

# Samuel House - The Urban Envelope

Sri Lanka / Colombo, 0300

6.9146444, 79.8540472

**Client Name:** Archt. & Dr. (Mrs) Godridge Samuel

**Project website:** [www.mmgsarchitects.com](http://www.mmgsarchitects.com)

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## Project Description

In a tightly woven urban residential fabric, stands this residence with a soaring facade -a lucid white statuesque dream crowned in the rubble, amidst the differing skyline. Almost impermeable from the exterior both visually and physically, its outward appearance creates a mysterious mask while lending the impression that the enclosure enwraps a solid and formidable dwelling. Yet, the spaces the envelope defines remain open, green and accessible.

## Building Details

### Type of Building

Private Residence

### Type of project

New building project

### Site Area

401 m<sup>2</sup>

### Number of Floors

3

### Gross floor area

344 m<sup>2</sup>

### Net floor area

280 m<sup>2</sup>

### Non Air-conditioned area

200 m<sup>2</sup>

### Total Cost

EURO 85,000

### Cost per m<sup>2</sup>

EURO 780

### Year of completion

2012

### Year of occupancy

2012

## Project Team

### Organisation

MMGS Architects

### Website

<http://mmgsarchitects.com/>

Structural Engineer

Eng. Keerthi Ratnayake

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### Architech

Archt. Godridge Samuel

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### Architect's profile

mmGSarchitects was established by Chartered Architect, M. M. G. Samuel in February 1998. The company comprises of a creative and energetic team of young Architects and Consultants capable of handling complex design problems. mmGSarchitects strives to achieve excellence by producing unique designs through creativity which reflects individuality of both client and practice and provide them with more dramatic spaces, even within limited parameters such as land extent, cost etc..

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### Other (Please specify)

CQS. Sunanada Gnanasiri Quantity Surveyor

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## Climate Analysis

### Describe the local climate

Colombo has tropical monsoon climate and has sunny days throughout the year. The city temperatures varies between 24-31 C throughout the year. During the monsoon season, Colombo gets heavy rainfalls. Usually April to May and September to November records highest rainfall figures to Colombo city. And the biggest problem with city of Colombo is the high humidity content. Cross ventilation and the shading is the best solution

## Design Approach

### Concept

The unambiguous façade is a response to the surrounding facades. Unsightly rear spaces of unauthorized constructions, neglected service areas contend with the expression of this design. Implementation of an 'inward' concept was the solution to this issue:through Raised walls & bamboo tats. The threshold imparts a modern vibe conveyed by materials such as glass & Aluminium. Sturdy main walls stand parallel, finished in the characteristic stone rubble. Cross walls are composed of glass & visually pervious material, which promotes efficient cross ventilation in a comparatively compact layout. The design narrative of this house is two-fold. Modern materials lend a contemporary effect, while stone, antiques, and rustic timber temper the tone of the scheme. The coalition of materials is implemented by varying mutations of a single design element: such as louvers finished in glass, aluminum or timber.

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### Site integration

The living areas behold a pleasant surprise in the heart of an urban setting –a pristine lawn laced with fruit trees - an urban oasis, home to birds and squirrels, lulled by a constant charming breeze,a relaxing escape from the dense area.

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### Building design

The layout incorporating shaded, protected courtyards and gardens offers the best opportunities for passive cooling and light. The low plot coverage with an emphasis on open space is deemed to be advantageous. The prominent envelope, be it boundary walls or the built mass itself creates shade, protects from the highly urbanised neighbourhood and most importantly allows the effective use of outdoor spaces. the 'thin' building creates easy cross ventilation. Verandahs and overhangs offer effective shade possibilities for fenestration and indoor spaces.

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## Special Feature

### Natural Lighting

Daylight optimization is one of the main strategies of saving energy consumption in the building. The external boundary envelope itself creates shade as a large vertical blade. Similarly large overhangs, double skins with openable timber screens augment this approach.

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### Water efficiency

n/a

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### Passive heating/cooling

The building is located in an urban context where the all the buildings are connected with each other. The rear backyard is the only place where the landscape can bring some natural component to the building. The connection of the back yard and the house make the place much cooler. The solid side walls help to reduce the heat gain to the building. However, the linear site was handled to reduce the unnecessary heat gain to the building. The building materials pallet also help to reduce

urban heat island effect/ Low albedo walling materials and color pallet of the building reduce unnecessary radiation from the building.

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#### Cost effective features

The approach to build 'small' and allow much of its site to be open is deemed an important consideration.

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#### Eco-friendly features

The primary approach is to build on the smallest footprint possible. Thus, enhancing the quantum of open space. A 'thin' built form shades, while optimising possibilities for cross ventilation.

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## Energy systems

#### Interior Lighting

LED / CFL no controls adopted

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#### Exterior Lighting

LED no controls adopted

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#### Ceiling Fans

Ceiling fans are used only in the private areas. The more public areas of the house use floor standing fans.

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#### Air-conditioning

Only for bed rooms. Split type A/Cs.

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#### Lift

n/a

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#### Energy efficient systems

Solar PVs occupy almost all roof space that not utilised as terraces. Total area of the solar panels are 24 m<sup>2</sup> Solar hot water panels are also used.

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