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Daylight and Sunlight Report

79 Avenue Road, St Johns Wood, NW8 6JD

For

KSR Architects

L190351/JH/G8

December 2019

Report on Daylight and Sunlight

Contents

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Date	16/12/19	**Date**	16/12/19

1 INTRODUCTION

1.1 The client is proposing to demolish the existing building and construct a detached residential dwelling over three storeys. calfordseaden LLP has been instructed to undertake the assessment in accordance with the recommendations contained in BR209 Site Layout Planning for Daylight and Sunlight A Guide to Good Practice and BS 8206-2.

1.2 This report has been prepared by calfordseaden LLP solely for KSR Architects. No representation or Warranty (expressed or implied) is given as to the accuracy, completeness or reasonableness of the report to any other parties, who rely on the report and its contents entirely at their own risk. Calfordseaden LLP shall have no liability whatsoever to any other parties for any inaccuracy in, omission from, or use of the report or relating to any decision based on the report.

1.3 Following preparation of the draft report, our client having considered the findings, has decided to increase fenestration areas to some of the proposed rooms, which previously were not achieving the BRE guidance levels. This report includes the results of those changes.

2 BASIS OF ASSESSMENT

2.1 In BR 209 there are two main methods for assessment of daylighting to dwellings and a further two methods for assessing sunlight. These are further explained in the British Standard BS 8206-2: 1992 and 2008.

2.2 The three main criteria considered for daylighting are the Vertical Sky Component (VSC) measured on the face of the window, the Average Daylight Factor (ADF) measured within the room and the daylight uniformity measured using the No Sky Contour (NSC). This latter is the series of points within the room at 850 mm (tabletop height) above floor level where the sky is no longer visible through the window(s).

2.3 Daylight

2.3.1 As a preliminary assessment BR209 suggests the use of a series of reference points around the proposed building, for new developments. If none of the surrounding obstructions subtends an angle to the horizontal, at the reference point, of greater than 25 degrees then there will be the potential for good day-lighting in the interior and there should therefore be no need to produce further calculations to demonstrate the levels of daylighting available.

2.3.2 If an obstruction is taller than this then there may still be the potential to achieve a satisfactory level of daylighting if the obstruction is not continuous and is narrow enough to allow adequate daylight around its sides and here further calculations should be used.

2.3.3 BR209 also describes a simple assessment using 45 degree lines in the horizontal and vertical planes from the extremities of an obstruction and where both these lines crossed above the centre of any window there is then a likelihood that the daylighting in the room will be adversely affected. For this reason, we have concentrated on those windows, which fall within the 45-degree lines. If the results proved to be adverse for all windows in this area then our scope would be extended.

2.3.4 The amount of skylight falling on a vertical wall or window can be quantified as the Vertical Sky Component (VSC). This is the ratio of direct sky illuminance falling on the vertical wall at a reference point, to the simultaneous horizontal illuminance under an unobstructed sky. The maximum value is 40% for a completely unobstructed vertical wall.

2.3.5 For a room with non-continuous obstructions, there is the potential for good daylighting provided that the VSC at the window position, 2 metres above ground is not less than the value for a continuous obstruction of altitude 25 degrees which is equal to a VSC of 27%. This is a complex way of saying that sufficient day-lighting can be achieved by other means and the guidance suggests that if the VSC of 27% is achieved within 4 metres horizontally from any window then sufficient daylighting is still likely to be achieved.

2.3.6 At paragraph 2.1.6 of BR209 it advises that where a room is served by a single window and the VSC meets or exceeds 27% then conventional window design will usually provide adequate daylighting. Where the VSC value is between 15% and 27% then larger windows or changes to room layout will normally be required and if the value is between 5% and 15% then large windows will almost certainly be required. Below this value the room is unlikely to benefit from adequate daylighting.

2.3.7 A modified form of these calculations can be used for existing buildings to determine the impact potential of new developments but, as in this case, we prefer to use our software for this process as the results are more useful and relevant. Our software has been produced specifically for this purpose and is used by other consultants in the field. It is our practice to benchmark test results periodically against the manual methods described by the BRE and against our competitors who use different software providers. In this way we can ensure the relative accuracy of our results.

2.3.8 Again according to BR209, when considering existing buildings, if the VSC or the no-sky line contours produce results which reflect a reduction of daylight, caused by any new obstruction, below 80% of that which was originally available and the VSC is less than 27%, then the loss would be noticeable to the occupants.

2.3.9 A further measure, which can be used, is the average daylight factor (ADF), which is the average illuminance internally, divided by the unobstructed illuminance externally and multiplied by 100% and can be calculated as follows:

2.3.10 The diffusible visible transmittance of glazing (0.68) multiplied by the net area of the window multiplied by the angle of visible sky measured at the face of the window (which is obtained using the VSC and checking the table in the guidance notes) divided by the total area of the rooms internal surfaces multiplied by One minus the average internal reflectance, squared and expressed as a percentage.

2.3.11 The BRE guidance accepts that, where supplementary electric lighting is available, a figure of 2% will produce a predominantly daylit effect but that the recommendations for dwellings are 2% for Kitchens, 1.5% for Living Rooms and 1% for Bedrooms as minimum figures.

2.3.12 The ADF should not be used as a comparative tool for existing building but will provide an indication of the availability of daylight after the proposed development provided that the correct values are used for glazing transmission and internal reflectance.

2.4 Sunlight

2.4.1 Sunlighting is measured using sunlight availability indicators or sun path indicators, which are also reproduced in the guidance by P J Littlefair for a selection of latitudes. Here too we have computer software to produce the results.

2.4.2 The British Standard recommends that at least 25% of annual probable sunlight hours be available at the reference point, including at least 5% of annual probable sunlight hours in the winter

months, between Sept 21 and March 21. This is checked using the horizontal equinox line on the sunlight availability indicator.

2.4.3 When using the sunlight indicator, any obstructions to the north can be ignored as can any windows that do not face within 90 degrees of due south.

2.5 The current BRE guidance also sets out limited parameters for assessment of shadow in amenity space and stipulates that at least 50% of the area considered should have the potential benefit of 2 hours of direct sunlight on 21st March each year. The previous guidance considered permanent over shadowing and the parameter employed here is to assess the percentage of the amenity space that will not receive sunlight during the day on the 21st March. The BRE Guidance suggests that no more than 40% and preferably no more than 25% of the total area should remain in darkness.

3 HOUSING SUPPLEMENTARY PLANNING GUIDANCE

3.1 Under the London Plan, Supplementary Planning Guidance is provided where the level of guidance required is too detailed for inclusion in the development plan, or if a rapid policy response to is needed to an emerging issue. It provides support for statutory development plans, but carries less weight than them when planning matters are considered and cannot create new policies.

3.2 In March 2016 the Housing Planning Supplementary Guidance was updated and included the following paragraphs relating to daylight and sunlight design:

3.2.1 *1.3.45 Policy 7.6Bd Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.*

3.2.2 *1.3.46 The degree of harm on adjacent properties and the daylight targets within the proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London.*

3.2.3 *2.3.47 Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London.*

4 INFORMATION PROVIDED OR OBTAINED

4.1 We have been provided with the following information that has been used to develop our electronic model:

- Details of proposed scheme
- Existing building on the site and existing surrounding buildings
- Aerial photography from Google Earth and Bing
- Site visit, photographs and measurements
- Internal arrangements within existing surrounding buildings

- Property Drawings from Websites etc.
- Where drawings were not available we estimated the internal arrangements and room uses based on our external inspection

4.2 Where we have had to estimate the internal arrangements and room uses, as noted above, this has will not affect the results for VSC or APSH because the reference point is at the centre of the window being tested and windows have been accurately drawn from the survey information. It is relevant to the daylight distribution assessment, but in the absence of suitable plans, estimation is a conventional approach.

5 INTERPRETATION OF RESULTS

5.1 The BRE report sets targets for adequacy in terms of daylight and sunlight and overshadowing. It also describes the levels at which any reduction would be noticeable.

5.2 A habitable room may be adversely affected if any part of a new building measured in a vertical section perpendicular to the window wall subtends an angle of 25° taken from the centre of the window or a point at the centre of a window opening receives less than 27% VSC; and there is a reduction greater than 20% of its former value.

5.3 Where the ADF is assessed the room may be adversely affected if a kitchen receives less than 2% ADF, a living room receives less than 1.5% ADF or a bedroom receives less than 1% ADF

5.4 It should be noted in respect of kitchens that most Local Authorities recognise small kitchens as non-habitable and therefore do not require to be assessed.

5.5 For sunlight APSH assessment, a living room may be adversely affected if a point at the centre of an existing window receives less than 25% of the total APSH of which at least 5% should be available during the winter months (21 September to 21 March) and there will be a reduction greater than 20% of its former value during either period.

5.6 A garden or amenity space may be adversely affected if it does not receive direct sunlight at all to at least three fifths of its area throughout the day on 21 March and will suffer a reduction greater than 20% of its former area. It is recommended however that at least half of the area of the amenity space should be able to benefit from at least 2 hours of sunlight on 21st March.

5.7 To assist in the understanding of the results we have summarised each assessment to show the number of readings that meet or exceed the BRE target values or are unaffected by the proposals as being a 'Pass'. Negligible reductions would not be noticeable to the occupants and, based on the BRE guidance, these would also be considered to be a 'Pass' and where the reduction in VSC to existing properties would still leave at least 80% of the 27% guidance value then this is considered to be a negligible reduction. Reductions greater than this or failure to meet the levels given in the BRE guidance would be considered noticeable.

5.8 There is no published research into how the levels of noticeability might be categorised but for the purposes of this report the following has been adopted:

5.8.1 <u>VSC Results</u>

Pass/ Unaffected = Meets BRE target value or is unaffected by the proposals

Negligible = The VSC will be reduced between 20% and 30%.

Noticeable 1	=	The VSC will be reduced between 30% and 40%.
Noticeable 2	=	The VSC will be reduced between 40% and 50%.
Noticeable 3	=	The VSC will be reduced by greater than 50%.

5.8.2 ADF Results

Pass	=	Meets or exceeds the BRE target value
Negligible	=	Falls below the BRE guidance by 20% or less
Noticeable 1	=	Falls below the BRE guidance between 20% and 40%
Noticeable 2	=	Falls below the BRE guidance between 40% and 60%
Noticeable 3	=	Falls below the BRE guidance by more than 60%

5.8.3 Daylight Distribution Results

Pass	=	At least 80% of the proposed room can receive direct daylight or the existing value will be reduced by no more than 20%.
Negligible	=	Between 64% and 79% of the room will be able to receive direct daylight or the existing value will be reduced by no more than 30%.
Noticeable 1	=	Between 48% and 63% of the room will be able to receive direct daylight or the existing value will be reduced by no more than 40%
Noticeable 2	=	Between 32% and 47% of the room will be able to receive direct daylight or the existing value will be reduced by no more than 50%
Noticeable 3	=	Less than 31% of the room will be able to receive direct daylight or the existing value will be reduced by more than 50%

5.8.4 APSH Sunlight Results

Pass	=	At least 25% of annual probable sunlight hours achieved or existing being reduced by no more than 20%.
Negligible	=	Existing reduced by no more than 30% or proposed at least 20% APSH
Noticeable 1	=	Existing reduced by no more than 40% or proposed at least 15% APSH
Noticeable 2	=	Existing reduced by no more than 50% or proposed at least 10% APSH
Noticeable 3	=	Existing reduced by more than 50% or proposed less than 10% APSH

6 **SITE VISIT**

6.1.1 We visited site on the 20th November 2019 and append the photographs taken at that time.

6.1.2 79 Avenue Road is situated to the north-west of Primrose Hill, in the area known as Swiss Cottage.

6.1.3 The road and immediately surrounding vicinity is comprised of large detached dwellings.

6.1.4

Proposed Front Elevation

7 ASSESSMENT OF EXISTING NEIGHBOURING PROPERTIES

7.1 Daylight

7.1.1 We have assessed impacts on existing habitable rooms in the adjacent surrounding properties. Our detailed results are appended and the tables below show the results for VSC on individual windows. We have then assessed the Daylight Distribution using the No-Sky Line.

7.1.2

VSC		VSC reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	5	1	0	1	0
81 Avenue Road	4	0	0	0	0

7.1.3 There are two windows within 77 Avenue Road that transgress the guidelines. However, one of these serves a games room, which is not categorised as a habitable room by the guidance and should therefore be discounted. The other window is a secondary window into a bedroom on the first floor. As the primary window for this room meets the guidelines, as well as the room meeting the Daylight Distribution calculation (as below), this should be considered acceptable.

7.1.4 In the below table we summarise the results for Daylight Distribution.

7.1.5

Daylight Distribution (No-Sky Line)		Daylight Distribution reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	3	0	0	0	0
81 Avenue Road	1	0	0	0	0

7.1.6 All neighbouring rooms meet the guidelines.

7.2 **Sunlight**

7.2.1 The test we have carried out to assess the impact on neighbouring sunlight is the Annual Probable Sunlight Hours (APSH). We have provided summary results for both annual and winter calculations.

7.2.2

APSH - Annual		APSH reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	2	0	0	0	0
81 Avenue Road	3	0	0	0	0

7.2.3 Please note not all neighbouring windows face within 90 degrees of due south and therefore are not subject to assessment. All applicable windows meet the guidelines.

7.2.4

APSH - Winter		APSH reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	2	0	0	0	0
81 Avenue Road	3	0	0	0	0

7.2.5 Please note not all neighbouring windows face within 90 degrees of due south and therefore are not subject to assessment. All applicable windows meet the guidelines.

7.3 **Sunlight (Overshadowing) to Existing Amenity Areas**

7.3.1 Neither neighbouring amenity area will suffer a detrimental loss of sunlight as a result of the proposal.

8 **ASSESSMENT OF CONSENTED NEIGHBOURING PROPERTIES**

8.1 **Daylight**

8.2 Both neighbouring properties have also received planning permission for the demolition of their existing buildings and the construction of new dwellings. The results below are therefore in relation to these consented proposals.

8.3

VSC		VSC reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	2	0	2	0	0
81 Avenue Road	3	0	0	0	0

8.4 The consented scheme at 77 Avenue Road will see two windows transgress the guidelines. One of these is marginal, with a proposed VSC of 26.79%. In mind of the fact that this would be considered to be a pass if the VSC was 27%, this should be considered to be acceptable. The other window, which is a secondary window into a bedroom, also retains what would be considered to be a good VSC value, of 24.74%. This room also meets the Daylight Distribution criteria, which can be found below. This should therefore be considered to be acceptable.

8.5 In the below table we summarise the results for Daylight Distribution.

8.6

Daylight Distribution (No-Sky Line)		Daylight Distribution reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	2	0	0	0	0
81 Avenue Road	1	0	0	0	0

8.7 All rooms meet the guidelines.

8.8 **Sunlight**

8.9 The test we have carried out to assess the impact on neighbouring sunlight is the Annual Probable Sunlight Hours (APSH). We have provided summary results for both annual and winter calculations.

8.10

APSH - Annual		APSH reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	1	0	0	0	0
81 Avenue Road	3	0	0	0	0

8.11 All applicable windows meet the guidelines.

8.12

APSH - Winter		APSH reduction %			
		Negligible	Noticeable		
	Pass	20 – 30 %	30 – 40 %	40 – 50 %	50% +
77 Avenue Road	1	0	0	0	0
81 Avenue Road	3	0	0	0	0

8.13 All applicable windows meet the guidelines.

8.14 **Sunlight (Overshadowing) to Existing Amenity Areas**

8.15 Neither neighbouring amenity area will suffer a detrimental loss of sunlight as a result of the proposal.

9 ASSESSMENT OF PROPOSED PROPERTIES

9.1 Daylight

9.1.1 We have assessed the proposed habitable rooms for ADF and Daylight Distribution. We summarise this below and our detailed results are appended.

9.1.2

Average Daylight Factor (ADF)		Daylight Levels			
		Negligible	Noticeable		
	Pass	Less than 20% below	21% to 40% below	41% to 60% below	Greater than 60 % below
Proposed House	15	0	0	0	0

9.1.3 All habitable rooms meet their respective guidelines for ADF.

9.1.4

Daylight Distribution (No-Sky Line)		Daylight Levels			
		Negligible	Noticeable		
	Pass	Between 64% and 79%	Between 48% and 63%	Between 32% and 47%	Less than 31%
Proposed House	14	0	1	0	0

9.1.5 The room that falls outside of the guidelines is a bedroom in the basement. This room meets the guidance for the Average Daylight Factor calculation, whilst still achieving a moderate Daylight Distribution value; over half of the room will have a direct view of the sky. We therefore consider this to be acceptable.

9.2 Sunlight

9.2.1

APSH		Sunlight Levels			
		Negligible			
	Pass	Between 20% and 24%	Between 15% and 19%	Between 10% and 14%	Less than 10%
Proposed House	19	0	0	1	0

9.2.2 The design team have redesigned areas within the basement in order to maximise the daylight and sunlight levels to these bedrooms areas.

9.3 Sunlight (Overshadowing) to Proposed Amenity Areas

9.3.1 As can be seen from the appended overshadowing diagrams, the proposed amenity area will receive adequate sunlight on the 21st March and therefore meet the guidelines.

10 SUMMARY AND CONCLUSION

10.1 Existing/Consented Buildings

10.1.1 As per the results above, the proposal is mindful of the neighbouring access to daylight and sunlight. This applies equally to the existing neighbouring houses and those that have been consented.

10.2 Proposed Buildings

10.2.1 All of the habitable rooms within the proposed development will meet the guidance levels for ADF.

10.3 Having consideration for the nature of urban development it is encouraging to note that this scheme causes little impact on existing surrounding dwellings whilst achieving acceptable results within the proposed development.

James Hargreaves

James Hargreaves BA(Hons) MSc MCIArb

For and on behalf of

calfordseaden LLP 16/12/2019

Appendix 1

QUALIFICATIONS AND EXPERIENCE

1 Qualifications And Experience

1.1 This report has been prepared by James Hargreaves, a Partner within calfordseaden LLP. James is an associate member of the Royal Institution of Chartered Surveyors and a Member of the Chartered Institute of Arbitrators, with a Master's degree in Building Surveying. He is a specialist in the area of practice known as Neighbourly Matters, having practiced in this discipline since 2012.

1.2 Calfordseaden's daylighting studies are undertaken using specialist computer software, specifically written for the purposes of carrying out the tests described in BR 209.

Appendix 2

SITE PHOTOGRAPHS AND IMAGES

Photograph 1

Photograph 2

Photograph 3

Photograph 4

Photograph 5

Photograph 6

Photograph 7

Photograph 8

Appendix 3

RESULTS

Existing Houses													
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Pr/Ex	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
77 Avenue Road												
Ground	R1	Kitchen	W1	Existing	39.29	1.00		*North*			*North*	
				Proposed	39.29							
			W2	Existing	21.53	0.87		*North*			*North*	
				Proposed	18.64							
			W3	Existing	16.10	0.86		*North*			*North*	
				Proposed	13.83							
	R2	Games Room	W4	Existing	10.91	0.70		*North*			*North*	
				Proposed	7.62							
			W5	Existing	35.79	0.86	40	1.00	YES	7	1.00	YES
				Proposed	30.93		40			7		
First	R1	Bedroom	W1	Existing	20.90	0.55		*North*			*North*	
				Proposed	11.43							
			W2	Existing	38.49	0.88	46	1.00	YES	15	1.00	YES
				Proposed	33.91		46			15		
81 Avenue Road												
First	R1	Bedroom	W1	Existing	25.23	0.84	65	0.86	YES	14	0.50	YES
				Proposed	21.18		56			7		
			W2	Existing	36.79	0.99	52	0.98	YES	17	0.94	YES
				Proposed	36.46		51			16		
			W3	Existing	39.57	1.00	52	1.00	YES	15	1.00	YES
				Proposed	39.56		52			15		
			W4	Existing	36.68	1.00		*North*			*North*	
				Proposed	36.68							

Existing Houses							
Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex
77 Avenue Road							
Ground	R1	Kitchen	Area m2	24.63	23.37	22.82	
			% of room		95%	93%	0.98
	R2	Games Room	Area m2	29.38	29.22	29.22	
			% of room		99%	99%	1.00
First	R1	Bedroom	Area m2	26.46	26.43	26.42	
			% of room		100%	100%	1.00
81 Avenue Road							
First	R1	Bedroom	Area m2	27.49	27.41	27.36	
			% of room		100%	100%	1.00

Consented Houses													
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Pr/Ex	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
77 Avenue Road												
Second	R1	Bedroom	W1	Existing	39.62	1.00		*North*			*North*	
				Proposed	39.61							
			W2	Existing	38.84	0.64		*North*			*North*	
				Proposed	24.74							
	R2	Bedroom	W3	Existing	38.87	0.69		*North*			*North*	
				Proposed	26.79							
			W4	Existing	39.62	1.00	50	1.00	YES	15	1.00	YES
				Proposed	39.59		50			15		
81 Avenue Road												
Second	R1	Bedroom	W1	Existing	37.80	0.87	75	0.95	YES	28	0.86	YES
				Proposed	33.00		71			24		
			W2	Existing	37.58	1.00	52	1.00	YES	15	1.00	YES
				Proposed	37.55		52			15		
			W3	Existing	39.62	1.00	52	1.00	YES	15	1.00	YES
				Proposed	39.61		52			15		

Consented Houses							
Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex
77 Avenue Road							
Second	R1	Bedroom	Area m2	25.44	24.51	22.92	
			% of room		96%	90%	0.94
	R2	Bedroom	Area m2	38.04	37.01	36.58	
			% of room		97%	96%	0.99
81 Avenue Road							
Second	R1	Bedroom	Area m2	36.16	35.56	35.56	
			% of room		98%	98%	1.00

Proposed Building						
Floor Ref.	Room Ref.	Room Use.	Window Ref.	Glass Transmittance	ADF Proposed	Req'd Value
		Proposed				
Basement	R1	Staff Bedroom	W1-L	0.68	0.01	
			W1-U	0.68	4.15	
					4.16	1.00
Basement	R2	Staff Bedroom	W2-L	0.68	0.00	
			W2-U	0.68	1.30	
			W3-L	0.68	0.00	
			W3-U	0.68	1.50	
					2.80	1.00
Ground	R1	Dining Room	W1-L	0.68	0.02	
			W1-U	0.68	0.55	
			W2-L	0.68	0.02	
			W2-U	0.68	0.55	
			W12-L	0.68	0.01	
			W12-U	0.68	0.18	
					1.32	1.00
Ground	R2	Study	W3-L	0.68	0.05	
			W3-U	0.68	1.44	
			W4-L	0.68	0.05	
			W4-U	0.68	1.46	
					2.98	1.00
Ground	R3	Formal Reception	W5-L	0.68	0.03	
			W5-U	0.68	0.46	
			W6-L	0.68	0.05	
			W6-U	0.68	0.74	
			W7-L	0.68	0.01	
			W7-U	0.68	0.28	
			W8-L	0.68	0.03	
			W8-U	0.68	0.45	
			W9-L	0.68	0.03	
			W9-U	0.68	0.45	
			W10-L	0.68	0.01	
			W10-U	0.68	0.28	
			W11-L	0.68	0.05	
			W11-U	0.68	0.74	
					3.61	1.50
First	R1	Bedroom	W1	0.68	1.04	
			W2	0.68	0.98	
			W15	0.68	0.78	
			W16	0.68	0.82	
					3.62	1.00

Proposed Building						
Floor Ref.	Room Ref.	Room Use.	Window Ref.	Glass Transmittance	ADF Proposed	Req'd Value
First	R2	Prayer	W3	0.68	1.48	
			W4	0.68	1.48	
					2.96	1.00
First	R3	Relaxation	W5	0.68	1.00	
			W6	0.68	1.05	
					2.05	1.00
First	R4	Dressing	W7	0.68	0.72	
			W8	0.68	0.68	
					1.40	1.00
First	R5	Bedroom	W9	0.68	0.70	
			W10	0.68	0.73	
			W11	0.68	0.73	
			W12	0.68	0.71	
					2.87	1.00
First	R6	Dressing	W13	0.68	0.89	
			W14	0.68	0.94	
					1.82	1.00
Second	R1	Bedroom	W9	0.68	2.33	
					2.33	1.00
Second	R2	Bedroom	W2	0.68	1.67	
					1.67	1.00
Second	R3	Bedroom	W5	0.68	1.73	
					1.73	1.00
Second	R4	Bedroom	W6	0.68	2.25	
			W7	0.68	1.42	
					3.67	1.00

Proposed Building - Daylight Distribution					
Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Proposed
		Proposed			
Basement	R1	Staff Bedroom	Area m2	11.09	11.05
			% of room		100%
	R2	Staff Bedroom	Area m2	14.74	8.43
			% of room		57%
Ground	R1	Family Dining	Area m2	57.48	53.89
			% of room		94%
	R2	Study	Area m2	25.04	24.35
			% of room		97%
	R3	Formal Reception	Area m2	145.42	144.54
			% of room		99%
First	R1	Bedroom	Area m2	32.16	32.13
			% of room		100%
	R2	Prayer	Area m2	21.61	21.41
			% of room		99%
	R3	Relaxation	Area m2	32.16	31.79
			% of room		99%
	R4	Dressing	Area m2	45.80	45.35
			% of room		99%
	R5	Bedroom	Area m2	47.51	47.50
			% of room		100%
	R6	Dressing	Area m2	33.84	33.40
			% of room		99%
Second	R1	Bedroom	Area m2	25.36	22.59
			% of room		89%
	R2	Bedroom	Area m2	23.78	21.75
			% of room		91%
	R3	Bedroom	Area m2	22.86	21.44
			% of room		94%
	R4	Bedroom	Area m2	27.66	26.21
			% of room		95%

Proposed Building - APSH							
Floor Ref.	Room Ref.	Room Use.	Window Ref.	Annual	Meets BRE Criteria	Winter	Meets BRE Criteria
			Proposed				
Basement	R1	Staff Bedroom	W1		*North*		*North*
	R2	Staff Bedroom	W2	10	NO	0	NO
			W3		*North*		*North*
Ground	R1	Family Dining	W1	42	YES	7	YES
			W2	45	YES	10	YES
	R2	Study	W3	41	YES	11	YES
			W4	44	YES	11	YES
	R3	Formal Reception	W5		*North*		*North*
			W6		*North*		*North*
			W7		*North*		*North*
			W8		*North*		*North*
			W9	57	YES	20	YES
			W10	57	YES	20	YES
			W11		*North*		*North*
	R4	Kitchen	W12	42	YES	6	YES
First	R1	Bedroom	W1	47	YES	13	YES
			W2	47	YES	13	YES
			W15	68	YES	15	YES
			W16	76	YES	19	YES
	R2	Prayer	W3	50	YES	15	YES
			W4	50	YES	15	YES
	R3	Relaxation	W5	39	YES	7	YES
			W6	47	YES	13	YES
	R4	Dressing	W7		*North*		*North*
			W8		*North*		*North*
	R5	Bedroom	W9		*North*		*North*
			W10		*North*		*North*
			W11	57	YES	20	YES
			W12	65	YES	20	YES
	R6	Dressing	W13		*North*		*North*
			W14		*North*		*North*
Second	R1	Bedroom	W9	78	YES	30	YES
	R2	Bedroom	W2	50	YES	15	YES
	R3	Bedroom	W5		*North*		*North*
	R4	Bedroom	W6		*North*		*North*
			W7		*North*		*North*

Appendix 4

DRAWINGS

A3 SHEET

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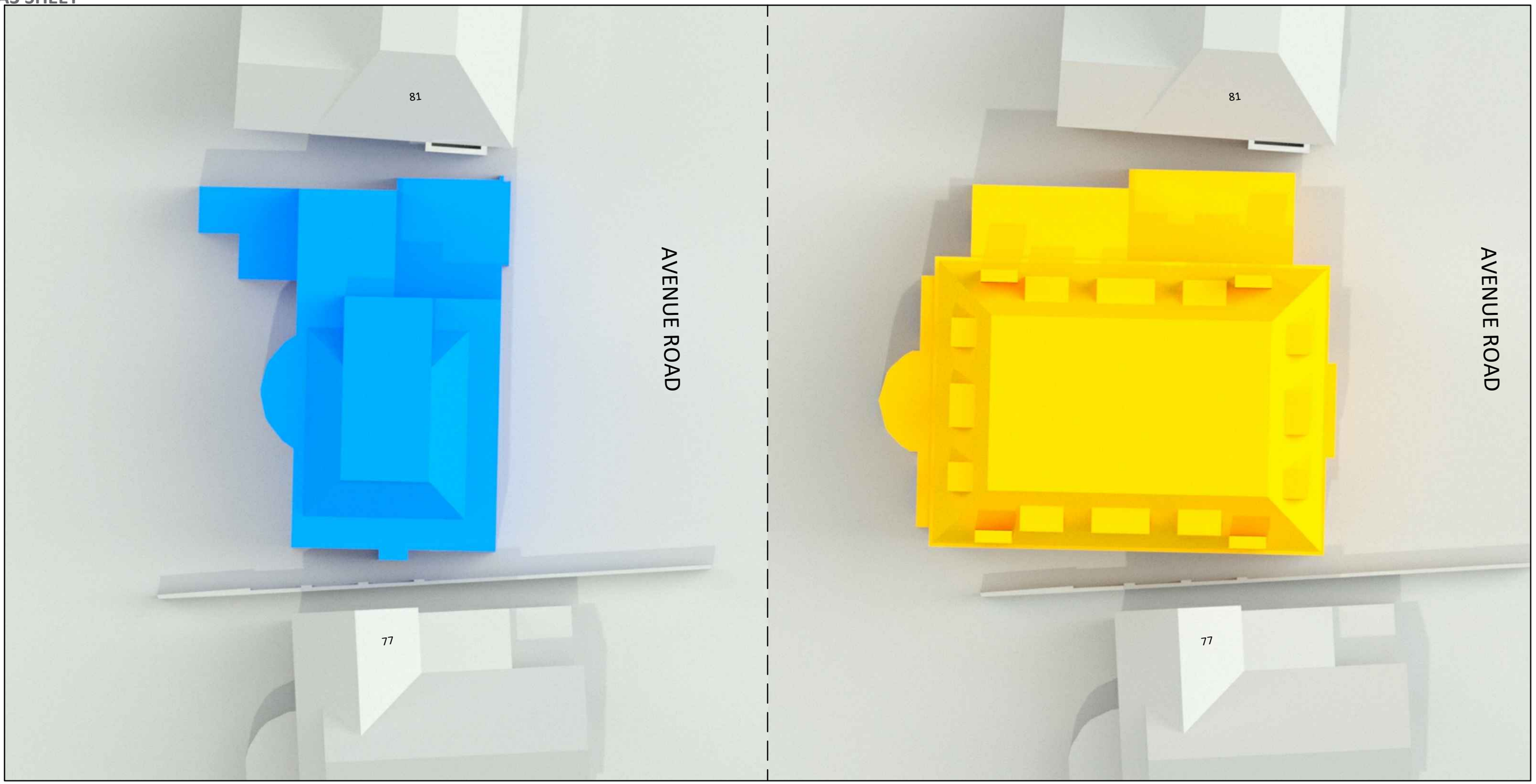

Legend

- Existing Buildings
- Proposal
- Buildings to be Demolished

REV	DESCRIPTION	DATE	INIT	CHKD

calfordseaden

Client
Munisha Gupta

Project
79 Avenue Road

Title
Existing and Proposed Site Plan - Existing Neighbouring Houses

Scale	Date	Drawn By	Checked By	Project No:		Drawing No:	Revision
NTS	03/12/2019	PS	JH	K190351	-	Y (0)001	

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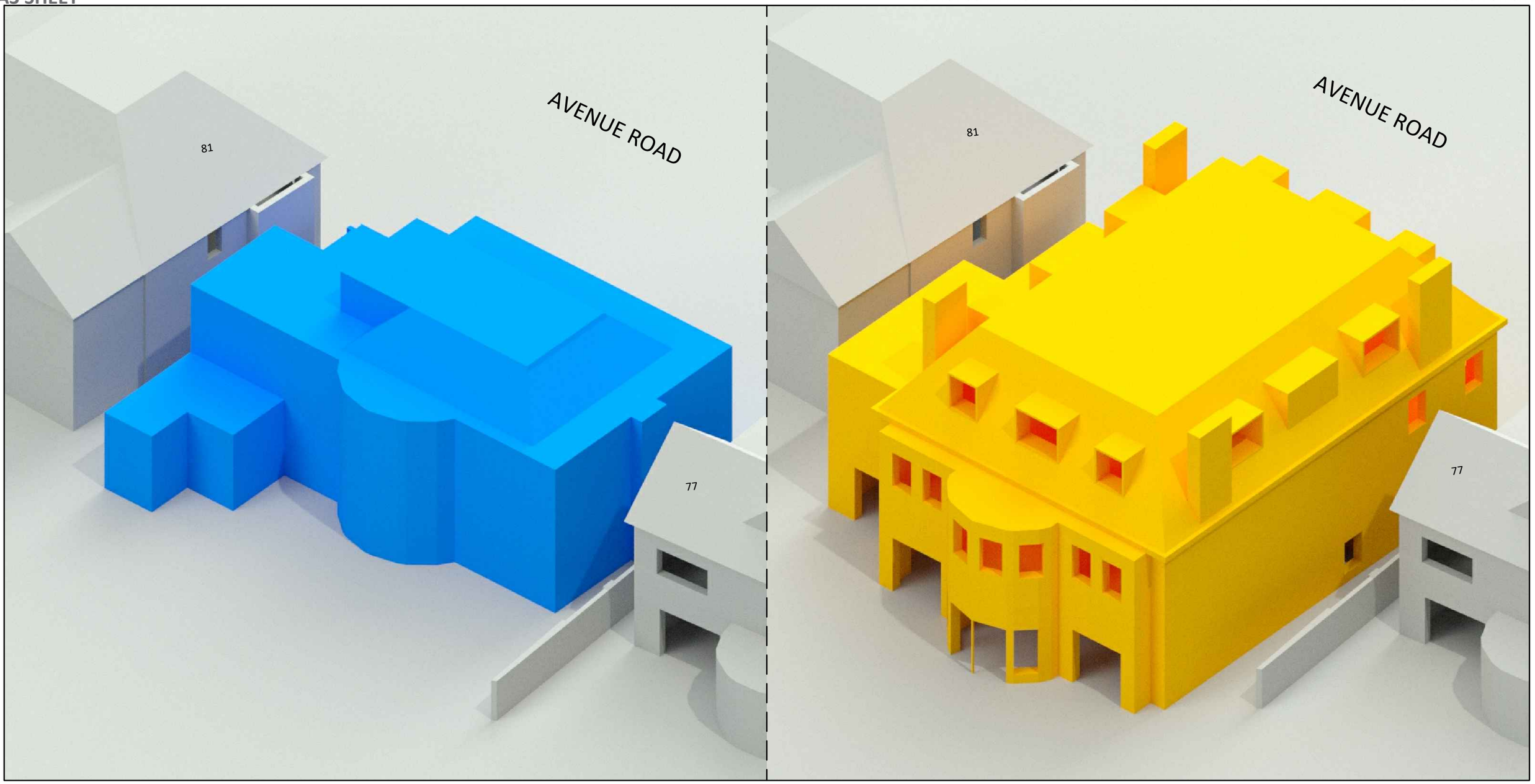

Legend

Existing Buildings

Proposal

Buildings to be Demolished

REV	DESCRIPTION	DATE	INIT	CHKD

calfordseaden

Client
Munisha Gupta

Project
79 Avenue Road

Title
Existing and Proposed 3D View - Existing Neighbouring Houses

Scale	Date	Drawn By	Checked By	Project No:		Drawing No:	Revision
NTS	03/12/2019	PS	JH	K190351	-	Y (0)002	

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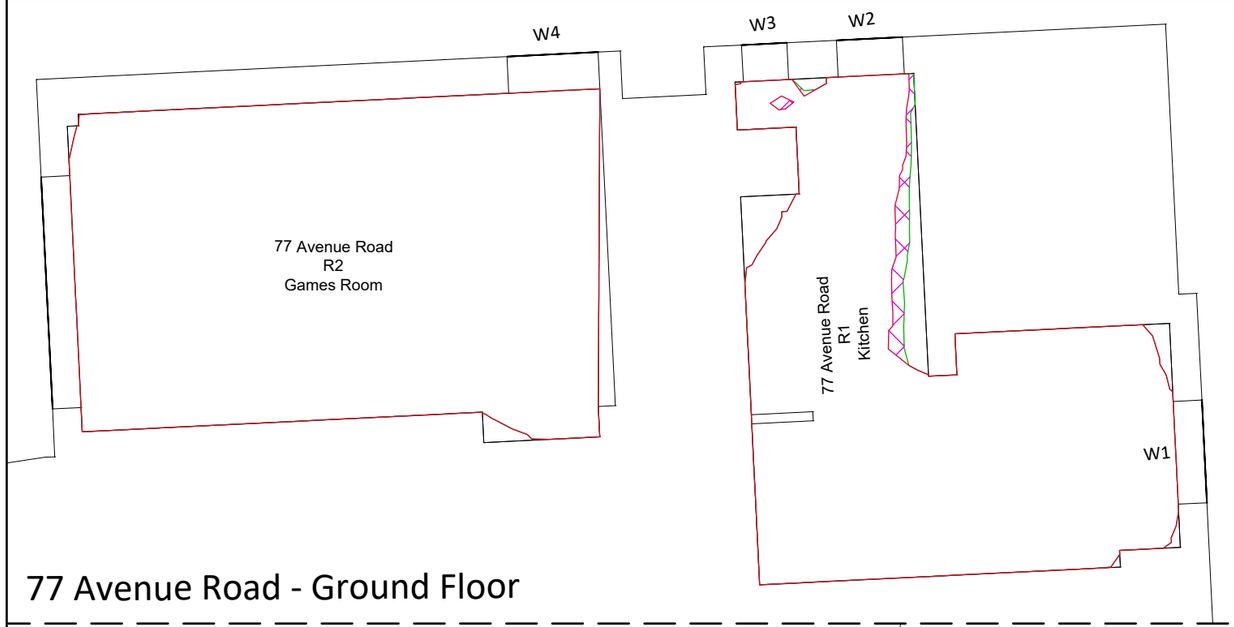
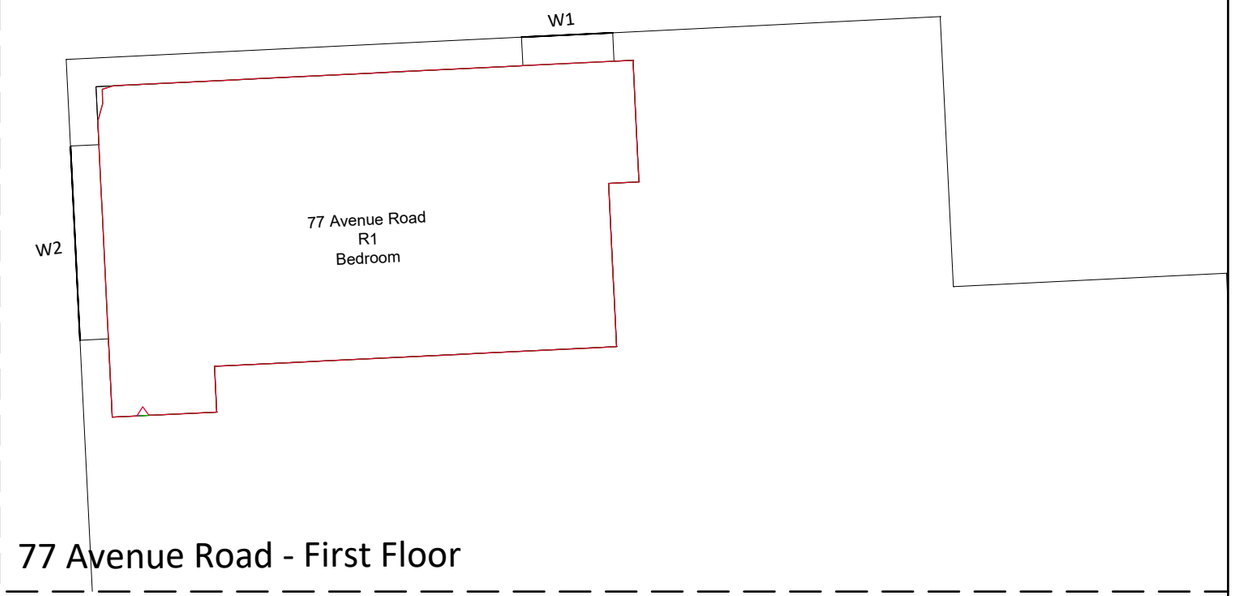


77 Avenue Road - Ground Floor



77 Avenue Road - First Floor

81 Avenue Road - First Floor

Legend

- No Sky Line Existing Lit Area
- No Sky Line Proposed Lit Area
- No Sky Line Contour

REV	DESCRIPTION	DATE	INIT	CHKD

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Client
Munisha Gupta
Project
79 Avenue Road
Title
Existing Houses - 77 and 81 Avenue Road

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
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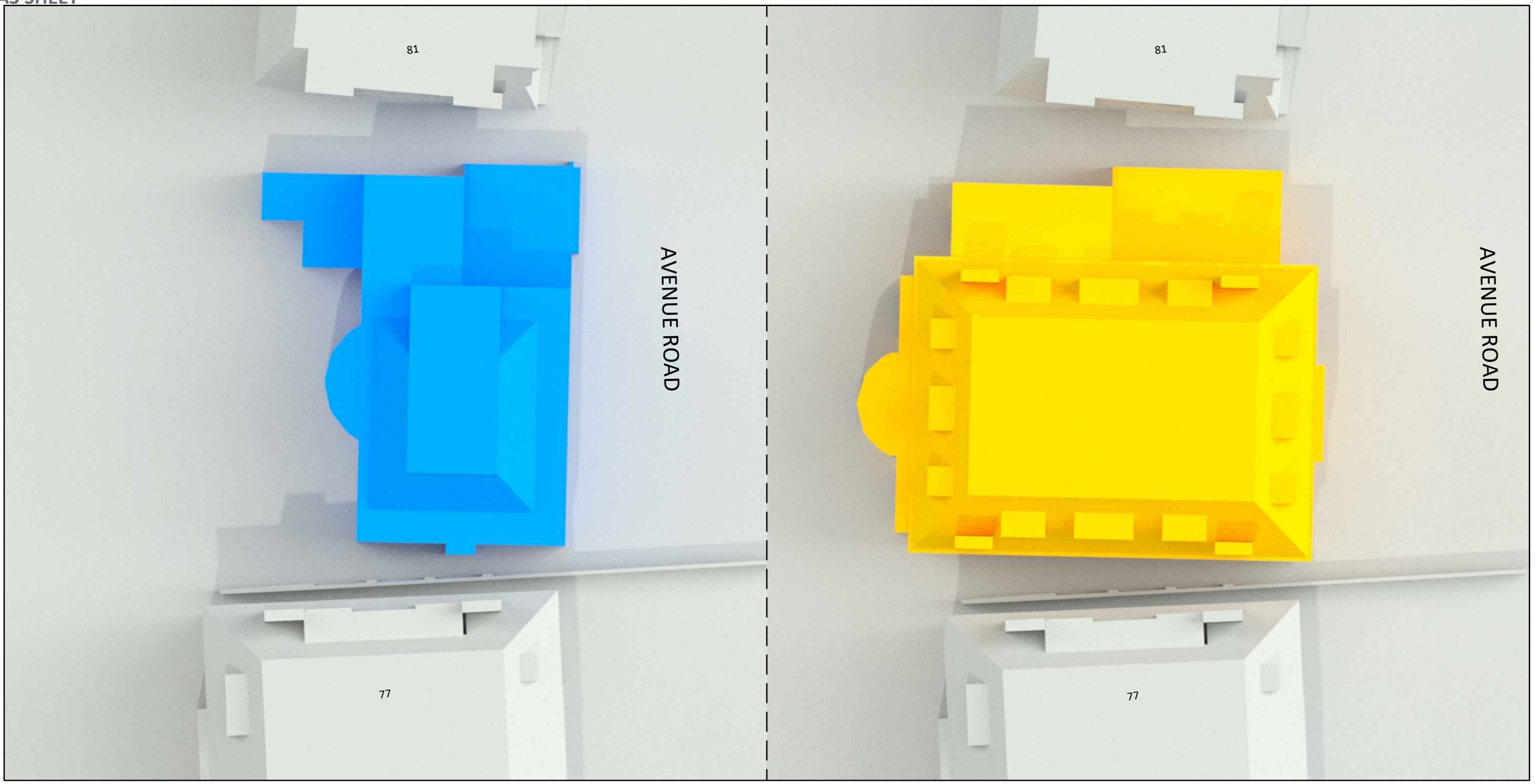

Legend

- Existing Buildings
- Proposal
- Buildings to be Demolished

REV	DESCRIPTION	DATE	INIT	CHKD

Client
Munisha Gupta

Project
79 Avenue Road

Title
Existing and Proposed Site Plan - Consented Neighbouring Houses

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
NTS	03/12/2019	PS	JH	K190351	- Y (0)007	

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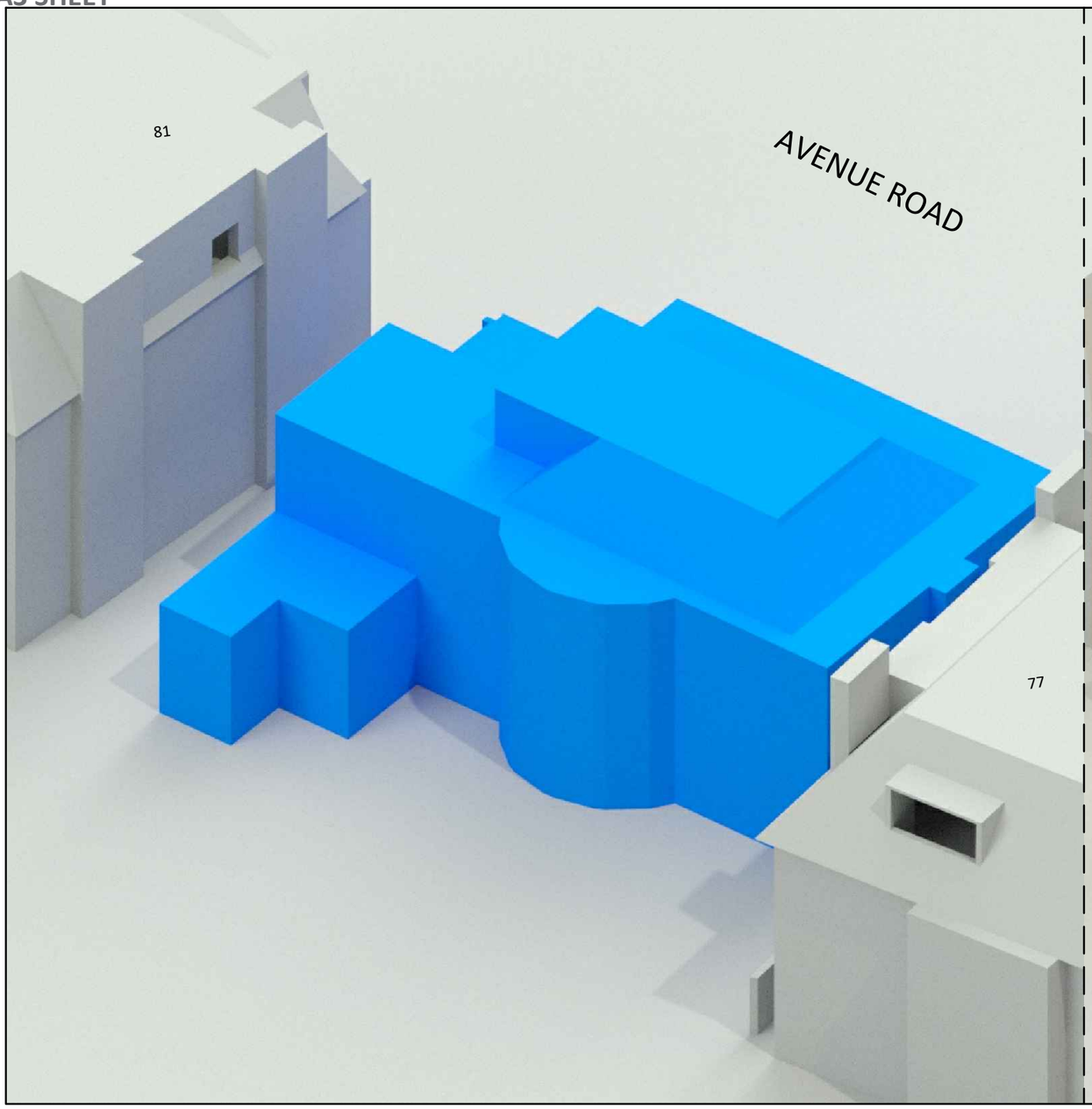

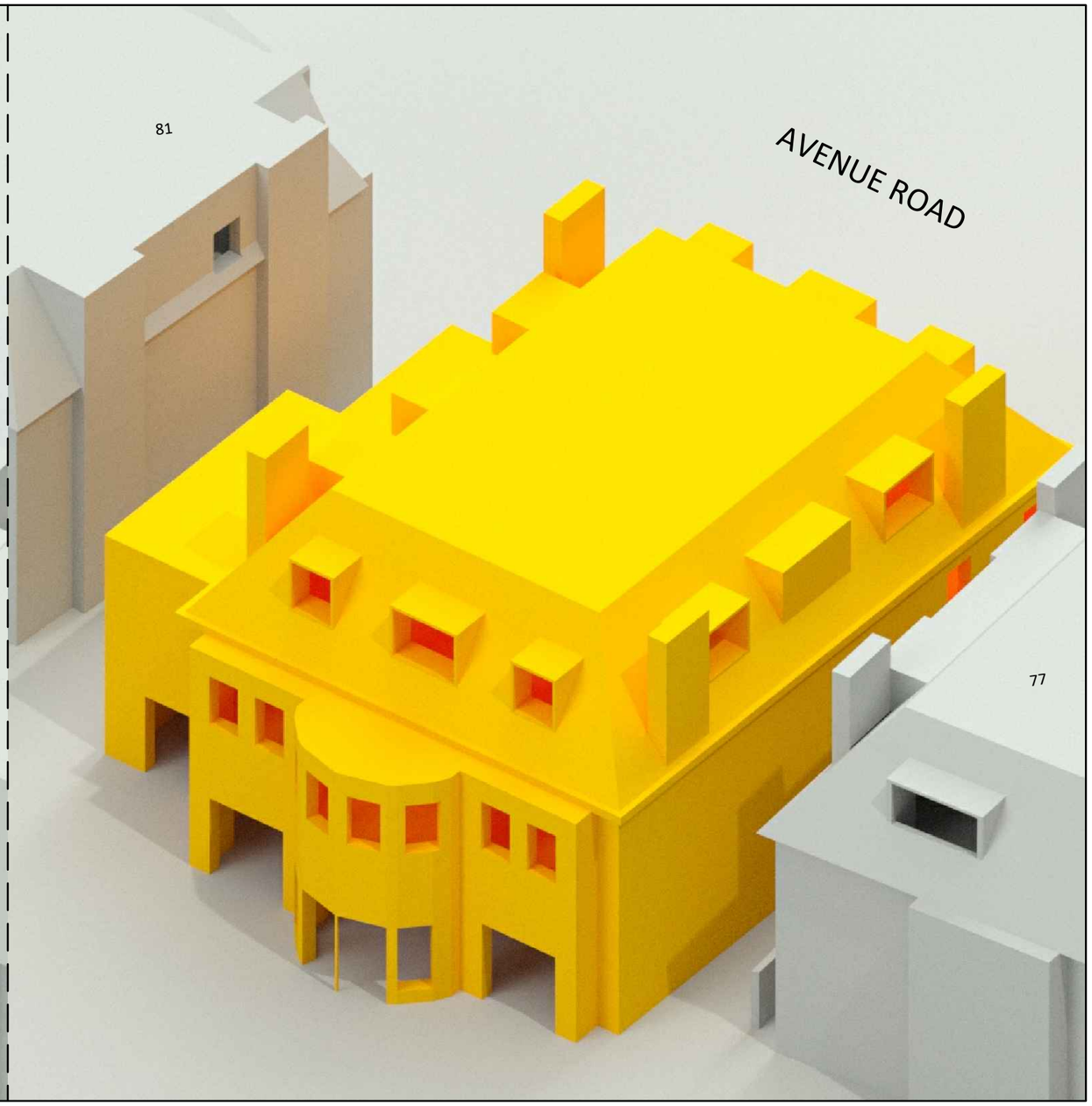

Legend

- Existing Buildings
- Proposal
- Buildings to be Demolished

REV	DESCRIPTION	DATE	INIT	CHKD

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Client
Munisha Gupta

Project
79 Avenue Road

Title
Existing and Proposed 3D View - Consented Neighbouring Houses

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
NTS	03/12/2019	PS	JH	K190351	- Y (0)008	

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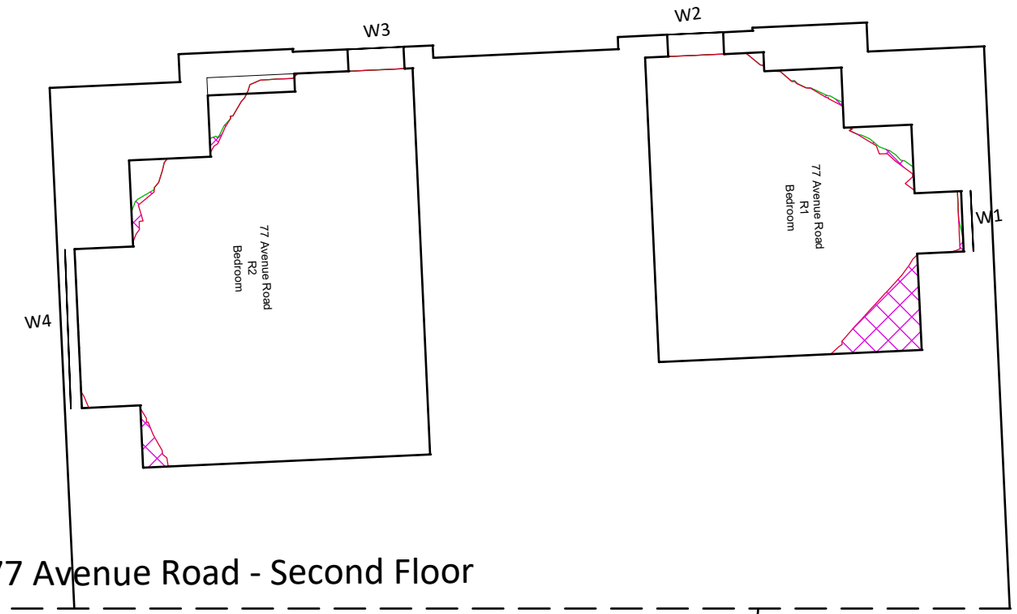
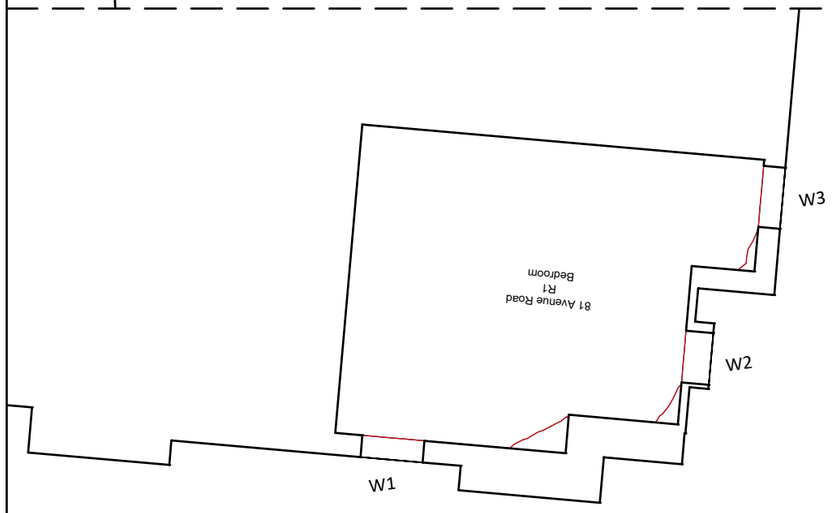


77 Avenue Road - Second Floor



81 Avenue Road - Second Floor

Legend

- No Sky Line Existing Lit Area
- No Sky Line Proposed Lit Area
- No Sky Line Contour

REV	DESCRIPTION	DATE	INIT	CHKD

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Client
Munisha Gupta
Project
79 Avenue Road
Title
Consented Houses - 77 and 81 Avenue Road

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
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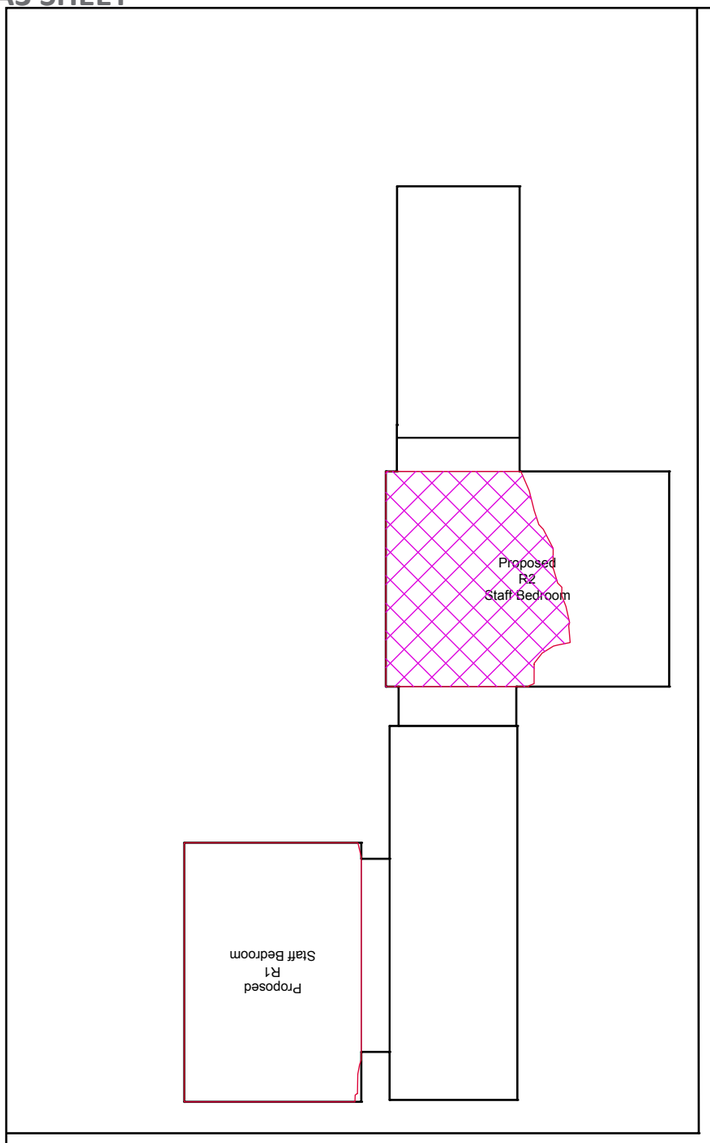
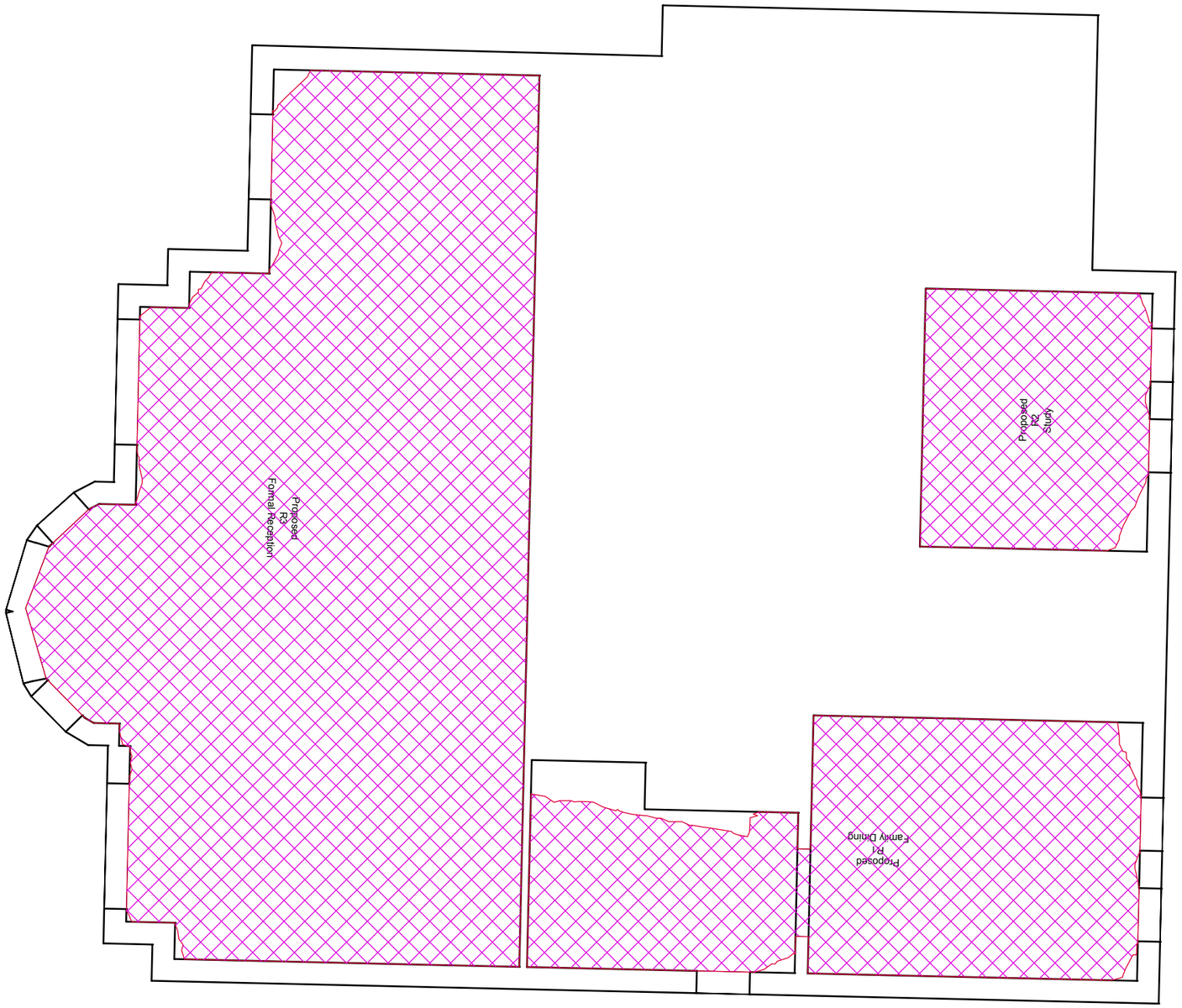


Basement



Ground Floor

Legend

- No Sky Line Existing Lit Area
- No Sky Line Proposed Lit Area
- No Sky Line Contour

REV	DESCRIPTION	DATE	INIT	CHKD

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Client
Munisha Gupta
Project
79 Avenue Road
Title
Proposed Habitable Rooms

Scale	Date	Drawn By	Checked By	Project No:		Drawing No:	Revision
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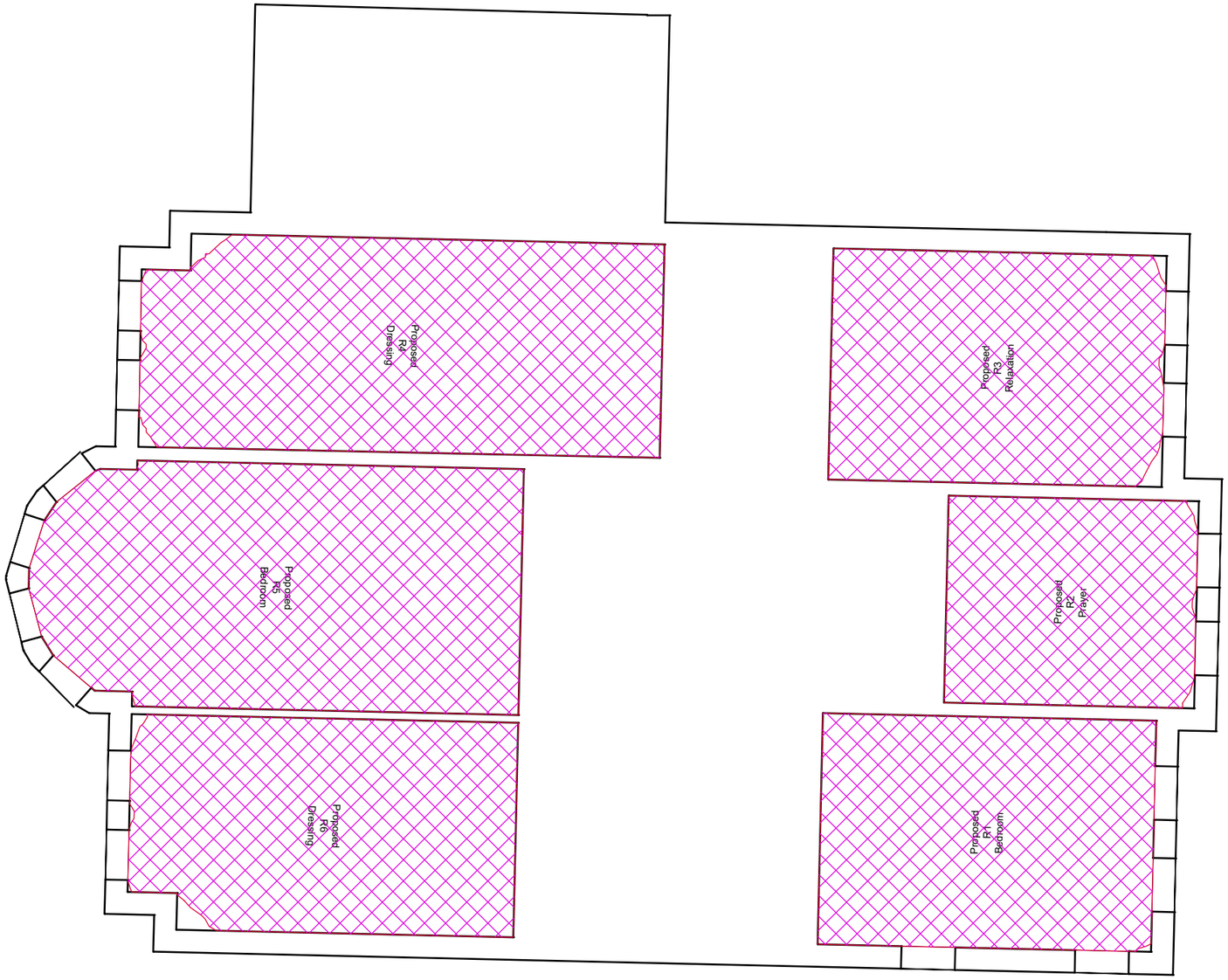

First Floor

Legend

No Sky Line Existing Lit Area

No Sky Line Proposed Lit Area

No Sky Line Contour

REV	DESCRIPTION	DATE	INIT	CHKD

calfordseaden

Client
Munisha Gupta

Project
79 Avenue Road

Title
Proposed Habitable Rooms

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
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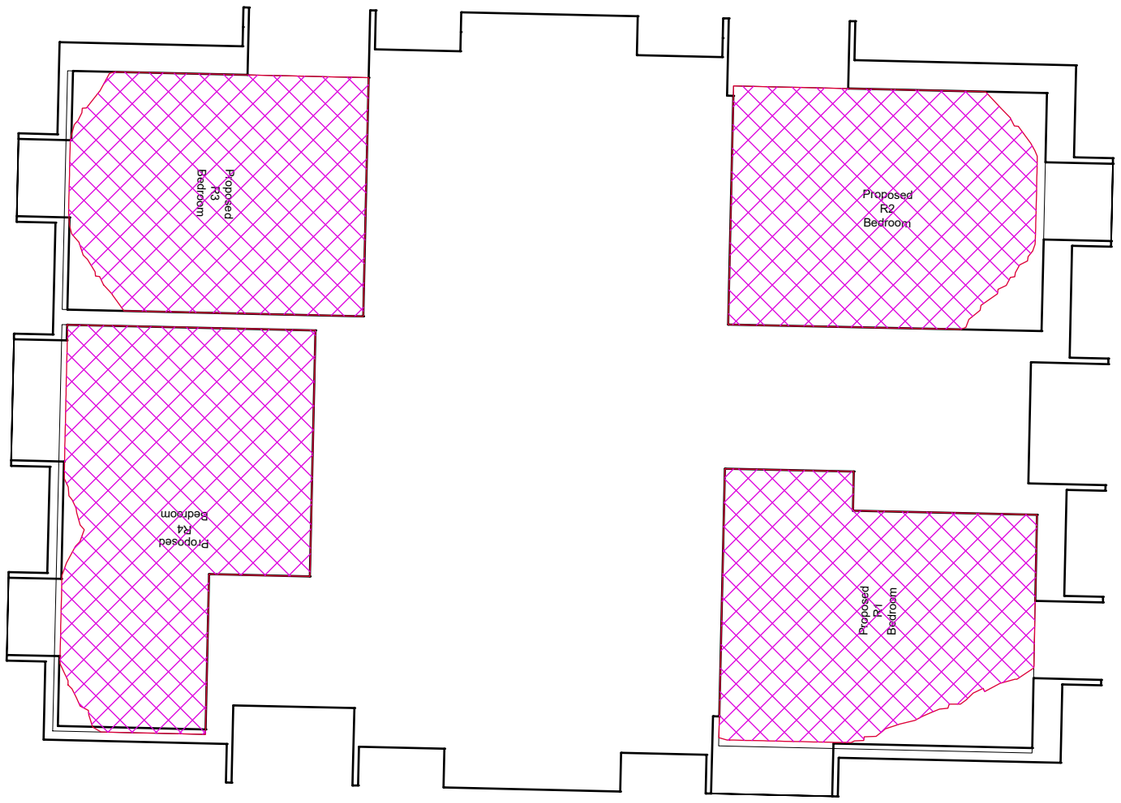

Second Floor

Legend

- No Sky Line Existing Lit Area
- No Sky Line Proposed Lit Area
- No Sky Line Contour

REV	DESCRIPTION	DATE	INIT	CHKD

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Client
Munisha Gupta
Project
79 Avenue Road
Title
Proposed Habitable Rooms

Scale	Date	Drawn By	Checked By	Project No:		Drawing No:	Revision
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