



391 Ewell Road Surbiton

KT6 7DG, LONDON

DAYLIGHT AND SUNLIGHT STUDY REPORT

1. Executive summary

The aim of this study is to assess the impact of a rear extension at 391 Ewell Road Surbiton on the light received by N° 389 Ewell Road. It is also to assess the impact of a new house located on the rear garden on the light received by the adjoining gardens.

The proposal comprises a ground floor rear extension and a new house at the rear garden area.

The study is based on the indicators and methodology used for the assessment of daylight and sunlight provided by the Building Research Establishment guidance 'SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT: A guide to good practice' (BRE 2022)

The results of this study should be taken as an indication of the impact of the development, but these conditions cannot be guaranteed.

This study report is provided solely for the use of the Client and no liability to anyone else is accepted.

The consented scheme at N° 391 was used for the calculations, the works are underway. Consented Ref. No: 21/00207/FUL.

2. Methodology

Daylight

The guidelines given by the BRE guide “are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analyzed.

The reduction of the total amount of skylight can be calculated by finding the VSC (Vertical Sky Component) at the center of each main window. The VSC can be found by using the skylight indicator.

Where room layouts are known, the impact on the daylight distribution in the existing building can be found by plotting the ‘no sky line’ in each of the main rooms

The diffuse daylight of the analyzed existing building may be adversely affected if either:

The VSC measured at the center of an existing main window is less than 27%, and less than 0.8 times its former value.

Sunlight

The BRE guide recommends that in designing a new extension to a building, care should be taken to safeguard the access to sunlight both for existing dwellings and for any non- domestic buildings where there is a particular requirement for sunlight.

Obstruction to sunlight may become an issue if:

Some part of a new development is situated within 90° of due south of a main window wall of an existing building receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March, and receives less than 0.8 times its former sunlight hours during either period and has a reduction in sunlight received over the whole year greater than 4% annual probable sunlight hours.

Gardens and open spaces

The BRE guide recommends that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of a new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 its former value, then the loss of sun is likely to be noticeable. If detailed calculation cannot be carried out, it is recommended that the center of the area should receive at least two hours of sunlight on 21 March.

3. Windows considered



4. Results of the study

Daylight results

WINDOW	DAYLIGHT-VSC			RATIO PROPOSED/EXISTING		BRE COMPLIANCE
	EXISTING	PROPOSED	REQUIRED	PROJECT	REQUIRED	
Nº 389-W1	21,50%	19%	27%	0,88	0.8	YES

No sky line

ROOM	AREA (Sqm)	SKY%	NO SKY%	GRID
Nº 389 KLD - Existing	32.22	98.25	1.75	Aprox. 64 sensors per m2
Nº 389 KLD - Proposed	32.22	98.25	1.75	Aprox. 64 sensors per m2



No sky line drew by De Luminae program, there are no variations between existing and proposed area.

Sunlight results

N° 391 rear extension is situated within 90° of due north of N° 389 analyzed window, so it does not need to be assessed for sunlight.

Windows assessed – Proposal

BRE: “3.1.15 In general a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:

- at least one main window wall faces within 90° of due south and
- a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March. This is assessed at the inside centre of the window(s); sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.

Flats A and B





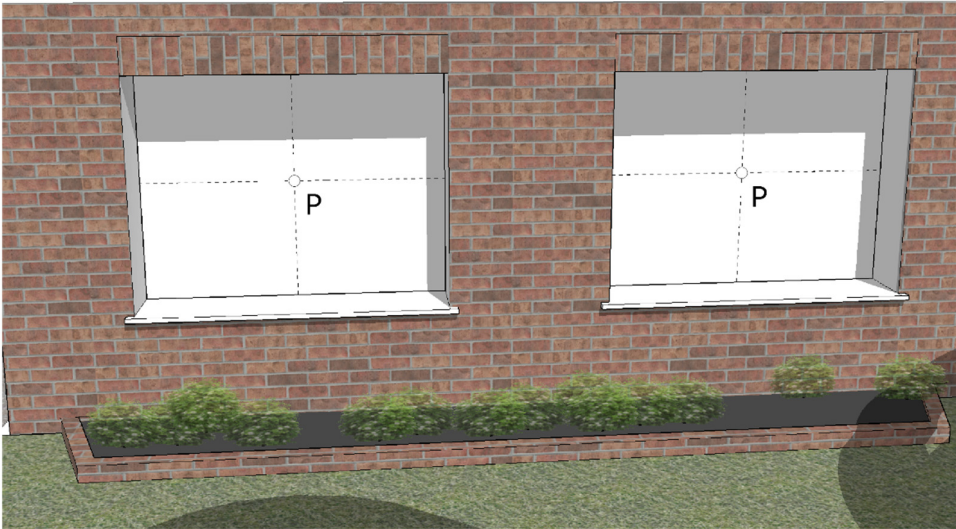


House C

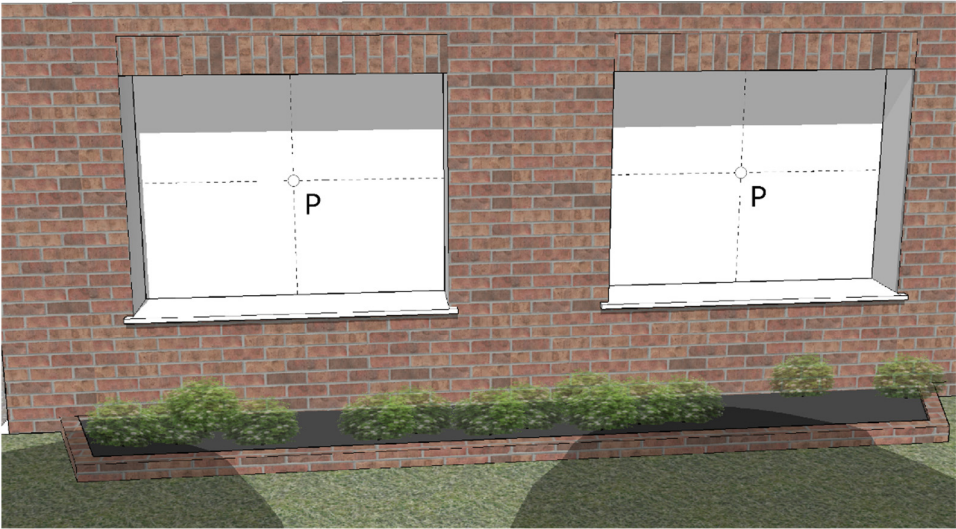
SUN RECEIVED BY LIVING ROOM WINDOWS ON 21st MARCH
11:00 hs



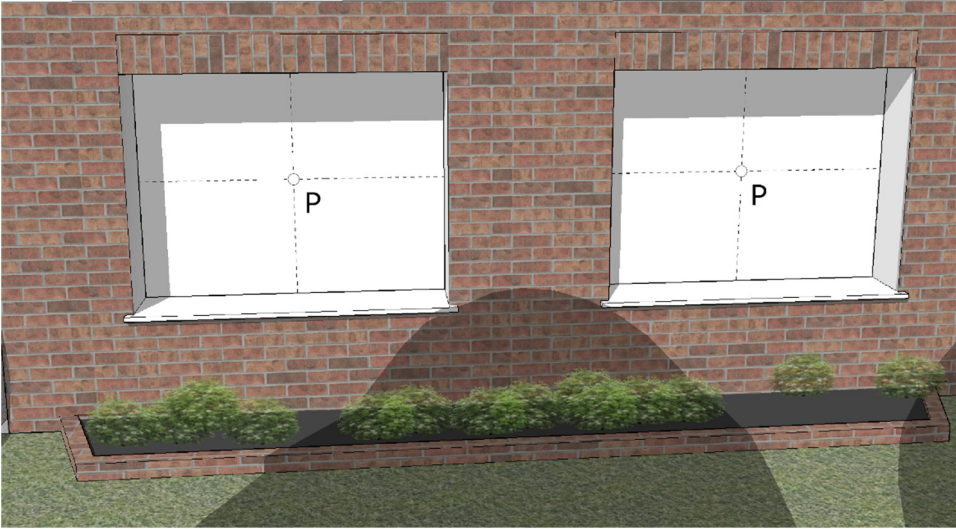
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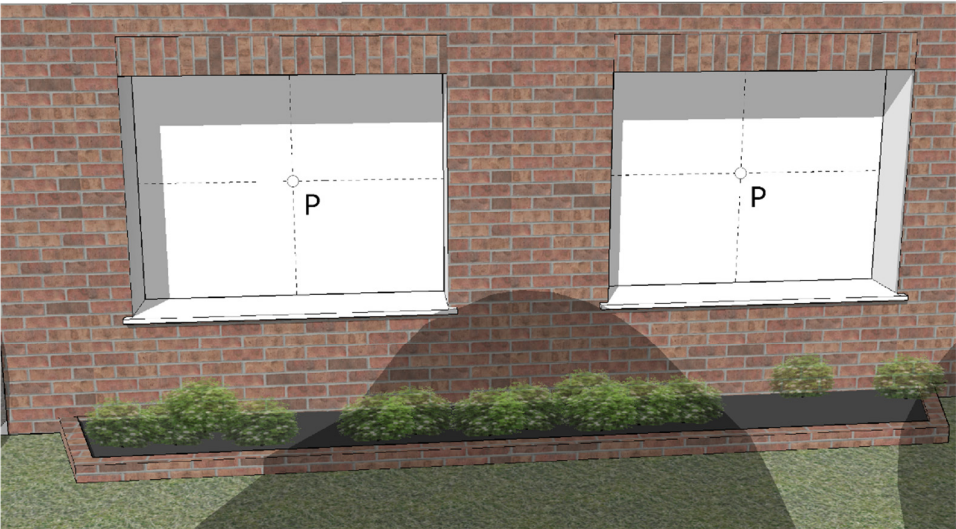
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SUN RECEIVED BY LIVING ROOM WINDOWS ON 21st MARCH
14:00 hs



SUN RECEIVED BY LIVING ROOM WINDOWS ON 21st MARCH
14:00 hs



Internal daylight levels

Daylight levels in all rooms are predicted to meet or exceed minimum good practice standards.

Daylight Factor (EN 17037/UK)

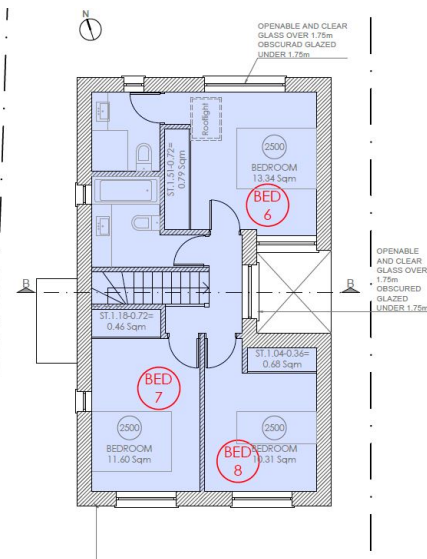
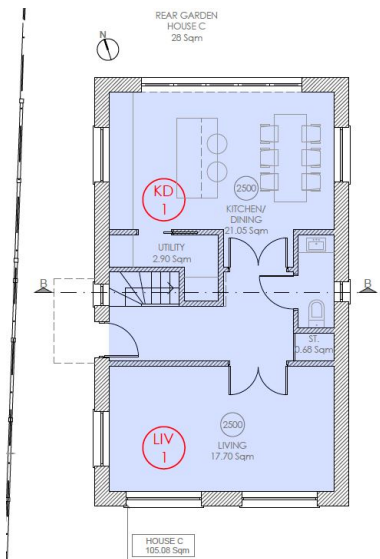
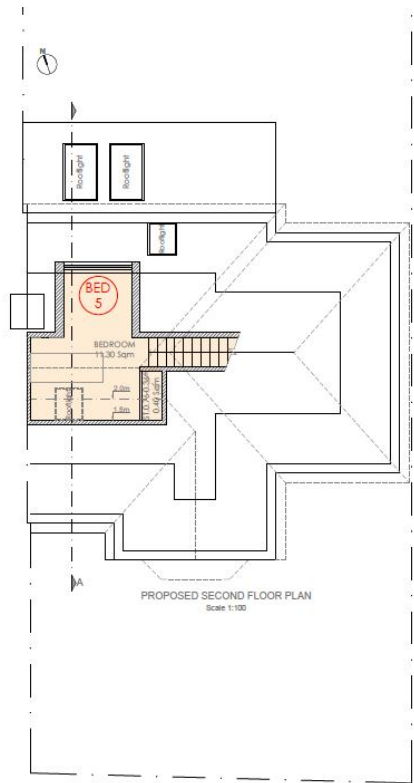
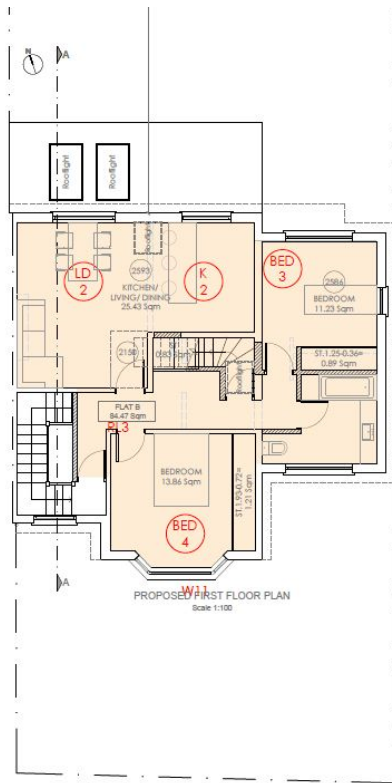
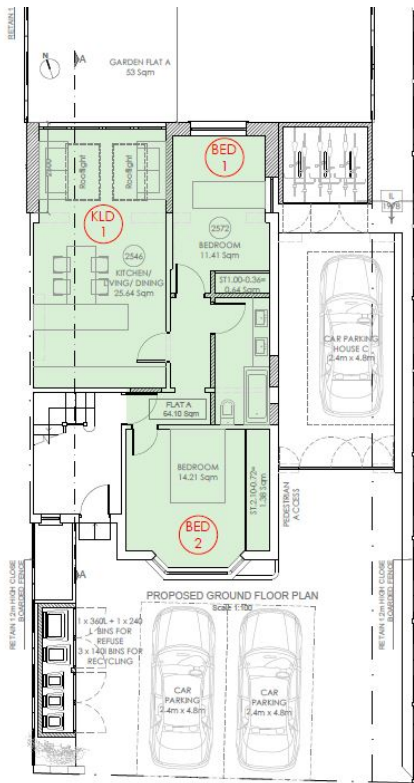
Weather: London Gatwick (51.15N, -0.18E)

Level of details: 30cm grid (spacing: 0.3, edges: 0.3)

DF thresholds: 0.7%(100lx) 1.1%(150lx) 1.4%(200lx) 2.1%(300lx) 3.5%(500lx) 5.3%(750lx)

DF thresholds (horiz.): 0.6%(100lx) 0.8%(150lx) 1.1%(200lx) 1.7%(300lx) 2.8%(500lx) 4.2%(750lx)

	NAME	SPACE TYPE	AREA (m2)	TARGET (lux)	MIN THRESHOLD	SYNTESIS
FLAT A	KLD 1	KLD	25,64	200	50/1.4%	Medium
	BED 1	BEDROOM	13,92	100	50/0.7%	Minimum
	BED 2	BEDROOM	9,76	100	50/0.7%	Minimum
FLAT B	LD 2	LIVING/DINING	16,53	150	50/1.1%	Minimum
	K 2	KITCHEN	8,9	200	50/1.4%	Minimum
	BED 3	BEDROOM	9,2	100	50/0.7%	Medium
	BED 4	BEDROOM	11,81	100	50/0.7%	Minimum
	BED 5	BEDROOM	10,58	100	50/0.7%	Medium
HOUSE C	KD 1	KIT/ DINING	21,05	200	50/1.4%	Minimum
	LIVING 1	LIVING	17,70	150	50/1.1%	Minimum
	BED 6	BEDROOM	11,14	100	50/0.7%	Minimum
	BED 7	BEDROOM	10,35	100	50/0.7%	Minimum
	BED 8	BEDROOM	8,30	100	50/0.7%	Minimum

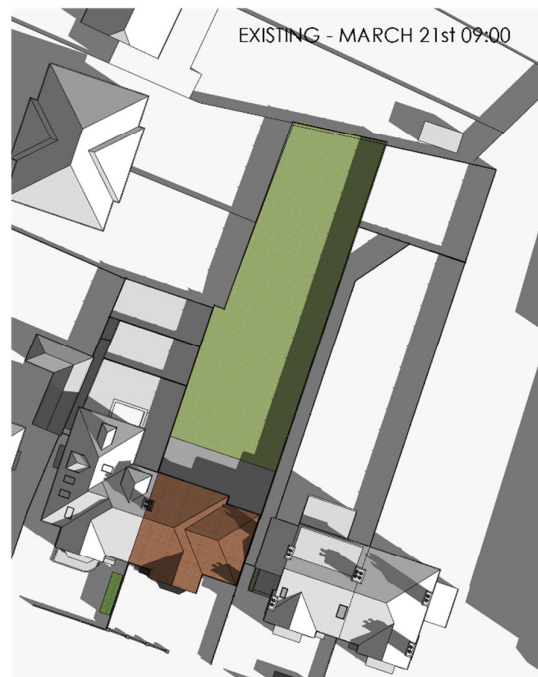
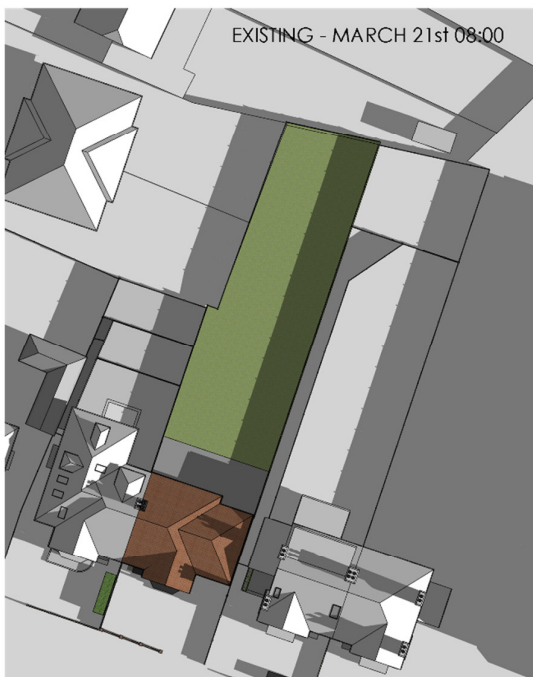


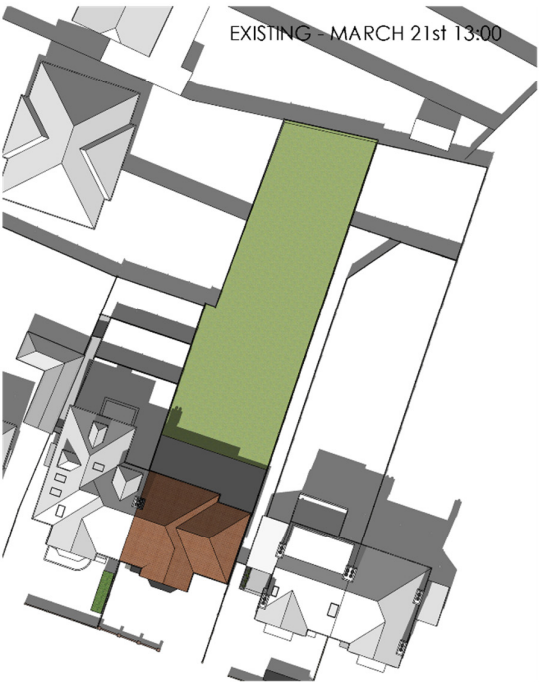
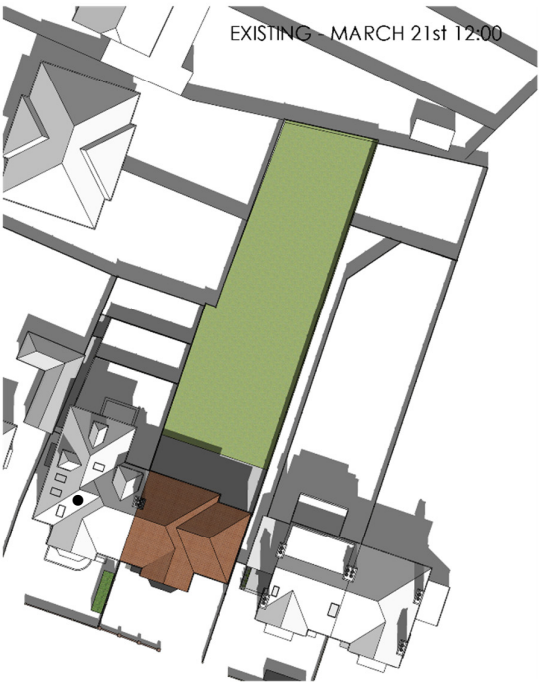
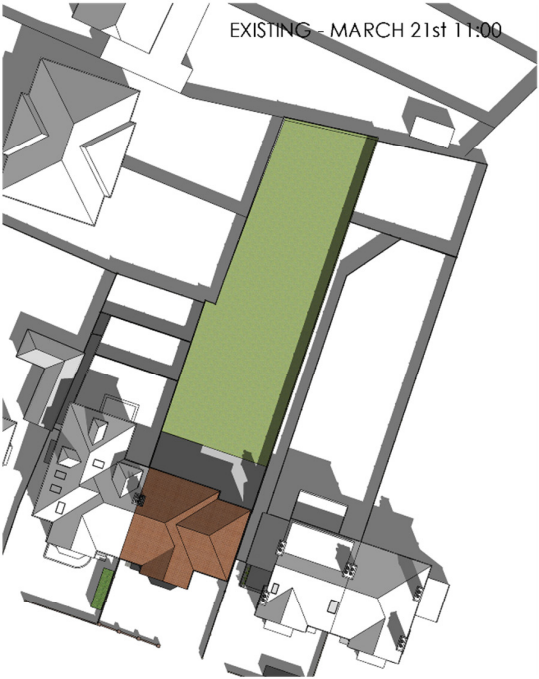
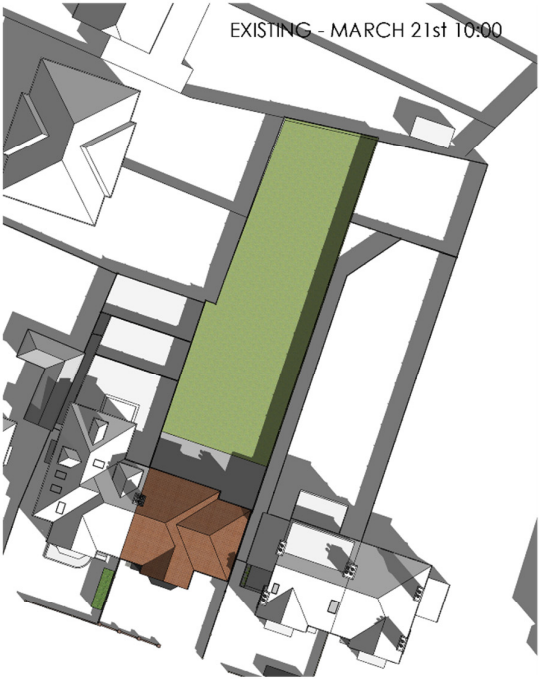
Overshadowing to gardens and open spaces

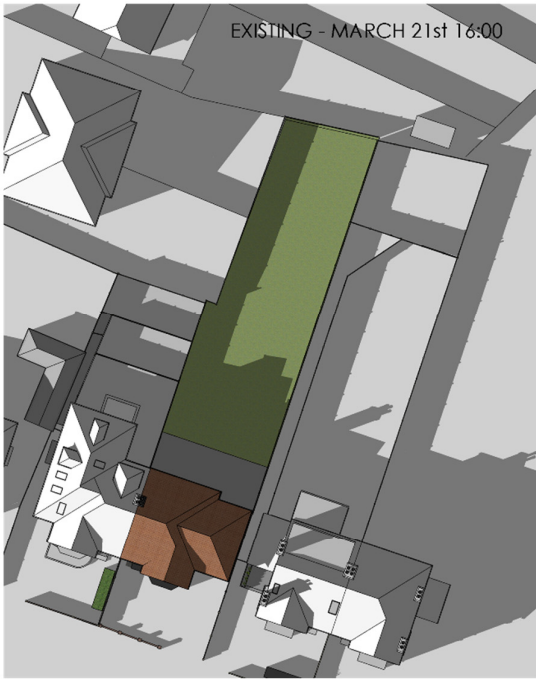
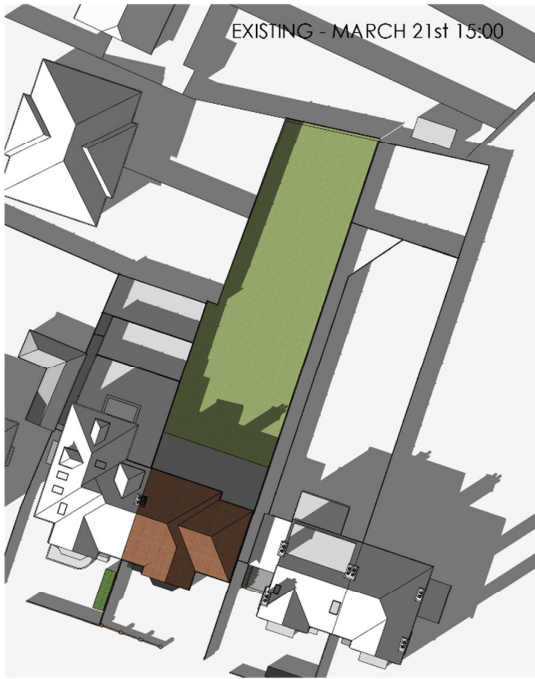
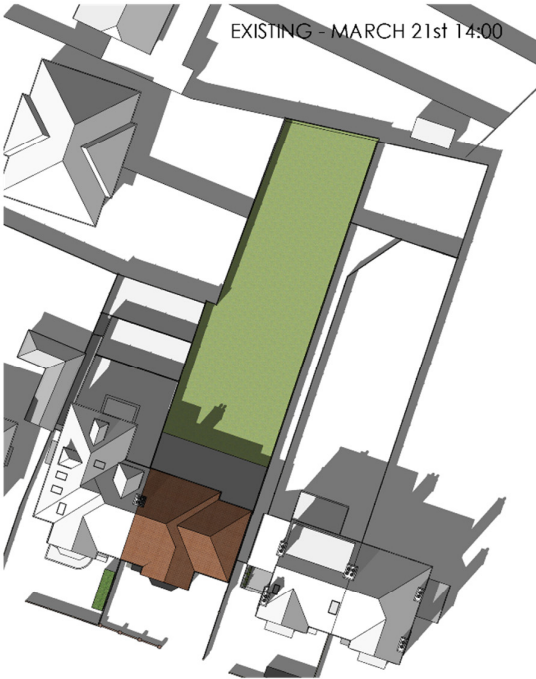
The center N° 393 Ewell Road Surbiton and adjoining properties gardens receive at least two hours of sunlight on 21 March.

Shadow plots

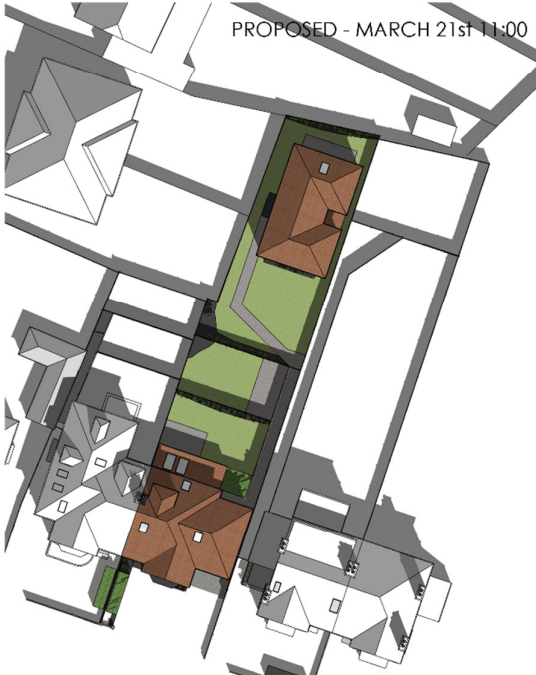
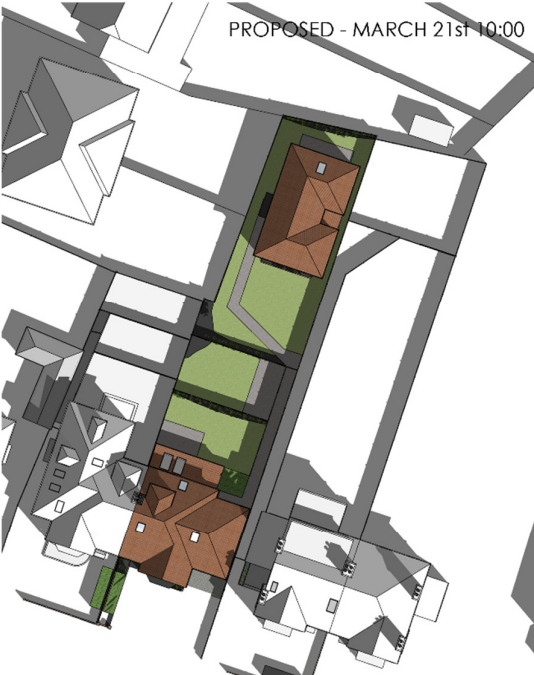
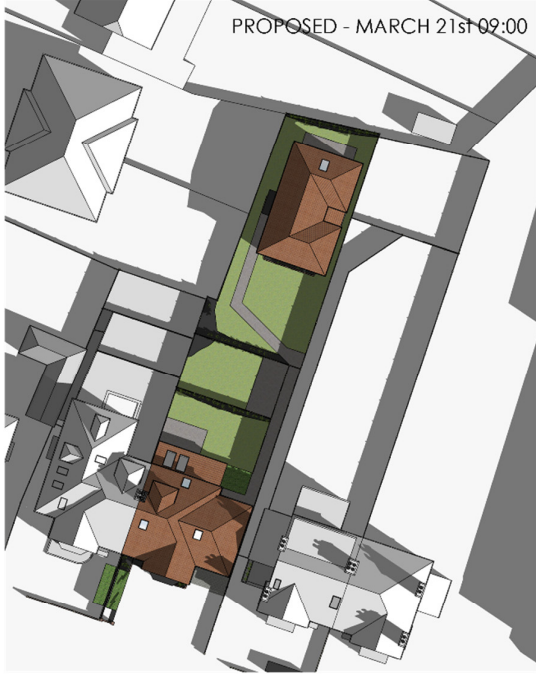
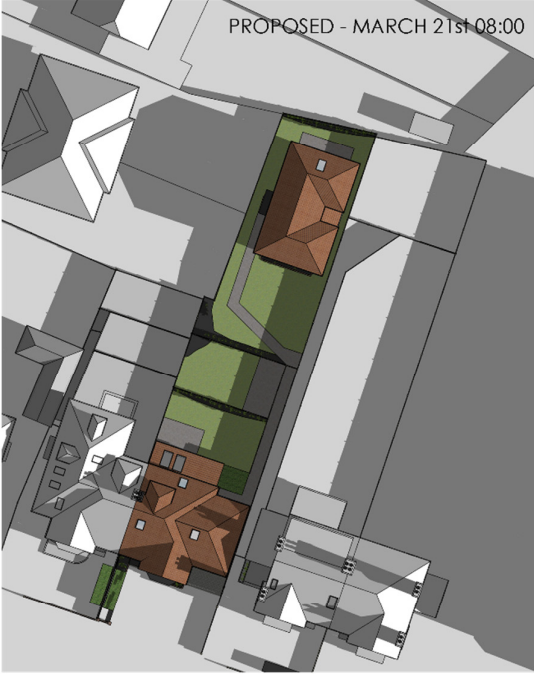
EXISTING

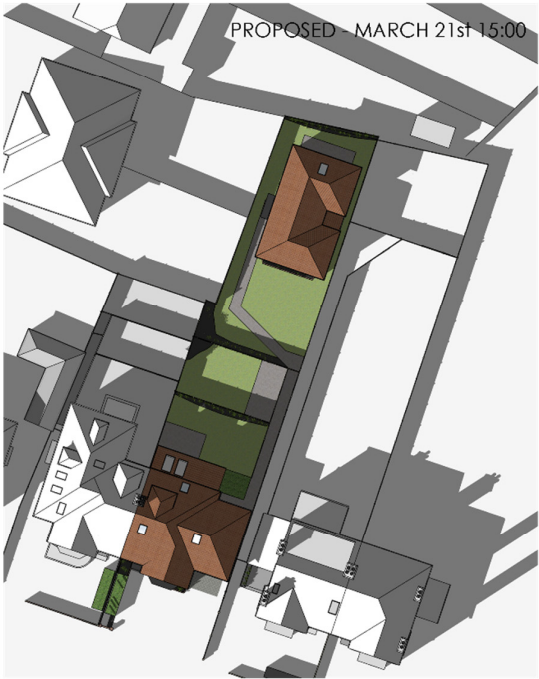
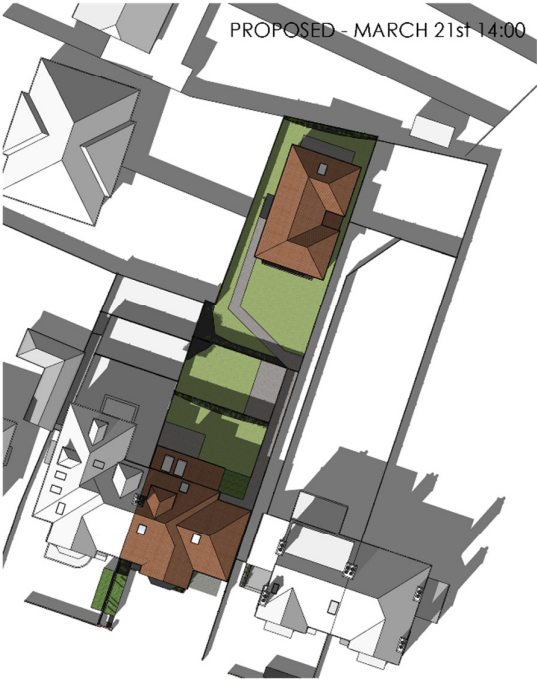
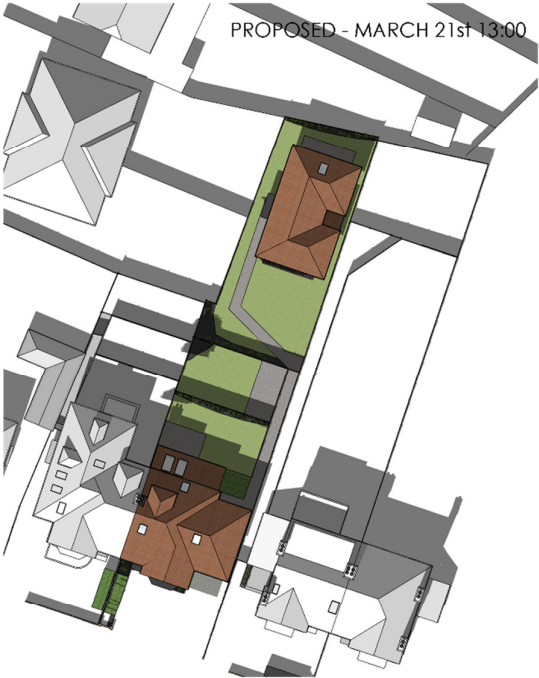
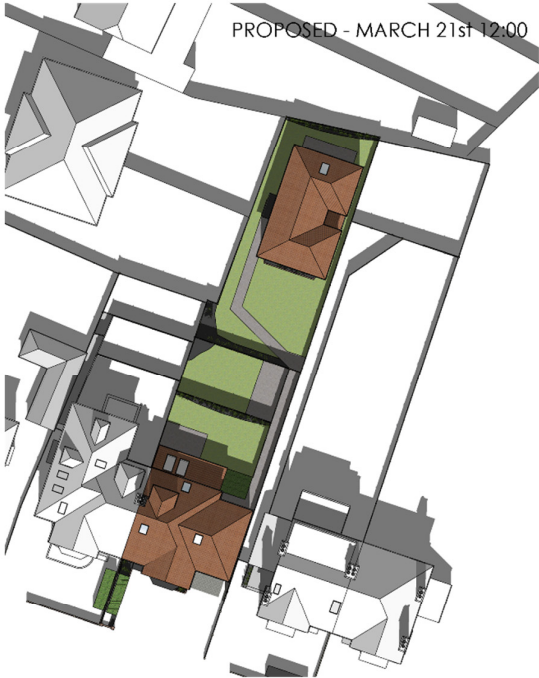






PROPOSED







Conclusions

The proposal complies with the required by the BRE guide.

The impact to the neighboring dwellings is assessed to be negligible.