REPORT

6b Hill Rise Cuffley, EN6 4EE

Daylight, Sunlight & Overshadowing

To

Neighbouring Buildings

April 2019



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2nd April 2019

6b Hill Rise, Cuffley, EN6 4EE

Daylight & Sunlight

We are instructed to report upon the daylight and sunlight aspects of this Planning Application in relation to the impact on the neighbouring properties including No.7 and No.8 Orchard Close.

Our report is based upon the scheme drawings prepared by MD Designs, OS map, photographs plus the daylight and sunlight studies.

1.0 **SUMMARY**

- 1.1 This report has been drafted by reference to the Building Research Establishment (BRE) publication (2011), "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice" and local planning policy.
- 1.2 Our studies have confirmed that all the amenity values of daylight, sunlight and overshadowing to the neighbouring properties would be retained to a level that would satisfy the BRE criteria.
- 1.3 In summary, the scheme has been designed to respect the BRE's criteria and the local planning policies.



2.0 PLANNING POLICY

- 2.1 Welwyn Hatfield Council
- 2.1.1 The Welwyn Hatfield District Plan contains the relevant policy which has been detailed below:

Policy D1: Quality of Design

The Council will require the standard of design in all new development to be of a high quality. The design of new development should incorporate the design principles and policies in the Plan and the guidance contained in the Supplementary Design Guidance.

2.1.2 The supplementary design guidance also contains the relevant additional information;

Sunlight and Daylight

3.18 This section supplements Policy D1 Quality of Design in the District Plan. All new developments should be designed and built to ensure that there is a satisfactory level of sunlight and daylight to both the new development and surrounding developments and/or open spaces. Access to sunlight and daylight not only improves the interior and exterior appearance of a building, it also improves the standard of living or workspace for the residents or users of a building. Access to sunlight can help to make a building more energy efficient, whilst daylight reduces the need for electric lighting and winter solar gain can meet some of the heating requirements. Advice on site layout planning to achieve good sunlight and daylight within buildings and the open spaces between them is set out in the Building Research Establishment's document entitled, 'Site Layout Planning for Daylight and Sunlight: guide to good practice', 1991.

2.2 National Planning Policy Framework (NPPF) 2018

- 2.2.1 The National Planning Policy Framework sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.
- 2.2.2 The document contains reference to daylight and sunlight in Chapter 11 Making effective use of land, in particular in the section achieving appropriate densities and paragraph 123 as detailed below:

123. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:

. . .

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 (as long as the resulting scheme would provide acceptable living standards).

2.3 Summary of Policies

2.3.1 The of the policies mentioned above including the local policy and the National policy do not provide numerical values for daylight or sunlight. Those given in this report are based upon the BRE guidance and is fully detailed in the item that follows this.

3.0 <u>METHOD OF CALCULATION</u>

Building Research Establishment

3.1 The calculations and considerations within this report are based upon the Building Research Establishment (BRE) publication 2011 "Site Layout Planning to Daylight and Sunlight. A Guide To Good Practice". This is referred to by Local Authorities as a means of articulating their policy. BRE confirm that the Guide does not contain mandatory requirements and in the introduction provides a full explanation of its purpose:

"The Guide is intended for building designers and their clients, consultants and planning officials."

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

"It aims to help rather than constrain the designer."

"Although it gives numerical guidelines these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."

"In special circumstances the developer or planning authority may wish to use different target levels. For example, in an historic city centre, or in an area with high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."

3.2 **Modelling and Results**

- 3.2.1 Our analysis and subsequent results are produced by the application of the specialist software on our three-dimensional model, images of which are included in Appendix 1. A topographical survey of the site was not provided and therefore the model is based on estimated heights and photographs.
- 3.2.2 We obtained a neighbouring topo survey from the planning portal providing the ground levels for No.8 Orchard Close and this document has been included within Appendix This survey was used as the base of our estimated ground levels to the other parts of

the site. Due to the limitations of available information some inaccuracy in our model and results must be expected.

- 3.2.3 This model includes the following buildings;
 - the existing site building (to be demolished) is defined in blue
 - the proposed site building is defined in light brown
 - the permitted development building in red (this has only been used as a hypothetical scenario)
 - the neighbouring buildings in grey

3.3 **Daylight**

- 3.3.1 Daylight is not specific to a particular direction, as it is received from the dome of the sky.
- 3.3.2 Reference is made in the BRE report to various methods of assessing the effect a development will have on diffused daylight.
- 3.3.3 The simplest methods are not appropriate in an urban environment, where the built form is invariably complex. Vertical Sky Component (VSC) is the calculation most readily adopted, as the principles of calculation can be established by relating the location of any particular window to the existing and proposed, built environment.
- 3.3.4 The BRE Guide states "If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffused daylighting of the existing building may be adversely affected.
 - This will be the case if the Vertical Sky Component measured at the centre of an existing main window is less than 27% and less than 0.8 times its former value".
- 3.3.5 Where the VSC calculation has been used, BRE also seeks to consider daylight distribution within neighbouring rooms. This calculation is also known as 'no sky line' and defines an adverse effect as a result that is less than 0.8 the former value. Access is rarely available, and we have therefore taken a reasoned approach.

3.4 Sunlight

3.4.2 The BRE *Guide to Good Practice* confirms:

- (i) Sunlight is only relevant to neighbouring residential windows which have a view of the proposed development and face within 90° of south, i.e. south of the eastwest axis.
- (ii) If any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the main living room window, a vertical section perpendicular to the window, then the sunlighting in the existing dwelling may be adversely affected.
- (iii) Similarly, the sunlight availability to an existing dwelling may be adversely affected if the APSH, when measured at the centre of the window is reduced by more than 4%.
- (iv) Should the loss be greater than 4%, then sunlight availability may be adversely affected if the centre of the window receives less than 25% of the annual probable sunlight hours, of which 5% of the annual total should be received between 21 September and 21 March (winter) and less than 0.8 times its former sunlight hours during either period.
- (v) Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

3.5 Permanent Overshadowing

3.5.1 BRE explains that sunlight in the spaces between buildings has an important impact and is important for a number of reasons. It therefore recommends that:-

"The availability of sunlight should be checked for all open spaces where it will be required. This would normally include:-

- gardens, usually the main back garden of a house;
- parks and playing fields;
- outdoor swimming pools and paddling pools;
- sitting out areas, such as those between non-domestic buildings and in public squares;
- focal points for views, such as a group of monuments or fountains.
- 3.5.2 BRE recognises that each of these spaces will have different sunlight requirements and suggests the Equinox (21 March) is chosen as a date for assessment:-

"It is recommended that at least half of the amenity areas listed above should receive at least two hours of sunlight on 21 March. If a detailed calculation cannot be carried out and the area is a simple shape, it is suggested that the centre of the area should receive at least two hours of sunlight on 21 March."

- 3.5.3 Further BRE guidance recommends that sunlight should not be reduced by 0.8 times its former value:-
 - "3.3.11...If an existing garden or outdoor space is already heavily obstructed then any further loss of sunlight should be kept to a minimum. In this poorly sunlit case, if as a result of new development, the area which can receive two hours of direct sunlight on 21 March is reduced to less than 0.8 times its former size, this further loss of sunlight is significant. The garden or amenity area will tend to look more heavily overshadowed".

4.0 DAYLIGHT RESULTS

Neighbouring Buildings

- 4.1 General
- 4.1.1 The results are within appendix 2 and two different scenarios have been tested;
 - No exiting building vs Proposed
 - Permitted development vs Proposed
- 4.2 No.8 Orchard Close
- 4.2.1 To the north east of the site, there is a detached house known as No.8 Orchard Close. The house has recently been built and we have obtained the planning drawings to assist the modelling of this house. The drawings have been included with references within appendix 5.
- 4.2.2 The VSC results in Appendix 2 confirm the existing VSC figure in all locations are below BRE's threshold of 27% VSC and the value in the proposed condition inevitably follows suit. BRE provides the appropriate advice, which we have reiterated in item 3.3.4 of our report. This states that an adverse effect would occur if the proposed value was not only less than 27% VSC but also less than 0.8 of the former (existing) value. This would not occur, with all the results at least 0.96 and remain very similar to the existing condition.
- 4.2.3 The results for the second scenario comparing the proposed with the permitted confirms an improvement and no adverse effect would occur.
- 4.2.3 Daylight distribution has not been considered as there is no expectation that the results would be significantly reduced due to the very small difference between existing and proposed VSC.

4.3 No.7 Orchard Close

- 4.3.1 To the north east and adjacent to No.8 Orchard Close, there is a detached property known as No.7 Orchard Close. We have obtained the drawings of this house from the planning portal and have been included for your refered within appendix 5.
- 4.3.2 The VSC results confirm that in all locations the values would be between 18% and 27%. The results for the first scenario confirms that the difference between the existing and proposed values are at least 0.92 the existing value and remains well above the BRE recommended guidance of 0.8.
- 4.3.3 The results for the second scenario comparing the proposed with the permitted confirms an improvement and no adverse effect would occur.
- 4.3.3 The Daylight Distribution has been considered to the ground floor rooms and the results are shown in Appendix 2. The results confirm that in both locations the daylight in the proposed condition would remain well above the recommended value of 0.8 and no adverse effect would occur.

4.4 **Daylight Summary**

4.4.1 Our analysis has confirmed that in all locations the daylight availability to the neighbouring buildings would be retained in accordance with the BRE recommendations.

5.0 SUNLIGHT RESULTS

5.1 **Neighbouring Buildings**

No.7 and No.8 Orchard Close

- 5.1.1 The sunlight results are defined by the two right hand columns adjacent to the VSC results in Appendix 2.
- 5.1.2 Sunlight availability to all windows that face within 90° of south would demonstrate that BRE's recommended values have been fully satisfied in all locations.

6.0 OVERSHADOWING RESULTS

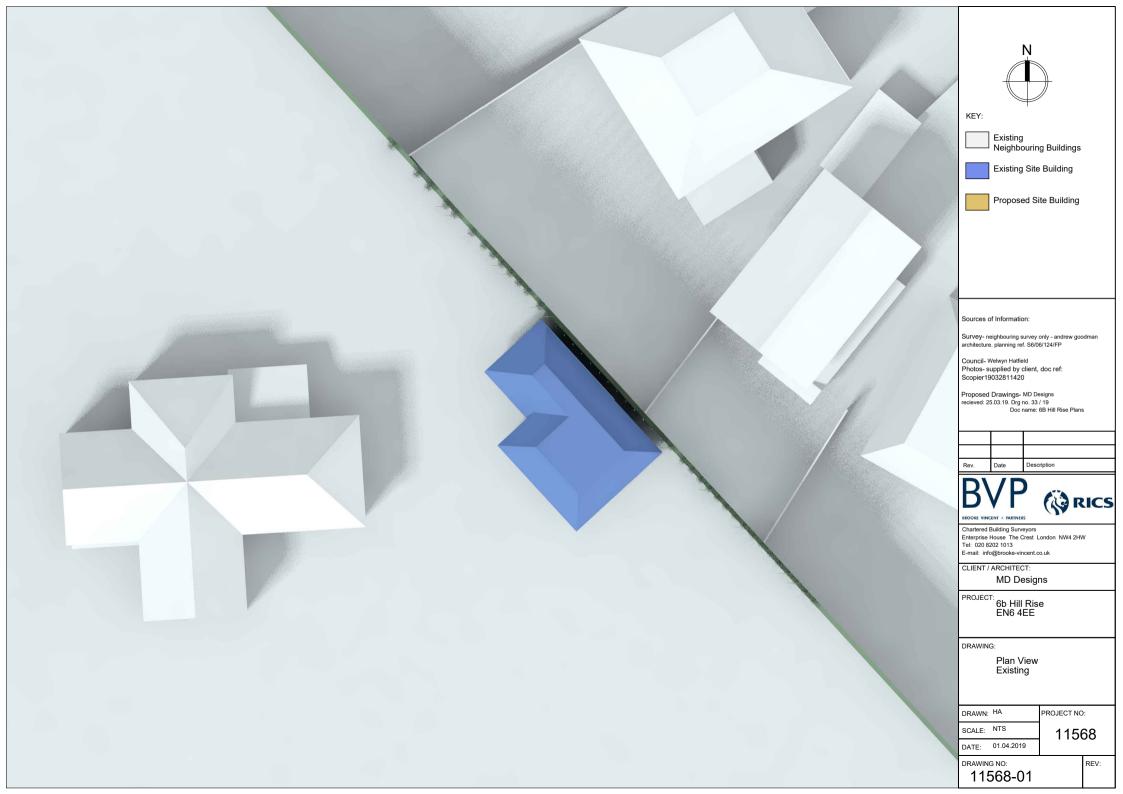
- 6.1 We have analysed the closest neighbouring amenity areas and the transient overshadowing diagrams are included within Appendix 4, which represent conditions on the 21 March.
- The results confirm that between 8am and 11am there would be no impact of the proposal on the neighbouring amenity areas. Furthermore, the overshadowing between 12 noon and 4pm is only marginal and remains well above the BRE recommended guidance of 2 hours of sunlight on the ground. No adverse effect would occur, and the criterion has been fully satisfied.

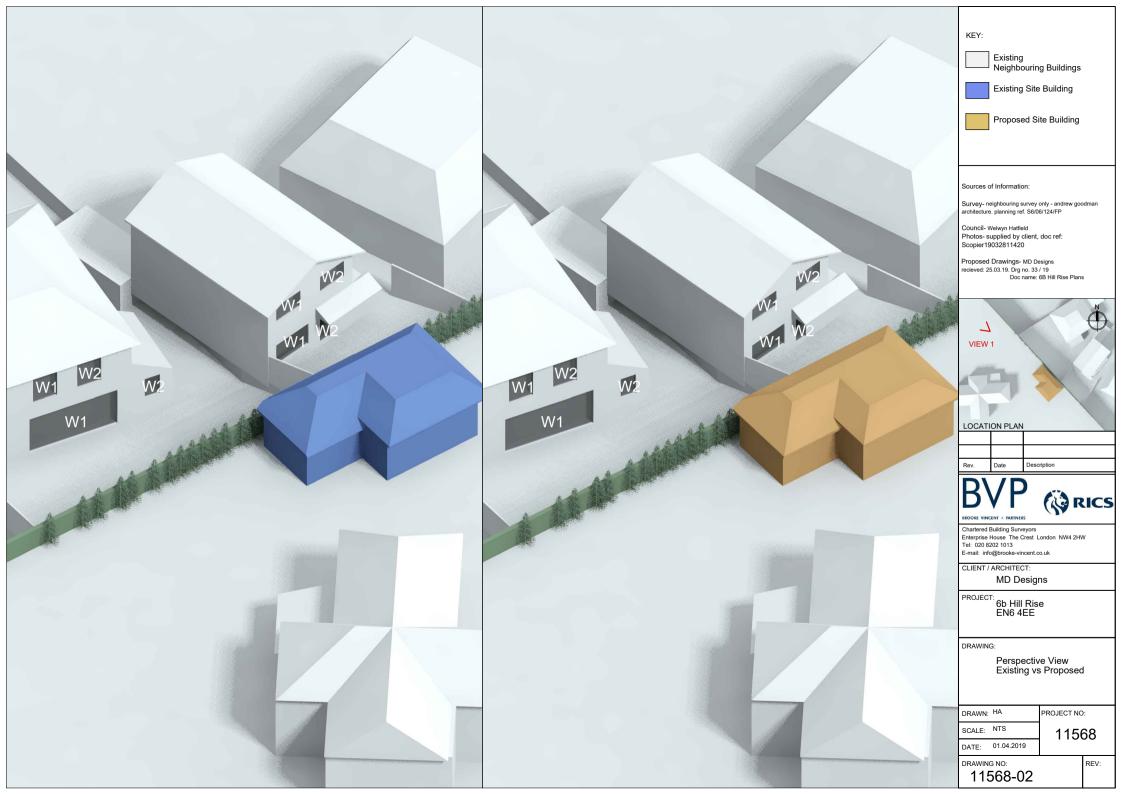
7.0 SOURCES

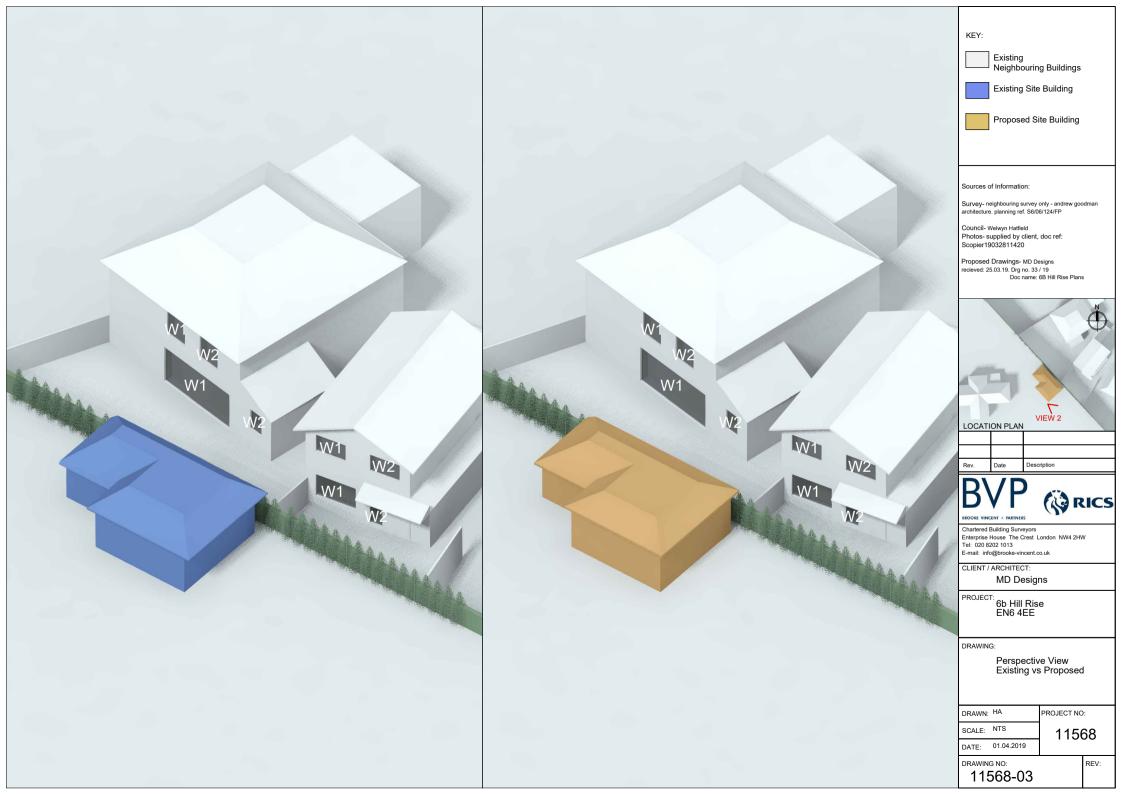
BVP's modelling and analysis are based on the following information:

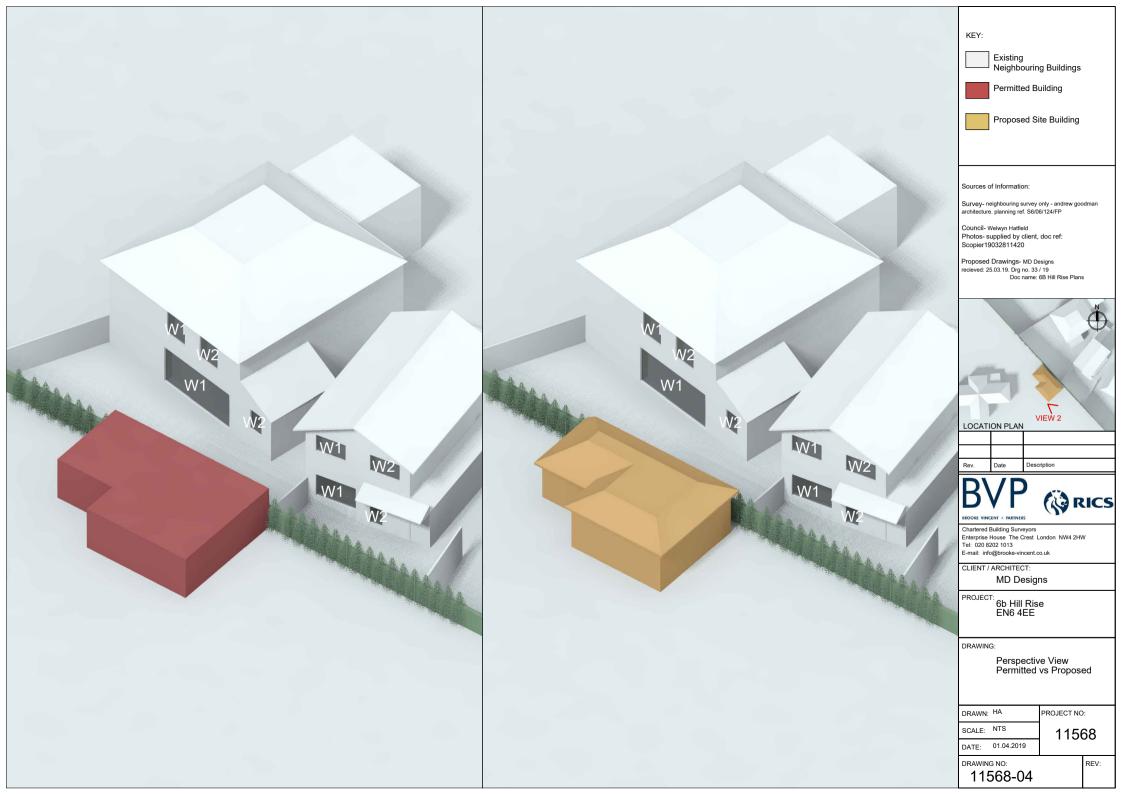
- 7.1 **Topo Survey** of neighbouring building only, but used as a base to estimate the surrounding site. Drawings obtained on the planning portal. Drawing No.264.
- 7.2 **OSmap** issued by MD Designs Architects drawings:
 - 33/19.
- 7.3 **Photos** available on Google Maps, Bing Maps and the client site photos.
- 7.4 **Final proposed drawings** issued by MD designs, sent 26.03.19, drawing name: 6b Hill Rise
- 7.5 Neighbouring building information, Websites and Welwyn Hatfield Planning portal, ref:
 - No.7 and No.8 Orchard Close, Architect's information:
 - Block Plan Drwg No 1118 002
 - East elevation Drwg No 264-D-005
 - First Floor Plans Drwg No 264-D-004
 - Ground Floor Plans Drwg No 264-D-003
 - Location Plan Drwg No 264-D-001
 - North Elevation Drwg No 264-D-008
 - Site Plan Drwg No 264-D-002
 - Site Survey Drwg No 0602-AGA-S
 - South Elevation Drwg No 264-D-006\
 - Street Elevation Drwg No 0602-AGA-E
 - West Elevation Drwg No 264-D-007
 - Existing Floor Plans and Elevations Drwg No 1118 003
 - Proposed Floor Plans and Elevations 1118 004

LOCATION PLAN
CAD MODEL









DAYLIGHT AND SUNLIGHT RESULTS TO NEIGHBOURING PROPERTIES

Project Name: 6b Hill Rise

Project No.: 1

Report Title: Daylight & Sunlight - Neighbour Analysis Test- No existing building vs Proposed

Date of Analysis: 02/04/2019

Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
					7 Or	chard Clo	se						
Ground	R1	Living Room	W1	Existing	19.93	0.94	YES	38	1.00	YES	7	1.00	YES
				Proposed	18.93			38			7		
	R2	Kitchen-Resi	W2	Existing	9.85	0.92	YES	17	0.94	YES	6	1.00	YES
				Proposed	9.13			16			6		
First			W1	Existing	28.15	0.92	YES	62	0.96	YES	19	0.94	YES
				Proposed	26.15			60			18		
			W2	Existing	28.74	0.95	YES	57	0.96	YES	18	1.00	YES
				Proposed	27.46			55			18		
					8 Or	chard Clo	se						
Ground			W1	Existing	22.85	0.98	YES	42	0.97	YES	9	0.88	YES
				Proposed	22.45			41			8		
			W2	Existing	22.96	0.96	YES	38	0.92	YES	6	0.83	YES
				Proposed	22.20			35			5		
First			W1	Existing	28.36	0.98	YES	49	0.95	YES	14	0.85	YES
				Proposed	27.85			47			12		
			W2	Existing	27.66	0.97	YES	50	0.98	YES	15	0.93	YES
				Proposed	26.91			49			14		

Project Name: 6b Hill Rise

Project No.: 1

Report Title: Daylight Distribution Analysis - Neighbour Test- No existing building vs Proposed

Date of Analysis: 02/04/2019

Floor Ref.	Room Ref.	Room Use.	Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria					
7 Orchard Close												
Ground	R1	Living Room	Area m2	9.46	4.98	4.98						
			% of room		53%	53%	0.99	YES				
	R2	Kitchen-Resi	Area m2	7.14	2.75	2.44						
			% of room		38%	34%	0.88	YES				

Project Name: 6b Hill Rise

Project No.: 1

Report Title: Daylight & Sunlight - Neighbour Analysis Test- Permitted Development vs Proposed

Date of Analysis: 02/04/2019

Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
					7 Or	chard Clo	se						
Ground	R1	Living Room	W1	Existing	18.64	1.01	YES	36	1.05	YES	7	1.00	YES
				Proposed	18.93			38			7		
	R2	Kitchen-Resi	W2	Existing	8.96	1.01	YES	15	1.06	YES	6	1.00	YES
				Proposed	9.13			16			6		
First			W1	Existing	26.17	0.99	YES	60	1.00	YES	18	1.00	YES
				Proposed	26.15			60			18		
			W2	Existing	27.58	0.99	YES	55	1.00	YES	18	1.00	YES
				Proposed	27.46			55			18		
					8 Or	chard Clo	se						
Ground			W1	Existing	22.35	1.00	YES	40	1.02	YES	7	1.14	YES
				Proposed	22.45			41			8		
			W2	Existing	22.03	1.00	YES	34	1.02	YES	4	1.25	YES
				Proposed	22.20			35			5		
First			W1	Existing	27.87	0.99	YES	47	1.00	YES	12	1.00	YES
				Proposed	27.85			47			12		
			W2	Existing	26.94	0.99	YES	49	1.00	YES	14	1.00	YES
				Proposed	26.91			49			14		

Project Name: 6b Hill Rise

Project No.: 1

Report Title: **Daylight Distribution Analysis - Neighbour Test** - Permitted Development vs Proposed

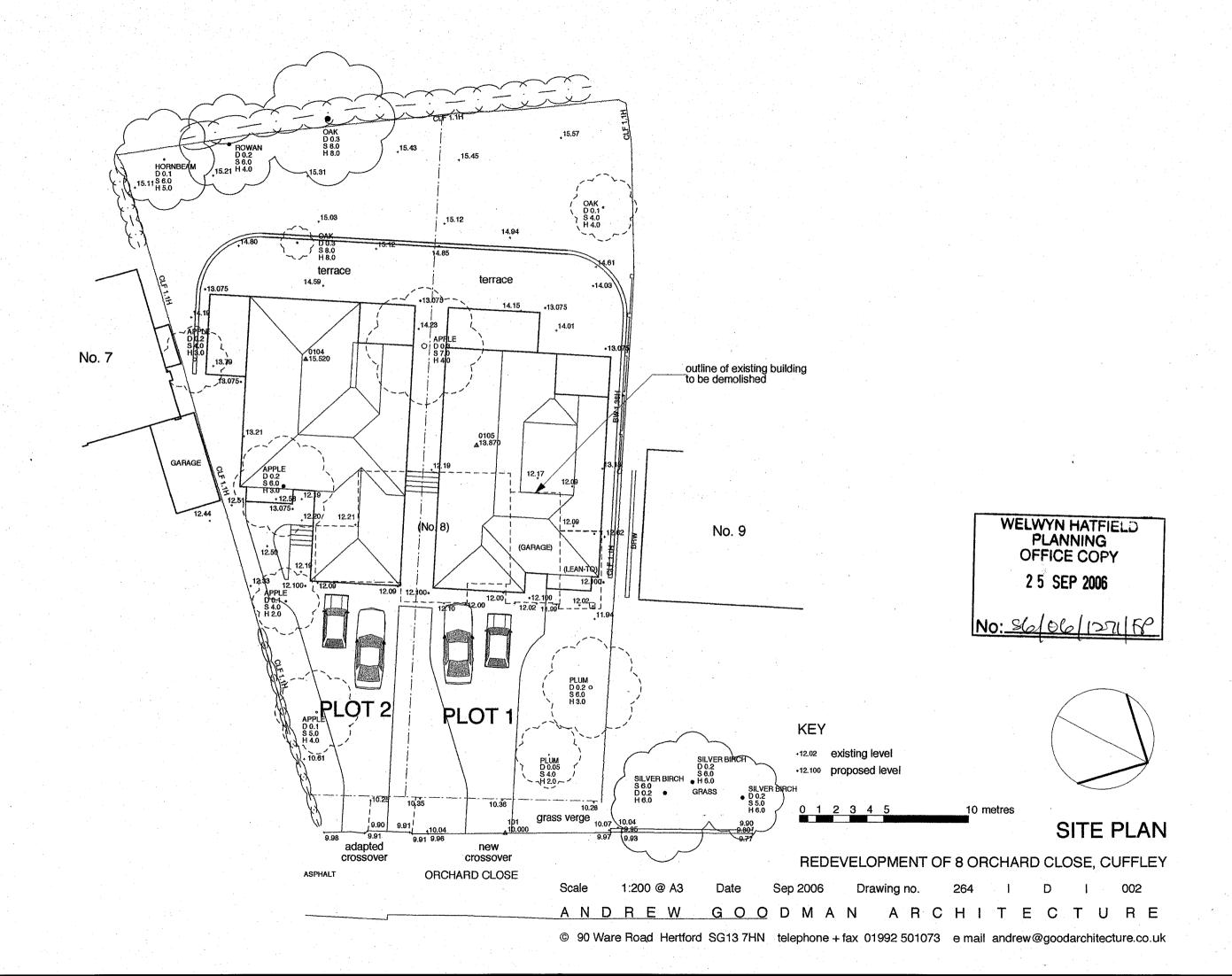
Date of Analysis: 02/04/2019

Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria		
	7 Orchard Close									
Ground	R1	Living Room	Area m2	9.46	4.98	4.98				
			% of room		53%	53%	1.00	YES		
	R2	Kitchen-Resi	Area m2	7.14	2.42	2.44				
			% of room		34%	34%	1.00	YES		

Drawings of neighbouring properties

No.7 and No.8 Orchard Close







PLOT 1

PLOT 2

WELWYN HATFIELD
PLANNING
OFFICE COPY 2 5 SEP 2006

No: 86/06/1271/FP

DATUM 8.00 METRES

10 metres

WEST ELEVATION

REDEVELOPMENT OF 8 ORCHARD CLOSE, CUFFLEY

Scale 1:100 @ A3

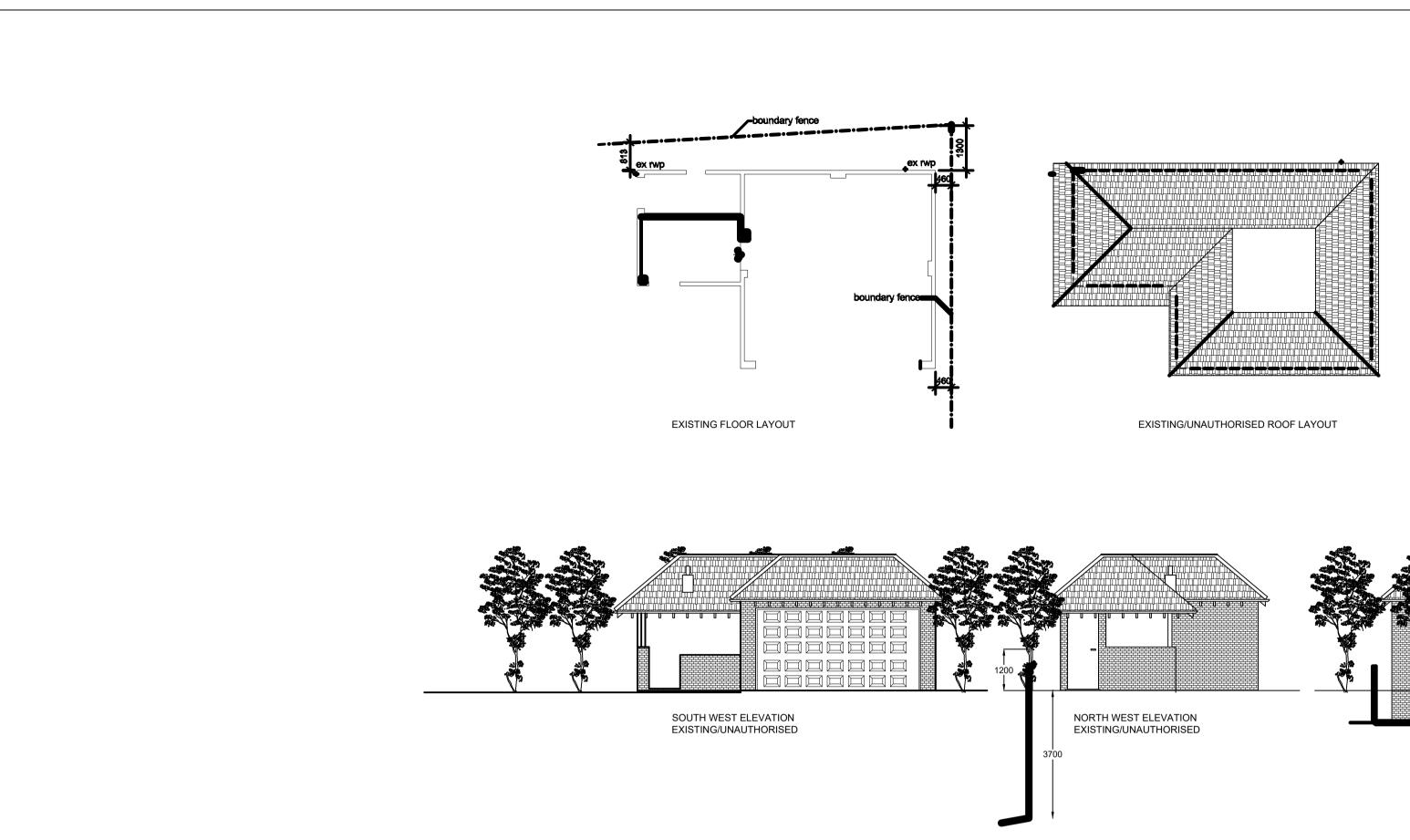
Sep 2006

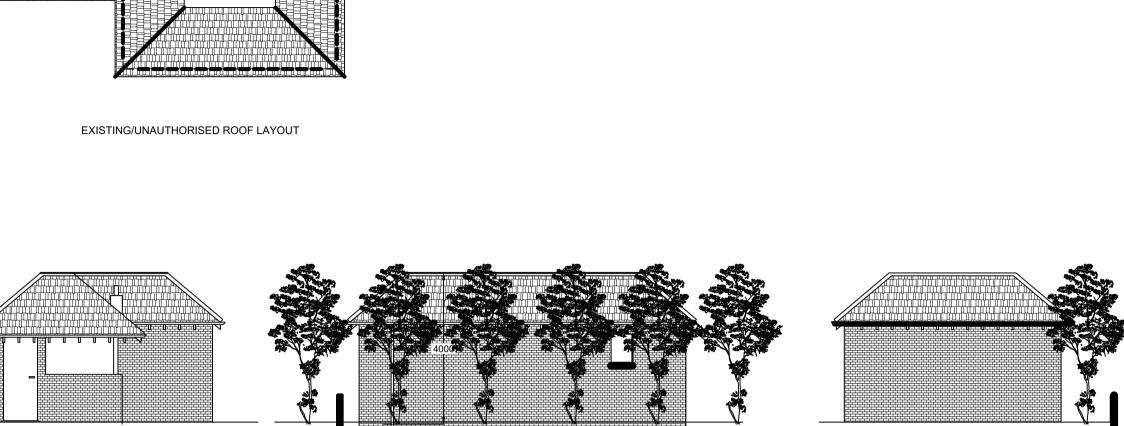
GOODMAN ARCHITECTURE ANDREW

© 90 Ware Road Hertford SG13 7HN telephone + fax 01992 501073 e mail andrew@goodarchitecture.co.uk

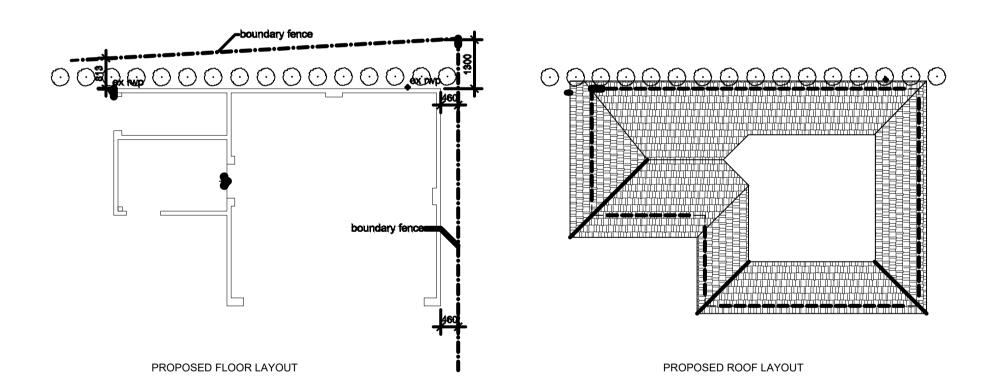
Drawing no.

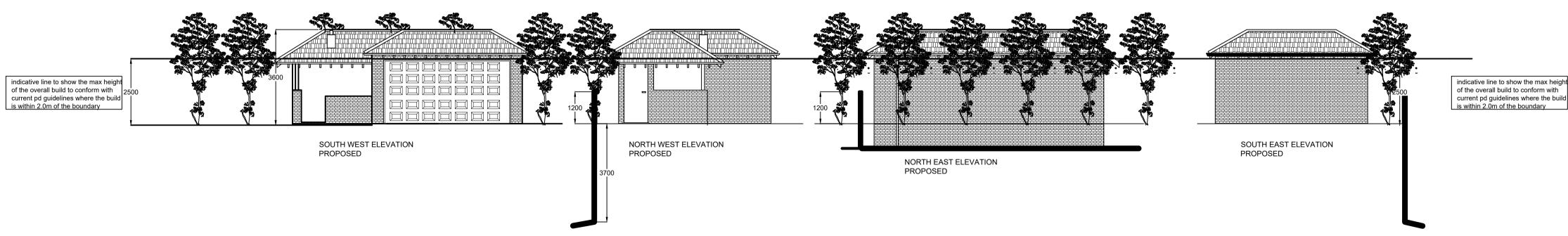
MD Designs architect's drawings of the proposed site





NORTH EAST ELEVATION EXISTING/UNAUTHORISED





1:100 Scale 1:50 Scale



Where new work is on/near boundary line/party wall the property owner is to serve party wall notice to the adjoining property/land owner in accordance with the requirements of the 'Party Wall etc.' Act 1996.

CLIENT LOCATION

Proposal Mr V Vassiliou 6B Hill Rise Cuffley EN6 4EE

Elevations & Layouts

April 2019 Date: Scale: A1@1:100 Dwg: 33/19 md Drawn by:

SOUTH EAST ELEVATION EXISTING/UNAUTHORISED

express and written consent of MD Designs. This drawing is to be read strictly together with the Specification and the Employer Requirement Schedule. Any conflict between the Specification and any drawings shall be referred to MD Designs for decision. The Contractor, and all specialist Sub-contractors are to check all levels, dimensions and features on site prior to performing any element of work or installations. Any and all discrepancies are to be reported immediately to MD

Designs for decision. PLANNING & BUILDING CONTROL PERMISSION TO BE OBTAINED PRIOR TO COMMENCEMENT OF WORK ON SITE CLIENT & CONTRACTOR TAKE FULL RESPONSIBILITY FOR WORK COMMENCED PRIOR TO LOCAL AUTHORITY

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APPROVAL

Rev Details Date MD DESIGNS UNIT 6-7 EAST LODGE VILLAGE, EAST LODGE LANE, ENFIELD, EN2 8AS 01992 630 520

OVERSHADOWING RESULTS

21st MARCH

