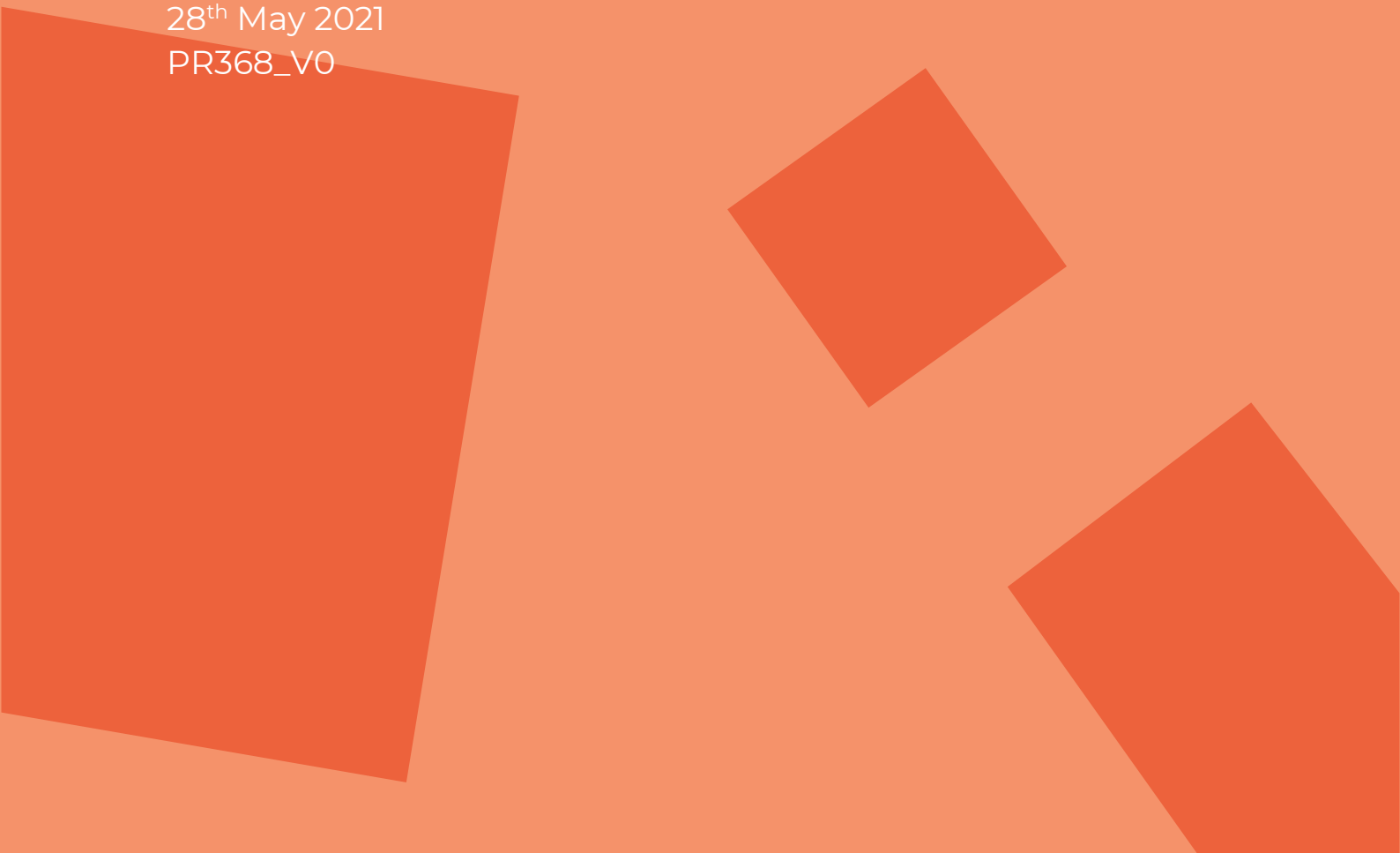


LOVE DESIGN STUD/O

PROPOSED SCHEME DAYLIGHT AND SUNLIGHT STUDY

Musgrave House, Widewater Place, Uxbridge
by Love Design Studio

28th May 2021
PR368_V0

The bottom of the page features three abstract geometric shapes in shades of orange and red. On the left is a large, dark orange trapezoid. In the center is a medium-sized, dark orange square. On the right is a large, dark orange triangle pointing towards the bottom right corner.

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EXECUTIVE SUMMARY

Love Design Studio are appointed to prepare a daylight and sunlight assessment for the proposed development at Musgrave House, Widewater Place, Denham, Uxbridge; this is to assess the on-site daylight and sunlight ingress to rooms deemed habitable, based on relevant industry guidance.

To ensure that this assessment has correctly considered the daylight and sunlight access experienced of the site, it has been instigated in accordance with the Building Research Establishment's publication "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice" (2011) (the "BRE Guidelines").

Daylight and sunlight access is typically desirable for occupants within 'habitable' rooms within residential buildings. This is acknowledged within the BRE guidelines, which place the most emphasis on these uses; mainly living rooms.

184 windows and 98 adjoining habitable rooms were identified at the proposed scheme as part of habitable spaces. 36 Living/kitchen/dining (LKD) rooms and 62 bedrooms were identified.

Please see below a concise summary of the study:

DAYLIGHT SUMMARY

All LKD rooms meet or exceed the recommended ADF levels.

All bedrooms meet or exceed the recommended ADF levels.

SUNLIGHT SUMMARY

All south-facing LKD spaces, receive APSH and WPSH levels above that of the recommended targets.

GENERAL COMMENTS

The internal layouts of the development have been thoroughly designed to maximum daylight and sunlight access to habitants. There is emphasis within the National Planning Policy Framework (June 2019) for developers "to make efficient use of land"; the Applicant has done this for the scheme.

It is therefore considered that the proposed development design is in line with the objectives of the National, Regional and Local policy context and the guidelines on daylight and sunlight set by BRE whilst simultaneously considering other environmental factors.

INTRODUCTION

Love Design Studio are appointed to prepare a daylight and sunlight assessment for the proposed development at Musgrave House, Widewater Place, Denham, Uxbridge; this is to assess the on-site daylight and sunlight access to rooms deemed habitable, based on relevant industry guidance.

All neighbouring properties shown in the below image were included within the surrounding massing model where relevant; the scheme's site is indicated within the red line boundary.



Figure 1: Site plan aerial view with the proposed development (red boundary) and neighbouring buildings

PLANNING POLICY

There are various National, Regional and Local planning policy documents and supplementary design guides available to help steer designers and assessors in maximising daylight and sunlight to rooms within new development. The overarching national guidance sits within the Revised National Planning Policy Framework (2019); regional and local policy supplements set out further detailed/technical guidance, often quoting relevant industry guidance, such as British Standards and the 'BRE Guidance' as tools for implementing a methodology to help define daylight and sunlight targets.

The various policy documents are set out below:

NATIONAL PLANNING POLICY

The National Planning Policy Framework (June 2019) – paragraph 123 (c):

LOCAL PLANNING AUTHORITIES SHOULD REFUSE APPLICATIONS WHICH THEY CONSIDER FAIL TO MAKE EFFICIENT USE OF LAND, TAKING INTO ACCOUNT THE POLICIES IN THIS FRAMEWORK. IN THIS CONTEXT, WHEN CONSIDERING APPLICATIONS FOR HOUSING, AUTHORITIES SHOULD TAKE A FLEXIBLE APPROACH IN APPLYING POLICIES OR GUIDANCE RELATING TO DAYLIGHT AND SUNLIGHT, WHERE THEY WOULD OTHERWISE INHIBIT MAKING EFFICIENT USE OF A SITE.

REGIONAL PLANNING POLICY

Paragraph 1.3.19 from the London Plan's Housing SPG states:

FOR PLANNING PURPOSES A HABITABLE ROOM IS USUALLY DEFINED AS ANY ROOM USED OR INTENDED TO BE USED FOR SLEEPING, COOKING, LIVING OR EATING PURPOSES. ENCLOSED SPACES SUCH AS THE BATH OR TOILET FACILITIES, SERVICE ROOMS, CORRIDORS, LAUNDRIES, HALLWAYS, UTILITY ROOMS OR SIMILAR SPACES ARE EXCLUDED FROM THIS DEFINITION. IN SOME CIRCUMSTANCES, A LARGE KITCHEN OR KITCHEN DINING ROOM MAY BE COUNTED AS A HABITABLE ROOM, BUT THE APPROACH VARIES BETWEEN BOROUGHES. THERE IS NO STATUTORY SIZE THRESHOLD. MANY BOROUGHES, HOWEVER, INCLUDE A FIGURE OF BETWEEN 13 AND 15 SQUARE METERS IN LDFS: ANY KITCHEN ABOVE THAT MINIMUM IS USUALLY COUNTED AS A HABITABLE ROOM. GENERALLY, A KITCHEN WITH A SMALL TABLE AND CHAIRS IN ONE CORNER, OR A KITCHEN 'BAR', WOULD NOT BE COUNTED AS A HABITABLE ROOM. A ROOM WITH A CLEARLY DEFINED KITCHEN AT ONE END AND A CLEARLY DEFINED DINING AREA AT THE OTHER (WITH A DINING TABLE AND CHAIRS) WOULD BE COUNTED AS A HABITABLE ROOM (SEE ALSO PART 2 ON QUALITY).

A Greater London Authority (GLA) hearing, referenced as 'representation hearing report D&P/3067/03 – Appendix 1 (18th November 2013) noted:

BRE GUIDELINES CONFIRM THAT THE ACCEPTABLE MINIMUM ADF TARGET VALUE DEPENDS ON THE ROOM USE. THAT IS 1% FOR A BEDROOM, 1.5% FOR A LIVING ROOM AND 2% FOR A FAMILY KITCHEN. IN CASES WHERE ONE ROOM SERVES MORE THAN ONE PURPOSE, THE MINIMUM ADF SHOULD BE THAT FOR THE ROOM TYPE WITH THE HIGHER VALUE.

NOTWITHSTANDING THIS, THE INDEPENDENT DAYLIGHT AND SUNLIGHT REVIEW STATES THAT, IN PRACTICE, THE PRINCIPAL USE OF ROOMS DESIGNED AS A 'LIVING ROOM/KITCHEN/DINING ROOM' IS AS A LIVING ROOM. ACCORDINGLY, IT WOULD BE REASONABLE TO APPLY A TARGET OF 1.5% TO SUCH ROOMS.

LOCAL PLANNING POLICY

The various references, within documents of the Local Authority's (Hillingdon), related to daylight and sunlight are as follows:

THE COUNCIL WILL ALSO SEEK TO ENSURE THAT THE DESIGN OF NEW DEVELOPMENT OPTIMISES THE LEVELS OF DAYLIGHT AND SUNLIGHT. THE COUNCIL WILL EXPECT THE IMPACT OF THE DEVELOPMENT TO BE ASSESSED FOLLOWING THE METHODOLOGY SET OUT IN THE MOST RECENT VERSION OF THE BUILDING RESEARCH ESTABLISHMENTS (BRE) "SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT: A GUIDE TO GOOD PRACTICE".

Local Plan development management policies - Policy DMHB 11: Design of New Development:

III) ENSURING THAT THE INTERNAL DESIGN AND LAYOUT OF DEVELOPMENT MAXIMISES SUSTAINABILITY AND IS ADAPTABLE TO DIFFERENT ACTIVITIES;

METHODOLOGY

Using CHMRP drawings, online research and onsite observations, we have produced a 3D computer model of the proposed development and the neighbouring residential properties to the site as indicated in the previous sections; the 3D model includes the window locations and internal configurations of the proposed development.

Using a specialist computer programme, we have undertaken the analysis set out in the BRE Guidelines for the proposed scenario only. There is no requirement to consider the implications of reduction to daylight and sunlight access during the development and construction process as these will only be short term – should the dwellings be occupied in a phased approach.

MODELLING METHODOLOGY

3D models were created in industry accepted daylight and sunlight software; these included:

- The proposed development, and
- The neighbouring properties and other existing obstructions affecting access to daylight and sunlight.

Assessments were made of the Vertical Sky Component (VSC) & Average Daylight Factor (ADF) tests to measure daylight access and probable sunlight hours (APSH/WPSH) to measure annual sunlight and winter sunlight exposure, respectively.

The guidelines for modelling and testing the scheme's daylight and sunlight access were provided by the BRE's "Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice" by PJ Littlefair (2011); accepted as good practice by Planning Authorities when assessing the applications for new schemes. For further guidance on the methodology please see the BRE's document¹.

¹ <https://www.bregroup.com/services/testing/indoor-environment-testing/natural-light/>

ASSESSMENT METHODOLOGY

The numerical values contained within the BRE Guidelines to establish whether the proposals will have sufficient daylight access are based primarily on the ADF tests rather than the individual VSC results.

In relation to daylight factor, the BRE Guidelines set out numerical values for the internal daylight factor and seeks to ensure that habitable rooms receive ample daylight access. Depending on the room type there are different guidelines on the ADF target; with living rooms and large kitchens given greater weighting.

A table of the scheme's target ADF values are set out below:

Table 1: The proposed scheme target ADF values

Item	Target ADF	Comment
Living Rooms	1.5%	As per the BRE Guidelines
Living, Kitchen & Dining Rooms	1.5%	As per the GLA hearing report D&P/3067/03
Bedrooms	1%	As per the BRE Guidelines

*Usually, if a kitchen is less than 13sqm, it is considered to be a non-habitable room and the daylight tests need not be applied.

ADFs, unlike VSCs are reliant on a combination of the internal layout arrangement, window placement, window solar transmittance and internal/external reflectance. It is often found at the planning stage that reflectance and maintenance factors are not quite specified and therefore assumptions are taken from the British Standards BS 8206-2:2008 document.

Assumptions of the reflectance and other modelling variables are set out below:

Table 2: The proposed scheme ADF variables.

Item	Value	Comment
Window light transmittance	0.68	Clear glass
Maintenance factor	96%	% loss of daylight based on:
		'suburban' ²
		vertical glazing
		rain
Frame factor	80%	-
Floor reflectance	0.3	-
Wall reflectance	0.6	-
Ceiling reflectance	0.9	-

With regards to sunlight, the BRE Guidelines seek that windows within 90 degrees of due south should look to achieve 25% of the Average Probable Sunlight Hours (APSH) with at least 5% during the winter months, where feasible.

² CIBSE Guide A Table 1.13, Calculation of maintenance factor for daylight factor

ASSUMPTIONS & LIMITATIONS

Drawings used to model the scheme are based on pdf and cad files received by CHMRP on 26th May 2021.

A 3D model file was produced from these 2D drawings; this file was used for placement of neighbouring properties, where possible, and desktop research, where required.

This study does not calculate the effects of trees and hedges on daylight and sunlight. The BRE guide states that it is usual to ignore the effect of existing trees and shrubs.

Where limited access or information is available, assumptions will have been made which may affect the conclusions reached in this report. Therefore, the report may need to be updated if room uses are confirmed by the local authority or by the consultation responses. The report provided is solely for the use of the client and no liability to anyone else is accepted and this report is based upon and subject to the scope of work set out in Love Design Studio's terms and conditions

PROPOSED SCHEME DRAWINGS

For reference, please see below images of the drawings used to construct the model from the relevant software; this is for illustrative purposes only.

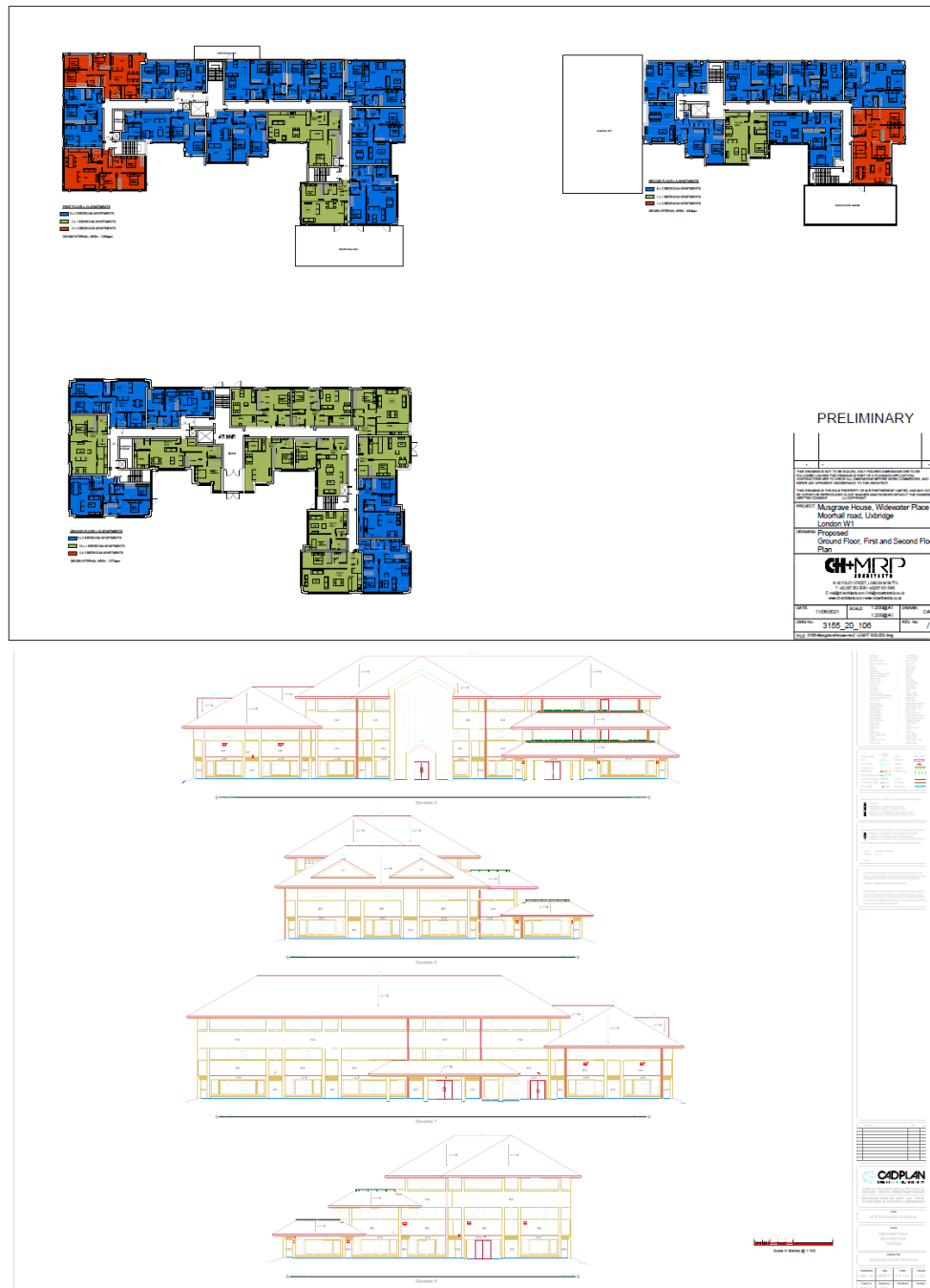


Figure 2: Plan drawings of the scheme (top) and elevations of the scheme (bottom)

DAYLIGHT AND SUNLIGHT SUMMARY

Assessments were made of the Vertical Sky Component (VSC) and Average Daylight Factor (ADF) for measure of daylight; and probable sunlight hours (APSH/WPSH) for measure of sunlight, annually and in winter, respectively.

All habitable rooms within the proposed development have been assessed for their ADFs. In addition, all living areas with a southerly aspect have been assessed for sunlight availability both over the whole year (Annual Probable Sunlight Hours or APSH) and in winter (Winter Probable Sunlight Hours or WPSH).

184 windows and 98 adjoining habitable rooms were identified at the proposed scheme as part of habitable spaces. 36 Living/kitchen/dining (LKD) rooms and 62 bedrooms were identified.

The layouts have been designed to maximise daylight and sunlight access to future occupiers whilst considering other environmental factors.

All LKD rooms meet or exceed the recommended ADF levels.

All bedrooms meet or exceed the recommended ADF levels.

All south-facing LKD spaces, receive APSH and WPSH levels above that of the recommended targets.

It is therefore considered that the proposed development design is in line with the objectives of the National, Regional and Local policy context and the guidelines on daylight and sunlight set by BRE.

FULL DETAILED DAYLIGHT AND SUNLIGHT RESULTS

A full set of calculations of the daylight and sunlight access are set out in the table below.

Table 3: Full Daylight and Sunlight Test results for the proposed development

Reference	VSC %	APSH %	WPSH %	ADF %	ADF Target %
GF/Living Room/R1/W1	35.2	59.0	22.0	6.17	1.5
GF/Living Room/R1/W46	28.9				
GF/Bedroom/R2/W2	35.4	58.0	21.0	6.60	1.0
GF/Bedroom/R2/W3	20.3	42.0	18.0		
GF/Bedroom/R3/W4	17.6	40.0	19.0	2.15	1.0
GF/Living Room/R4/W5	23.6	34.0	13.0	2.58	1.5
GF/Bedroom/R5/W6	26.8	35.0	8.0	3.32	1.0
GF/Bedroom/R5/W7	34.3	56.0	18.0		
GF/Living Room/R6/W8	32.9	51.0	13.0	2.19	1.5
GF/Living Room/R6/W9	23.9	39.0	7.0		
GF/Bedroom/R7/W10	20.2	27.0	2.0	2.25	1.0
GF/Bedroom/R8/W11	19.2	20.0	1.0	1.91	1.0
GF/Living Room/R9/W12	14.9			1.57	1.5
GF/Living Room/R9/W13	18.4				
GF/Living Room/R10/W14	26.5			2.65	1.5
GF/Bedroom/R11/W15	25.1			2.12	1.0
GF/Bedroom/R12/W16	31.3			3.16	1.0
GF/Living Room/R13/W17	32.4			5.49	1.5
GF/Living Room/R13/W18	35.7	59.0	21.0		
GF/Bedroom/R14/W19	36.0	58.0	20.0	4.15	1.0
GF/Living Room/R15/W20	36.3	59.0	21.0	6.51	1.5
GF/Living Room/R15/W21	36.4	74.0	28.0		
GF/Bedroom/R16/W22	33.7	63.0	23.0	2.28	1.0
GF/Bedroom/R16/W23	24.9	44.0	14.0		
GF/Living Room/R17/W24	35.8	70.0	25.0	3.13	1.5
GF/Bedroom/R18/W25	28.5	52.0	18.0	2.04	1.0
GF/Bedroom/R19/W26	30.9	57.0	24.0	3.57	1.0
GF/Bedroom/R20/W27	19.9	37.0	18.0	1.03	1.0
GF/Living Room/R21/W28	38.9	79.0	28.0	3.37	1.5

Reference	VSC %	APSH %	WPSH %	ADF %	ADF Target %
GF/Living Room/R22/W29	36.2	73.0	28.0	6.43	1.5
GF/Living Room/R22/W30	38.9				
GF/Bedroom/R23/W31	38.9			3.27	1.0
GF/Living Room/R24/W32	38.9			4.36	1.5
GF/Bedroom/R25/W33	38.7			4.34	1.0
GF/Bedroom/R26/W34	37.0			5.29	1.0
GF/Living Room/R27/W35	26.0			2.75	1.5
GF/Living Room/R28/W36	36.6			3.17	1.5
GF/Bedroom/R29/W37	37.7			4.44	1.0
GF/Bedroom/R30/W38	34.0			2.65	1.0
GF/Living Room/R31/W39	38.9			3.64	1.5
GF/Bedroom/R32/W40	38.9			7.66	1.0
GF/Bedroom/R32/W41	33.6				
GF/Bedroom/R33/W42	32.9			3.97	1.0
GF/Bedroom/R34/W43	31.5			2.35	1.0
GF/Bedroom/R34/W44	30.2				
GF/Living Room/R35/W45	29.7			2.49	1.5
1F/Living Room/R1/W1	35.7	56.0	19.0	7.52	1.5
1F/Living Room/R1/W2	36.9	61.0	23.0		
1F/Living Room/R1/W87	34.0				
1F/Living Room/R1/W88	33.2				
1F/Bedroom/R2/W3	36.9	59.0	21.0	5.20	1.0
1F/Bedroom/R2/W4	35.7	56.0	19.0		
1F/Bedroom/R3/W5	37.2	61.0	23.0	9.37	1.0
1F/Bedroom/R3/W6	36.0	57.0	20.0		
1F/Bedroom/R3/W7	23.8	47.0	17.0		
1F/Bedroom/R3/W8	28.9	60.0	23.0		
1F/Bedroom/R4/W9	22.3	47.0	21.0	3.15	1.0
1F/Living Room/R5/W10	31.3	46.0	15.0	2.47	1.5
1F/Bedroom/R6/W11	28.0	33.0	8.0	2.45	1.0
1F/Bedroom/R6/W12	20.3	20.0	2.0		
1F/Bedroom/R7/W13	17.5			5.01	1.0
1F/Bedroom/R7/W14	21.3				
1F/Bedroom/R7/W15	33.9	49.0	15.0		

Reference	VSC %	APSH %	WPSH %	ADF %	ADF Target %
1F/Bedroom/R7/W16	29.3	36.0	9.0		
1F/Living Room/R8/W17	37.0	59.0	21.0	3.45	1.5
1F/Bedroom/R9/W18	36.5	58.0	20.0	2.96	1.0
1F/Bedroom/R10/W19	29.1	52.0	17.0	3.28	1.0
1F/Bedroom/R10/W20	27.2	40.0	12.0		
1F/Bedroom/R10/W21	6.6	13.0	0.0		
1F/Bedroom/R10/W22	11.0	29.0	7.0		
1F/Living Room/R11/W23	17.0	34.0	9.0	2.98	1.5
1F/Living Room/R11/W24	25.4	36.0	5.0		
1F/Living Room/R11/W25	18.8	18.0	2.0		
1F/Bedroom/R12/W26	15.3			2.34	1.0
1F/Bedroom/R12/W27	21.2				
1F/Bedroom/R13/W28	9.0			4.41	1.0
1F/Bedroom/R13/W29	29.5				
1F/Bedroom/R13/W30	31.9				
1F/Living Room/R14/W31	33.6			8.35	1.5
1F/Living Room/R14/W32	37.4	60.0	22.0		
1F/Living Room/R14/W33	33.6				
1F/Living Room/R14/W34	35.6	53.0	17.0		
1F/Living Room/R14/W35	36.5	57.0	20.0		
1F/Bedroom/R15/W36	36.1	56.0	19.0	3.38	1.0
1F/Bedroom/R15/W40	37.3	59.0	21.0		
1F/Living Room/R16/W37	36.4	55.0	18.0	8.49	1.5
1F/Living Room/R16/W38	29.6	53.0	20.0		
1F/Living Room/R16/W39	37.6	60.0	22.0		
1F/Living Room/R16/W41	38.7	79.0	28.0		
1F/Bedroom/R17/W42	18.4	30.0	13.0	4.18	1.0
1F/Bedroom/R17/W43	36.8	68.0	24.0		
1F/Bedroom/R17/W44	12.2				
1F/Bedroom/R17/W45	30.4	51.0	16.0		
1F/Living Room/R18/W46	28.1	52.0	24.0	2.33	1.5
1F/Bedroom/R19/W47	19.9	42.0	18.0	4.94	1.0
1F/Bedroom/R19/W48	24.0	44.0	17.0		
1F/Bedroom/R19/W49	29.6	53.0	20.0		

Reference	VSC %	APSH %	WPSH %	ADF %	ADF Target %
1F/Bedroom/R19/W50	38.6	78.0	28.0		
1F/Bedroom/R20/W51	35.5	71.0	27.0	4.36	1.0
1F/Bedroom/R21/W52	38.6	78.0	28.0	3.94	1.0
1F/Bedroom/R21/W53	37.2	69.0	25.0		
1F/Living Room/R22/W54	35.5	72.0	28.0	8.47	1.5
1F/Living Room/R22/W55	37.1	69.0	25.0		
1F/Living Room/R22/W56	37.7				
1F/Living Room/R22/W57	38.8				
1F/Bedroom/R23/W58	38.6			5.17	1.0
1F/Bedroom/R23/W59	38.8				
1F/Living Room/R24/W60	38.8			3.78	1.5
1F/Bedroom/R25/W61	37.7			4.32	1.0
1F/Bedroom/R25/W62	38.7				
1F/Bedroom/R26/W63	38.8			4.21	1.0
1F/Bedroom/R27/W64	38.8			5.21	1.0
1F/Bedroom/R28/W65	38.6			4.54	1.0
1F/Bedroom/R28/W66	38.4				
1F/Living Room/R29/W67	35.0			4.56	1.5
1F/Living Room/R29/W68	39.0				
1F/Living Room/R30/W69	38.7			4.91	1.5
1F/Living Room/R30/W70	38.6				
1F/Bedroom/R31/W71	38.2			5.45	1.0
1F/Bedroom/R32/W72	32.3			2.57	1.0
1F/Living Room/R33/W73	38.7			4.56	1.5
1F/Bedroom/R34/W74	38.6			5.50	1.0
1F/Bedroom/R34/W75	37.6				
1F/Bedroom/R35/W76	38.8			10.42	1.0
1F/Bedroom/R35/W77	37.2				
1F/Bedroom/R35/W78	35.4				
1F/Bedroom/R35/W79	36.1				
1F/Bedroom/R36/W80	35.9			4.76	1.0
1F/Bedroom/R37/W81	34.9			4.06	1.0
1F/Bedroom/R37/W82	34.8				
1F/Bedroom/R38/W83	12.7			4.36	1.0

Reference	VSC %	APSH %	WPSH %	ADF %	ADF Target %
1F/Bedroom/R38/W84	34.4				
1F/Living Room/R39/W85	33.9			3.02	1.5
1F/Living Room/R39/W86	33.6				
2F/Living Room/R1/W1	37.2	57.0	20.0	4.27	1.5
2F/Living Room/R1/W2	37.0				
2F/Living Room/R1/W3	37.4	58.0	20.0		
2F/Bedroom/R2/W4	21.6			5.26	1.0
2F/Bedroom/R2/W5	30.9				
2F/Bedroom/R2/W6	35.9	53.0	17.0		
2F/Bedroom/R2/W7	31.9	43.0	9.0		
2F/Bedroom/R3/W8	38.2	61.0	23.0	4.33	1.0
2F/Living Room/R4/W9	38.2	59.0	21.0	2.97	1.5
2F/Bedroom/R5/W10	31.8	54.0	21.0	5.82	1.0
2F/Bedroom/R5/W11	35.9	54.0	18.0		
2F/Bedroom/R5/W12	22.8	50.0	18.0		
2F/Bedroom/R5/W13	19.6	45.0	20.0		
2F/Living Room/R6/W14	21.8	43.0	18.0	3.61	1.5
2F/Living Room/R6/W15	33.9	54.0	17.0		
2F/Bedroom/R7/W16	21.9	21.0	2.0	1.87	1.0
2F/Bedroom/R7/W17	20.7				
2F/Bedroom/R8/W18	31.8			3.20	1.0
2F/Bedroom/R8/W19	30.1				
2F/Living Room/R9/W20	35.2	51.0	16.0	6.77	1.5
2F/Living Room/R9/W21	23.9	43.0	18.0		
2F/Living Room/R9/W22	38.5	61.0	23.0		
2F/Living Room/R9/W23	37.9	76.0	28.0		
2F/Bedroom/R10/W24	27.4	50.0	23.0	3.08	1.0
2F/Bedroom/R11/W25	23.7	45.0	18.0	6.42	1.0
2F/Bedroom/R11/W26	31.1	50.0	19.0		
2F/Bedroom/R11/W27	29.6	53.0	20.0		
2F/Bedroom/R11/W28	38.7	78.0	28.0		
2F/Bedroom/R12/W29	35.3	70.0	26.0	4.39	1.0
2F/Bedroom/R13/W30	38.7	78.0	28.0	3.97	1.0
2F/Bedroom/R13/W31	37.3	69.0	25.0		

Reference	VSC %	APSH %	WPSH %	ADF %	ADF Target %
2F/Living Room/R14/W32	35.6	72.0	28.0	8.14	1.5
2F/Living Room/R14/W33	33.6	63.0	23.0		
2F/Living Room/R14/W34	34.6				
2F/Living Room/R14/W35	38.8				
2F/Bedroom/R15/W36	38.4			5.26	1.0
2F/Bedroom/R15/W37	38.7				
2F/Living Room/R16/W38	38.7			3.90	1.5
2F/Bedroom/R17/W39	37.3			4.41	1.0
2F/Bedroom/R17/W40	38.5				
2F/Bedroom/R18/W41	38.6			4.34	1.0
2F/Bedroom/R19/W42	38.6			5.34	1.0
2F/Bedroom/R20/W43	38.4			4.76	1.0
2F/Bedroom/R20/W44	38.2				
2F/Living Room/R21/W45	33.6			4.66	1.5
2F/Living Room/R21/W46	38.8				
2F/Bedroom/R22/W47	38.6			4.52	1.0
2F/Bedroom/R22/W48	37.1				
2F/Bedroom/R23/W49	38.3			4.62	1.0
2F/Living Room/R24/W50	38.4			4.98	1.5

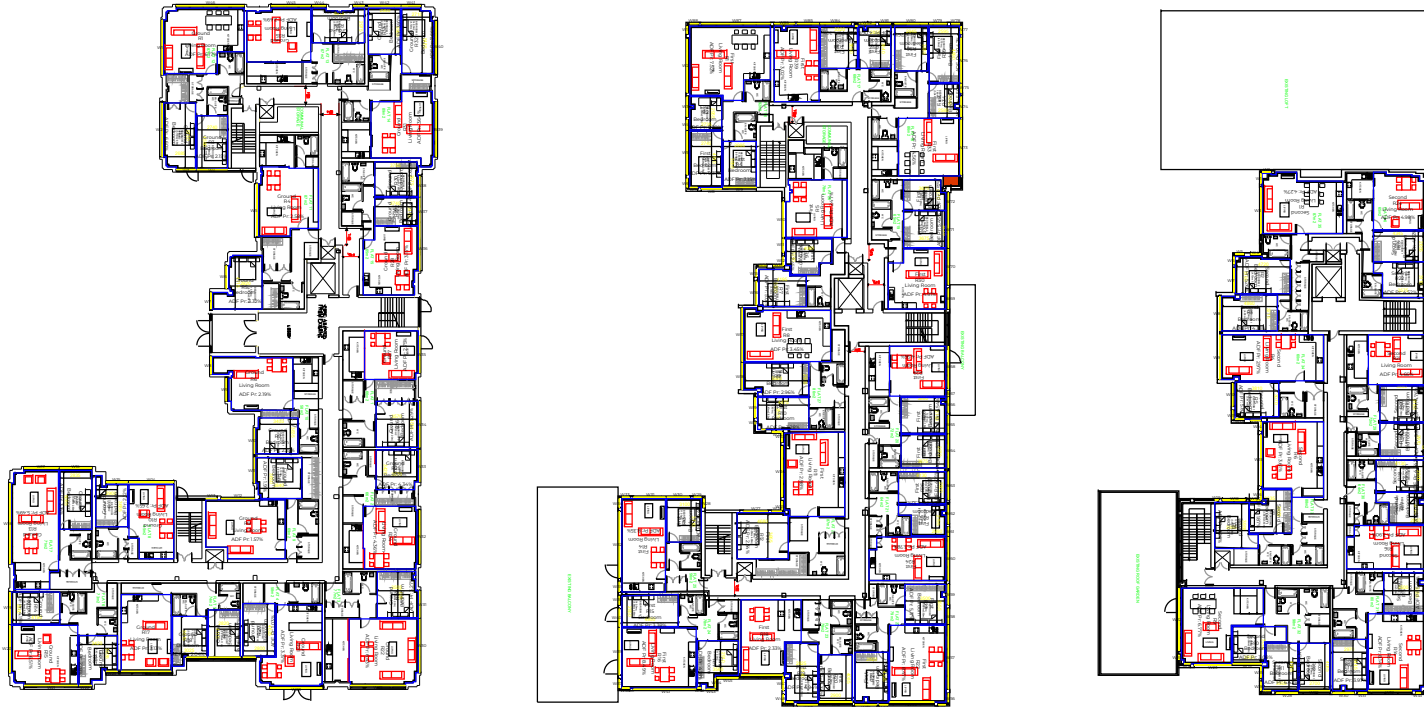
*X/XX(X)/XX/XX – Floor/Room Use/Room Ref/Window Ref

APPENDICES

The following images reference the window and room locations as per the results tables from earlier sections.

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Musgrave House
Floor plans model overlays



NOT TO SCALE
ILLUSTRATIVE ONLY

Date: 28/05/2021
Drawing: 386-MH-O
Issue: 00A

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LOVE DESIGN STUD/O

Musgrave House
Floor plans
Window Reference
Room Reference



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Date: 28/05/2021
Drawing: 386-MH-L
Issue: 00B

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The background is a solid light orange color. In the center, there is a large white graphic that looks like the number '10', but the '1' is a thick diagonal line and the '0' is a thick circle. In the bottom right corner, there is a block of white text. The overall design is minimalist and modern.

10

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