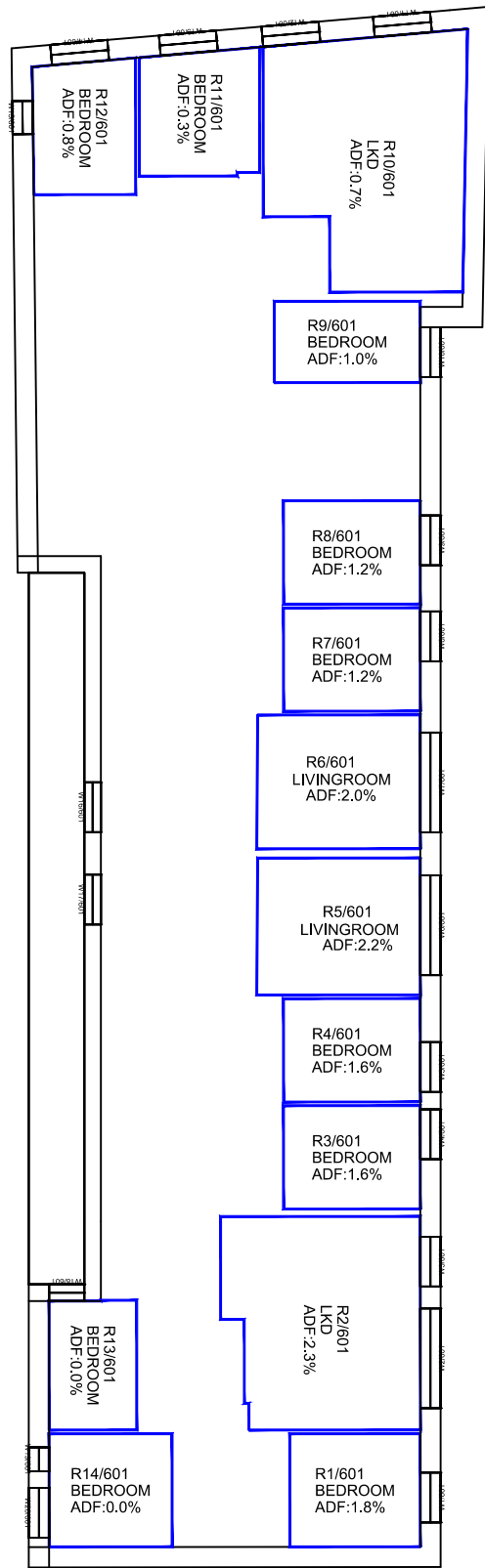
Room	Room Use	Window	VSC(%)	ADF(%)	Total ADF(%)
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Middlesex Annex

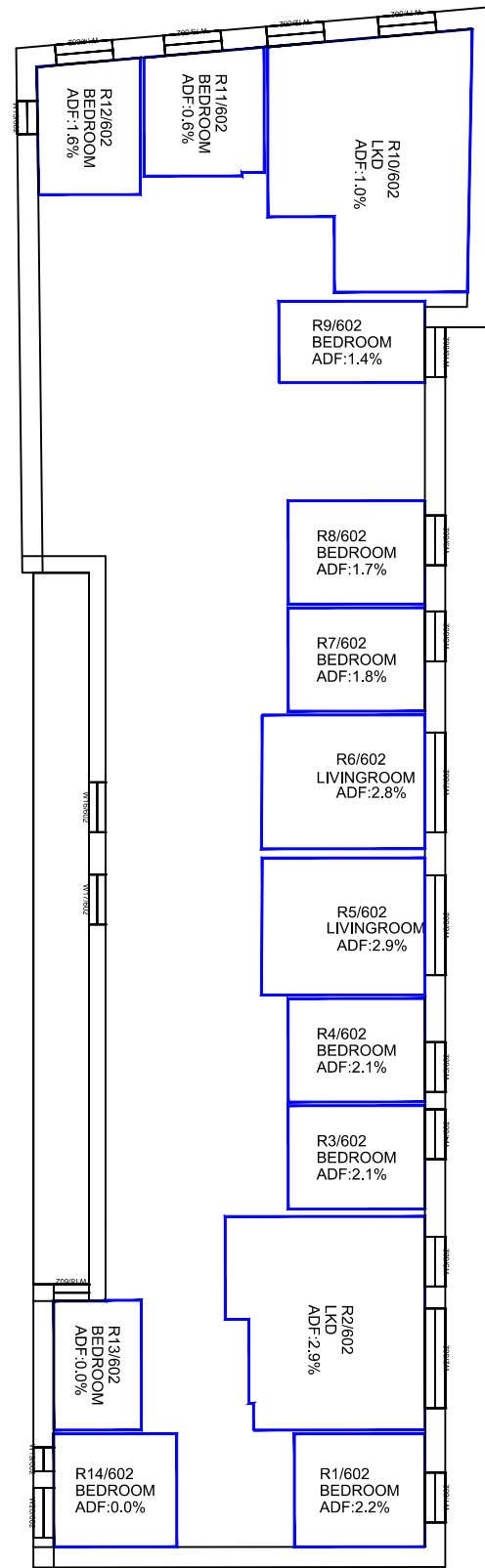
R1/600	LD	W1/600	9.75	0.5	0.5
R4/600	LIVINGROOM	W4/600	7.35	0.2	0.2
R5/601	LIVINGROOM	W6/601	16.41	2.2	2.2
R6/601	LIVINGROOM	W7/601	15.11	2.0	2.0
R5/602	LIVINGROOM	W6/602	22.58	2.9	2.9
R6/602	LIVINGROOM	W7/602	20.96	2.8	2.8



GROUND FLOOR



FIRST FLOOR



SECOND FLOOR

Sources: Point2 Surveyors
Point Cloud Data
Site Photos

Ordnance Survey

Piercy & Company
Proposed Scheme Info Received: 12-05-21
13565-A-00-PROPOSED - VP F.dwg

Proposed Scheme Info Received: 13-05-21
13565-A-00-PROPOSED - VP J.dwg

Key:

Project: Middlesex Annex,
London

Drawn By: SA

Scale: 1:350 @ A3

Date: May 21

Title: Plan View
Internal ADF Results
Proposed Scheme Received 12/05/21
Cumulative Scenario
Without Kitchen

Dwg No: P1681/INT/26

Rel: 18

