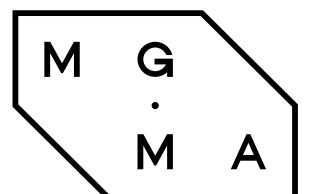


9-003 - Vacant land to the rear of 2 Ash Close, Summerhill

Proposed development of two semi-detached
dwellinghouses

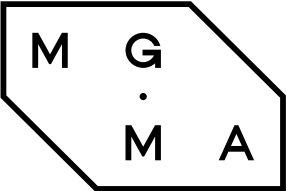
Sunlight/ Shading Impact Study

by MGMA Architects



CLIENT/ SITE INFORMATION		DESIGN TEAM INFORMATION		CONTENTS	
Client	Murright Limited	Architect	MGMA Architects	03-04	PROJECT INFORMATION
Site address	Land to the rear of 2 Ash Close, Summerhill, Wrexham				1.1 Applicant 1.2 Site address 1.3 Summary of Proposed Development
				05-06	DESCRIPTION OF SITE & CONTEXT
LPA	Wrexham County Borough Council				2.1 Vacant Land to the rear of 2 Ash Close: An Introduction
				07-16	SUNLIGHT/ SHADING IMPACT STUDY
					3.1 Site Plan showing ground floor 3.2 Ground and first floor plans 3.3 March Sun Study NW 3.4 March Sun Study SE 3.5 June Sun Study NW 3.6 June Sun Study SE 3.7 September Sun Study NW 3.8 September Sun Study SE 3.9 December Sun Study NW 3.10 December Sun Study SE
DOCUMENT ISSUE					
DATE	STATUS		NOTES		
30.07.2021	LPA		Planning application issue.		

PROJECT INFORMATION



PROJECT INFORMATION

1.1 APPLICANT

This application for planning permission is submitted on behalf of the applicants Murrigh Limited.

1.2 APPLICATION SITE ADDRESS

The application site address is Vacant land to the rear of 2 Ash Close, Summerhill, Wrexham. It comprises an area of currently disused land to the east of Cedar Road.

1.3 SUMMARY OF PROPOSED DEVELOPMENT

The site is currently vacant. It is proposed that 2no. houses be constructed on the site. They will be 2no. three bedroom houses together with front and rear amenity, car parking, bin and cycle storage.

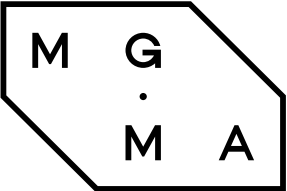
The site does not fall within a conservation area.

The setting is a predominantly residential area comprising mid C20 semi-detached two storey dwellings.

Site Area: 591m²



DESCRIPTION OF THE SITE & CONTEXT



DESCRIPTION OF THE SITE & CONTEXT

2.1 VACANT LAND AT CEDAR DRIVE: AN INTRODUCTION

The site can be characterised as being backland. Located at the end of a cul-de-sac, facing the back of a row of semi-detached houses and to the front of more recent built additions. The site differs from its surrounding context as not being strongly defined as front to back. The proposed mass sits more in landscape than its neighbours.

The approach is defined by dignified use of materials and an avoidance of pastiche. The massing is a response to the surrounding context and the site conditions. The proposal works with the topography to reduce the visual impact of the dwellings on their neighbours by, for example, avoiding large gable pitched roofs.

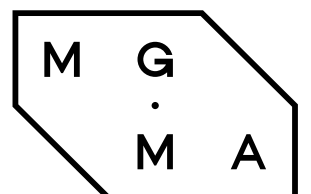
The proposal seeks to blend a palette of materials in the tradition that typifies the best examples of housing within the immediate context.

The proposal is for two family homes, anchored by connected living spaces. Kitchen - dining room - lounge - garden with generous and varied volumes, and a generosity of glazing that typifies the best examples of housing within the immediate context.



9-003_901 - VACANT LAND TO THE REAR OF 2 ASH CLOSE, SUMMERHILL

SUNLIGHT/ SHADING IMPACT STUDY

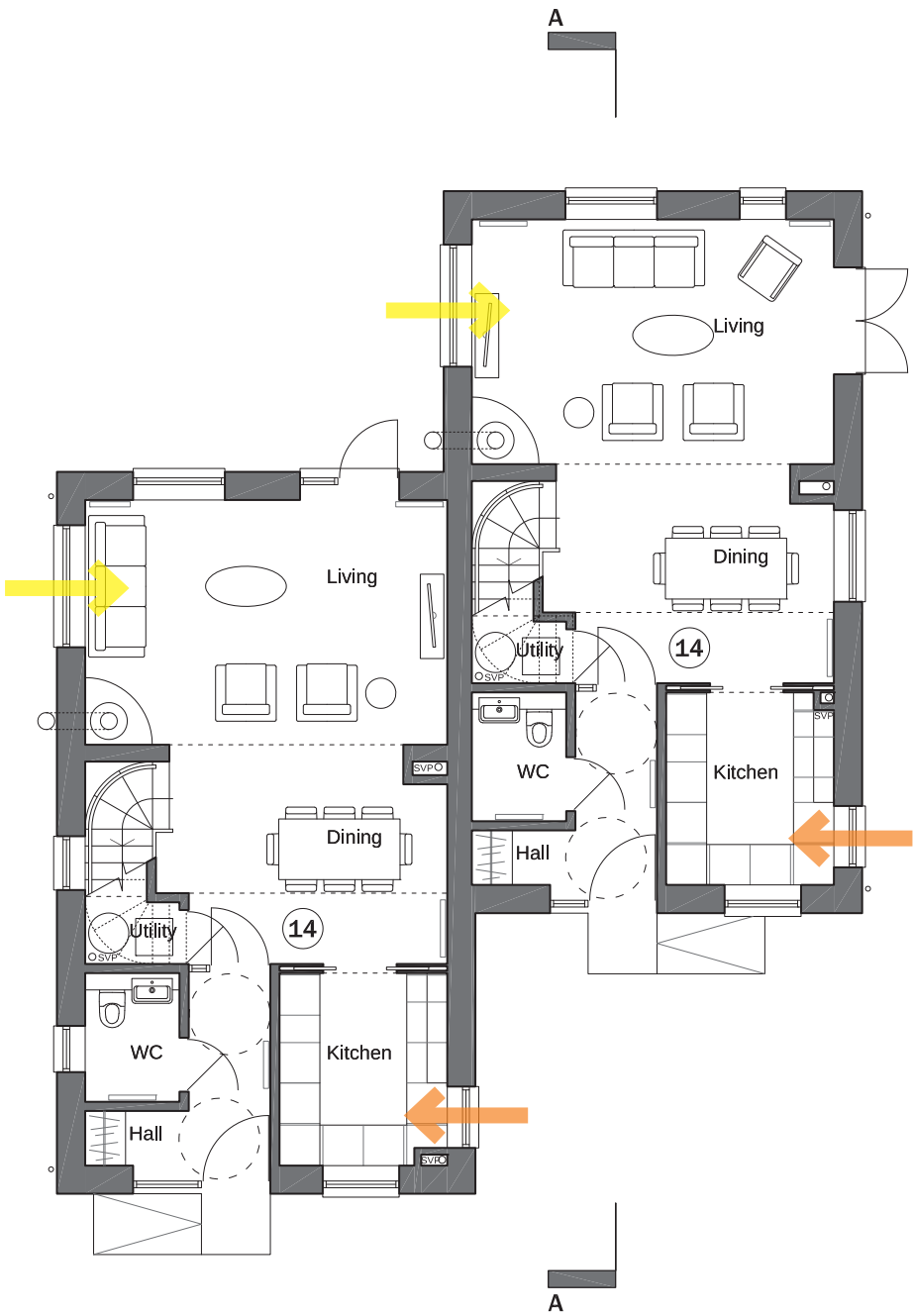
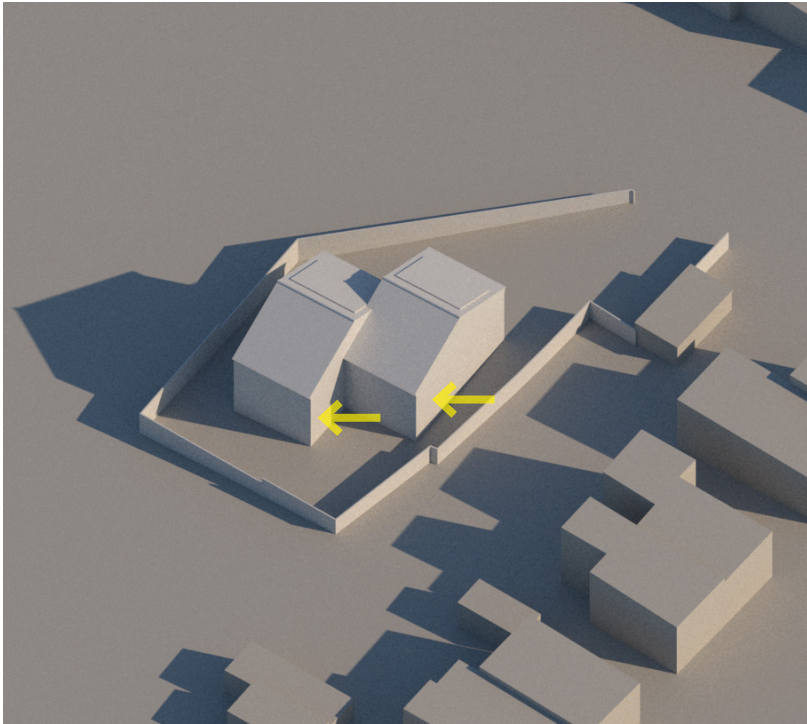


3.1 GROUND FLOOR SITE PLAN

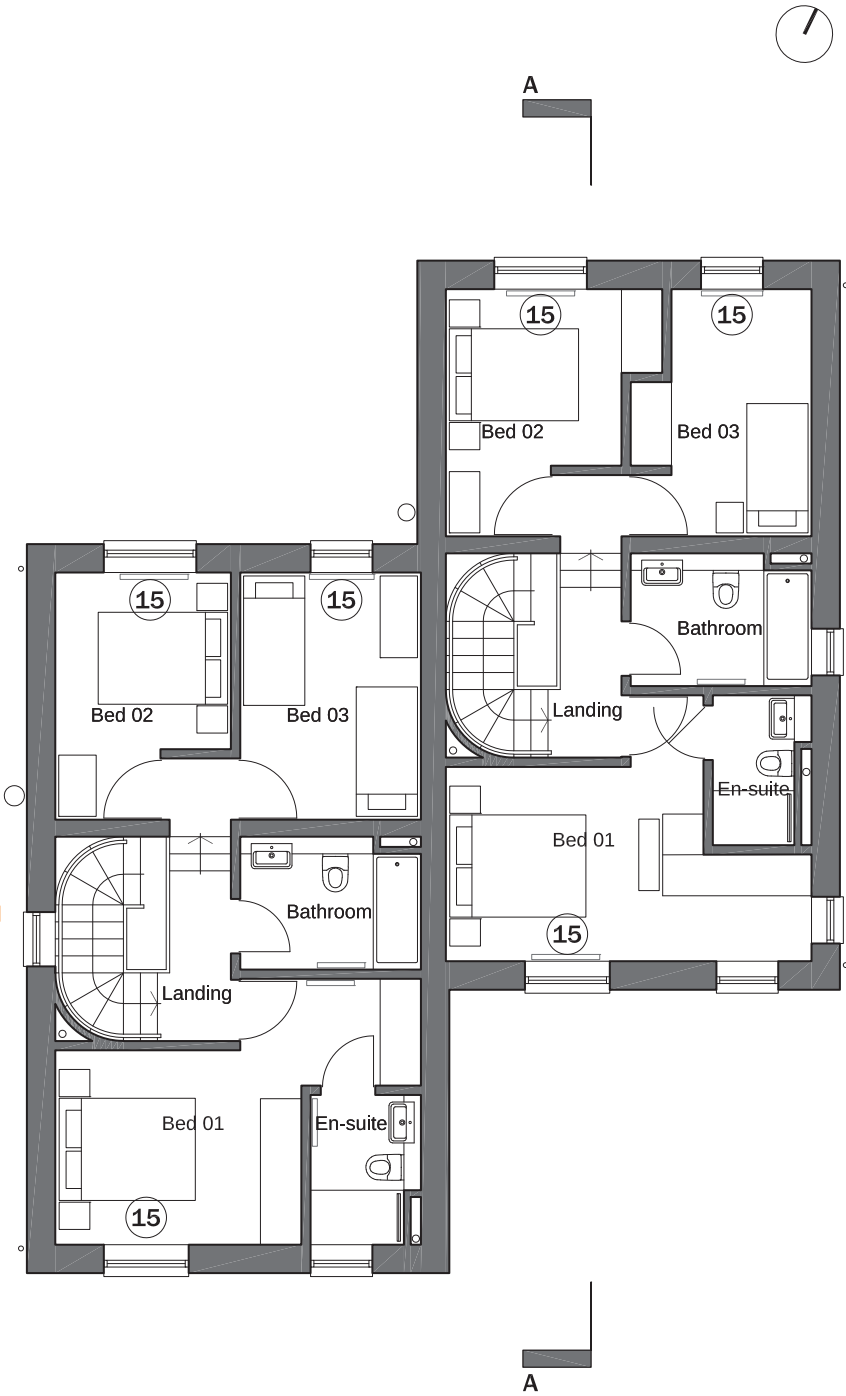


3.2 GROUND & FIRST FLOOR PLAN

- ➡ Evening Sunlight
- ➡ Morning Sunlight



GROUND FLOOR PLAN



FIRST FLOOR PLAN

3.3 MARCH 21st, VIEWED FROM NORTH WEST

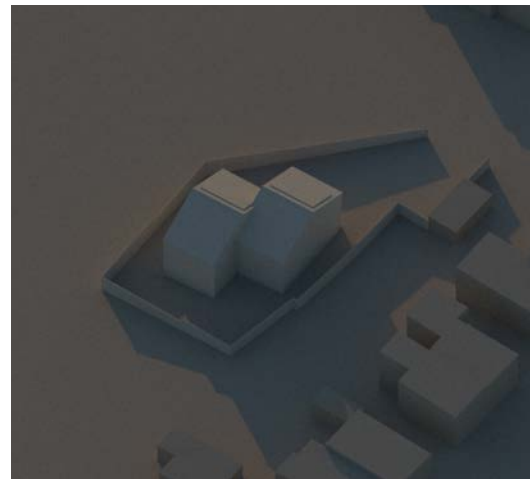
Given the north – south site orientation, the design approach adopted for the siting of the dwellinghouses has consciously sought to ensure each dwelling has an area of garden in the sunlight for as much of the year as possible.

Broadly, the dwellings are designed to follow the rhythm of the day, modifying the plan to ameliorate between the site orientation and the sun path across the course of the day.

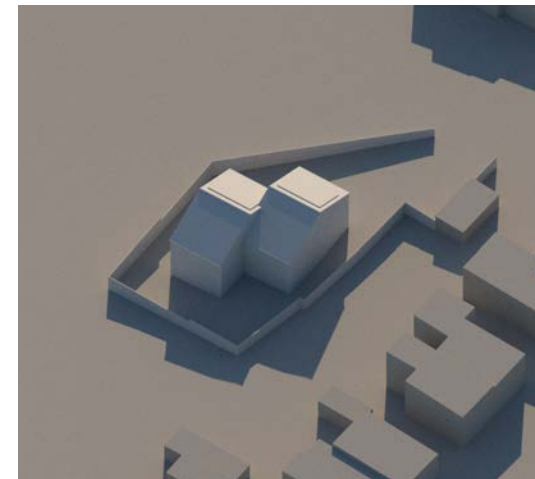
The kitchens to the front of the plan are south-east facing and thus benefit from morning sunlight. The open-plan sitting rooms open onto the rear gardens and thus predominantly north-facing. The design approach mitigates this in two ways:

1. The stepped section raises the ceiling height at the rear of the property to just under 2.9m, allowing daylight to penetrate deeper into the plan than would a conventional floor to ceiling height.
2. The stepped plan arrangement of the dwellinghouses allows for daylighting into the sitting room areas from the west-facing elevations via clerestory windows. This feature responds to the afternoon/ evening sun path.

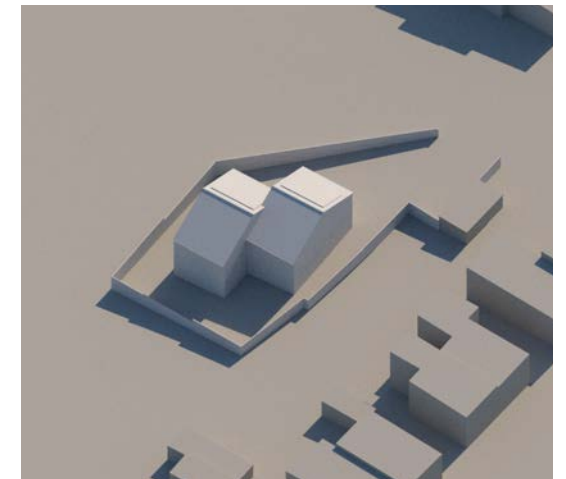
Not stepping the plan would result in the rooms being relying solely on north-facing daylight.



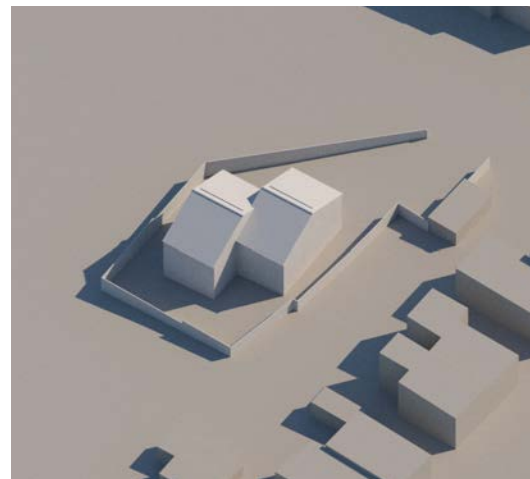
21st March 8am



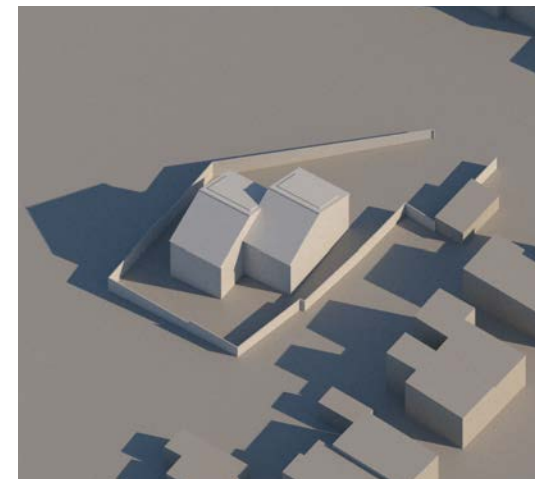
21st March 10am



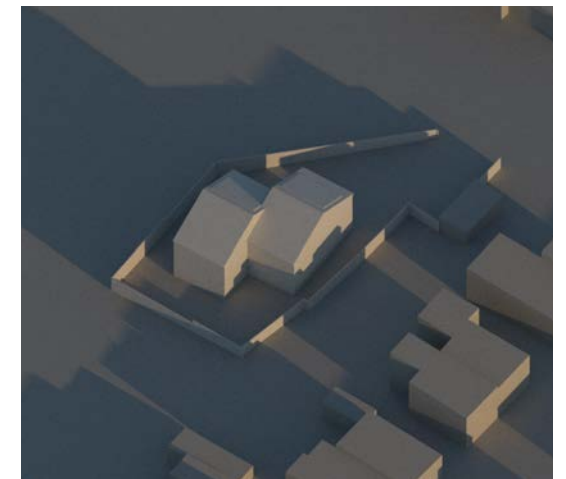
21st March 12pm



21st March 2pm



21st March 4pm



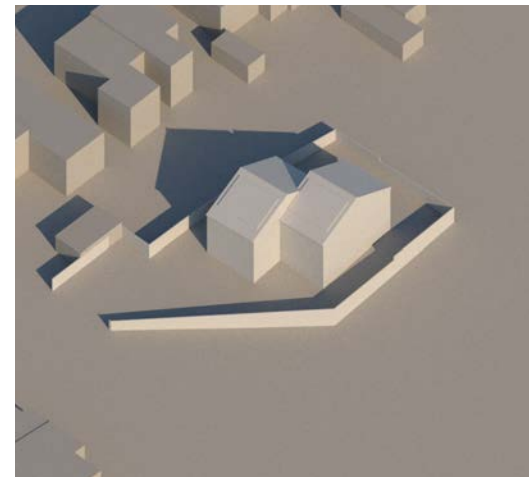
21st March 6pm

3.4 MARCH 21st, VIEWED FROM SOUTH EAST

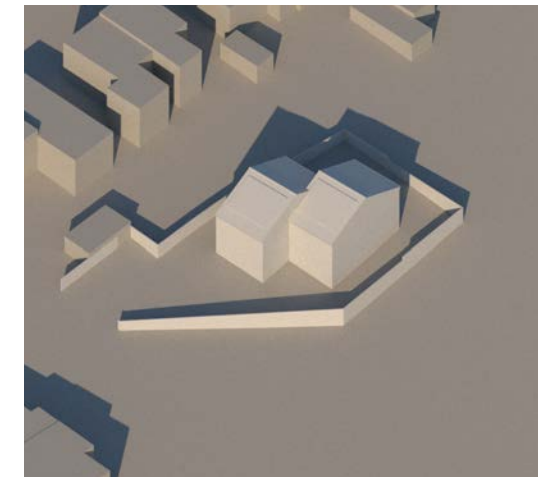
From this perspective it can be seen how the stepped plan causes the hall and half of the master bedroom of the easterly dwelling to be in shadow from 2pm onwards.

The benefit, as demonstrated on the previous page, is that the sitting room receives the afternoon and evening sun. The dwelling is thus balanced to the rhythm of the day.

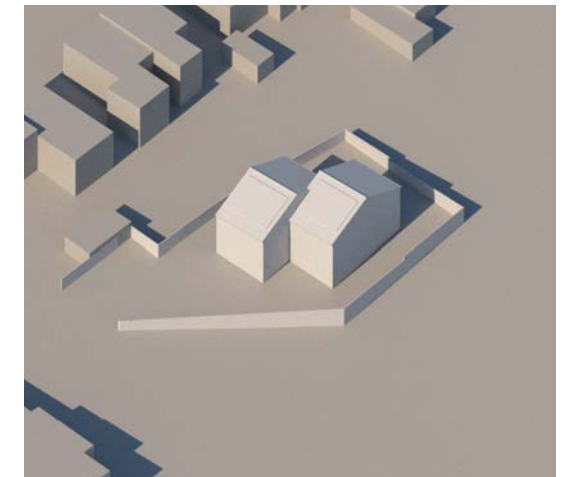
Additionally, in the morning and early afternoon, the stepped plan results in both dwellings receiving direct sunlight into the kitchens and master bedrooms.



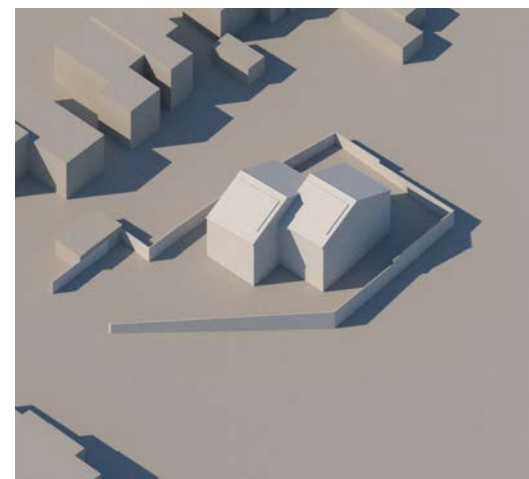
21st March 8am



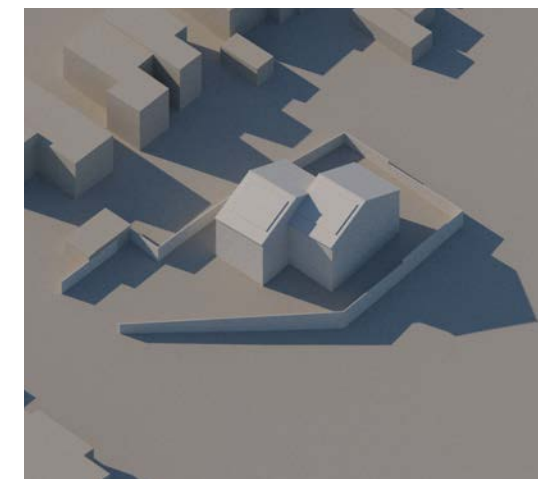
21st March 10am



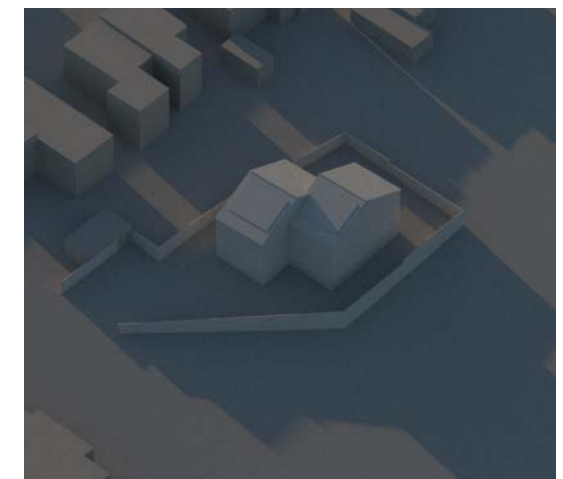
21st March 12pm



21st March 2pm



21st March 4pm

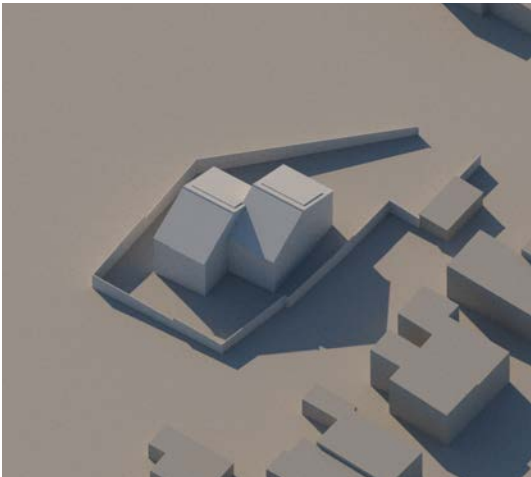


21st March 6pm

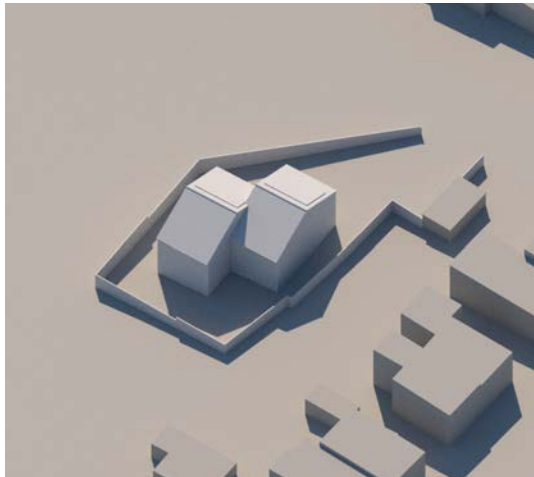
3.5 JUNE 21st, VIEWED FROM NORTH WEST

In the summer months the longer days amplify the benefit of the stepped plan, and ensure more of the gardens are in full sun.

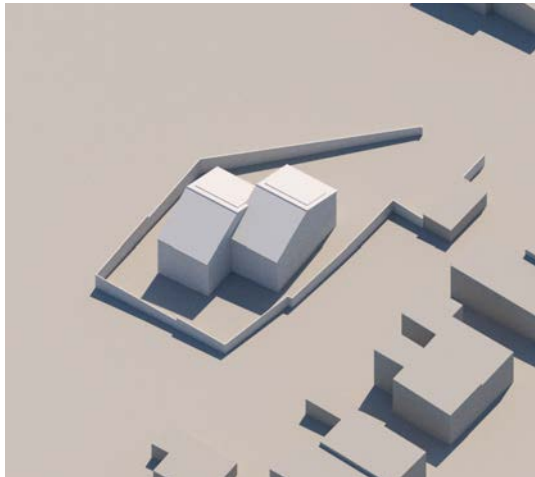
At the height of summer, the site orientation allows the evening sun directly into the windows on the rear of elevation, whereas the clerestory windows on the west-facing elevations allow for afternoon to evening sun at all times it is available.



21st June 8am



21st June 10am



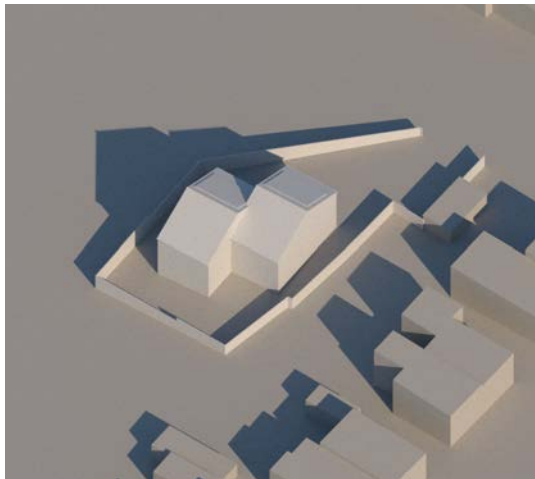
21st June 12pm



21st June 2pm



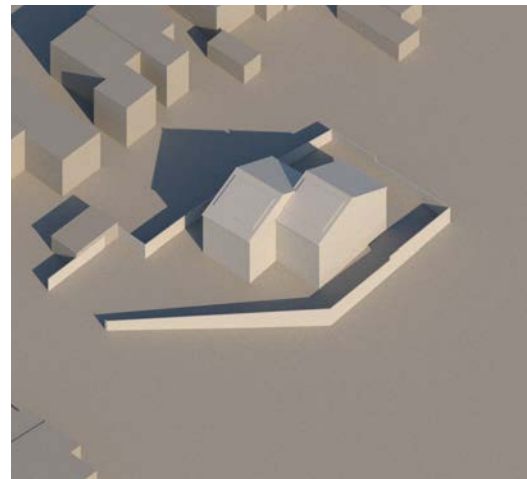
21st June 4pm



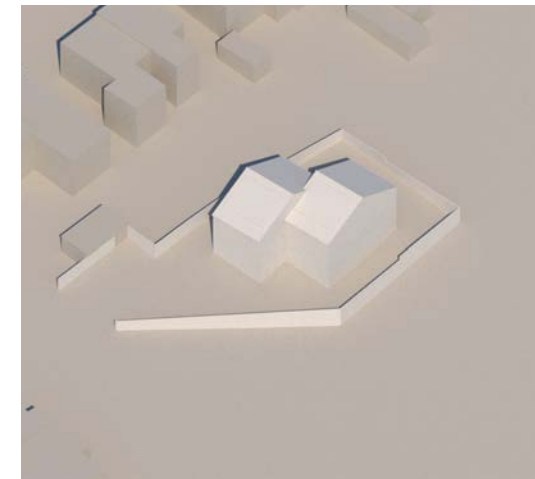
21st June 6pm

3.6 JUNE 21st, VIEWED FROM SOUTH EAST

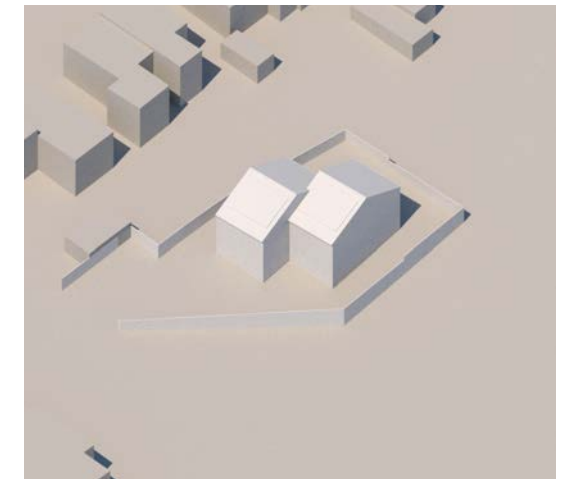
With the summer sun higher in the sky at midday, the limited negative impact of the stepped plan on the front elevation habitable rooms is further reduced, with shading only of this elevation from 4pm onwards. As discussed previously, the dwellings track daily rhythm from the front to the rear of the plan, and access the sun path through the stepped plan and fenestration arrangements.



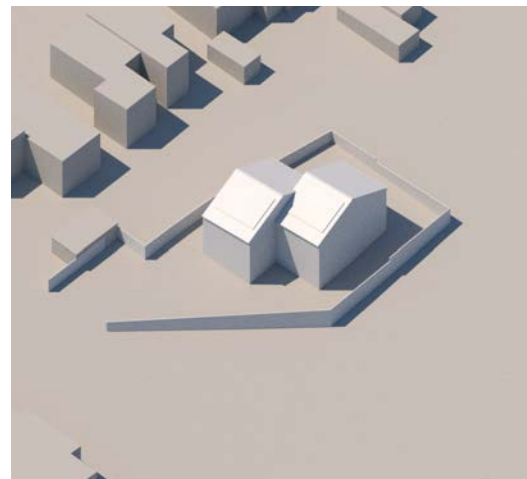
21st June 8am



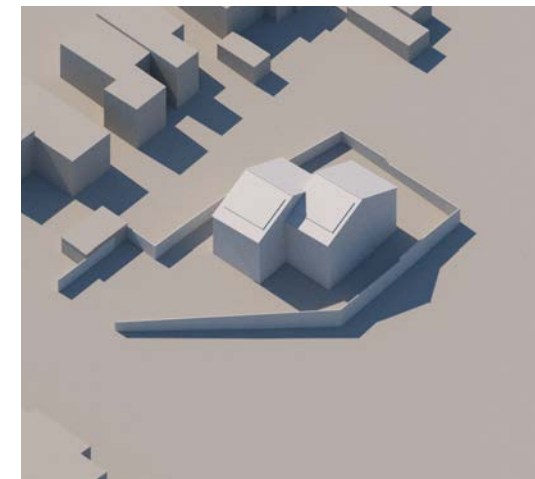
21st June 10am



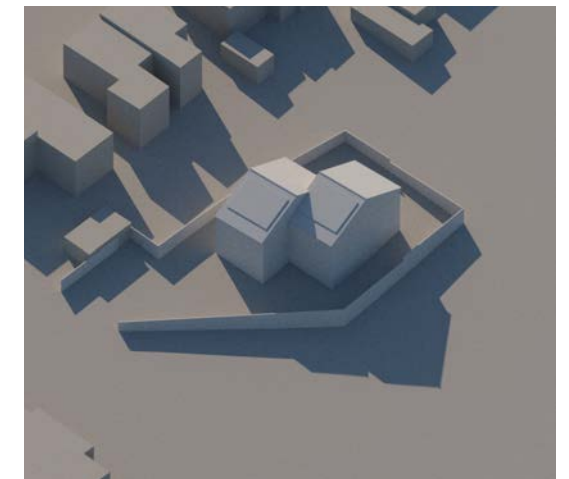
21st June 12pm



21st June 2pm



21st June 4pm

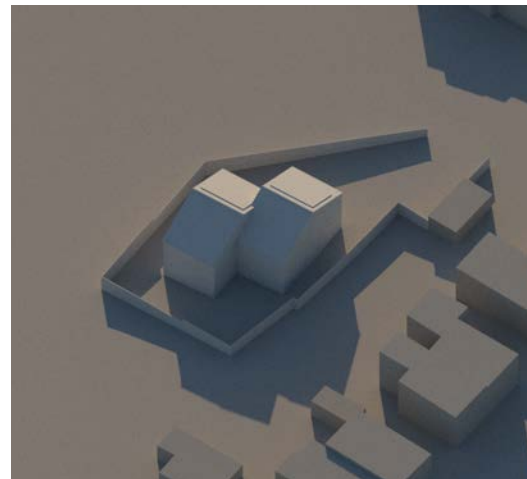


21st June 6pm

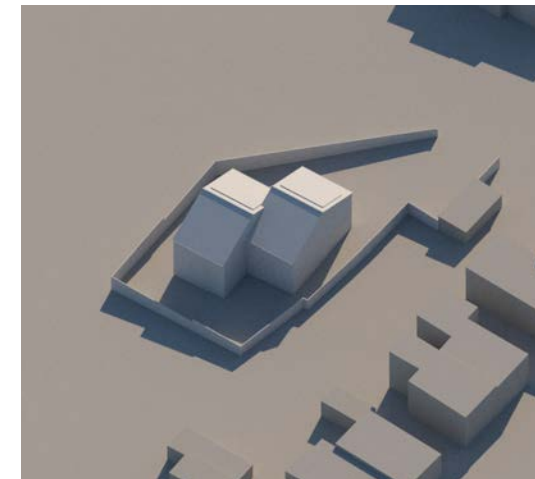
3.7 SEPTEMBER 21st, VIEWED FROM NORTH WEST

As with the March analysis, it can be seen how the impact of the existing site orientation is mitigated by the stepping of the plan, and inclusion of the clerestory windows to the western elevations.

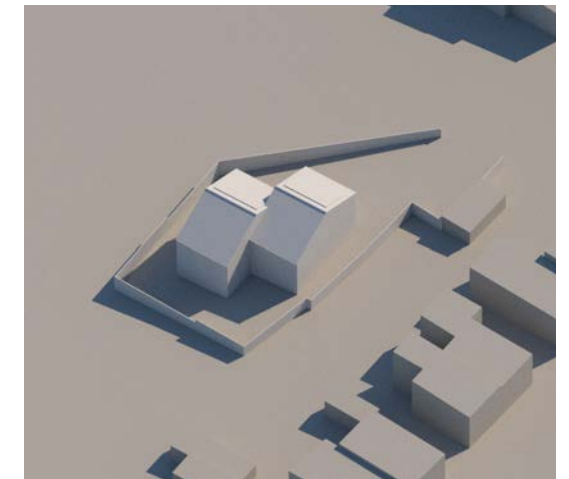
Although the stepping of the plan presents a subtle shift in the contextual grain, it delivers significant benefits for daylighting, supporting the energy efficiency of the proposed dwellings.



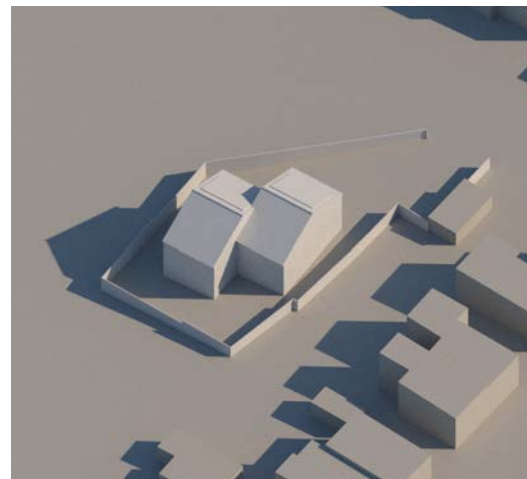
21st September 8am



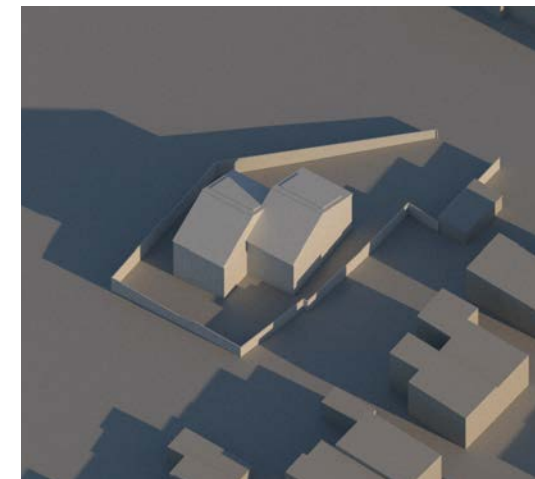
21st September 10am



21st September 12pm



21st September 2pm

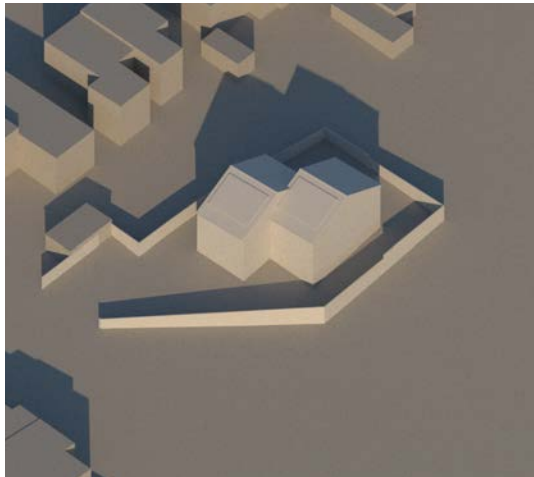


21st September 4pm

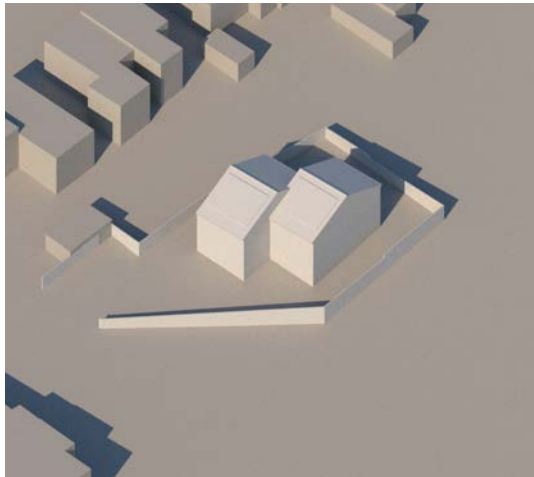
3.8 SEPTEMBER 21st, VIEWED FROM SOUTH EAST

Similar to the March views, the only potentially negative impact of shading is to the master bedroom, hall, and kitchen.

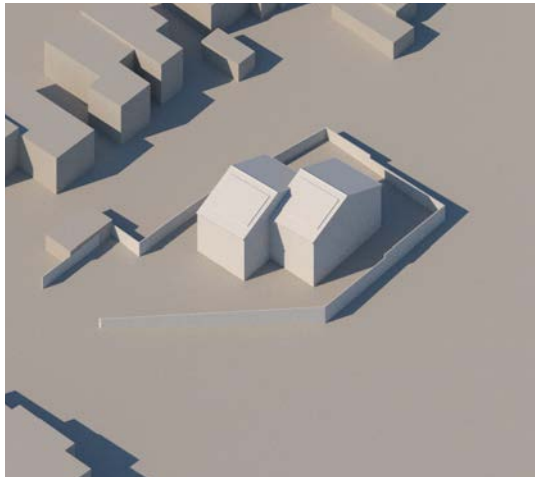
The kitchens benefit from two windows, on the south and east elevations, to increase daylight penetration in this room, particularly in the mornings. The trade-off for the shading of these rooms is the improved daylighting to the sitting room areas at the rear of the plan.



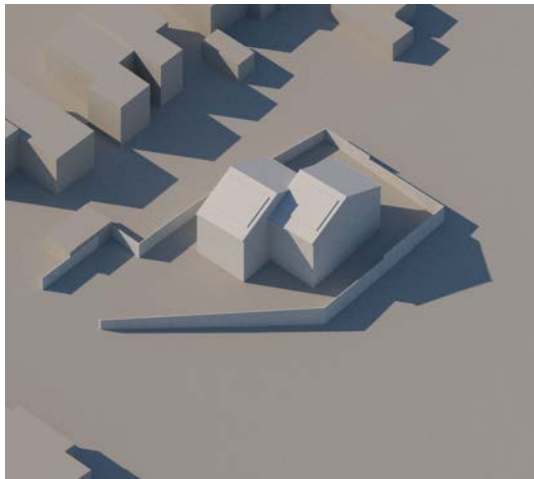
21st September 8am



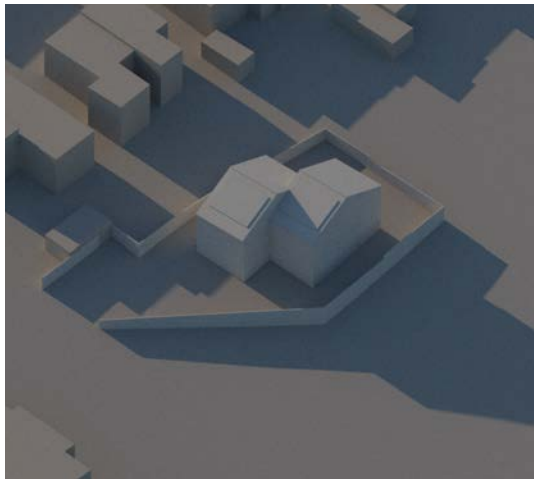
21st September 10am



21st September 12pm



21st September 2pm

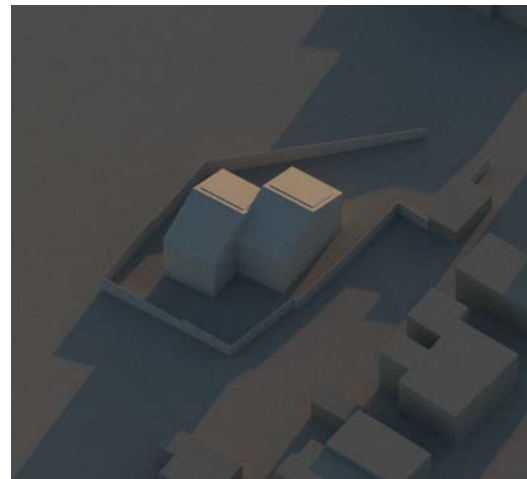


21st September 4pm

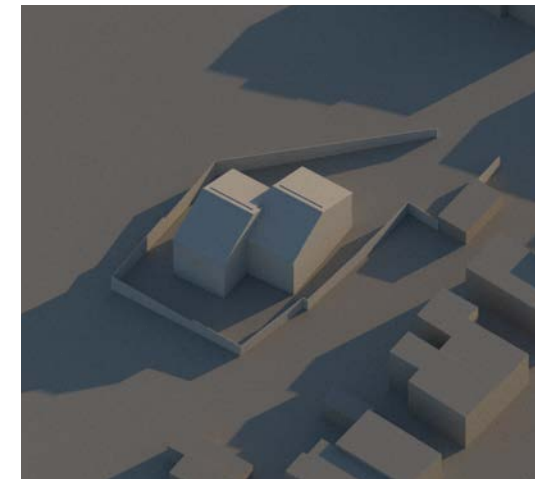
3.9 DECEMBER 21st, VIEWED FROM NORTH WEST

Unlike the previous months illustrated, the existing orientation of the site and subsequent shadowing is very difficult to reduce through design. The stepped plan does reduce or increase the amount of daylight entering the rear sitting rooms via the rear elevation, however it does allow for some benefit via the clerestory windows on the west-facing elevation.

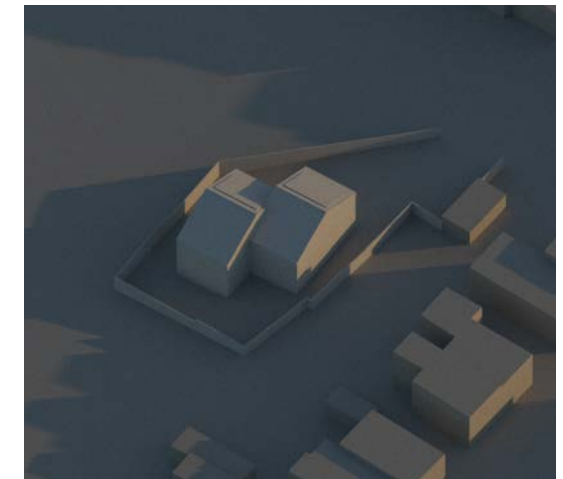
On balance, the stepped plan can be seen to have a positive impact on the daylighting to the proposed dwellings.



21st December 10am



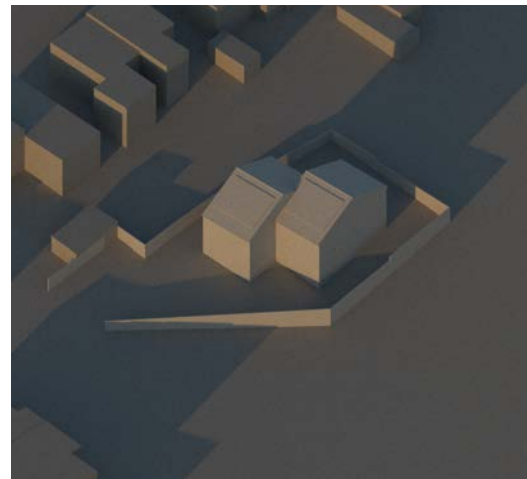
21st December 12pm



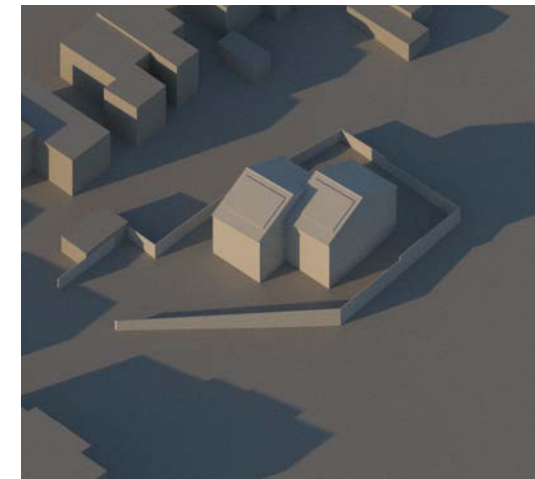
21st December 2pm

3.10 DECEMBER 21st, VIEWED FROM SOUTH EAST

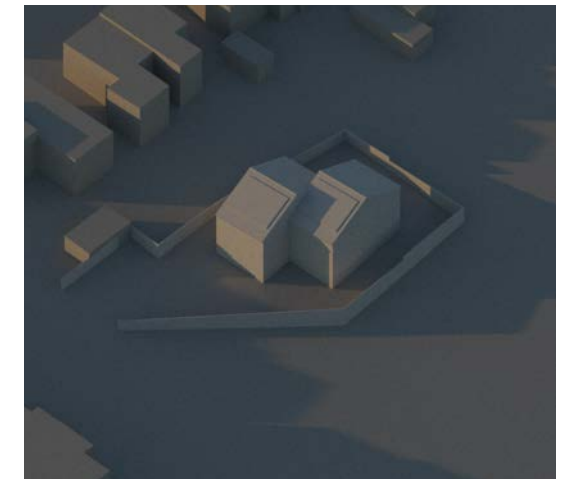
In the depths of winter, the stepped plan does result in some shadowing of the kitchen and hall of the easterly dwelling at sunset. However, due to general light levels being lower at this time, the kitchen would be similarly in need of electric lighting at this time if the step were removed; it is considered that the benefit to the sitting rooms at the rear created by the stepped plan are greater than any potential negative impact from shading to the front.



21st December 10am



21st December 12pm



21st December 2pm