

ONG & ONG

Founded by the late Mr. Ong Teng Cheong & Mrs. Ong Siew May in 1972. With a track record of over 40 years in the industry, **ONG&ONG** has earned an unparalleled reputation for integrated skilled in architecture, clever interior design and sensitive landscape design thus creating resonant outcomes. We continually strive to uphold our mission to be the designer of our age – a premier design practice both locally and in the region.



our reach /



ONG&ONG
group

- Singapore
- China (2)
- India
- Indonesia
- Malaysia
- Mongolia
- Myanmar
- Philippines
- Thailand
- Vietnam (2)

IN FY 16/17

The **ONG&ONG**
Group is powered by

642

PROFESSIONALS
specialising in various
disciplines, working in
12 offices worldwide



We've secured a total of

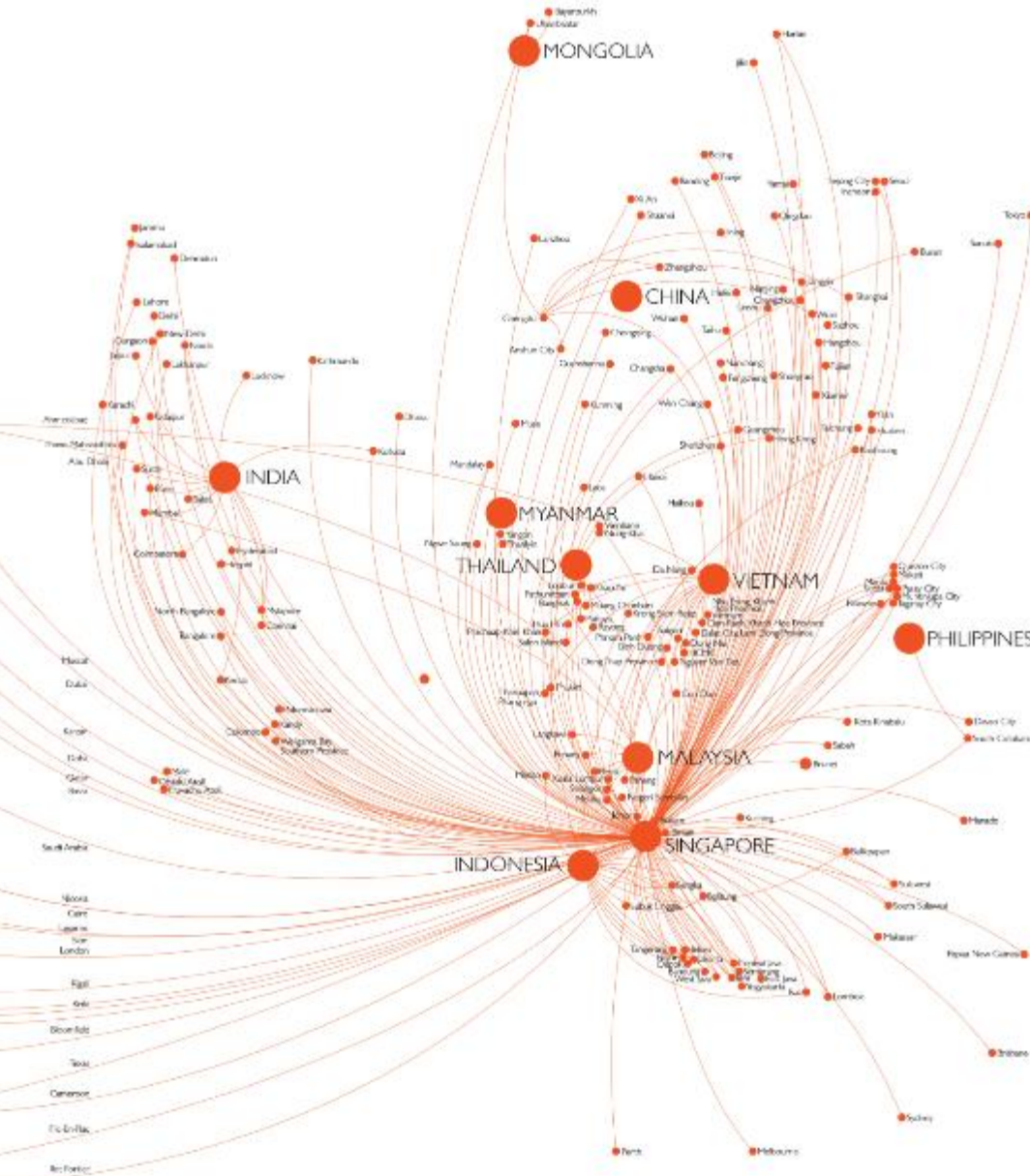
340
Projects



250
Singapore



90
International



Our group completed

221 
PROJECTS

207
Singapore

14
Around
the globe

notable award-winning projects

Boulevard Vue, *Singapore*

architecture • engineering • interior
• landscape / **residential**

Asia Pacific Property Award
Highly Commended, 2015

FIABCI Singapore Property Award
Winner, 2014



The Scott Tower
Singapore

architecture / **residential**





National Heart Centre, *Singapore*
architecture • landscape / **institutional**

—
BCA Green Mark Award
Platinum Winner, 2012

Design and Health Award
Commendation, 2011

MIPIM Asia Award
Winner, 2010

Al-Ansar Mosque, Singapore
architecture • lighting / religious

**American Architecture Prize,
Restoration and Renovation Category
Winner, 2017**

**MIPIM Asia Award
Best Refurbished Building,
Silver, 2015**

**WAN Adaptive Reuse Award
Finalist, 2015**





Audi Centre, Singapore
architecture / **commercial**

—
Asia Pacific Property Award
Best Retail Architecture Singapore
Winner, 2014

SIA Architectural Design Award
Winner, 2014

MIPIM Asia Award
Gold Winner, 2013



55 Blair Road, *Singapore*
architecture / **conservation**

—
ArchDaily Building of the Year Award
Winner, 2009

Asia Pacific Property Award
Winner (Best in Singapore & Asia Pacific), 2011

Colombian Diaspora Architecture Award
Gold Winner, 2012

International Architecture Award
Winner, 2011

Singapore Architectural Design Award
Honourable Mention, 2013

URA Architectural Heritage Award
Winner, 2010



Grange Infinite, *Singapore*
interior / **residential**

| **Asia Pacific Property Award**
Highly Commended, 2013



The American Club, *Singapore*
interior / **retail**

| **Asia Pacific Design Biennial Award**
Outstanding, 2012

Asia Pacific Property Award
Highly Commended, 2013



Orchard Central, *Singapore*
landscape / retail

| **Asia Pacific Property Award**
Best Landscape Architecture, 2012



King Albert Park MRT station, *Singapore*
architecture/ **transport**



World
Architecture
Festival
2017
Finalist

Kamala Kandara, *Bekasi, Indonesia*
architecture • brand engagement • interior
residential

—
**World Architecture Festival,
Future Residential Projects**
Finalist, 2017

Vietcombank Tower
HCMC, Vietnam
architecture / office



Satoria Tower
Surabaya, Indonesia
architecture / office





CT Hub, *Singapore*
architecture • lighting / **industrial**



Indian Heritage Center, *Singapore*
lighting / institutional

| **BCA Green Mark Award**
Gold^{Plus}, 2014



Trans Studio Mall, *Bandung, Indonesia*
branding / **retail**

INDONESIAN EXPERTISE



Architecture

THE SUMMIT, Jakarta, Indonesia (Completed in 2007)

Residential Superblock



Multi-storey Residential Superblock

GFA 130,000 sqm

Client: PT. Summarecon Agung Tbk

Architecture, Landscape, Interior, & Lighting

MARVELL CITY, Surabaya, Indonesia (Phase 1 completed in Dec 2015)

Mixed Development comprising of Residential, Hotel, Office, and Retail



Mixed-use Development (Launched 27th May 2012)

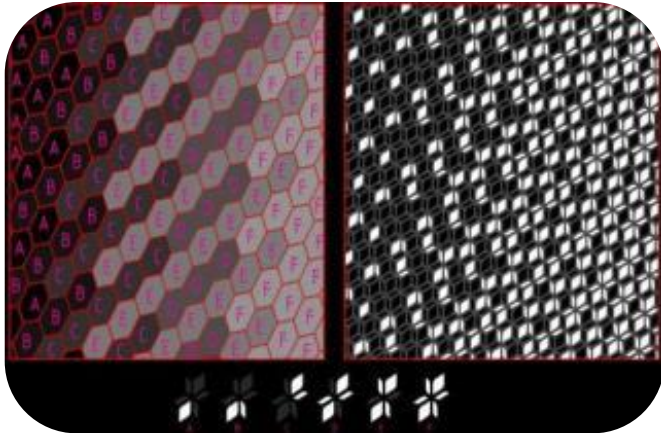
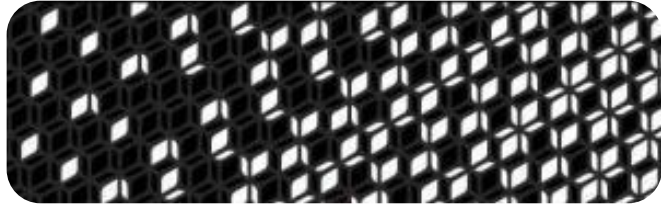
GFA: 180,000 sqm

Client: PT. Assaland

Architecture

INDIGO DESIGNATED HOTEL, Jimbaran, Bali

Boutique Hotel



Geometric and repeated pattern modular of **BATIK**

Organic curved forms **BALINESE FLORA & FRUIT**

Application of pattern to screen **FACADE**

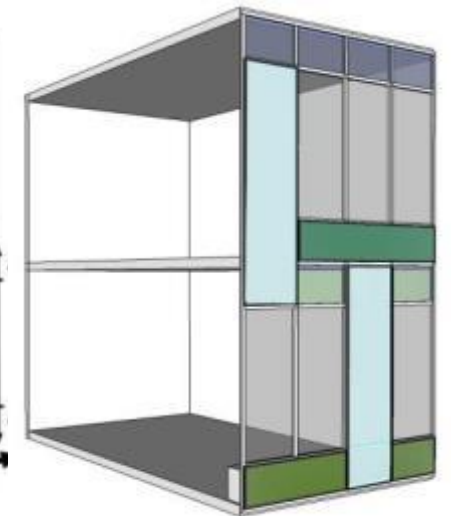
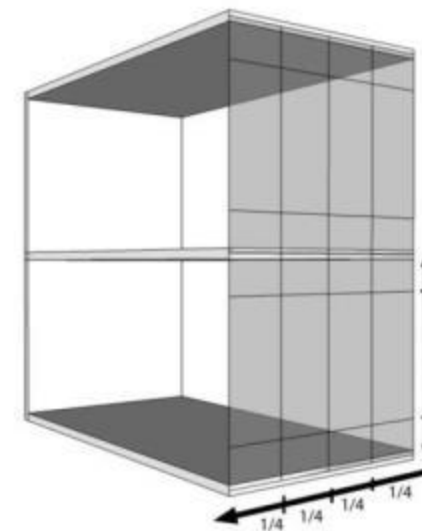
Modular element of screen facade acts as **SECONDARY MARK**



Architecture & Interior

PARK HOTEL, Medan

Boutique Hotel



Boutique Hotel, Medan

GFA: 16,000 sqm, 308 rooms.

Client: PT Global Capital Land

Architecture, Interior, Landscape, & Lighting

RESORT VILLA DEVELOPMENT, Bali

Resort Hotel and Villas



5 star Hotel and Villas at Bali

Site Area: 4.02 Ha

GFA: 66,000 sqm

Client: PT. Satoria

Architecture

WANG RESIDENCE , Jl. Panjang, Jakarta

Luxurious Residential Apartment



Luxurious Residential Apartment at Jalan Panjang, Jakarta.

GFA: 45,000 sqm, 284 units.

Client: PT Citicon Adinugraha

Architecture, Landscape, & Interior

GOLD COAST SEA VIEW APARTMENT, Jakarta

Mixed Development comprising of Residential & Offices



Mixed-use Development

Site Area: 6 Hectares

GFA: 258,000 sqm

Client: Agung Sedayu Group

Architecture

KAMALA KANDARA, Bekasi

Mixed Developments Comprising of Residential and Amenities



World
Architecture
Festival
2017
Finalist



Mixed Development at Bekasi, Indonesia

Site Area: 1.3 Ha GFA: 185,000 sqm

Client: PT. PP Property

Master Plan

VASANTA INNOPARK, Bekasi

Mixed Development comprising of Luxury Apartments, Condominium, Service Apartment, Office Towers, Hotel, with Lifestyle Retail.



Mixed-use development at Bekasi, Indonesia

Site Area: 11.8 ha

GFA: 945,896 sqm

Client: PT Sirius Surya Sentosa

what is 360°?









Quincy, Singapore

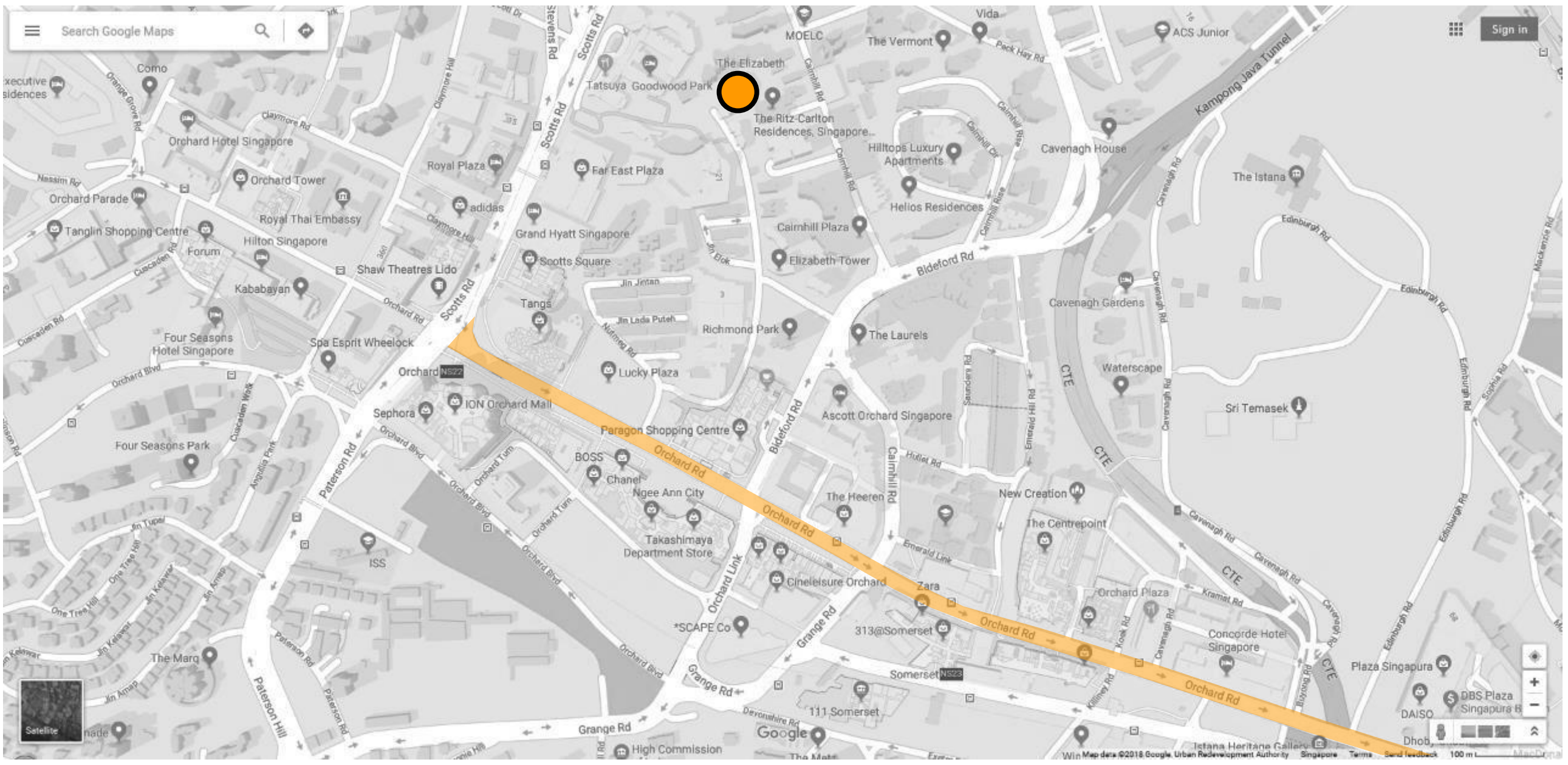
architecture • interior • landscape • branding / **hospitality**

—
Asia Pacific Property Award
Winner (Best in Singapore & Asia Pacific), 2011

FIABCI Prix d' Excellence
Runner-up, 2011

HA+D Award
Winner, 2011

SIA Architectural Design Award
Winner, 2011

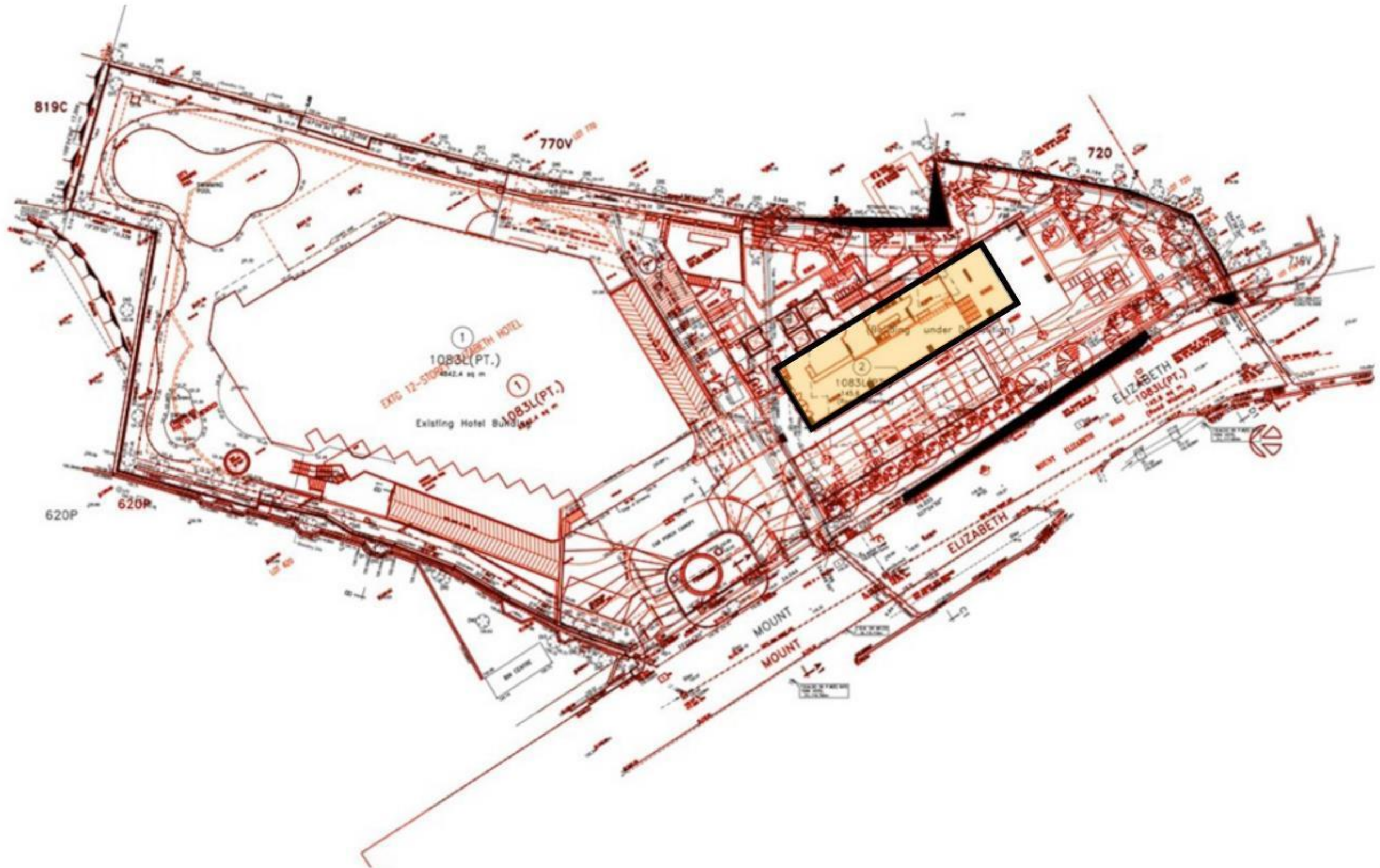


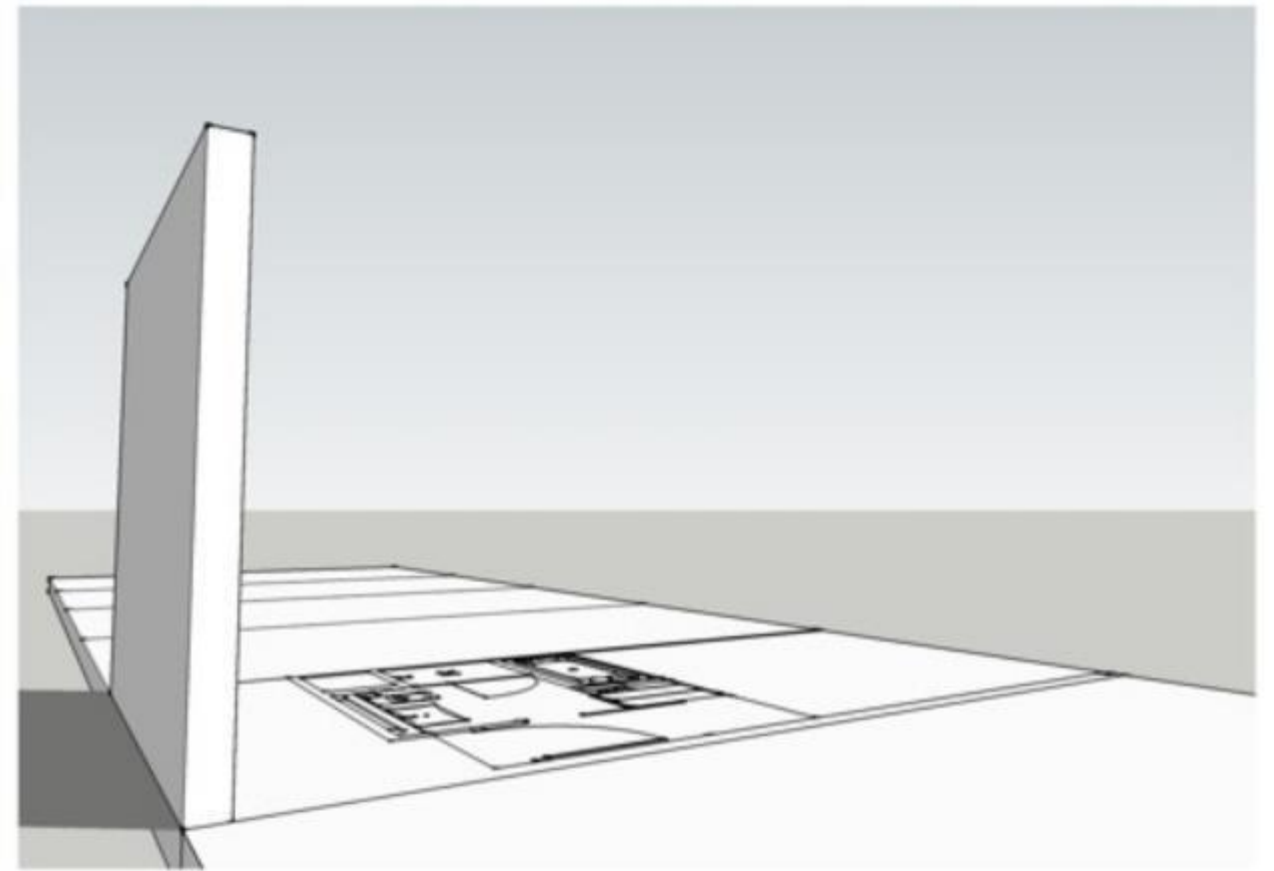
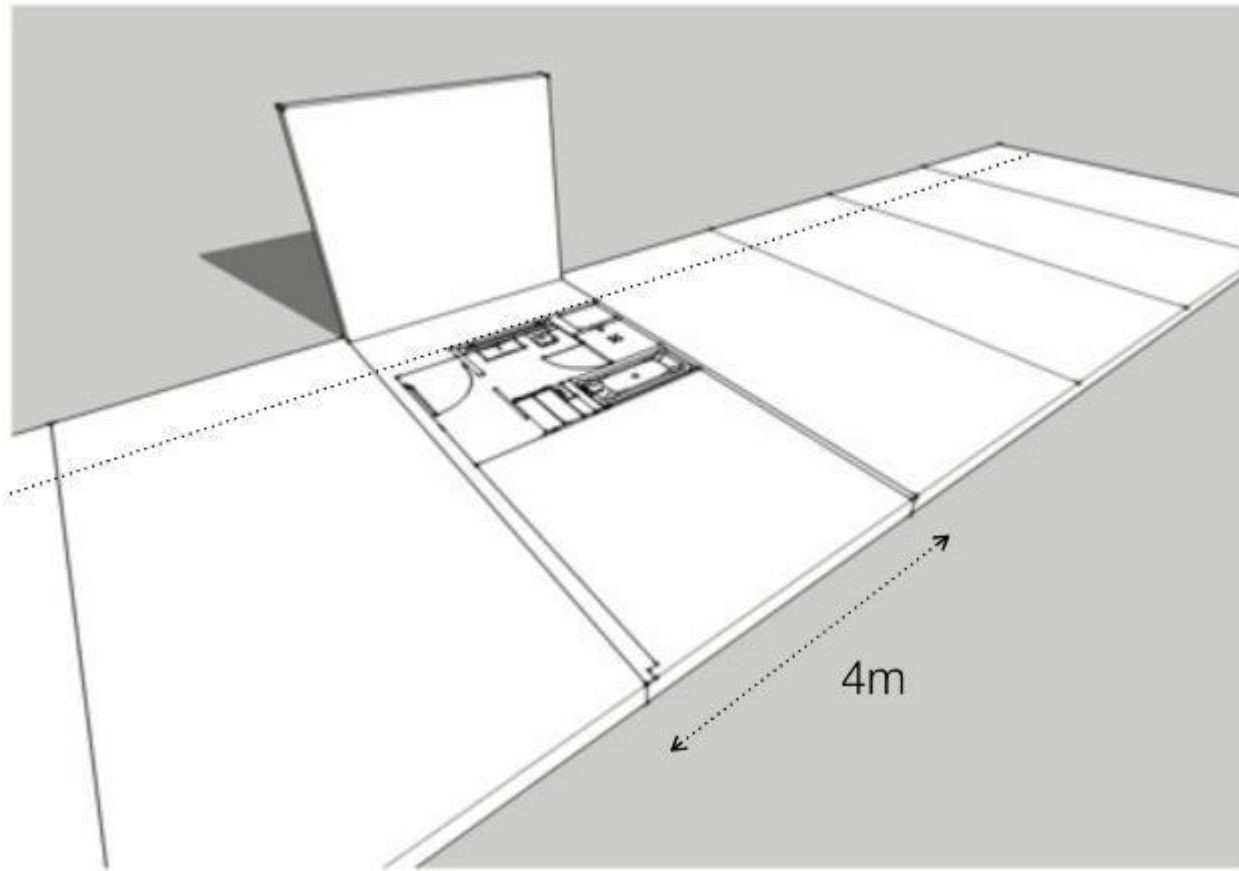


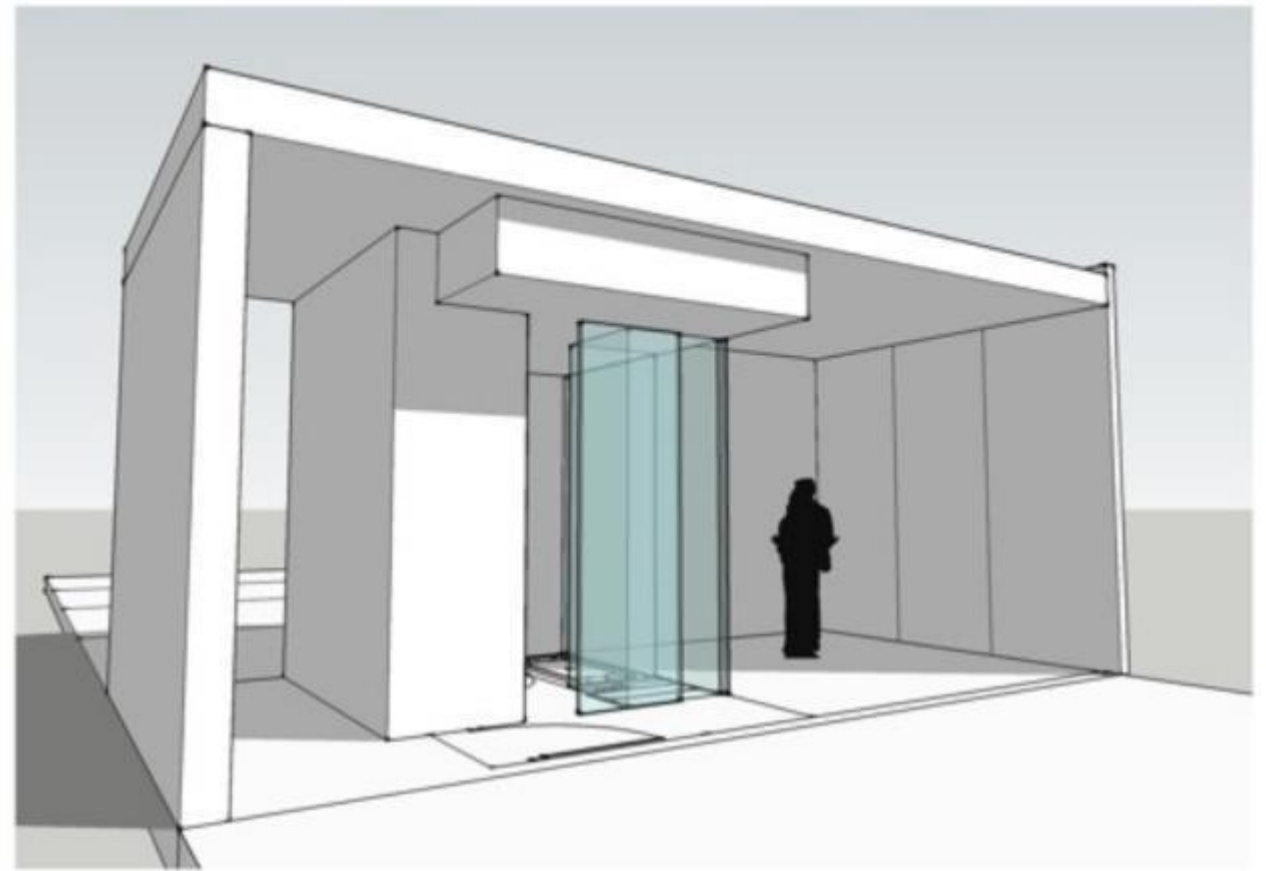
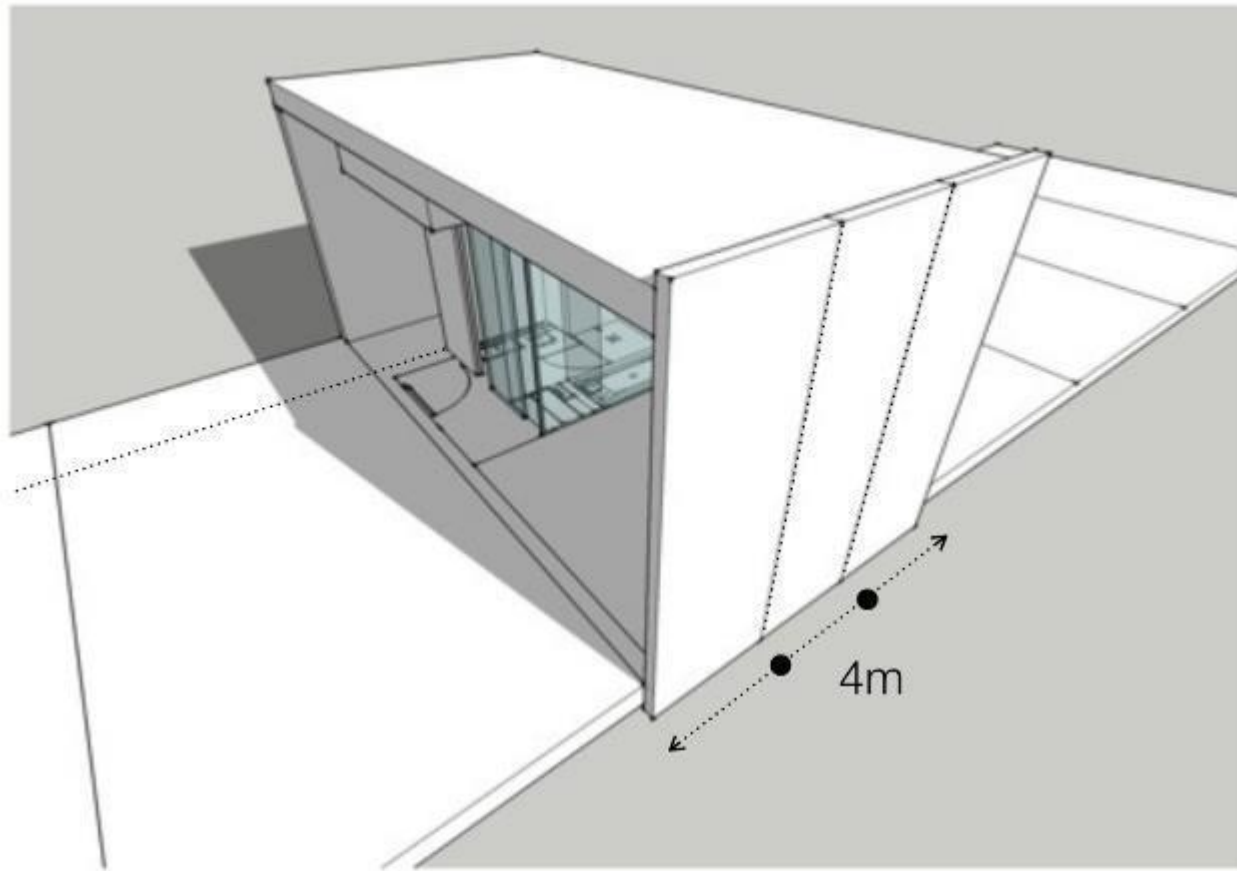


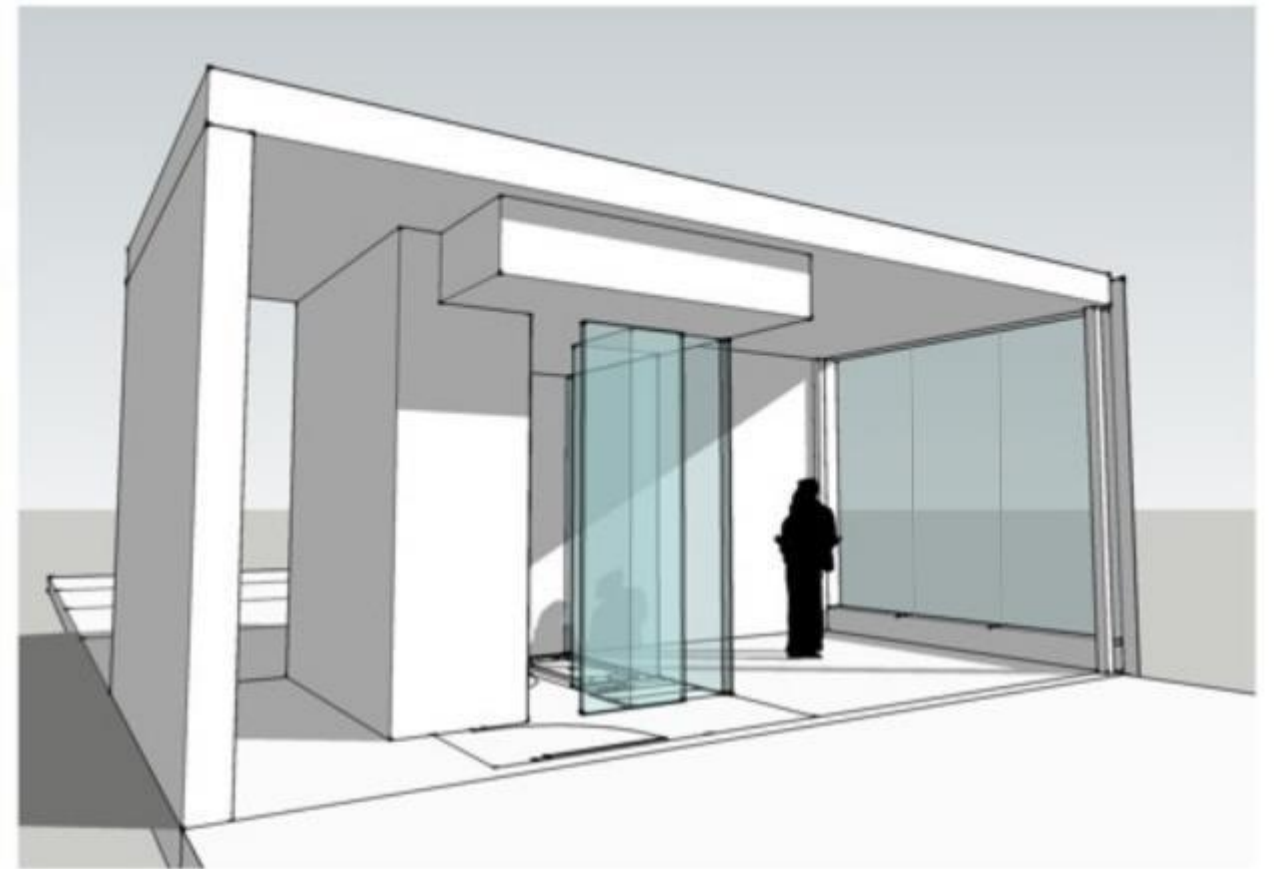
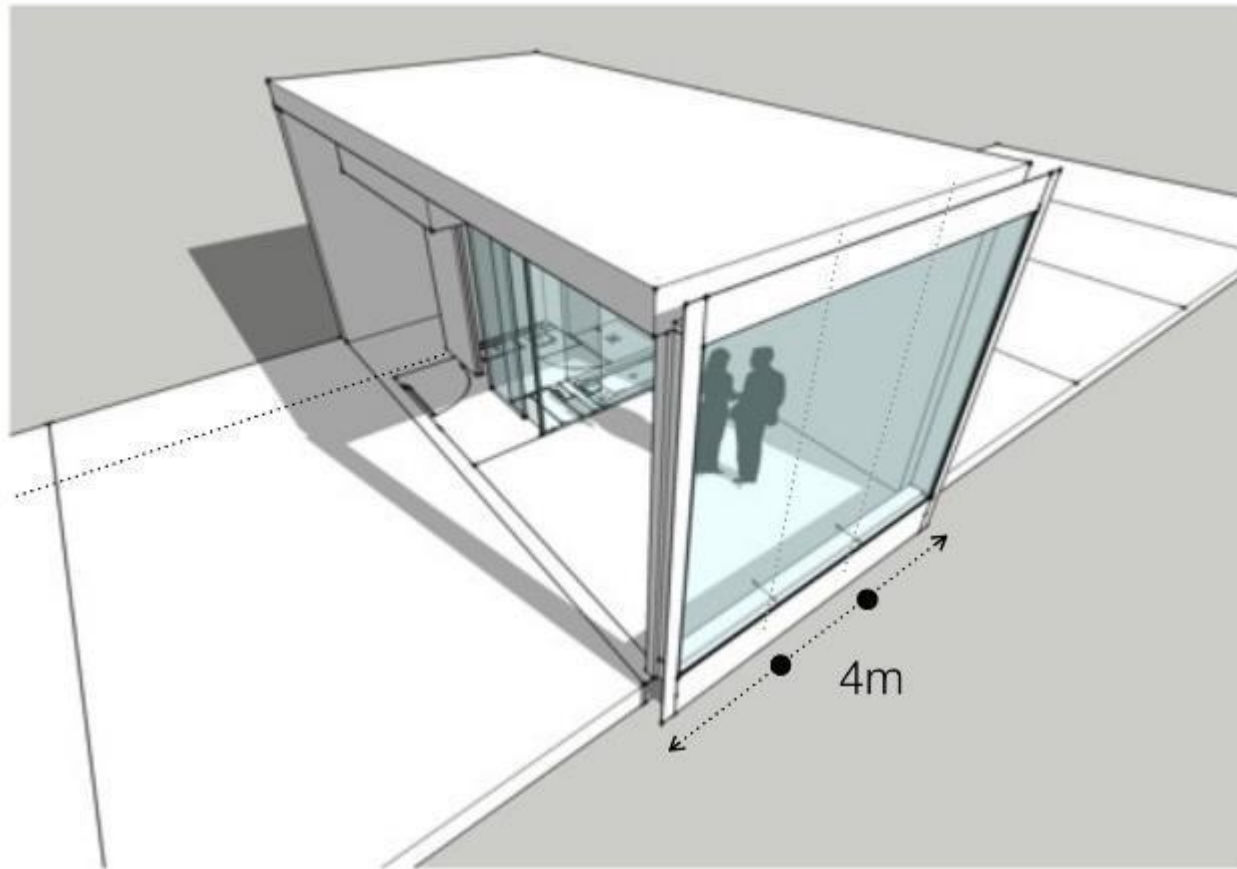

the
Elizabeth

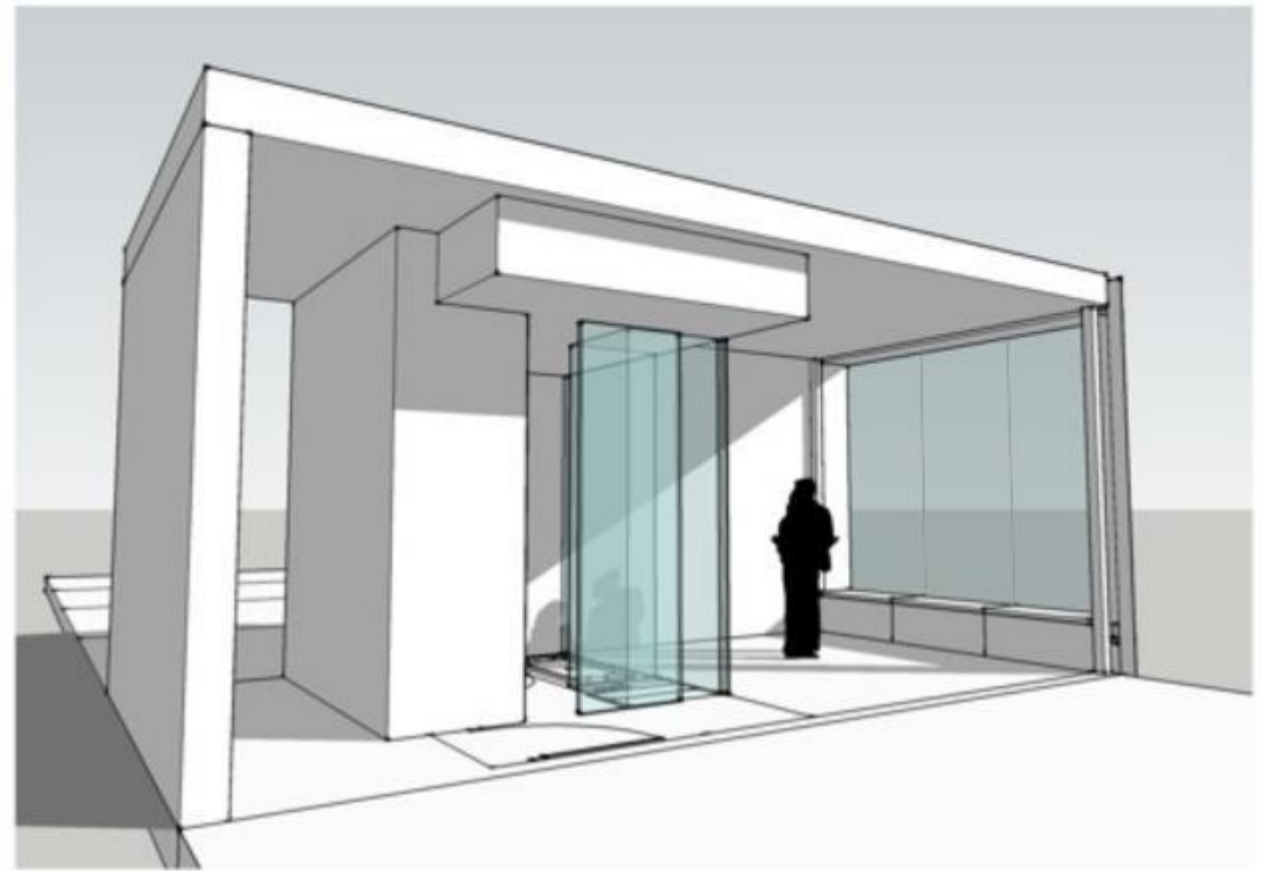
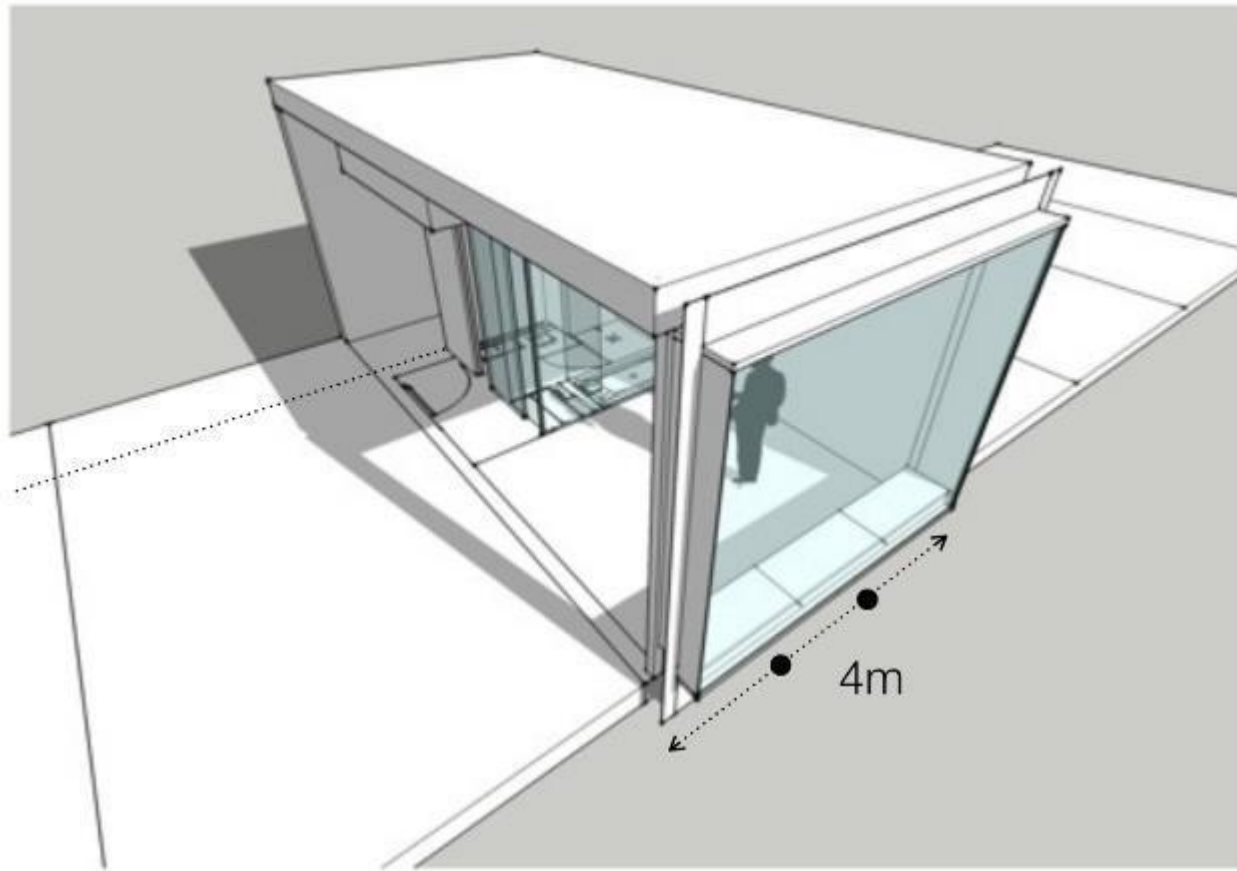
S I N G A P O R E

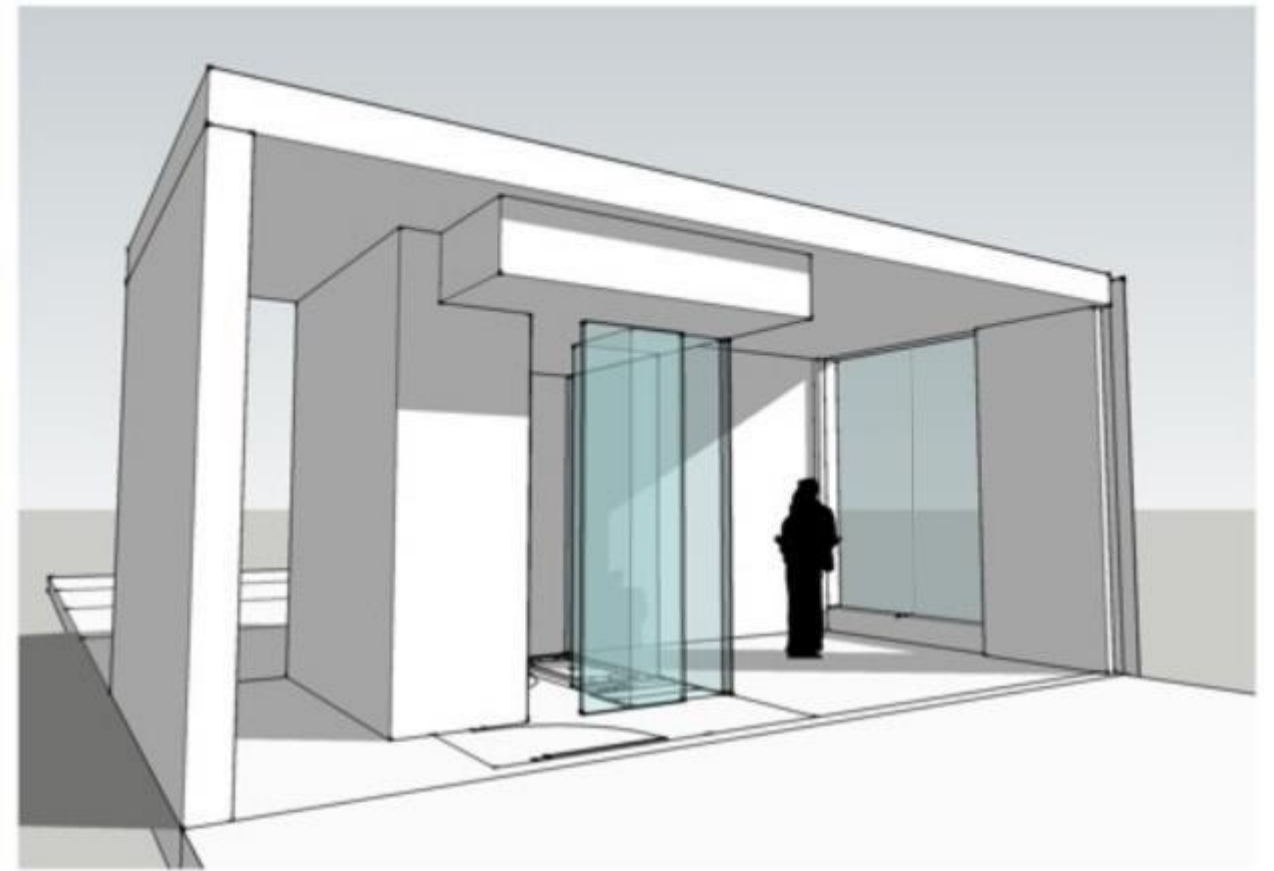
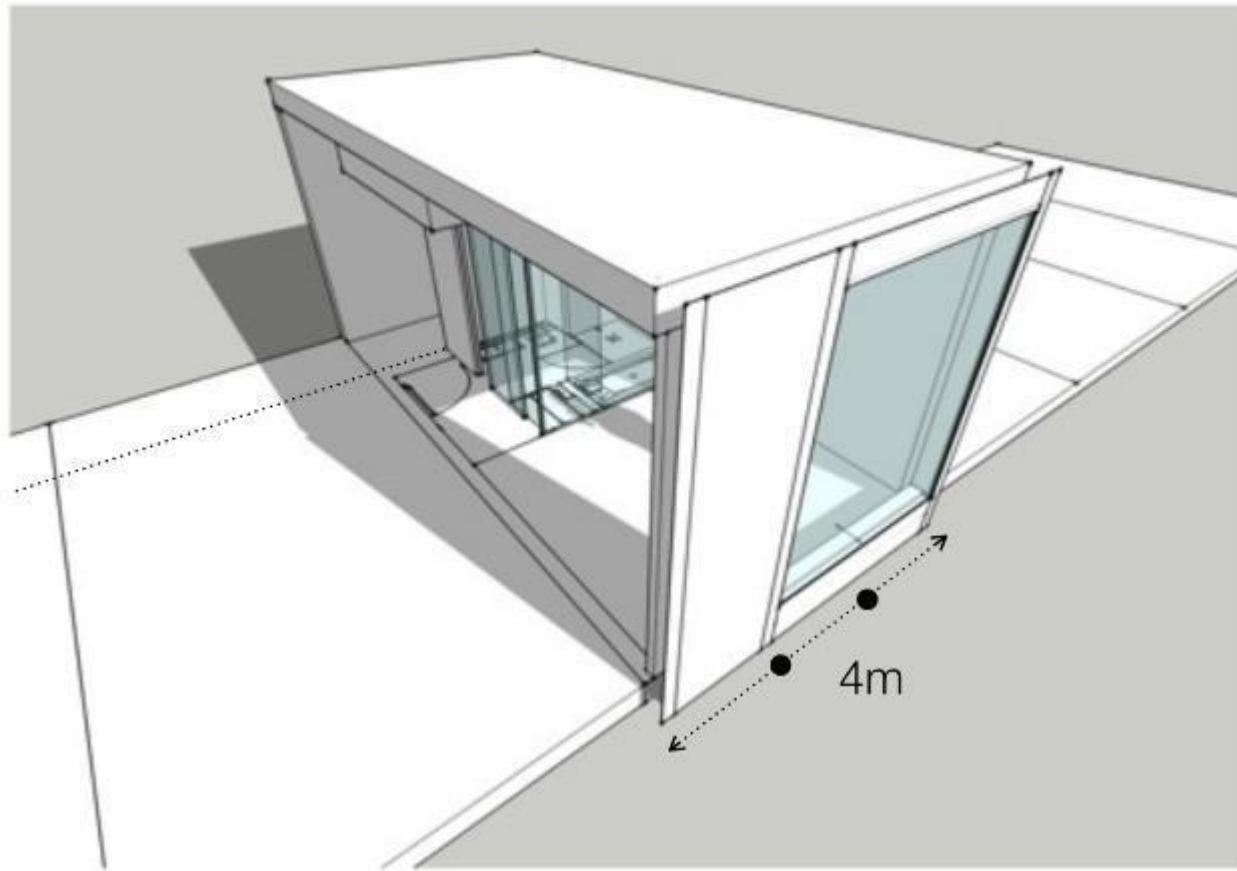


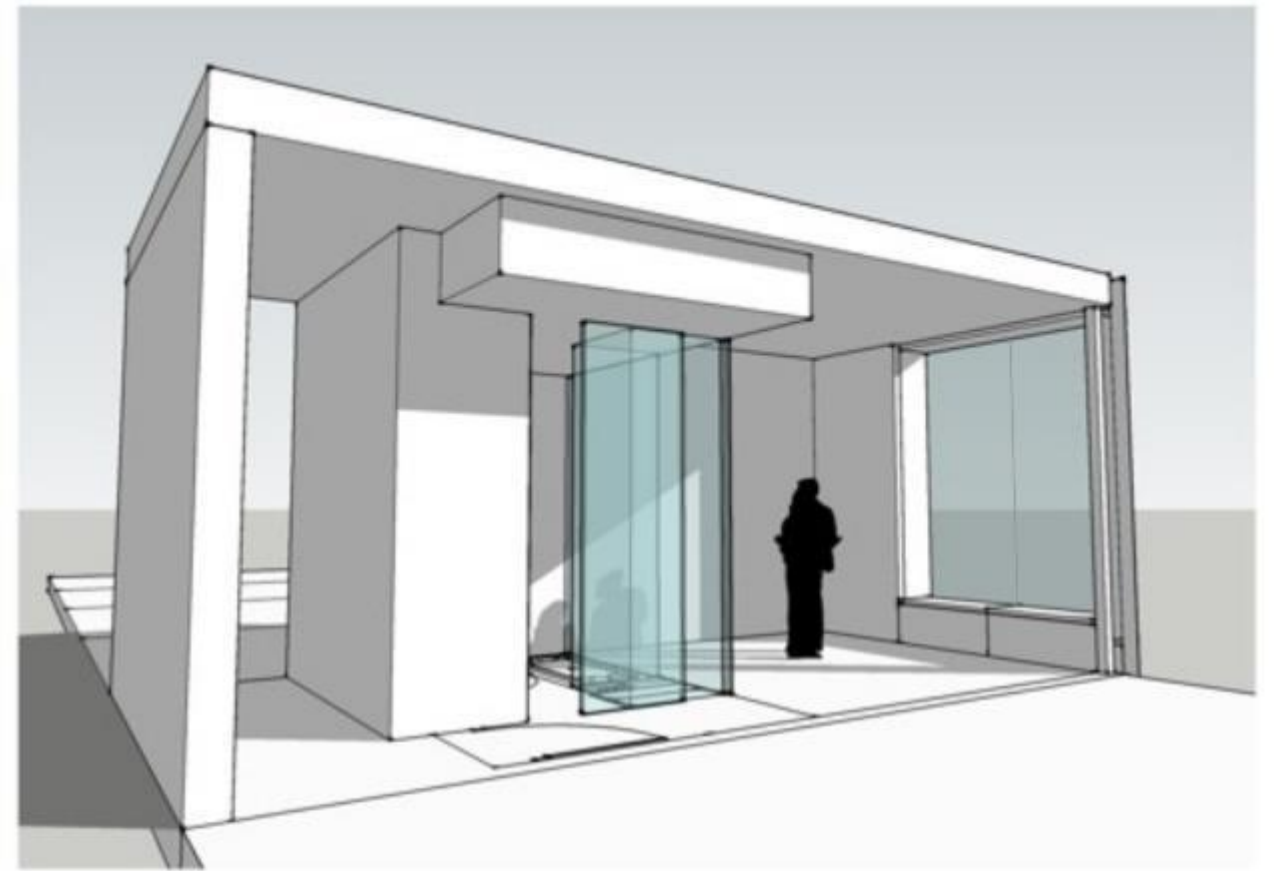
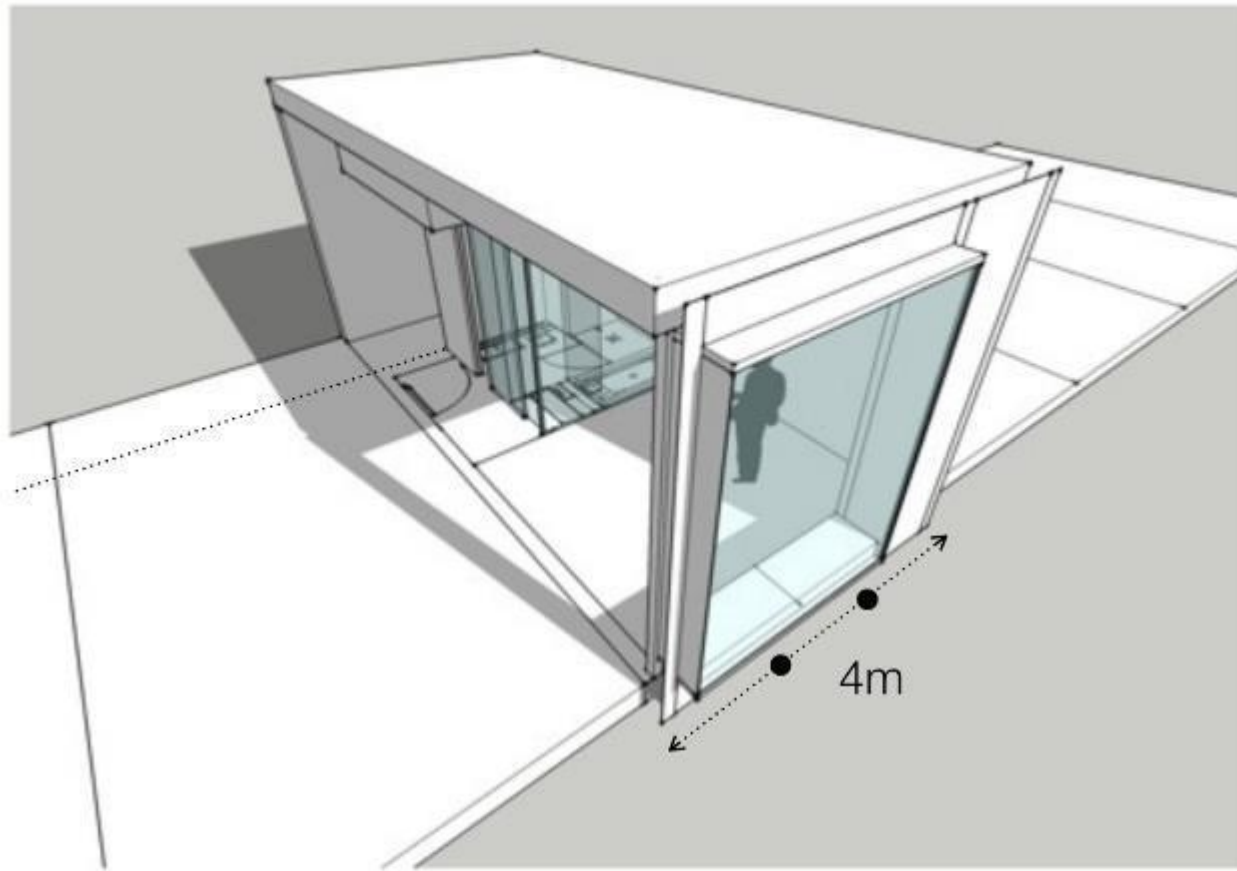


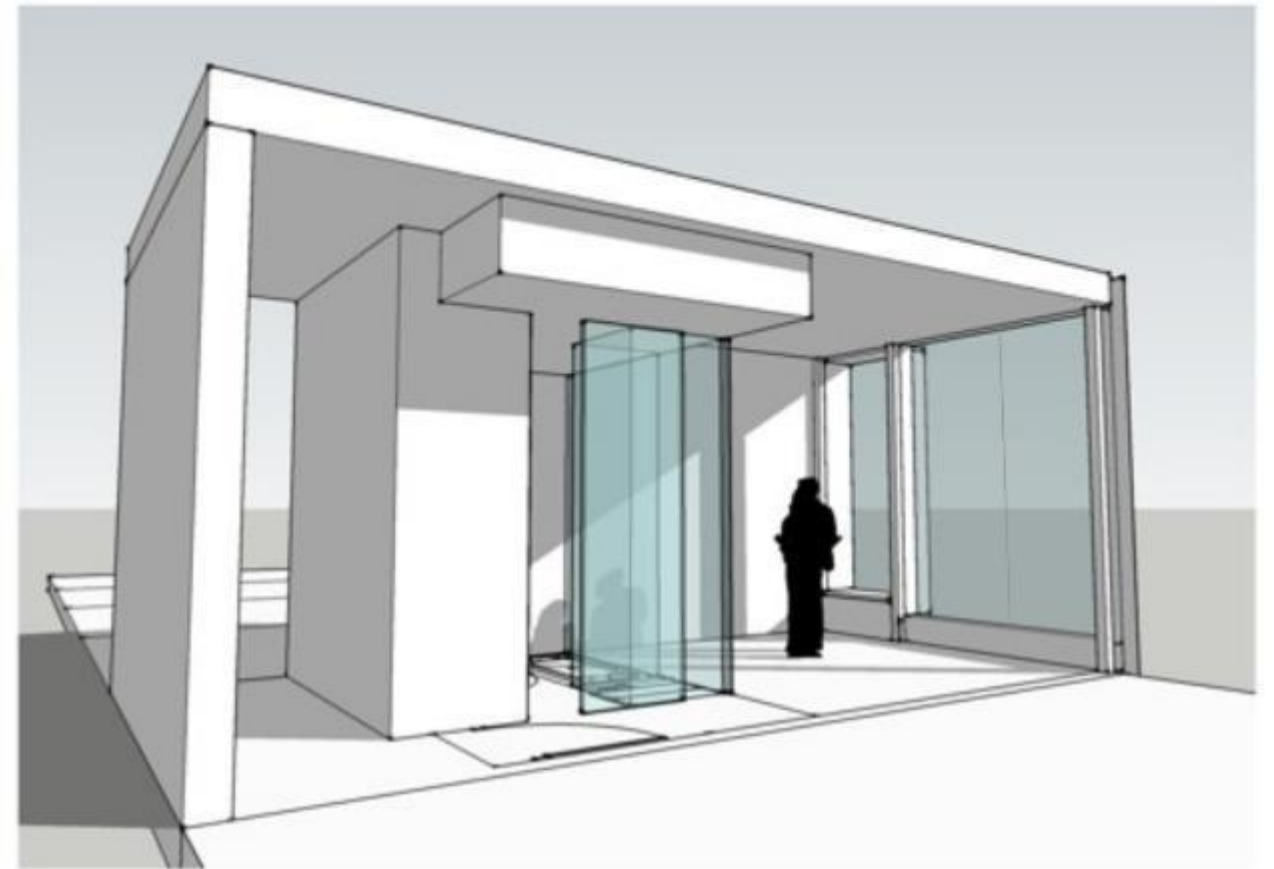
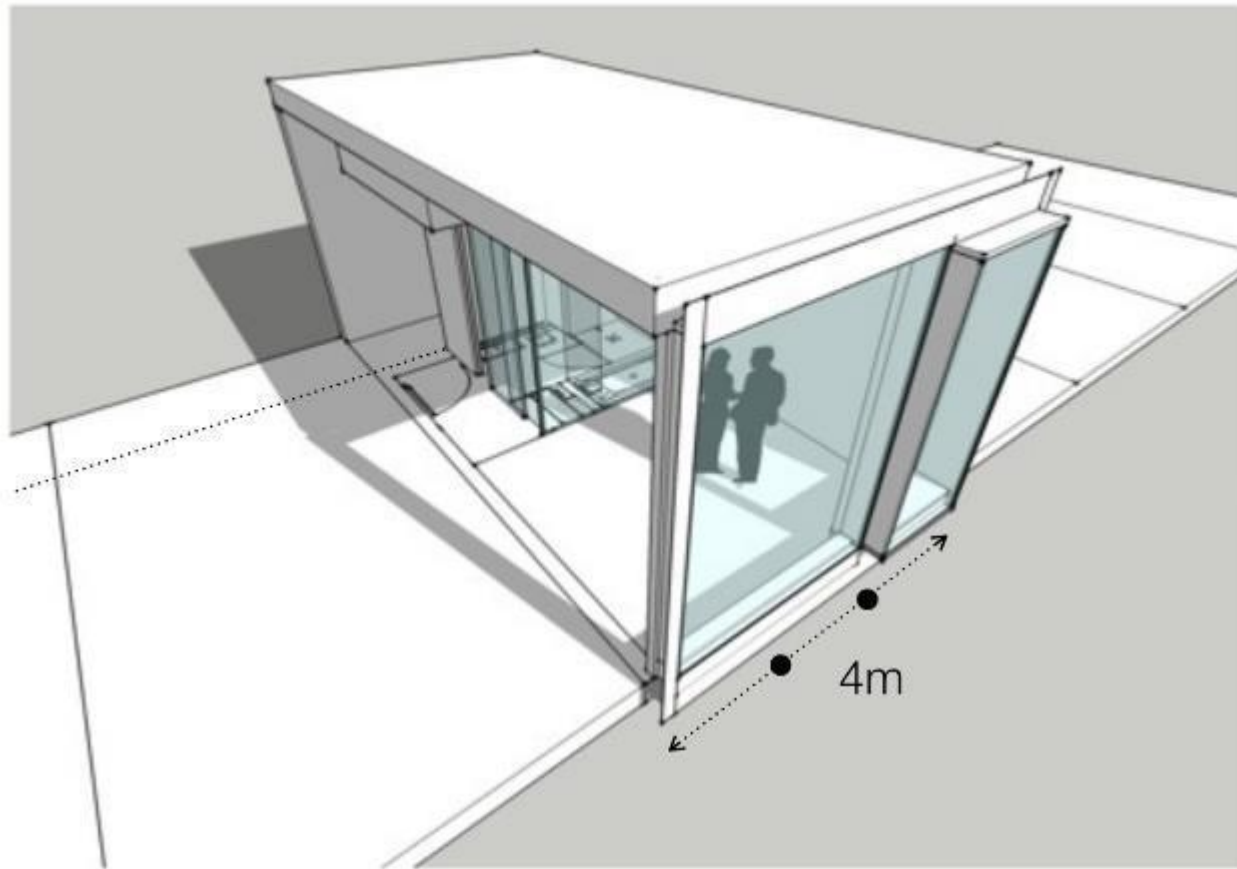


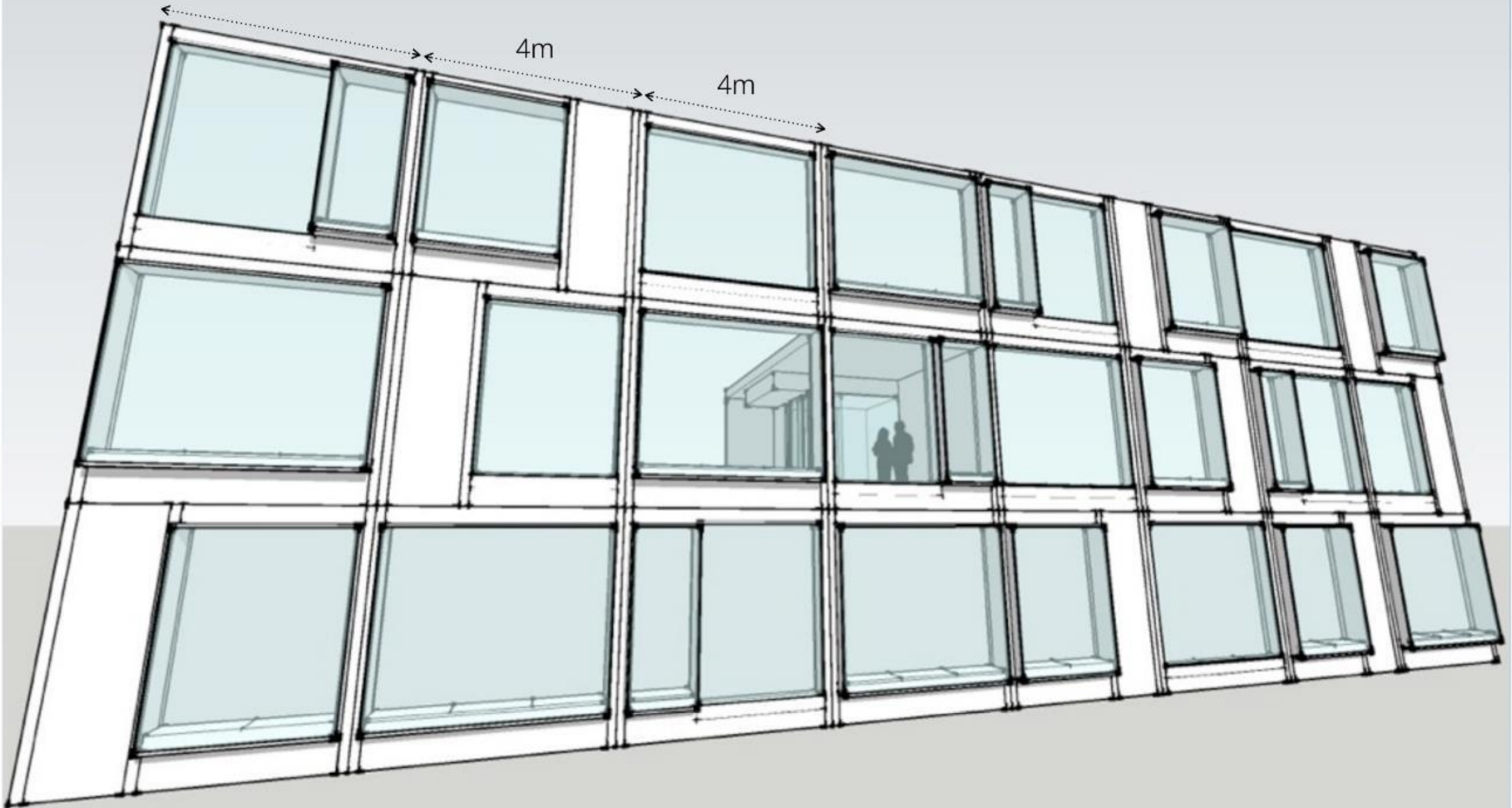


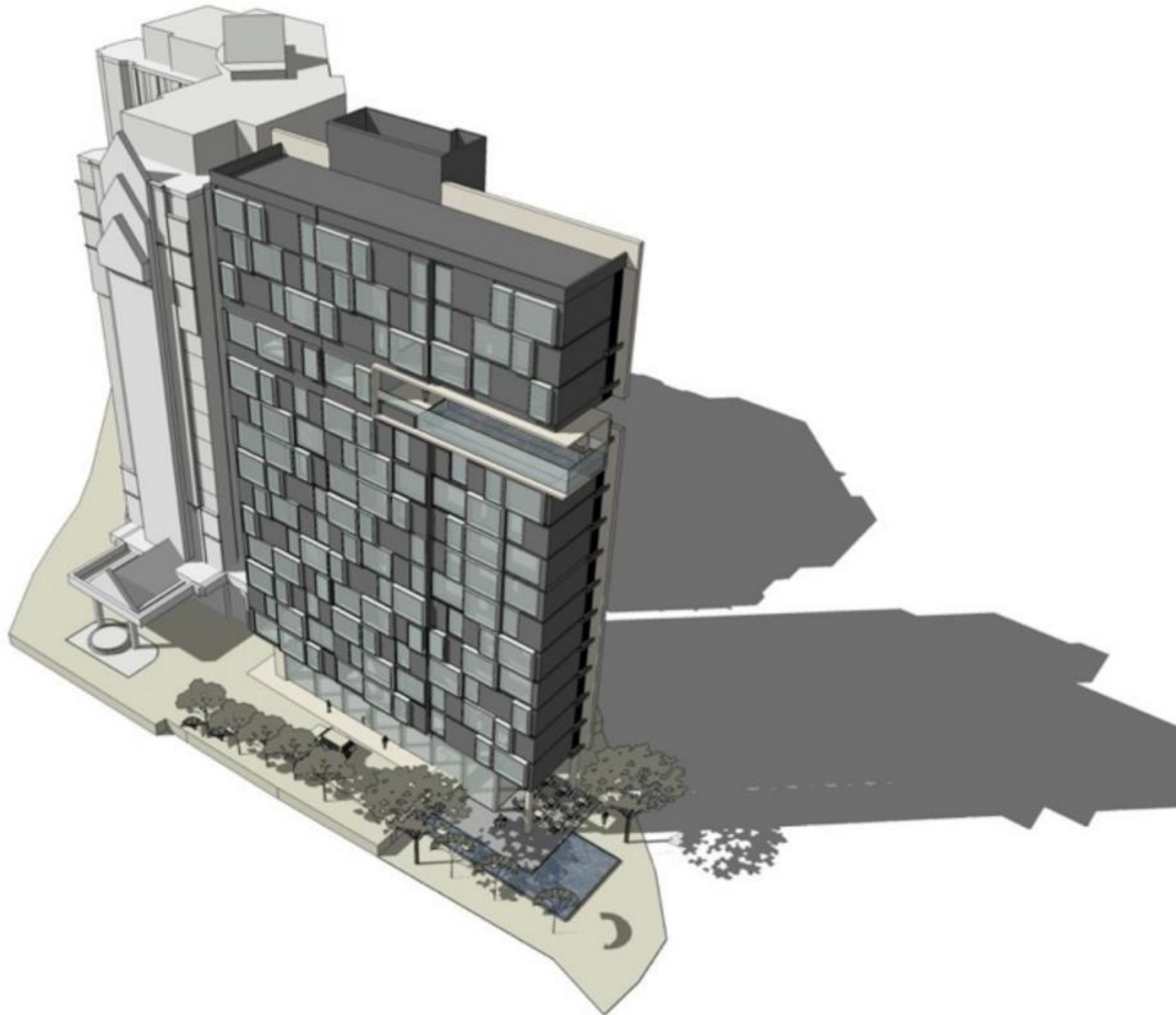


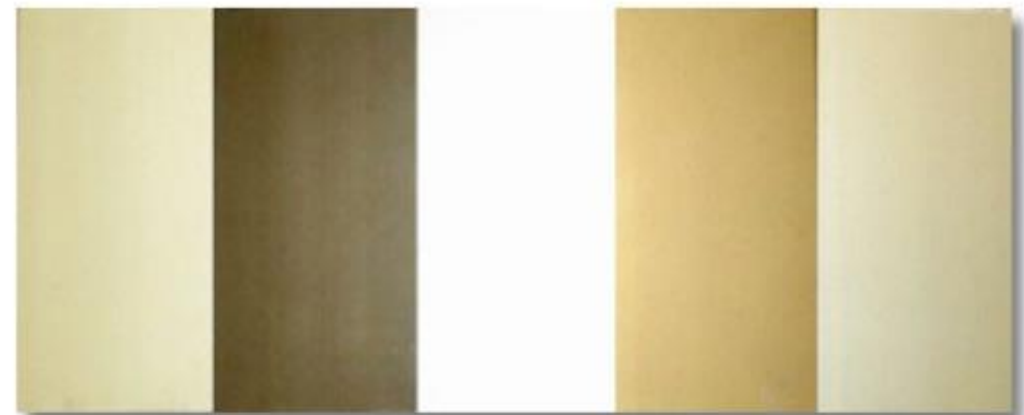
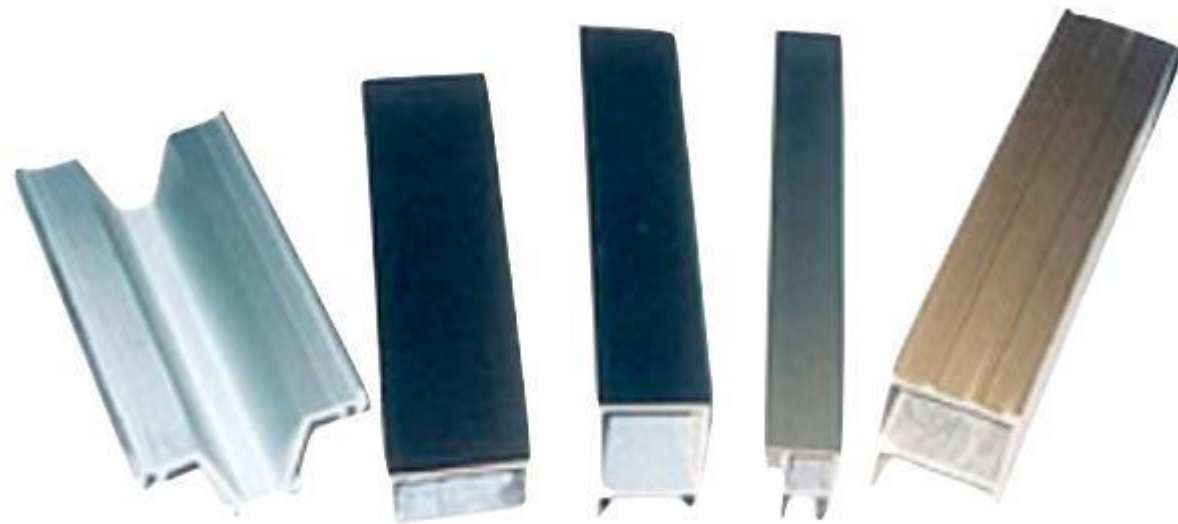
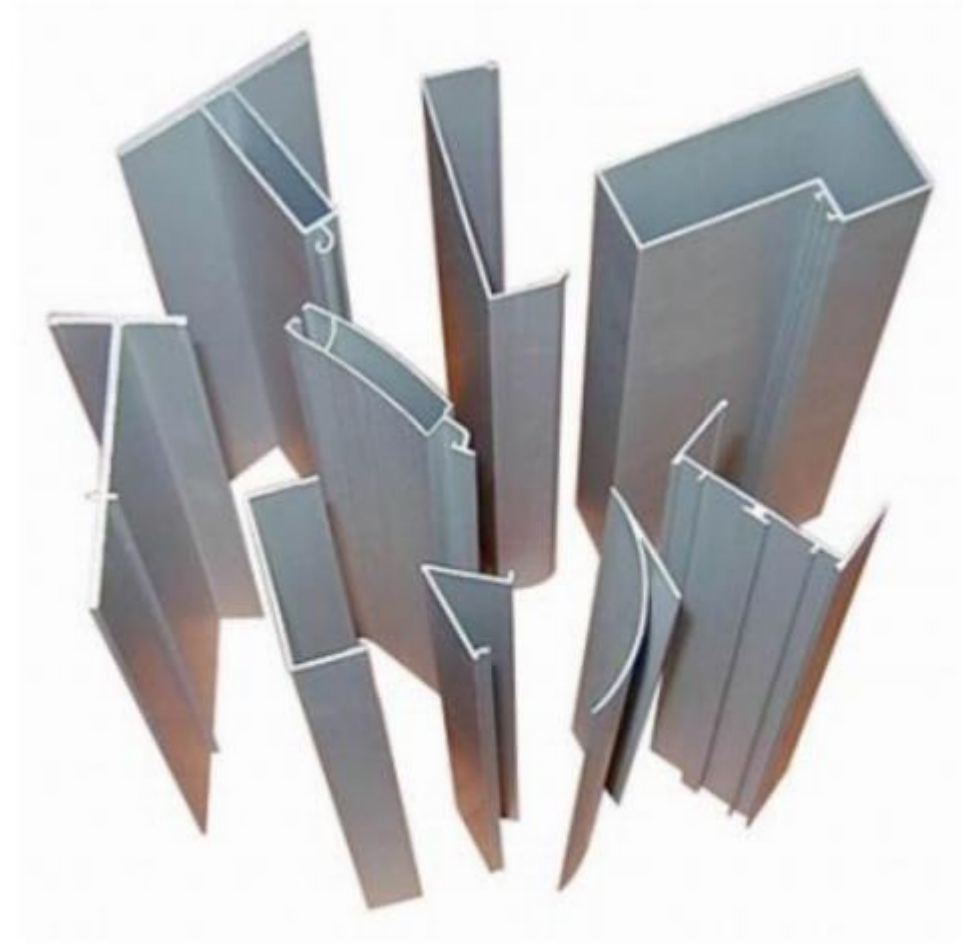
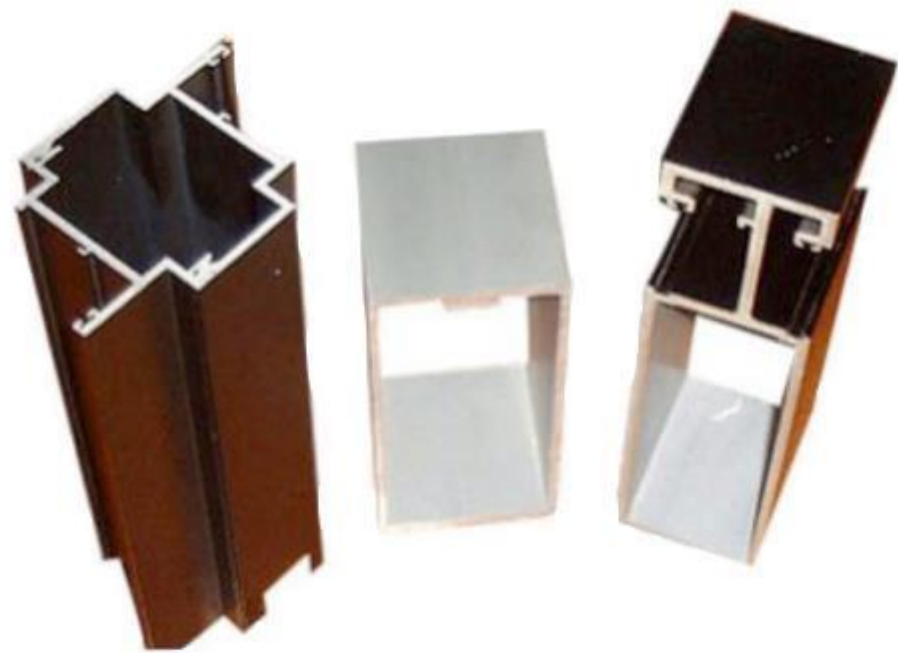




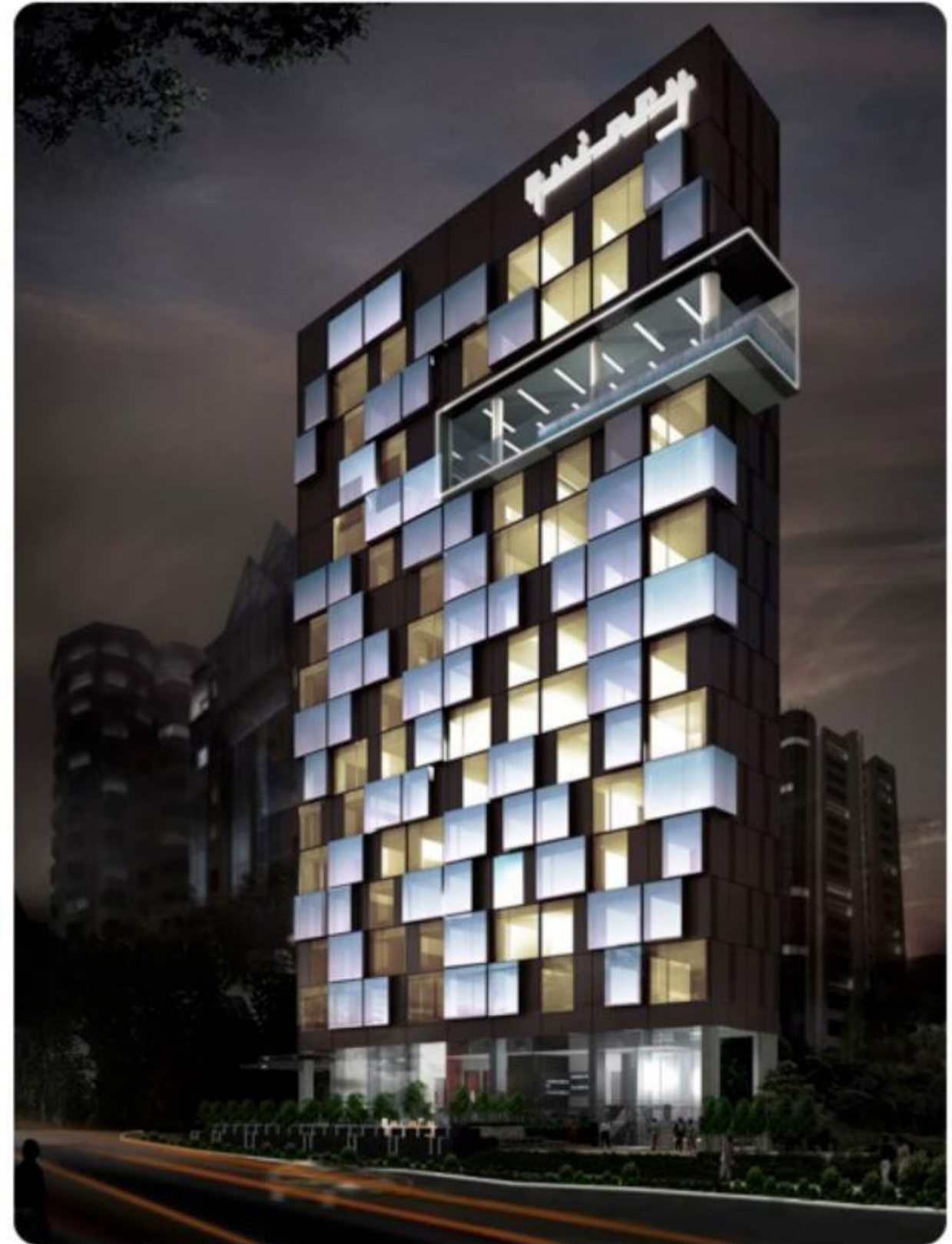








سكنية





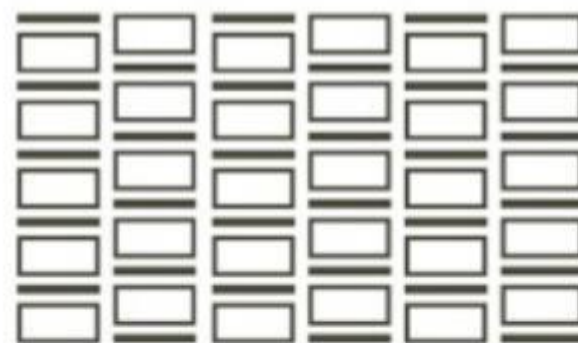
Main Mark

Logotype Concept

The monolithic structure of the logotype, with its right angled turns and constant stroke weight captures the essence of the facade of the building. It becomes a distinctive symbol, that reflects certain characteristics that will appeal to its target user.

The Secondary logotype also makes reference to the modular structure of the facade, but this time generating a pattern that echoes and supports the main logo. Symmetry is added to give order to the dynamic pattern.

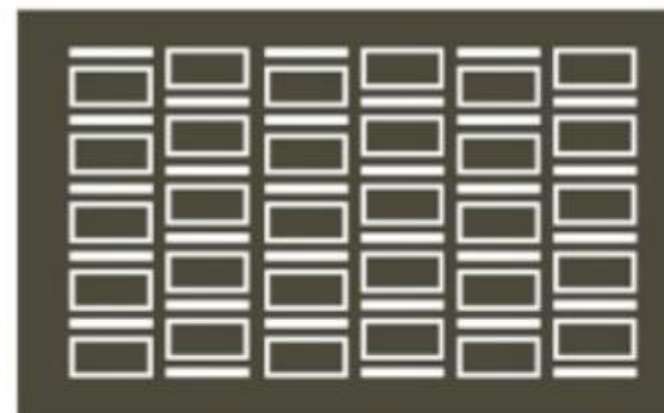
The font used for the main mark is Bousini Carre Medium, developed in 2002 by Bachr Soussi Ghadmi. Because of its outstanding characteristics, it is a strong element in the consolidation of brand identity.



Secondary Logotype

Pantone 420U

Pantone Process Black



Inverse Variation



Auxiliary Mark



Logotype Guidelines

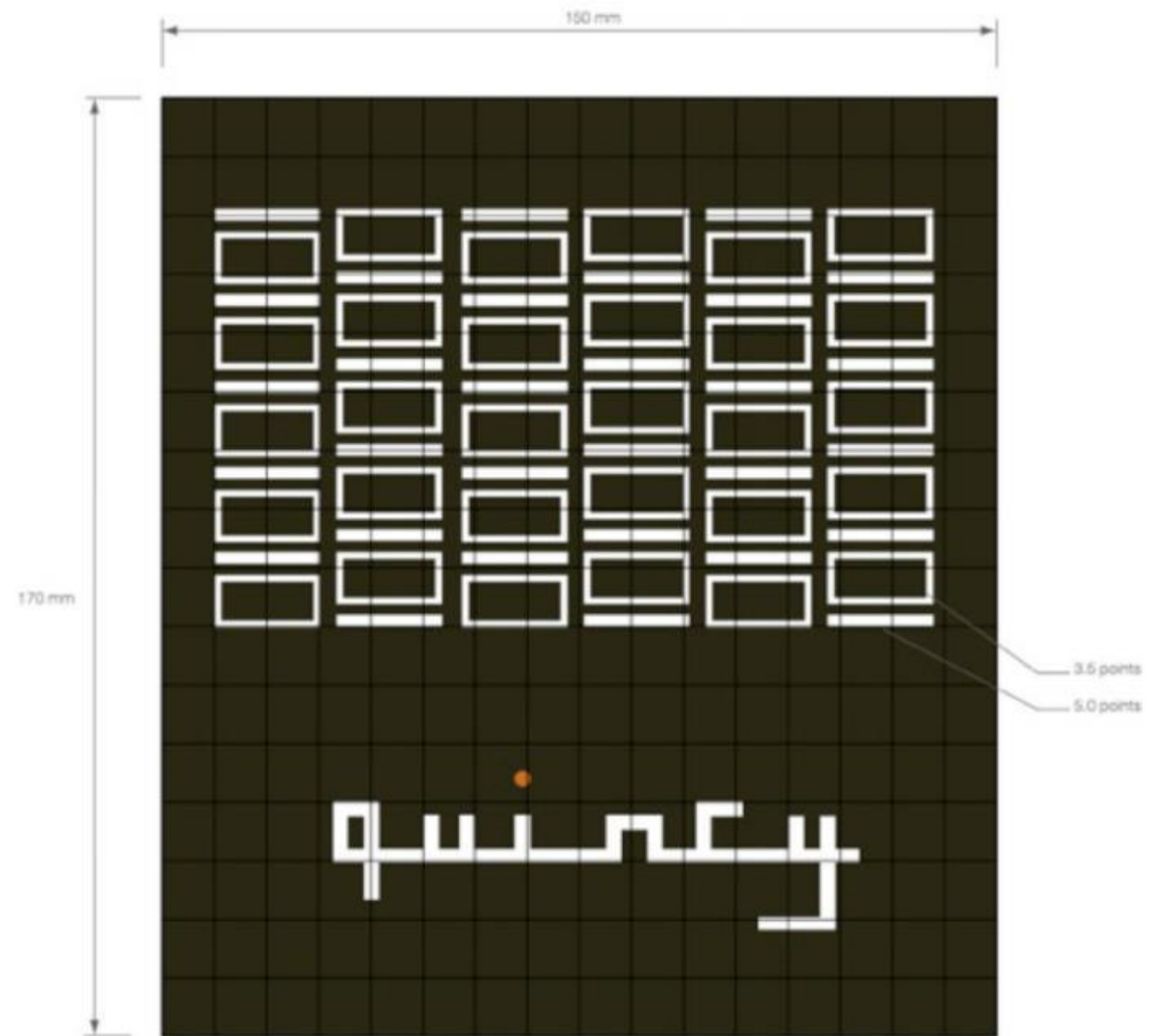
The Main Logotype should be used for all applications on a white or on a very lightly colored base. These include letterheads, envelopes and additional stationery products.

For all other applications that require the use of the logo over a colored base (Secondary colors, only), the option on the right should be used. No paragraph text should be used along the reverse logo. This kind of use should be restricted to signage and collaterals.

On the right you will find three different sizes and the proportions of the logotype with the secondary mark. Other sizes may be used keeping this proportion.

Color Guide

Main	Secondary	Tertiary
PANTONE Solid Uncoated Colors	C M Y K	
	38 93 52 40	
	40 32 54 45	
Pantone 462 U	43 95 87 57	
Pantone Process Black	41 91 32 50	
	24 85 32 96	
	36 53 95 29	
	38 64 91 41	
	50 59 32 57	
	62 49 34 52	





سكنسو



پول سميث



Paul Smith

Paul Smith

SHOP

NEWS

COLLECTIONS

PERSONAL

COMPANY

MUSIC

NEWSLETTER SIGNUP



عمارة

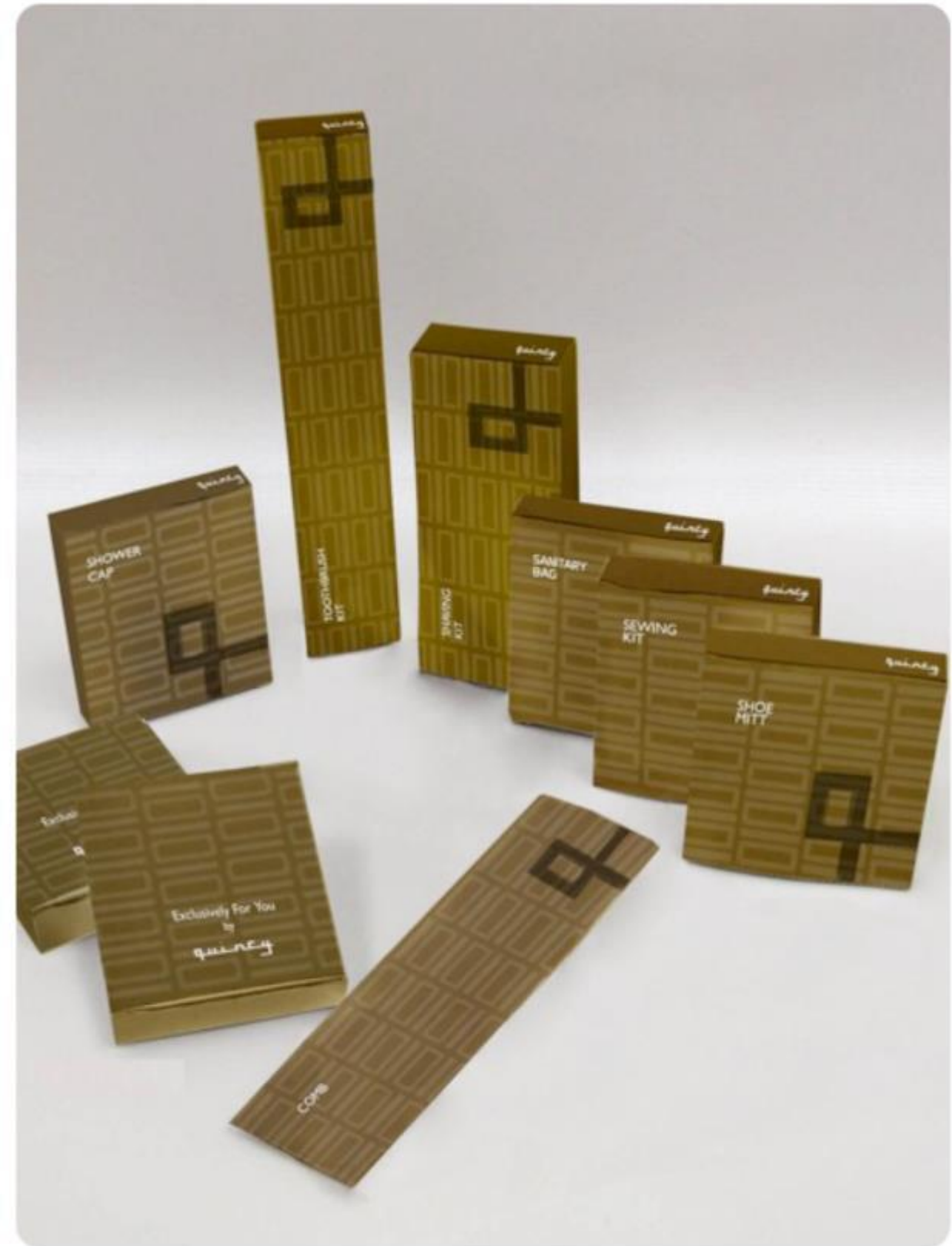








قاسم



سكنسكو





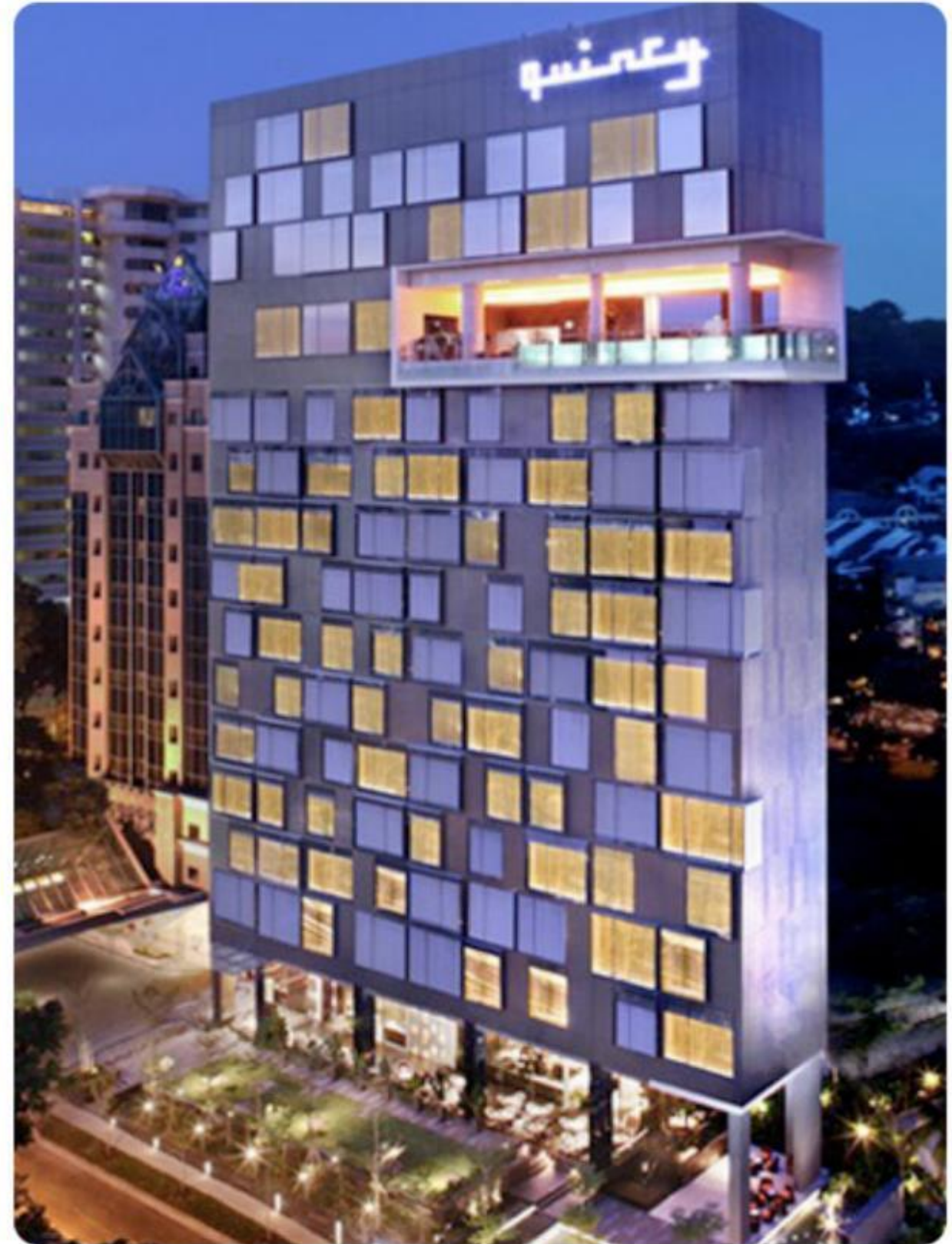
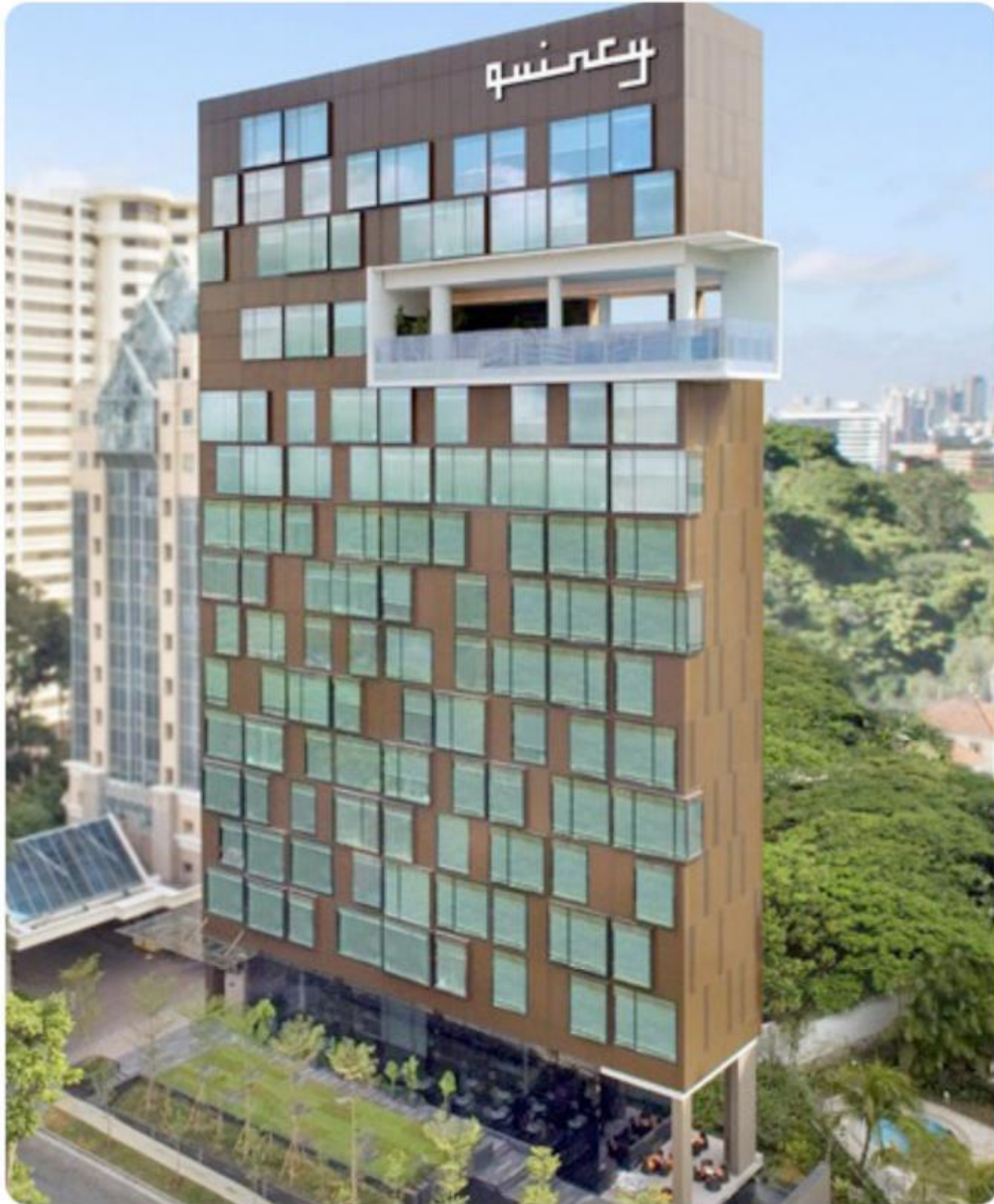
سكسكو



سكنسو



يعنسوه



AL ANSAR MOSQUE

SINGAPORE

UNFOLDING THE STORY

Al-Ansar Mosque has been part of **Bedok** landscape since **1981**. Therefore other than being a symbol for the core beliefs and values of Islam, the re-construction of Al-Ansar Mosque must also responds to the **multi-cultural community** which it is a part of. The openness that the new design has is inviting, and hopes to **broaden and deepen** the understanding and practice of Islam to the community at large.



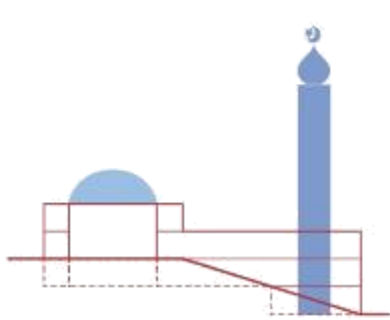


**AL ANSAR
THE BLUE MOSQUE**

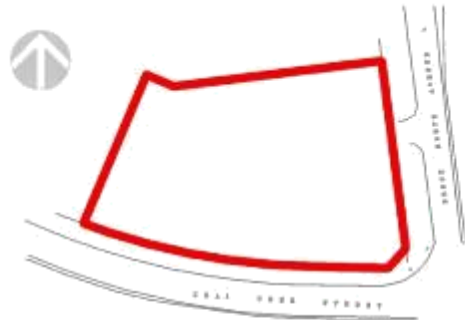
1981 - 2013

DESIGN BRIEF

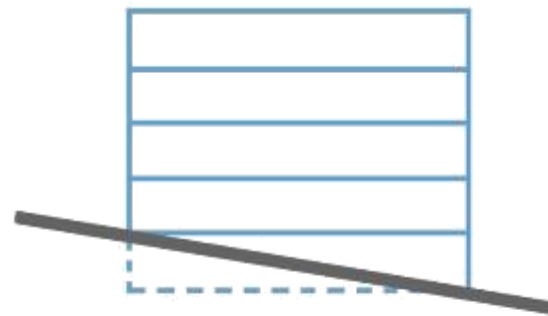
DESIGN PARAMETER



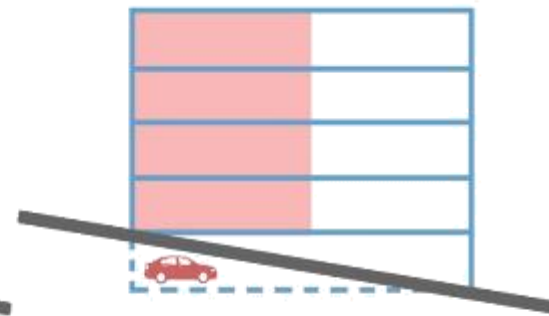
Upgrading works
Reconstruction of the existing mosque



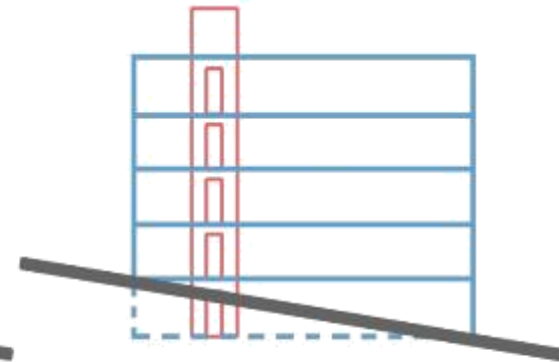
Site Area: **3165.2 sqm**
Plot Ratio : **1.4**
Post-award Plot Ratio : **1.5**



4 storey max. building height
Max. GFA : **4431.3 sqm**
Post-award max. GFA : **4747.8 sqm**



50% GFA for prayer area
28 lots of car parking



1 no. of lift
(13 pax capacity)

DESIGN PARAMETER

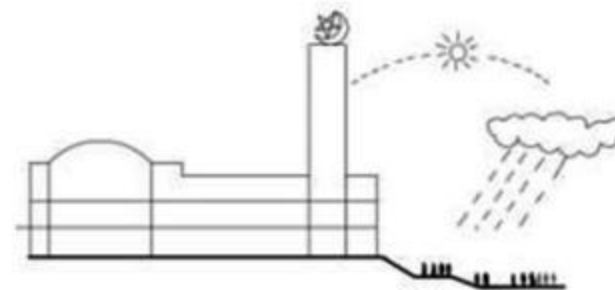
MULTI-FUNCTIONAL PROGRAMME

- Congregational Prayers
- Madrasah Classes
- a.L.I.V.E regional campus
- Kindergarten
- Admin Block

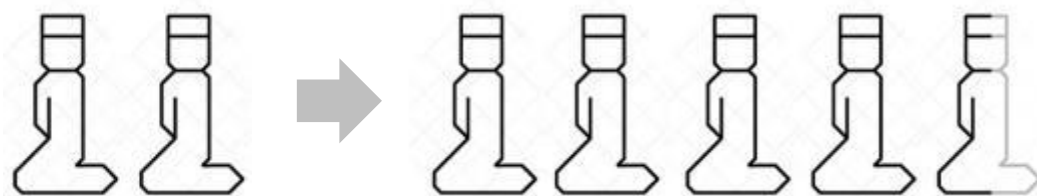
UNIVERSAL DESIGN



WEATHER PROTECTED COMMUNAL SPACES



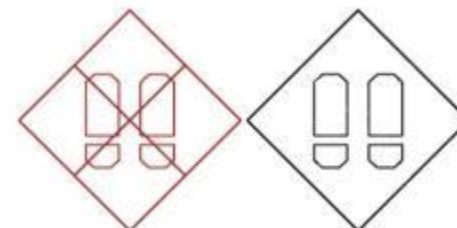
PRAYER HALL CAPACITY



2500 pax

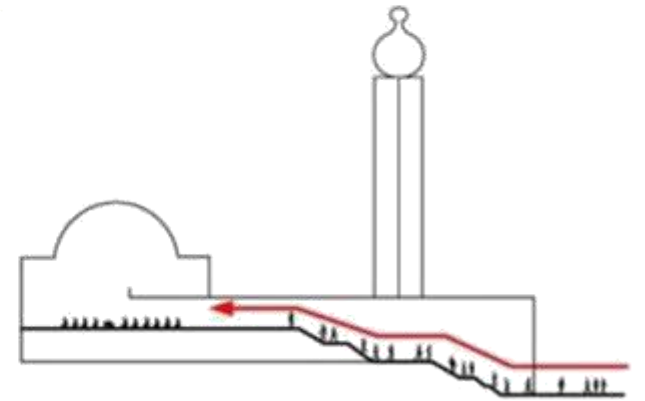
4500 pax

DEDICATED NO-SHOE AREA



CHALLENGES & CONSTRAINTS

ACCESSIBILITY

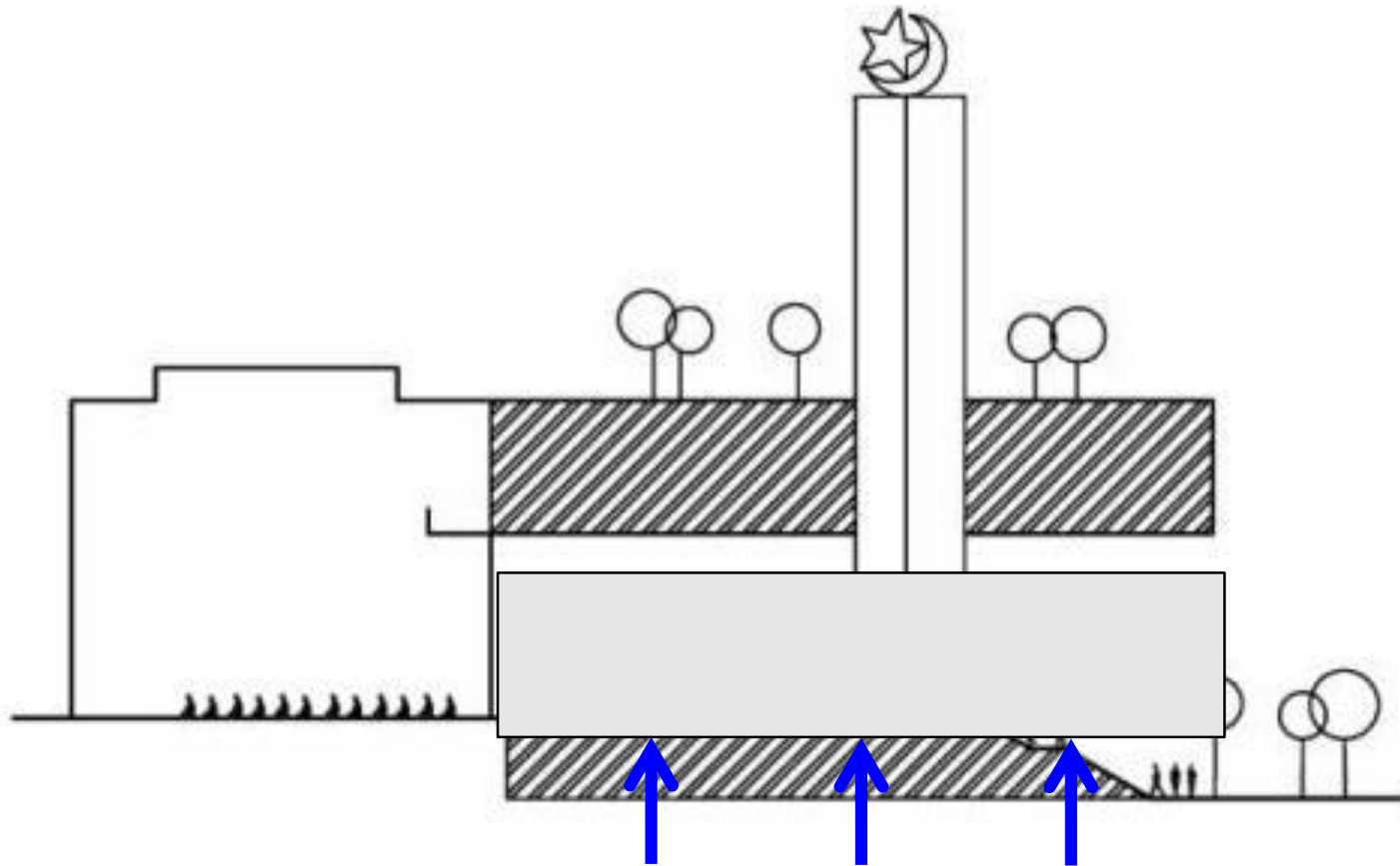


POOR DAYLIGHT & VENTILATION



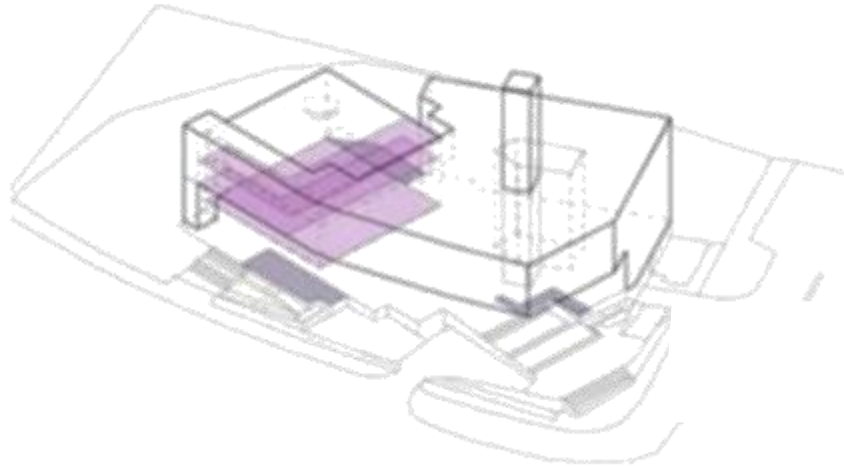
ICONIC ELEMENTS



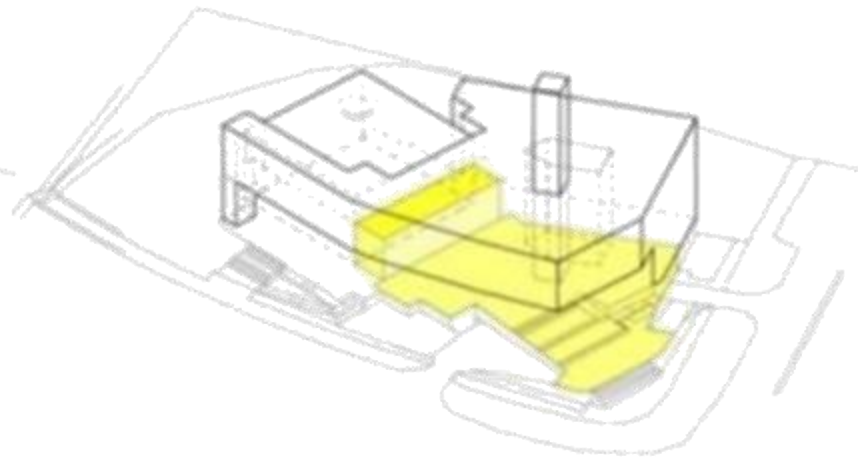


LIFTING THE PODIUM = CREATION OF PLAZA

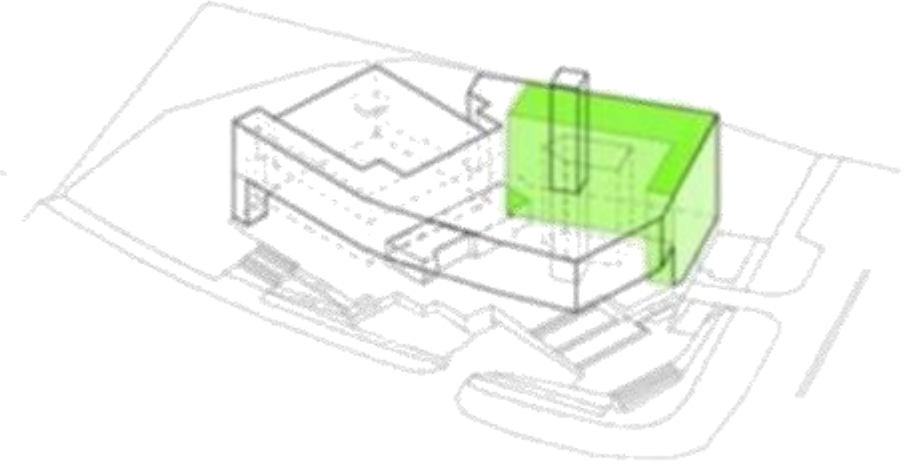
PROGRAMME



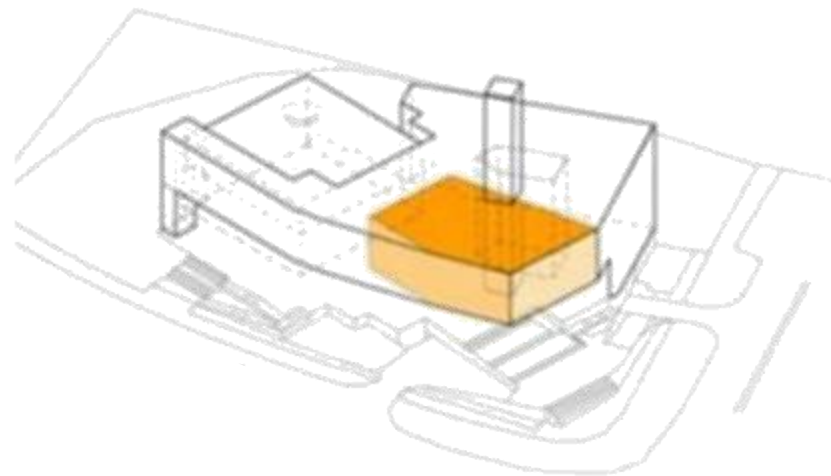
PRAYER & ABLUTION



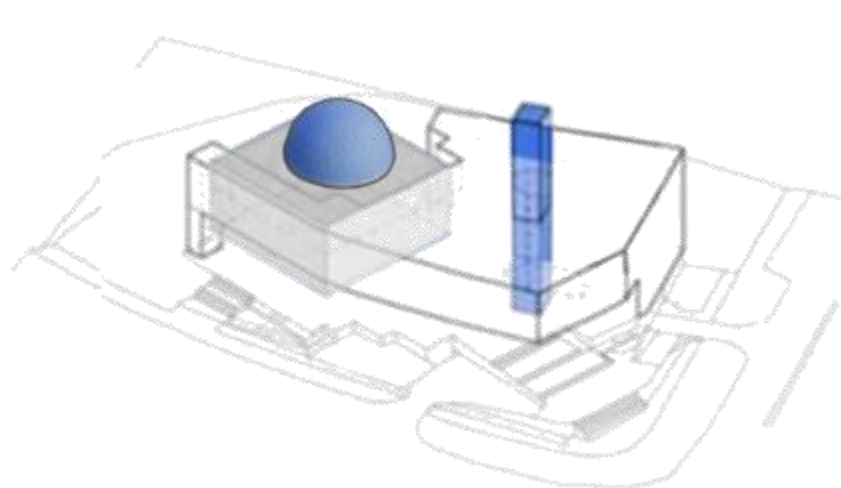
**COMMUNITY PLAZA
(EXTENDED PRAYER HALL)**



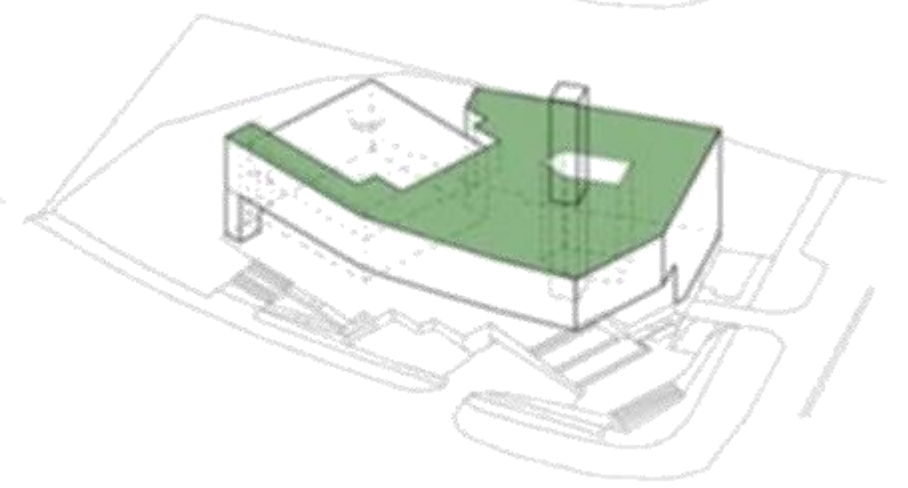
**ISLAMIC LEARNING CENTER,
ADMIN, AND KINDERGARTEN**



MULTI-PURPOSE ROOM

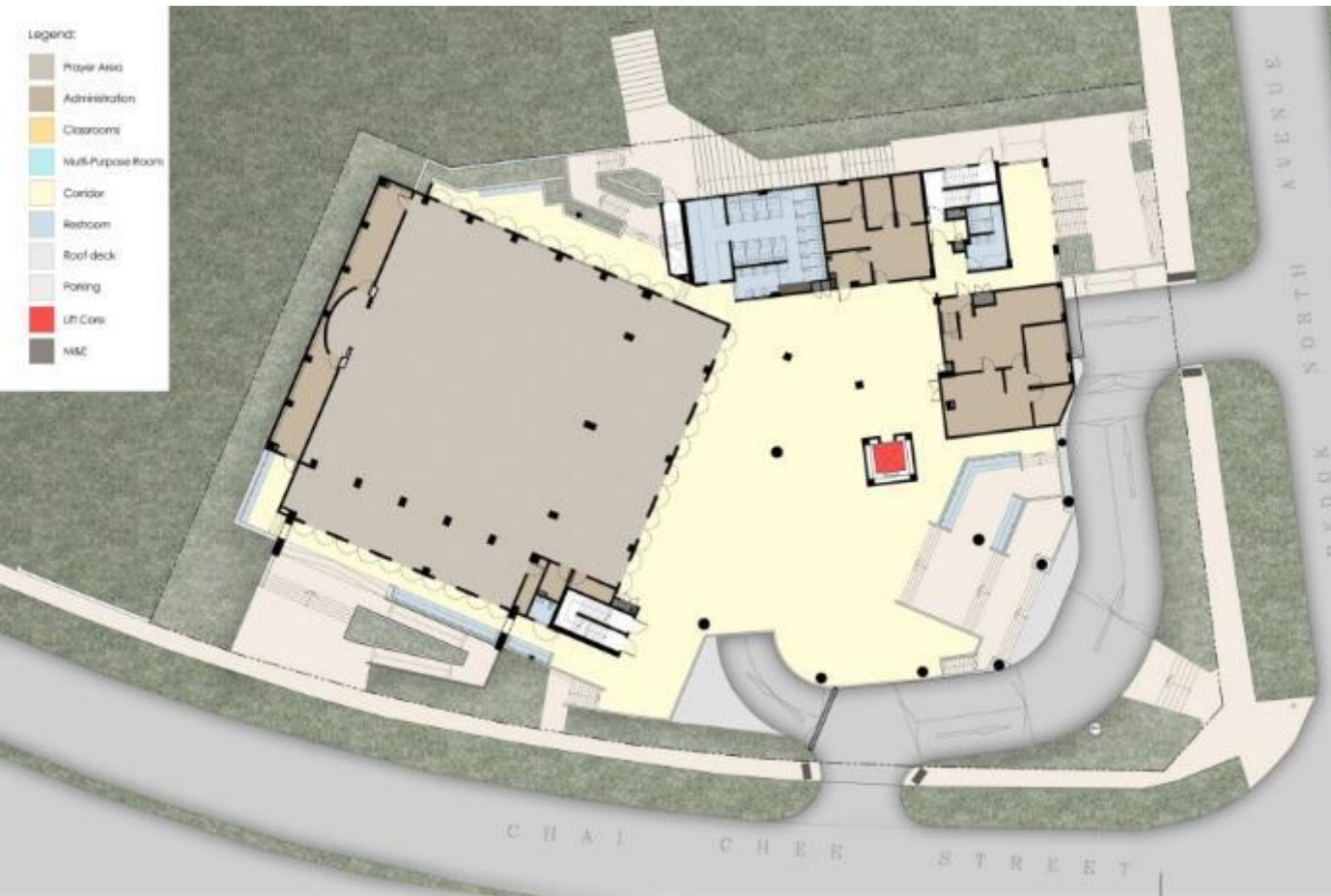


RETAINING THE HERITAGE

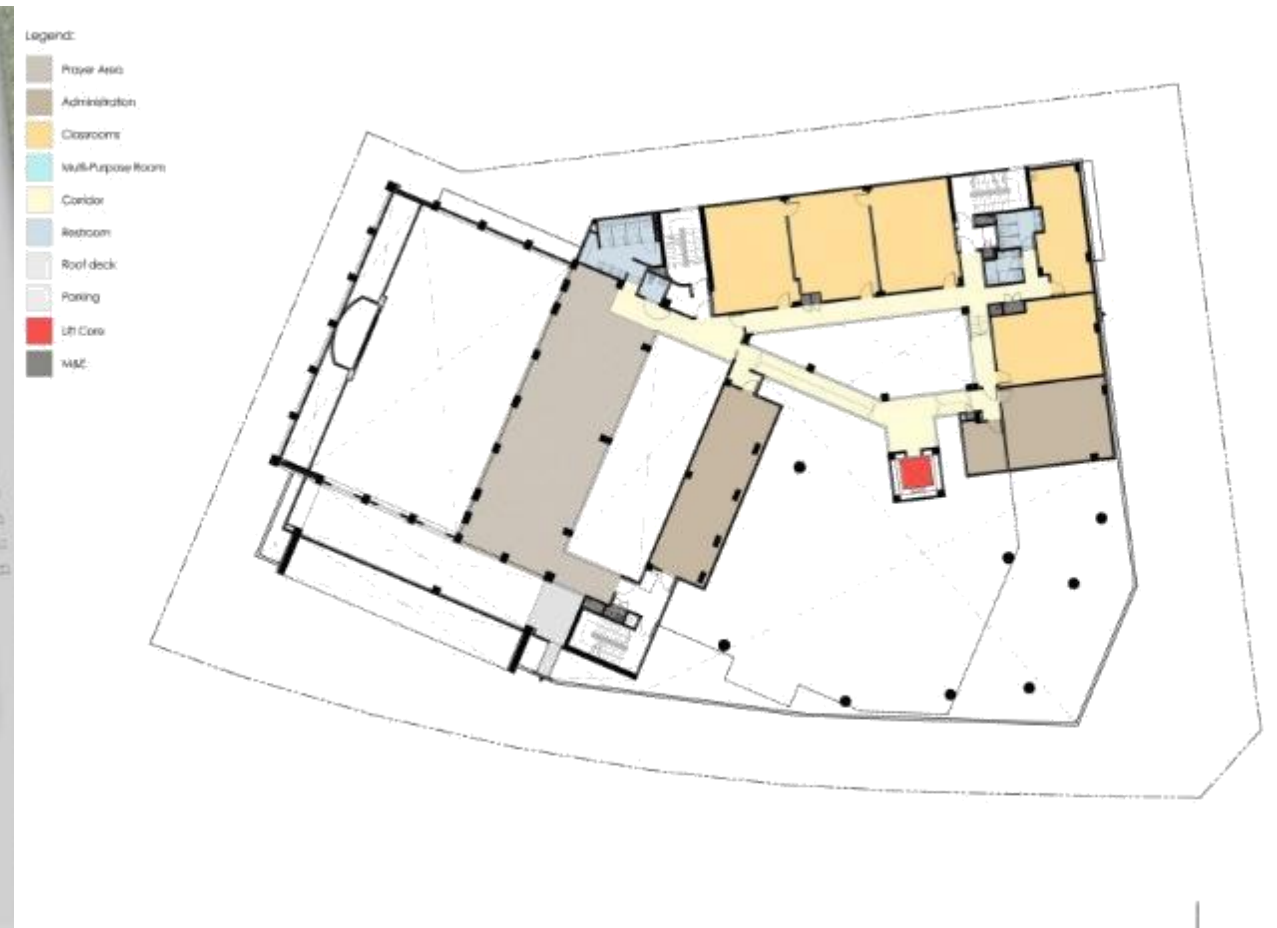


EXPRESSING THE NEW

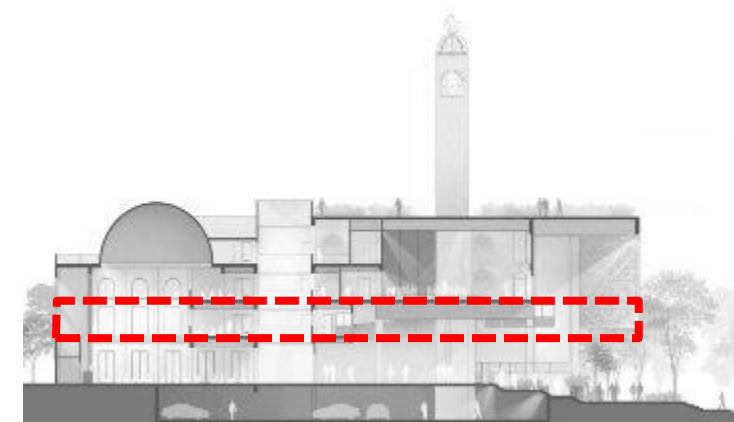
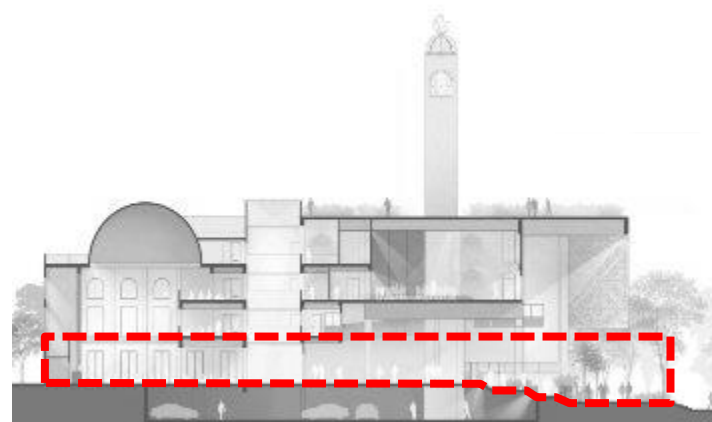
FLOOR PLAN



GROUND FLOOR PLAN



TYPICAL FLOOR PLAN



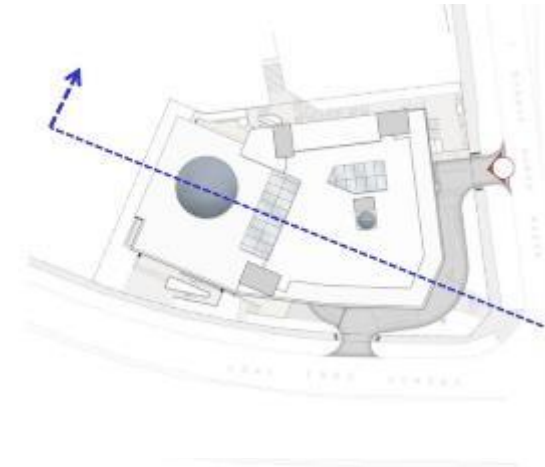
SECTION

UPGRADED PRAYER HALL

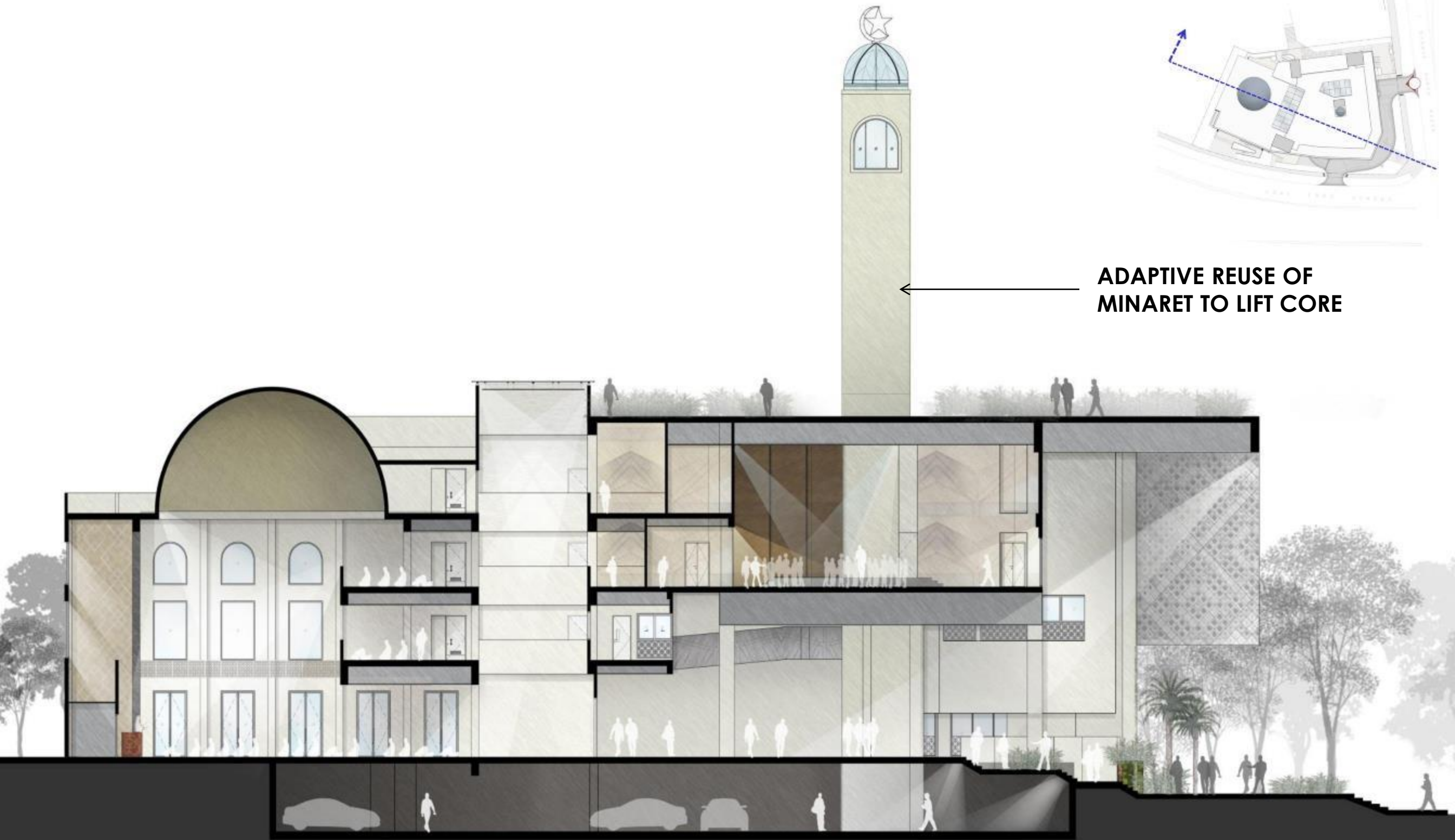
SKYLIGHT

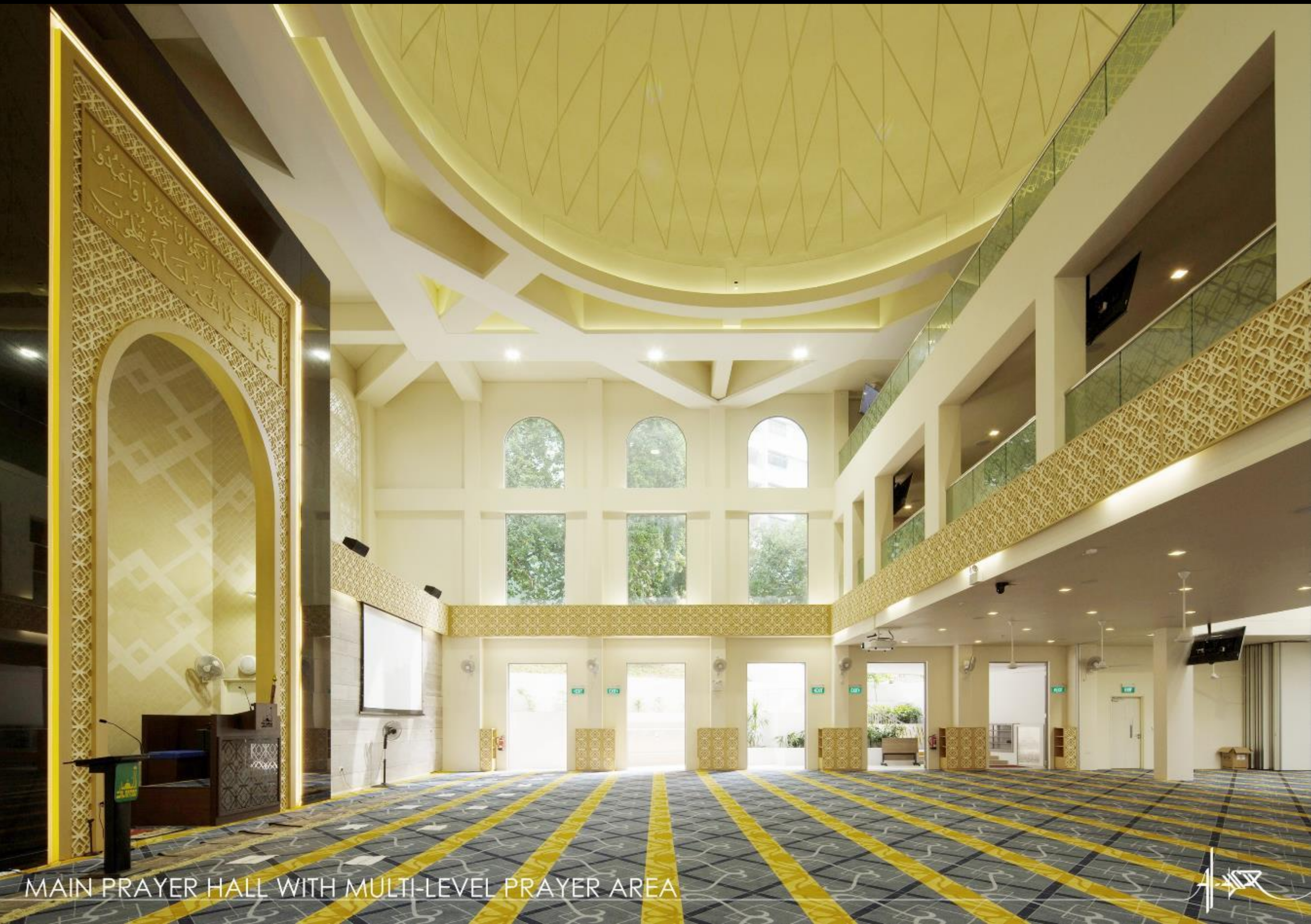
NEW MULTI-PURPOSE HALL

NEW URBAN PLAZA



ADAPTIVE REUSE OF
MINARET TO LIFT CORE





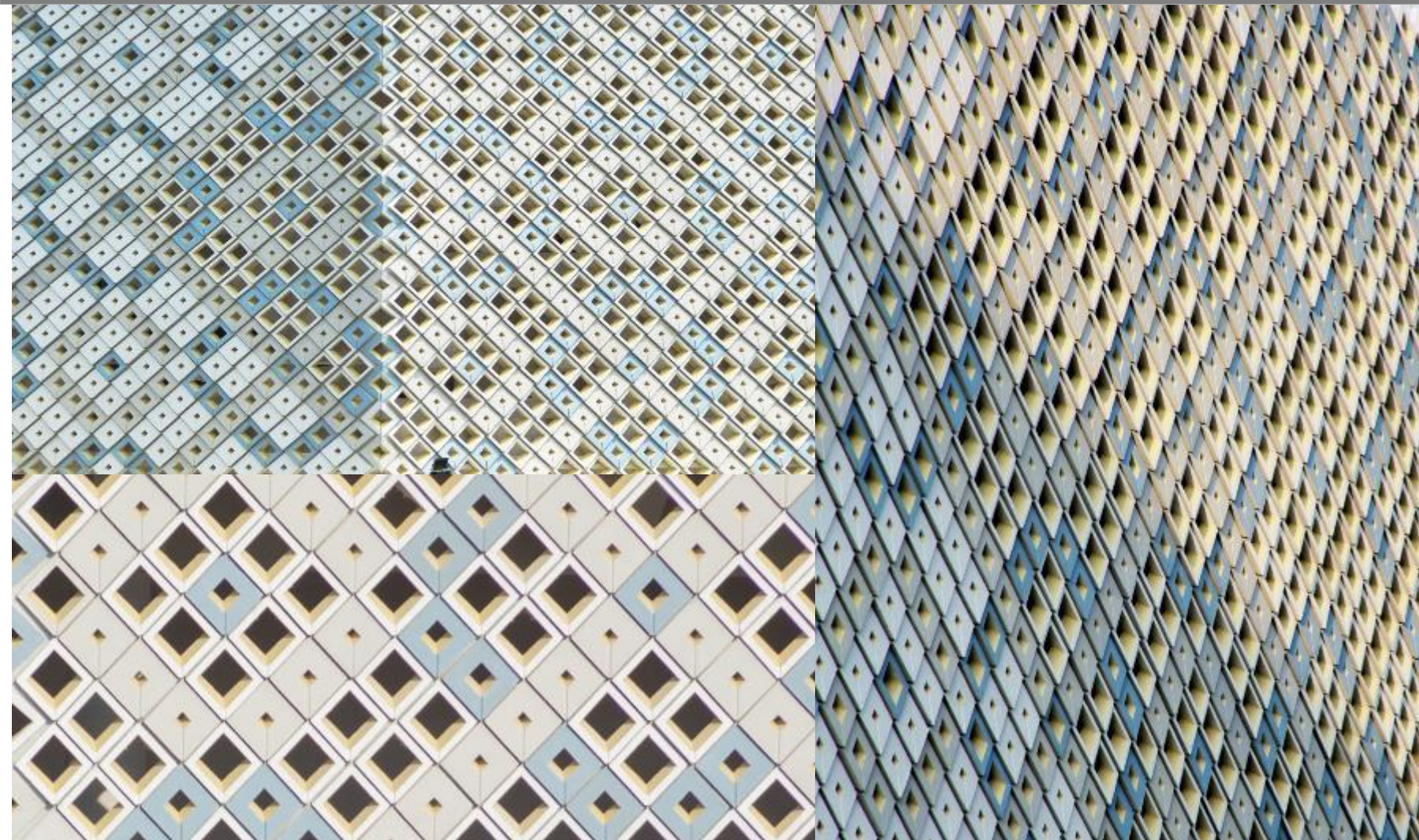
MAIN PRAYER HALL WITH MULTI-LEVEL PRAYER AREA

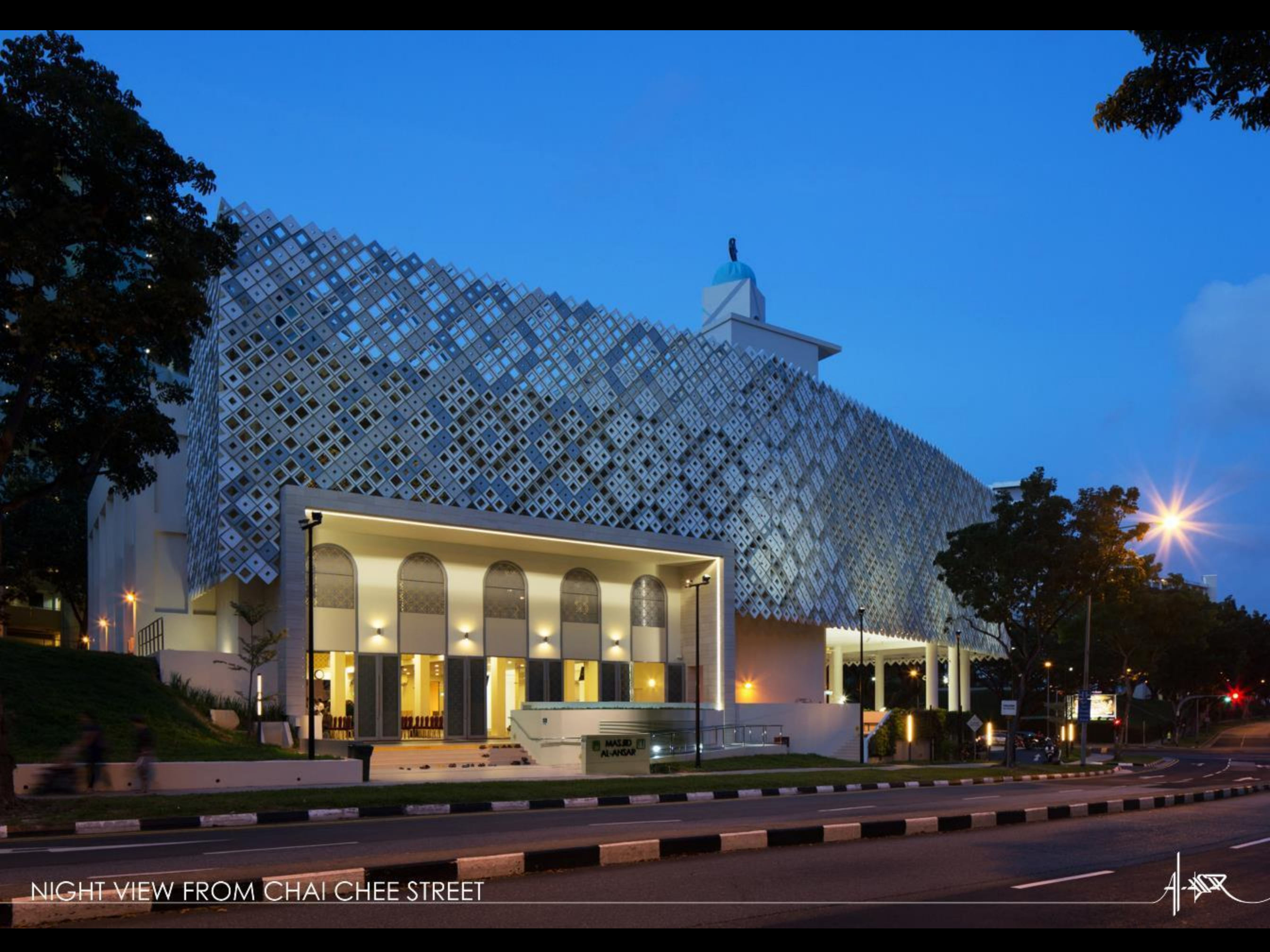


FACADE

Inspired by the **Arabesque**, the façade bears an intricate pattern of interlocking rotated squares. These are crafted in different sizes and layered on secondary structure to create a delicate pattern that are bound to be synonymous with Al-Ansar Mosque.

The façade allows **natural daylight** to filter into inner spaces, whilst enabling airflow to **naturally ventilate** the building. The structure functions like a **porous, open volume**. Blue and yellow are used strategically to **revoke the memory** of the old mosque.





NIGHT VIEW FROM CHAI CHEE STREET



MODESTY SCREEN



SKYLIGHT



ETCHED PATTERN AT GLASS DOORS



SHADOW PLAY OF THE ARABESQUE MOTIF





Al-Ansar Mosque, Singapore
architecture • lighting / religious

**American Architecture Prize,
Restoration and Renovation Category
Winner, 2017**

**MIPIM Asia Award
Best Refurbished Building,
Silver, 2015**

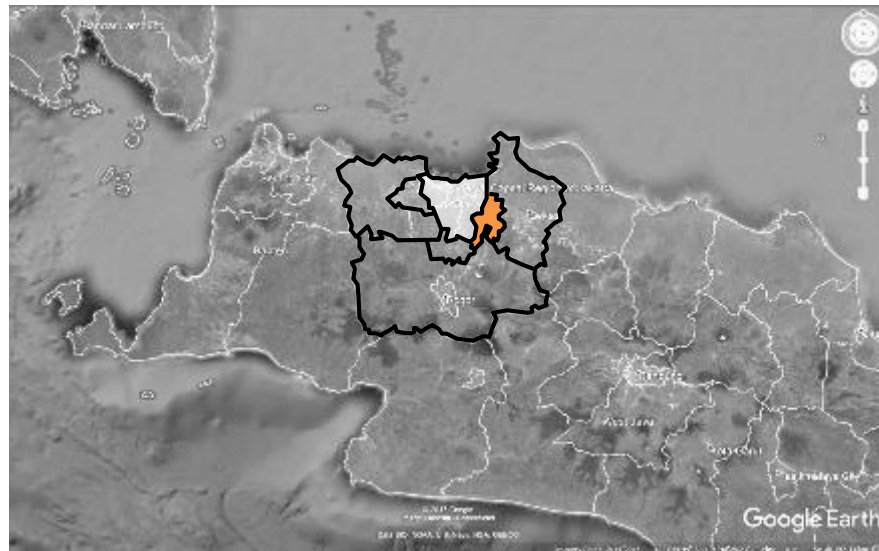
**WAN Adaptive Reuse Award
Finalist, 2015**

KAMALA KANDARA

BEKASI, INDONESIA



INDONESIA



GREATER JAKARTA (BOGOR, DEPOK, TANGERANG, **BEKASI**)



SITE SURROUNDING



HIGHLY POPULATED



LOW-RISE HIGH DENSITY URBAN SPRAWL



LACKING PUBLIC SPACE

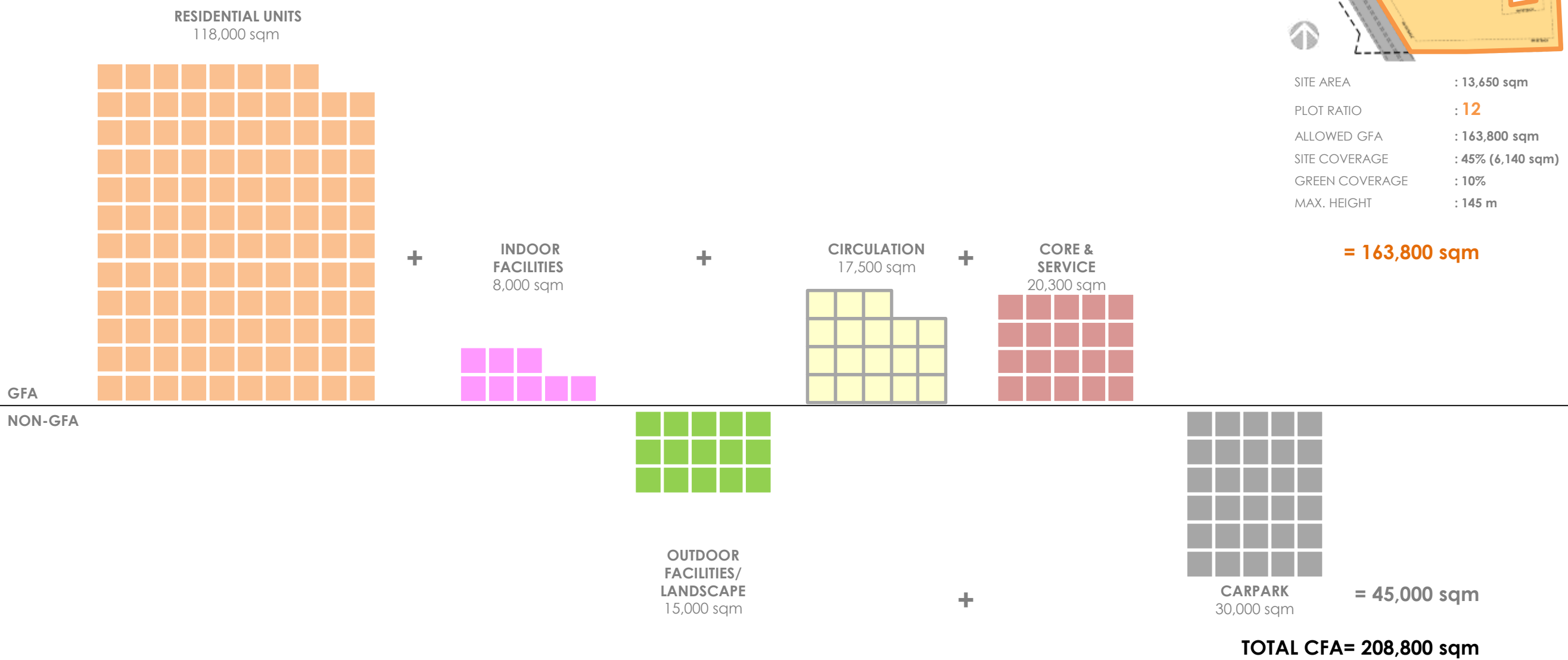
SITE PHOTOS



AREA DISTRIBUTION



SITE AREA	: 13,650 sqm
PLOT RATIO	: 12
ALLOWED GFA	: 163,800 sqm
SITE COVERAGE	: 45% (6,140 sqm)
GREEN COVERAGE	: 10%
MAX. HEIGHT	: 145 m

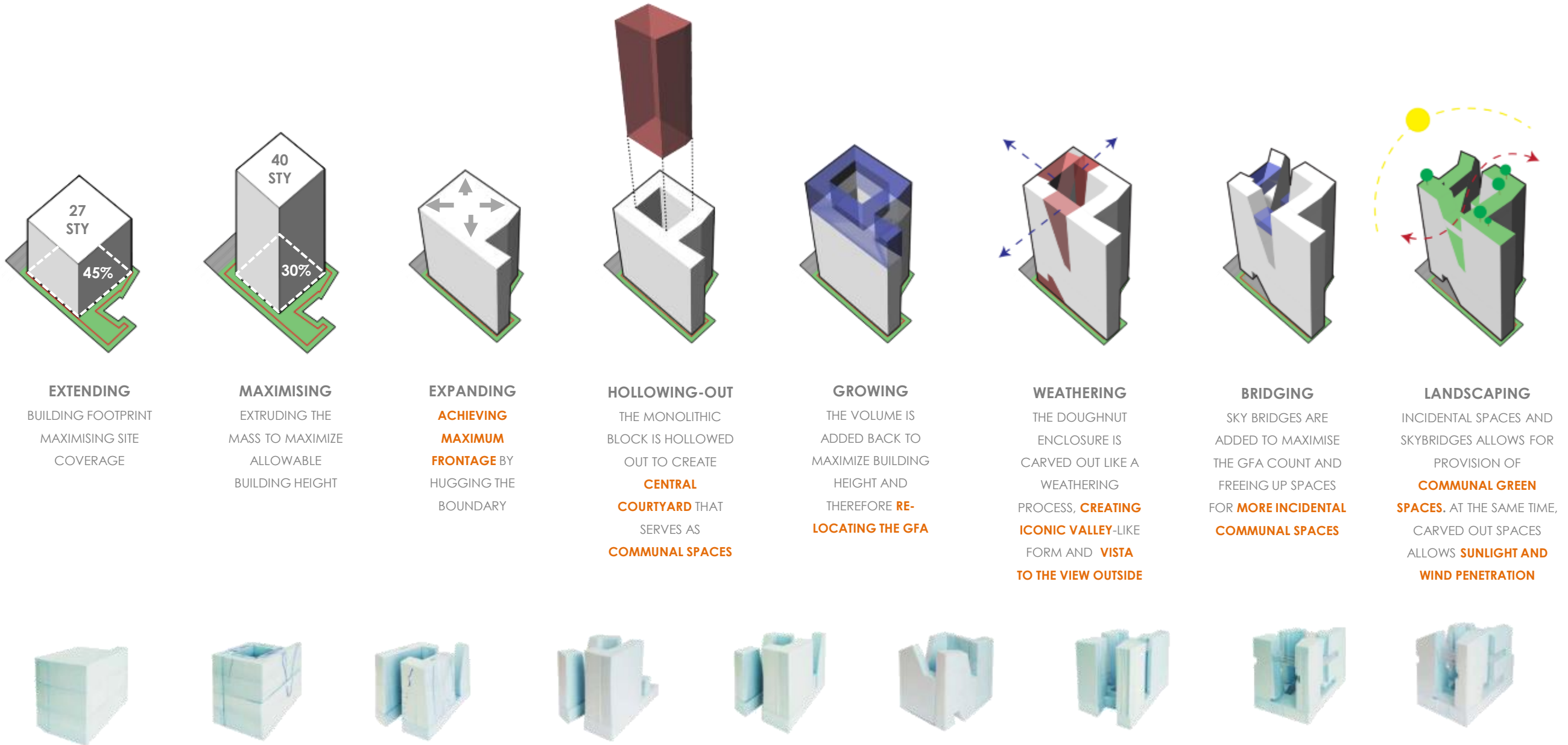


□ = 1,000 sqm



EXTREME HIGH RISE HIGH DENSITY

HOW TO BUILD A **SUPER DENSE**, YET **LIVABLE** BUILDING?



EXTENDING
BUILDING FOOTPRINT
MAXIMISING SITE
COVERAGE

MAXIMISING
EXTRUDING THE
MASS TO MAXIMIZE
ALLOWABLE
BUILDING HEIGHT

EXPANDING
ACHIEVING
MAXIMUM
FRONTAGE BY
HUGGING THE
BOUNDARY

HOLLOWING-OUT
THE MONOLITHIC
BLOCK IS HOLLOWED
OUT TO CREATE
CENTRAL
COURTYARD THAT
SERVES AS
COMMUNAL SPACES

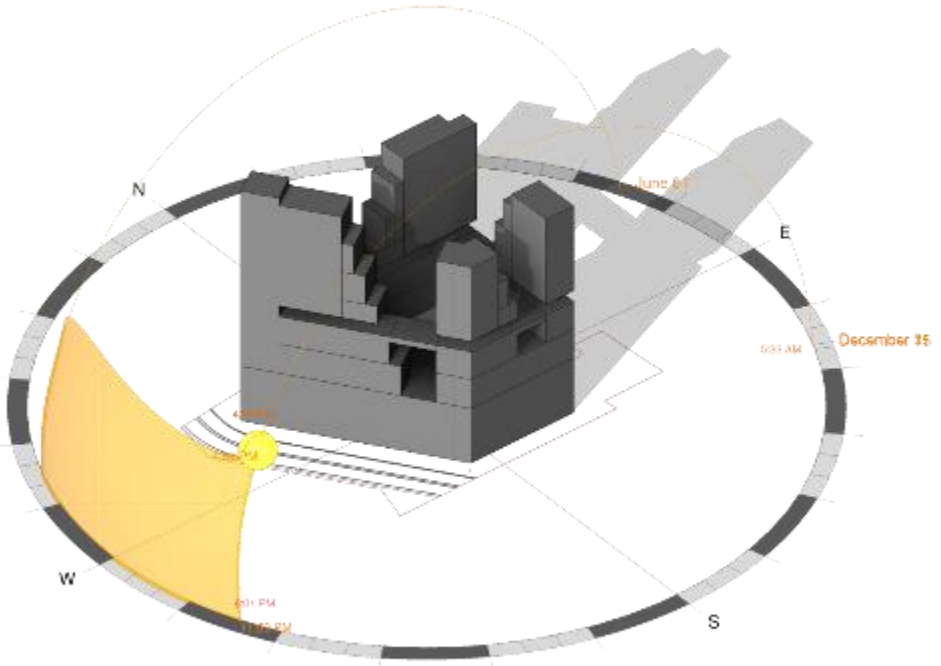
GROWING
THE VOLUME IS
ADDED BACK TO
MAXIMIZE BUILDING
HEIGHT AND
THEREFORE **RE-**
LOCATING THE GFA

WEATHERING
THE DOUGHNUT
ENCLOSURE IS
CARVED OUT LIKE A
WEATHERING
PROCESS, **CREATING**
ICONIC VALLEY-LIKE
FORM AND **VISTA**
TO THE VIEW OUTSIDE

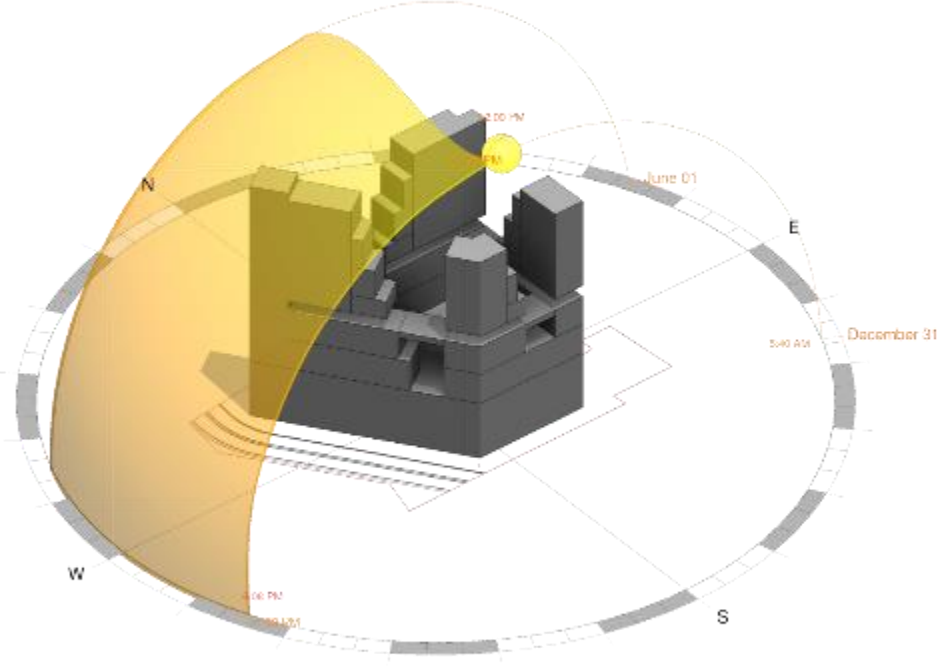
BRIDGING
SKY BRIDGES ARE
ADDED TO MAXIMISE
THE GFA COUNT AND
FREEING UP SPACES
FOR **MORE INCIDENTAL**
COMMUNAL SPACES

LANDSCAPING
INCIDENTAL SPACES AND
SKYBRIDGES ALLOWS FOR
PROVISION OF
COMMUNAL GREEN
SPACES. AT THE SAME TIME,
CARVED OUT SPACES
ALLOWS **SUNLIGHT AND**
WIND PENETRATION

CONCEPTUAL DESIGN & ANALYSIS - SUN SHADOW ANALYSIS

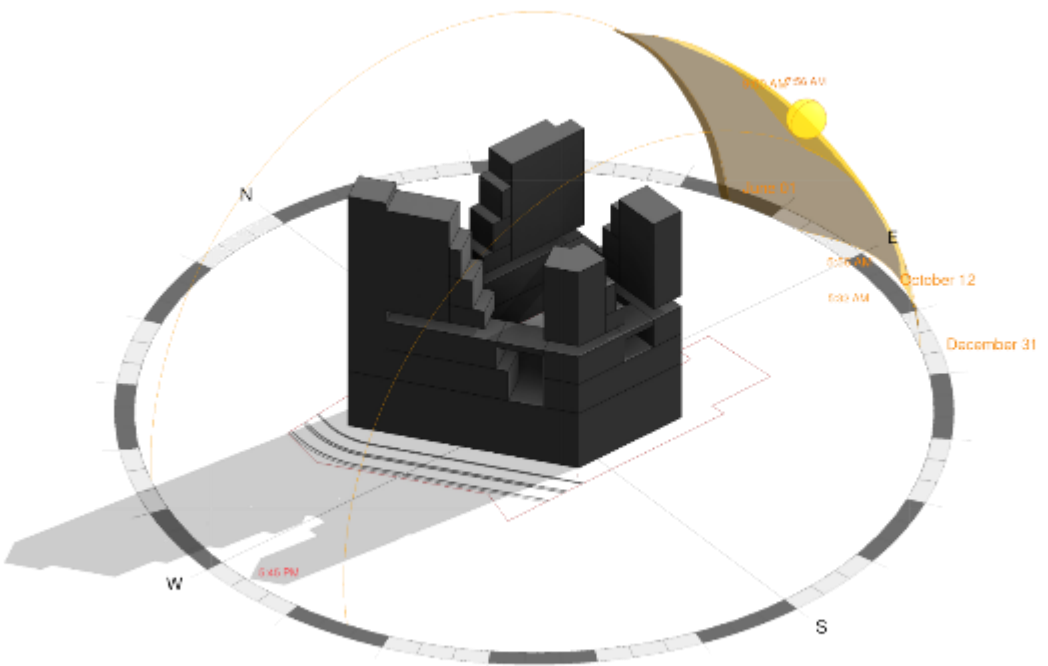


SUN PATH
4PM DECEMBER-JANUARY



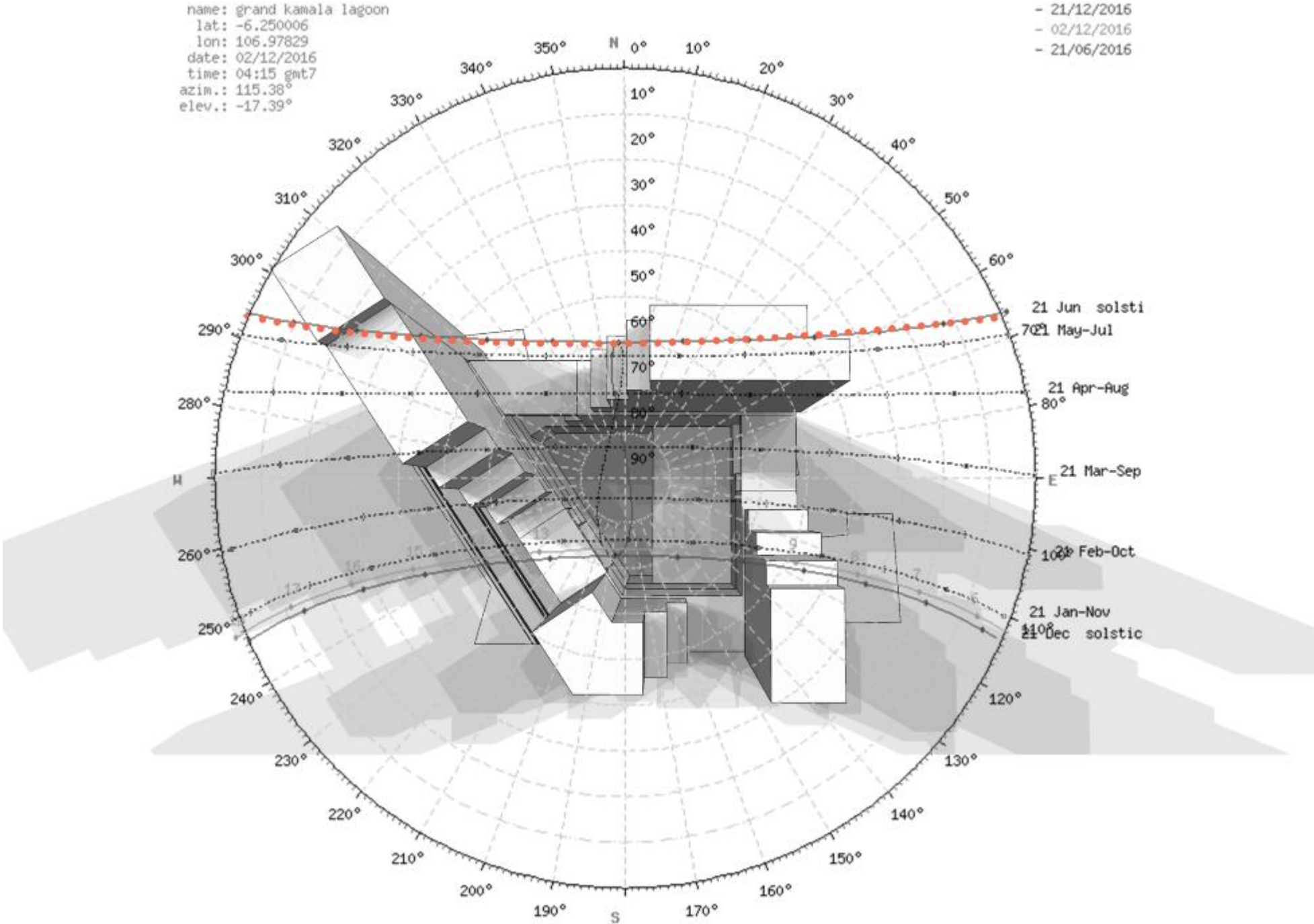
SUN PATH
12PM DECEMBER-JANUARY

Evaluate design options side-by-side



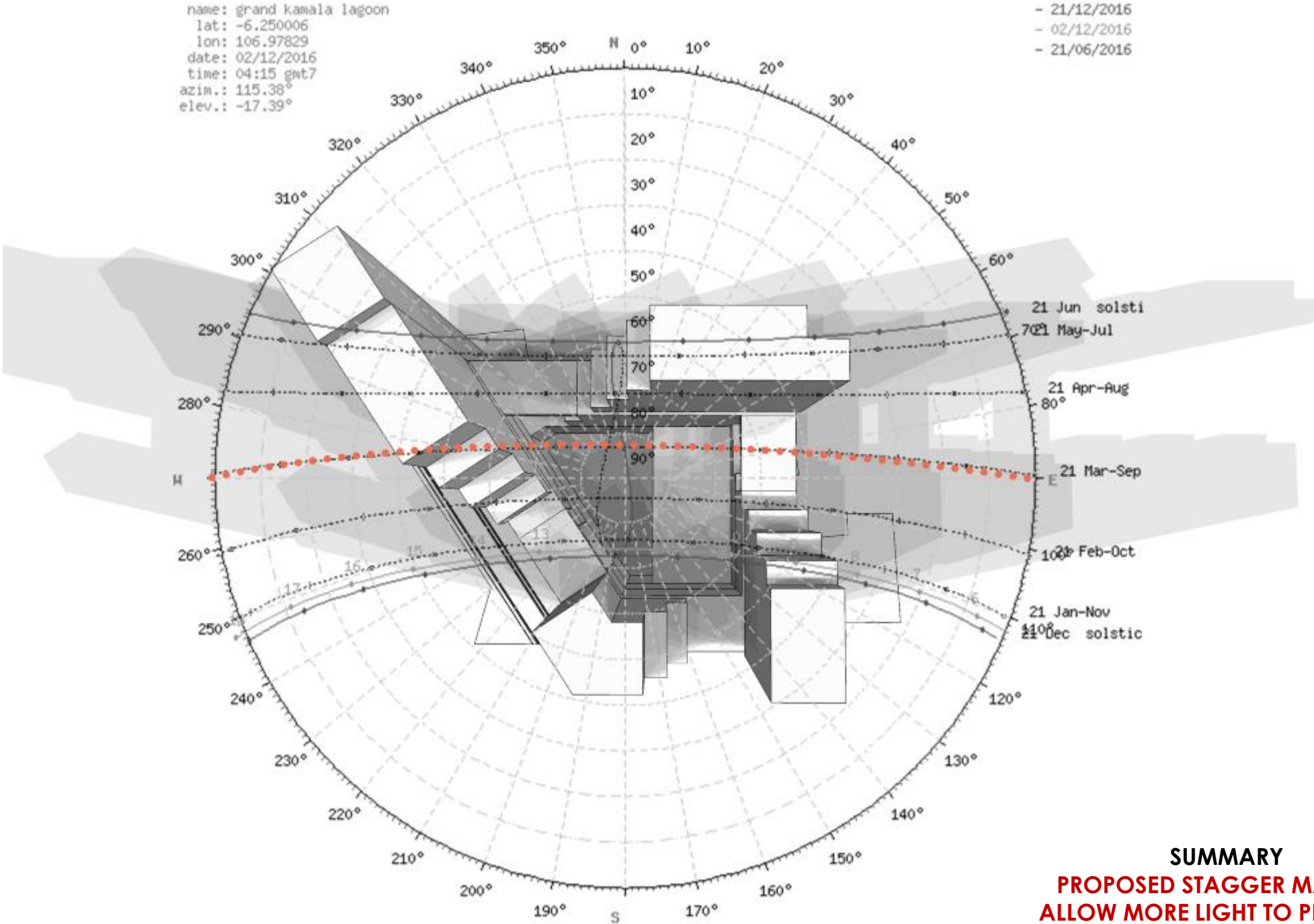
SUN PATH
9AM DECEMBER-JANUARY

CONCEPTUAL DESIGN & ANALYSIS - SHADOW ANALYSIS



SHADOW ANALYSIS
JUNE-MAY

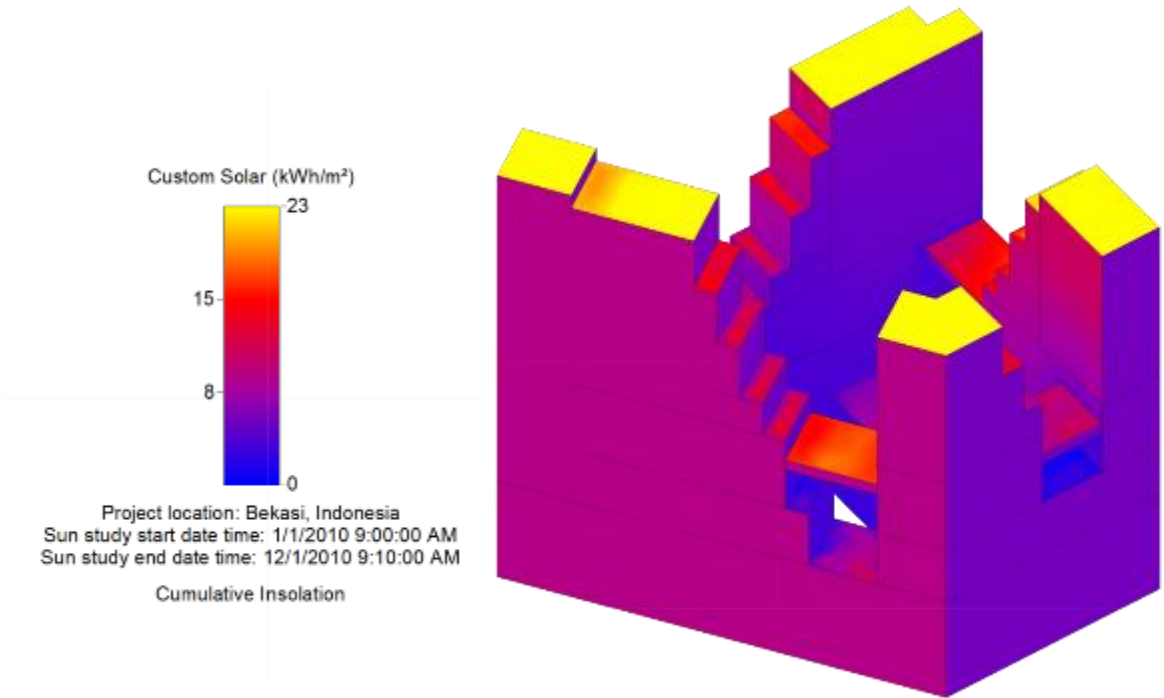
CONCEPTUAL DESIGN & ANALYSIS - SHADOW ANALYSIS



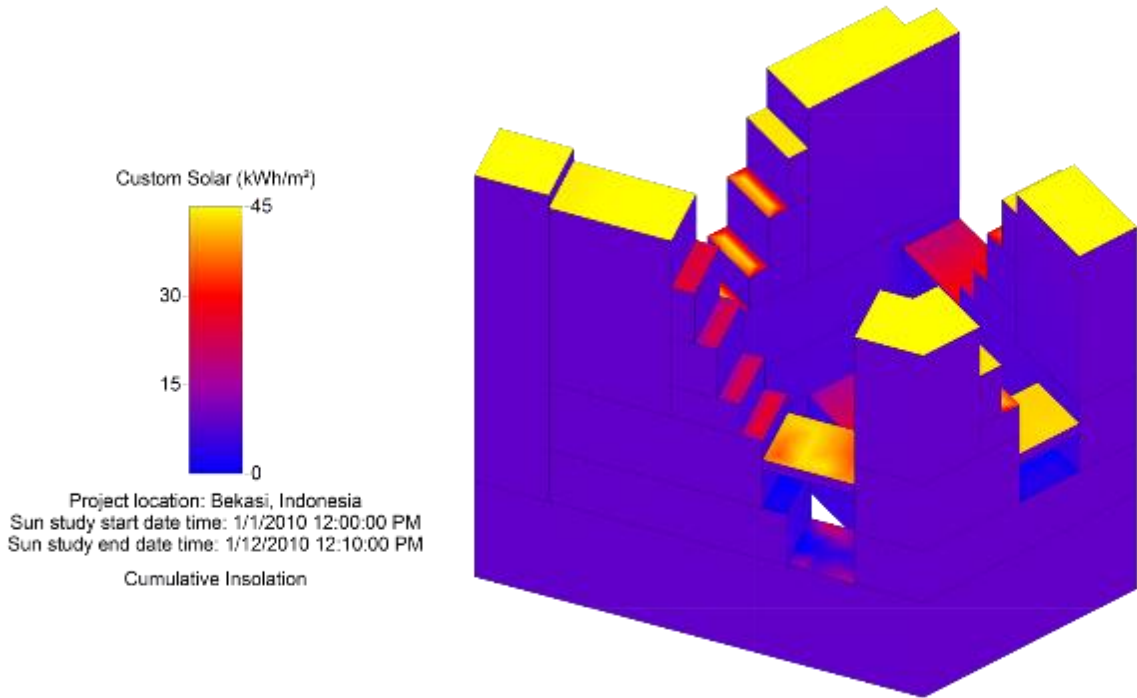
SHADOW ANALYSIST
MARCH-SEPTEMBER

SUMMARY
PROPOSED STAGGER MASSING
ALLOW MORE LIGHT TO PENETRATE
THE CENTRAL COURTYARD

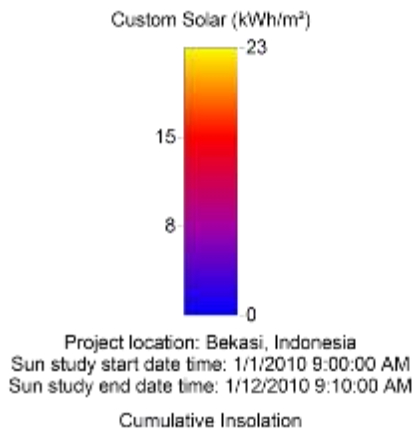
CONCEPTUAL DESIGN & ANALYSIS – SOLAR ANALYSIS



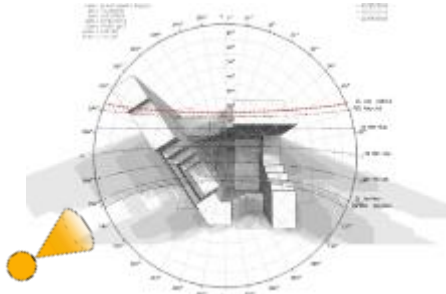
SOLAR MAPPING
4PM DECEMBER-JANUARY



SUN PATH
12PM DECEMBER-JANUARY

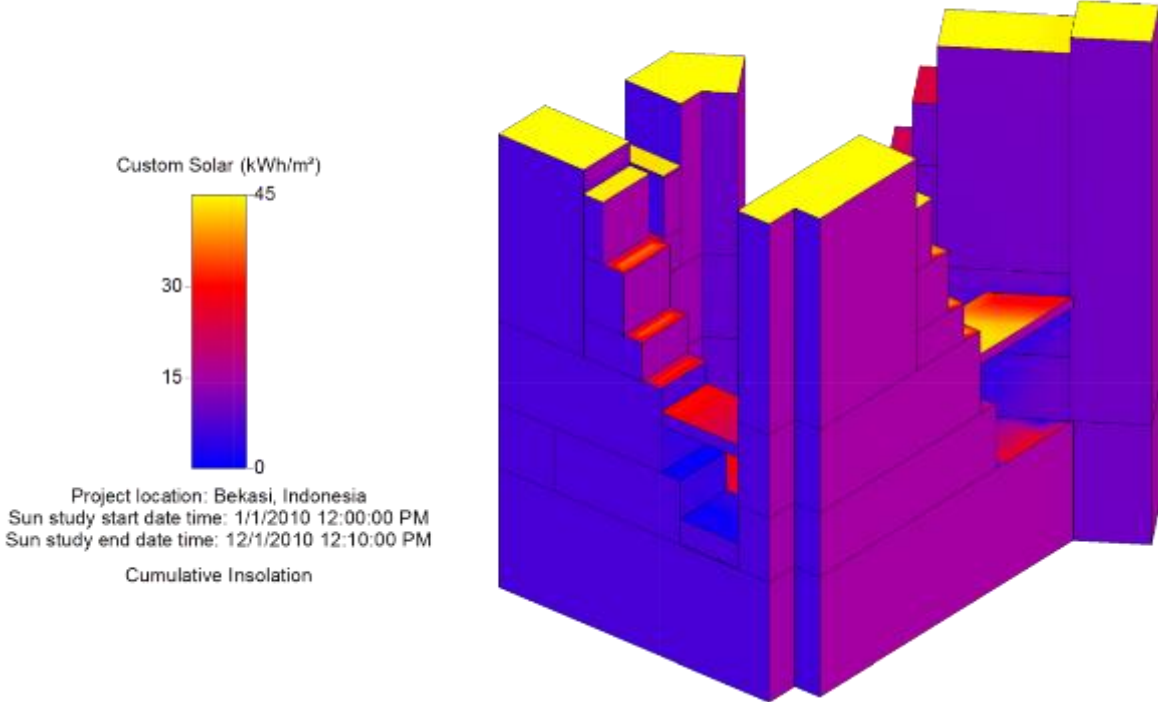
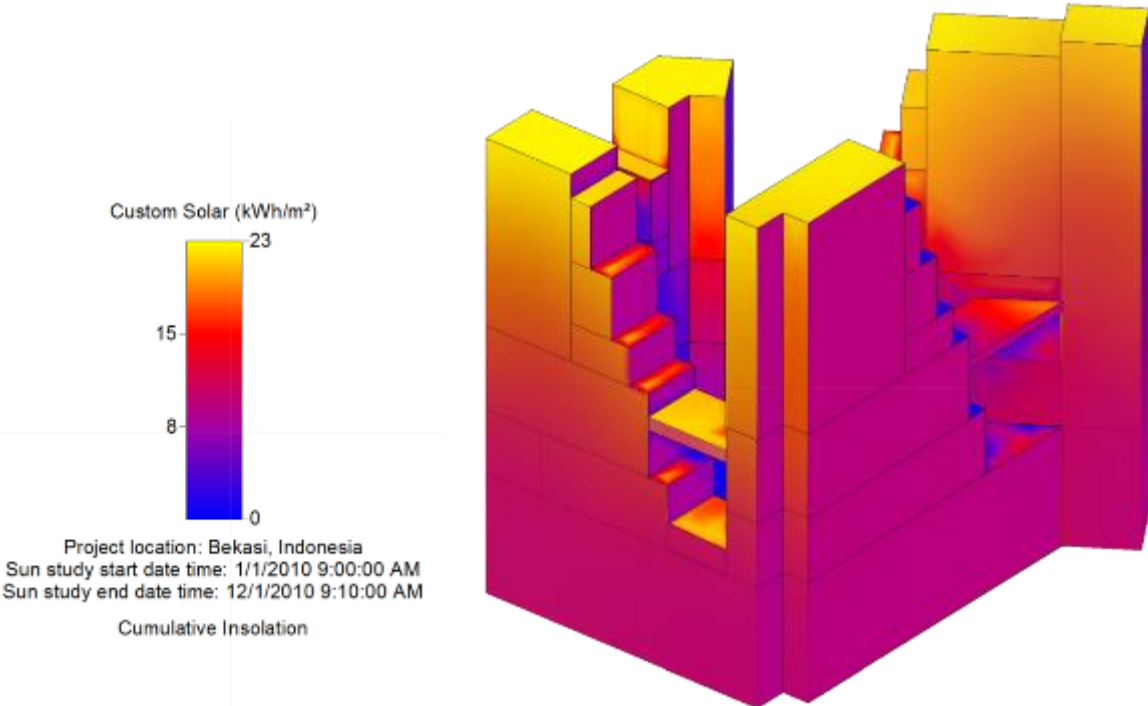


SUN PATH
9AM DECEMBER-JANUARY



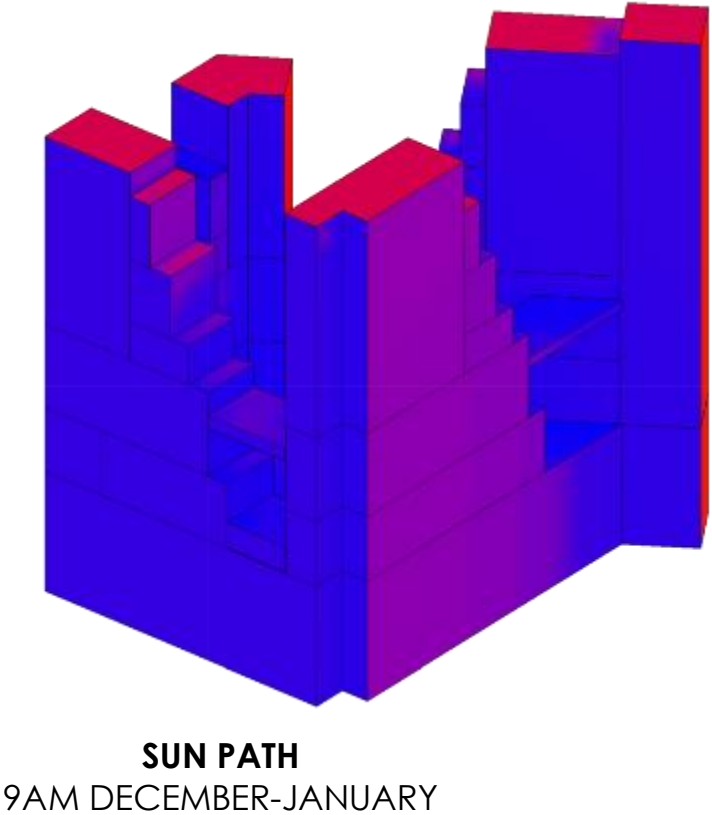
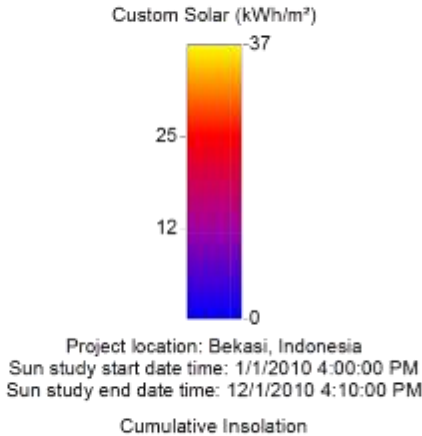
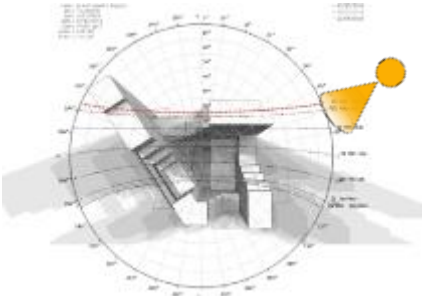
SUMMARY
BLOCK PLACEMENT ARE MINIMISING THE HEAT IMPACT TO THE BUILDING, SHOWN BY ALL THE FAÇADE HAVING LESS THAN 700KWH/M2

CONCEPTUAL DESIGN & ANALYSIS – SOLAR ANALYSIS



SOLAR MAPPING
4PM DECEMBER-JANUARY
NEED TREATMENT ON THE EAST FAÇADE IN TERM OF MATERIAL AND FAÇADE TREATMENT

SUN PATH
12PM DECEMBER-JANUARY

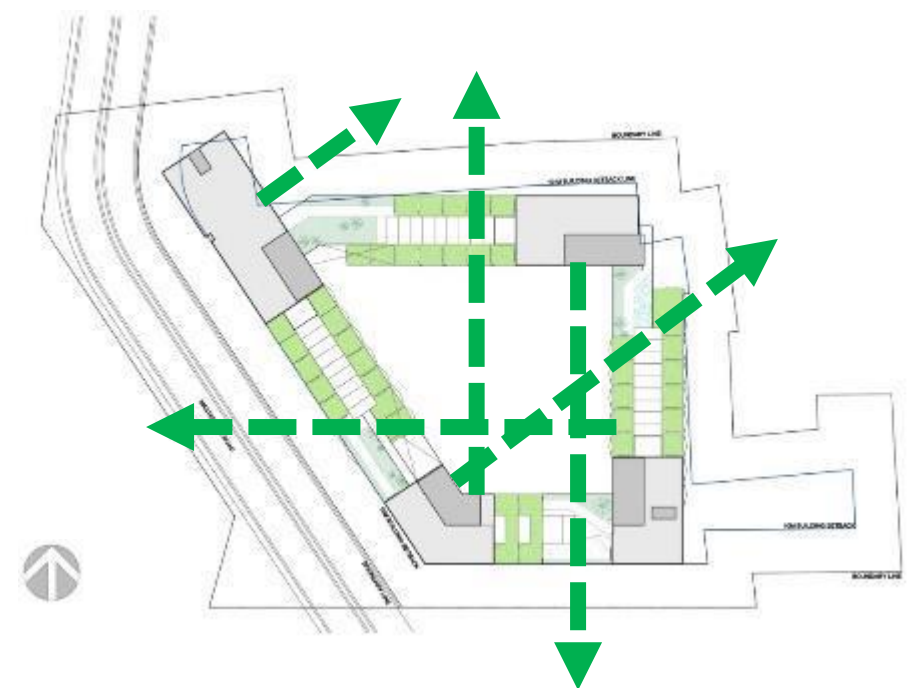


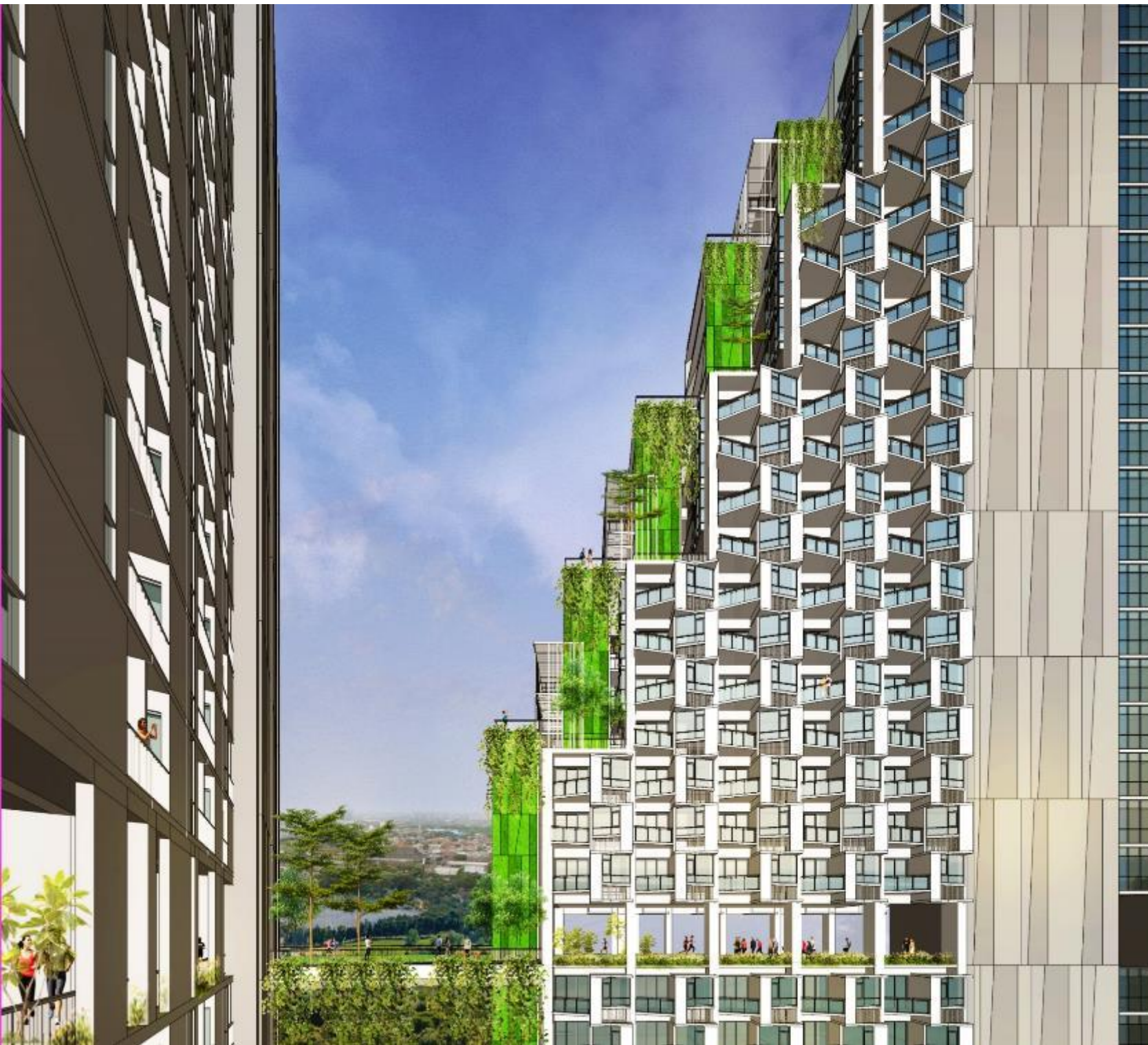
SUN PATH
9AM DECEMBER-JANUARY

SUMMARY
BLOCK PLACEMENT ARE MINIMISING THE HEAT IMPACT TO THE BUILDING, SHOWN BY ALL THE FAÇADE HAVING LESS THAN 700KWH/M2



OPENING VIEW VISTA





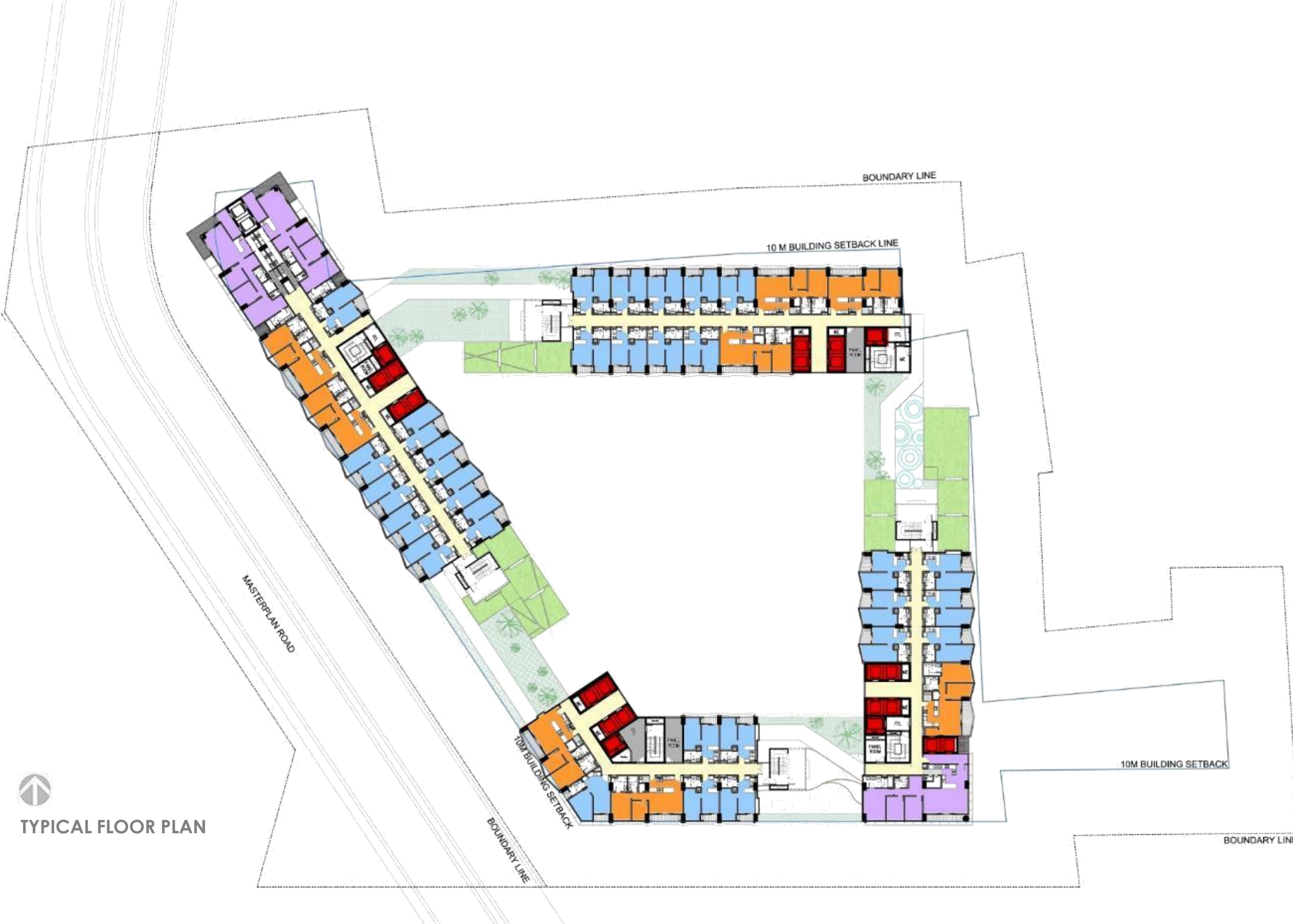
REFUGE FLOOR PLAN



CAPITALIZING ON THE VALLEY

INCIDENTAL SPACES CREATED BY THE VALLEY ARE CONVERTED INTO POCKETS OF RESIDENTS FACILITIES FOSTERING **IMPROMPTU INTERACTION**. CONNECTED TO REFUGE FLOOR, IT ALSO SERVED AS **MOUNTAINOUS JOGGING TRACK IN THE SKY**.



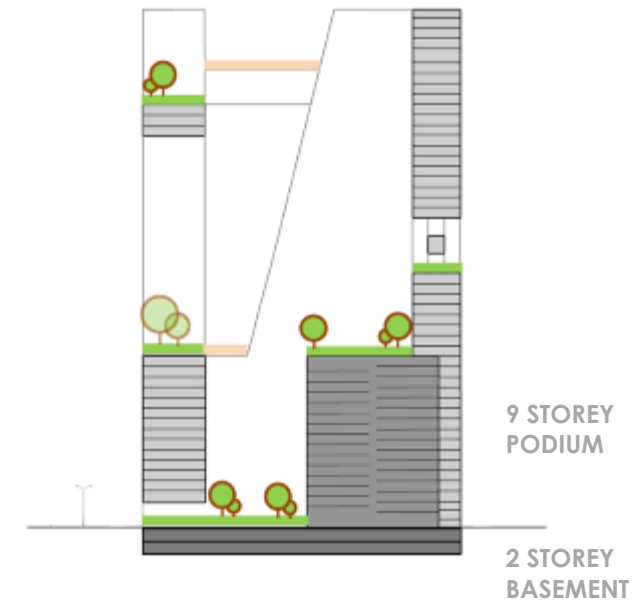


TYPICAL FLOOR PLAN



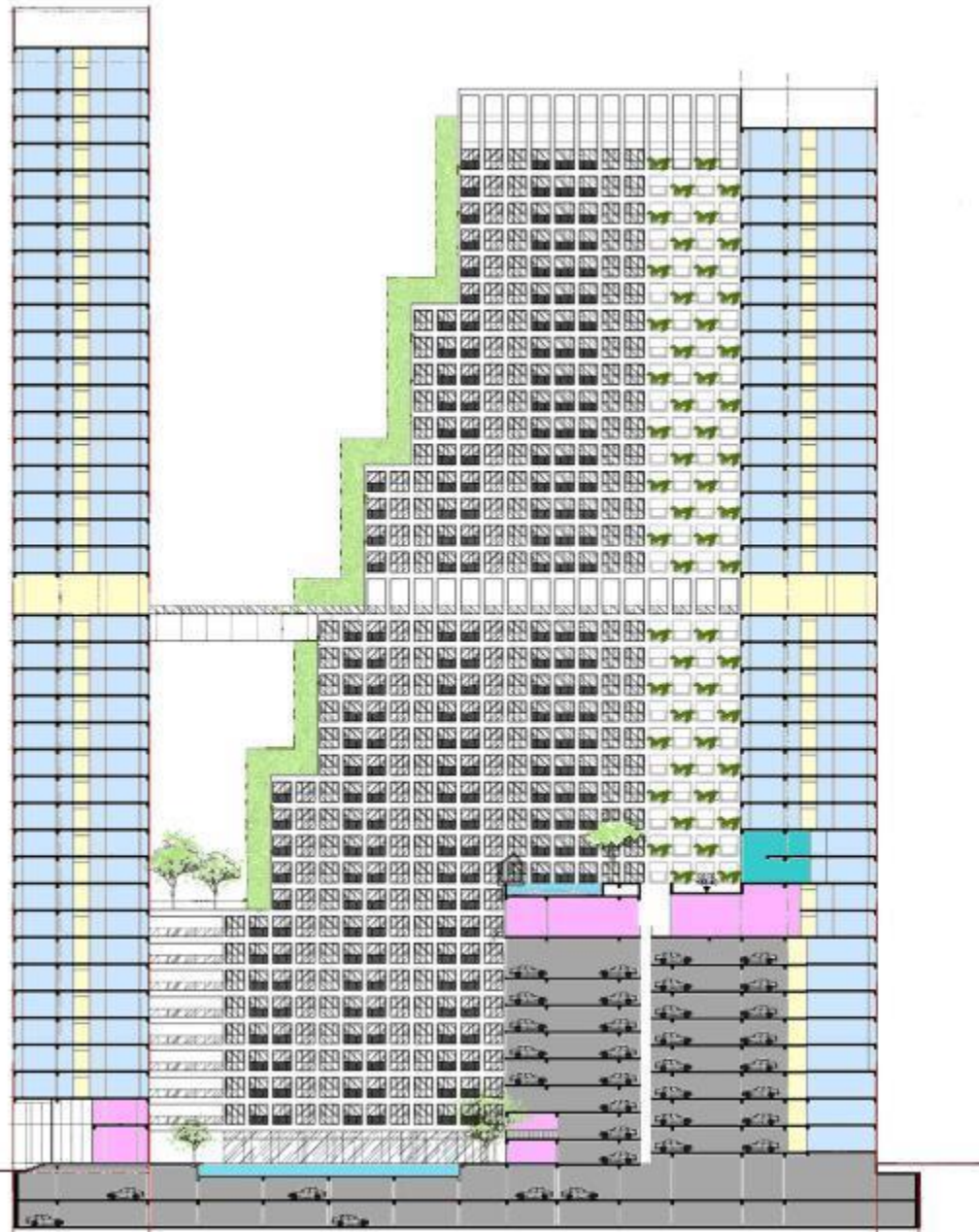
MULTIPLE GROUND FLOORS

2080 UNITS = 11 STOREY OF CARPARK



MULTIPLE GROUND FLOORS

IT IS IMPOSSIBLE TO HOUSE ALL CARPARK PROVISION IN THE BASEMENT. THE VOLUME IS EXTRUDED UP INSTEAD, CREATING PODIUM SPACE THAT SERVED AS **COMMUNAL GREEN AREA**. AT THE SAME TIME, ACTING AS **MULTIPLE GROUND FLOOR SURFACES**.

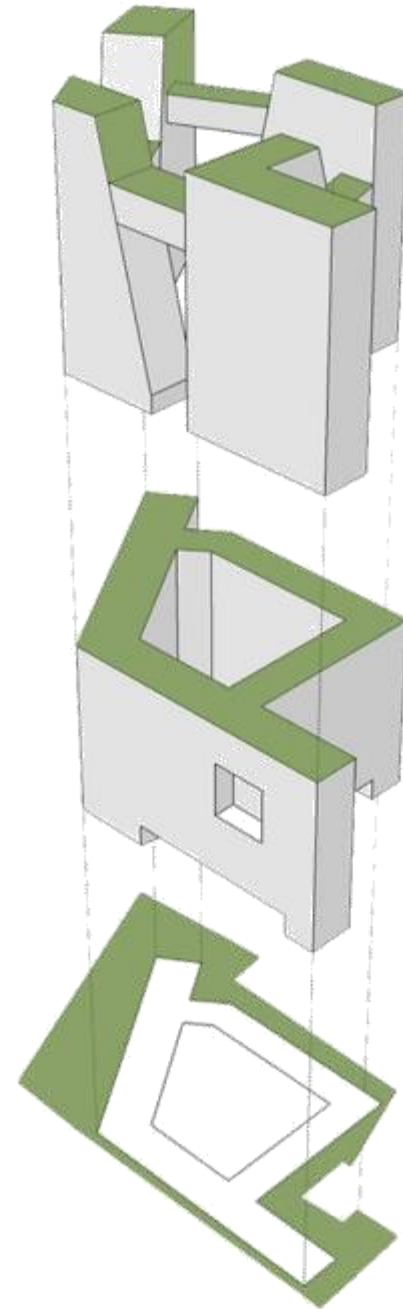


PRIVATE



HIERARCHY OF PRIVACY & SECURITY

PUBLIC





ENHANCING THE PODIUM

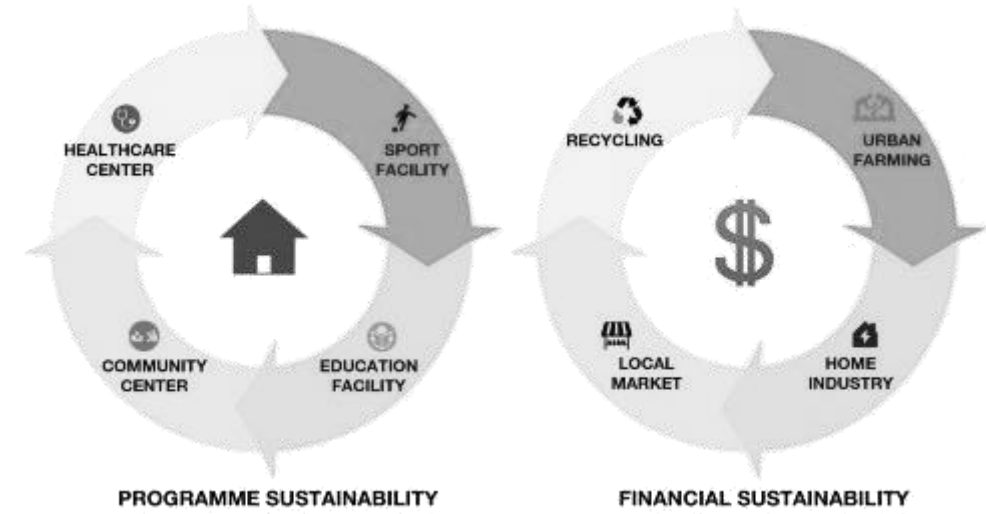
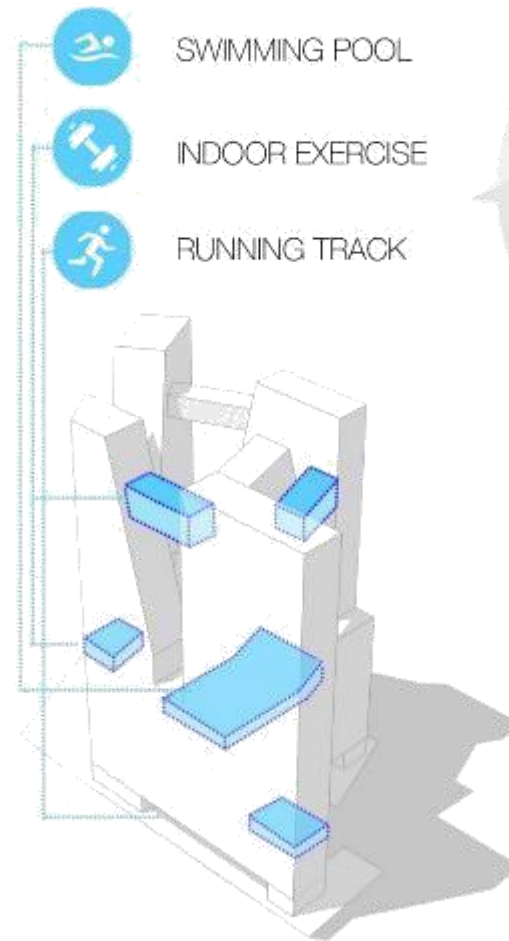
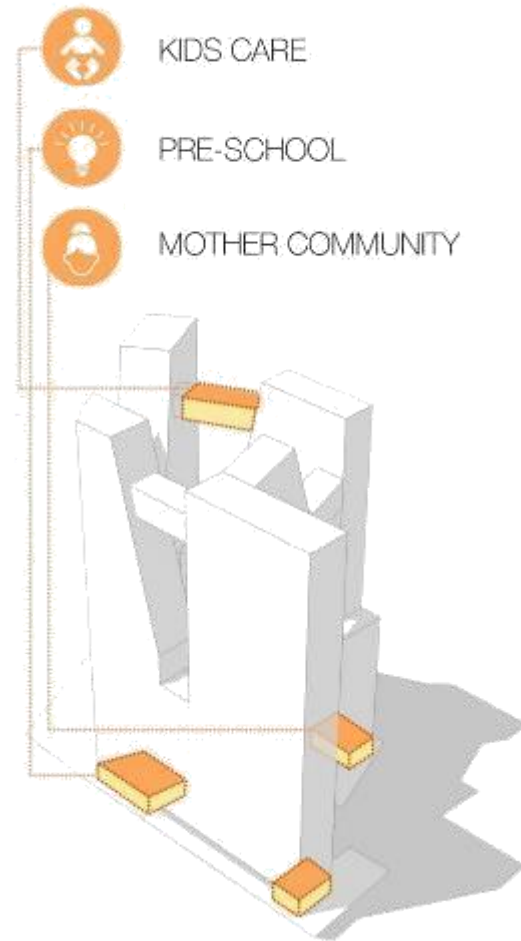
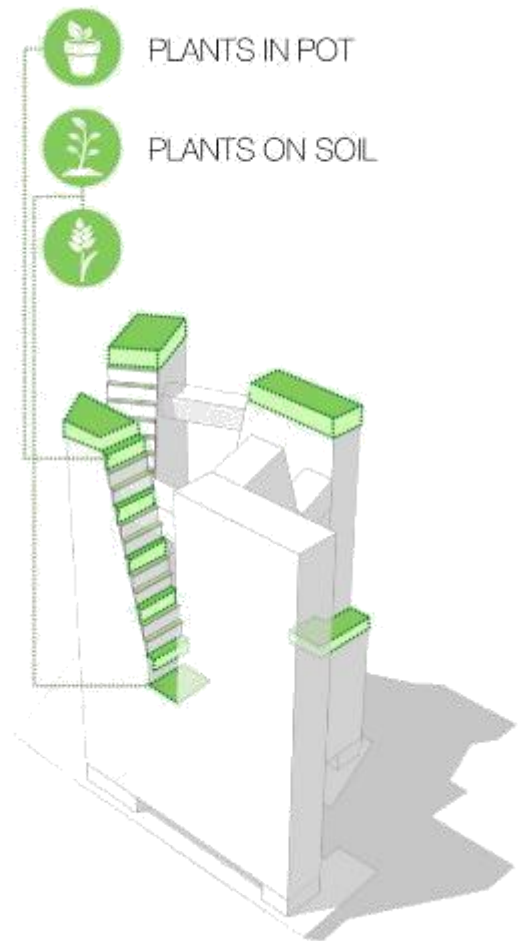
IMPROVING THE CARPARK ROOFTOP TO BE SWIMMING POOL AND LANDSCAPE, CONVERTING THE **CONSTRAINTS INTO ASSETS**.



INVIGORATING THE GROUND

OPENING UP ADJACENT MASSING TO ENSURE
UNBLOCKED VISTA AT HUMAN EYE LEVEL,
LOOKING TOWARDS THE WELL-VENTILATED
COURTYARD WITH PLENTY OF NATURAL LIGHT.

SUSTAINABILITY



-  AFFORDABLE HOUSING
-  COMMUNITY CENTER
-  HOME INDUSTRY

-  LOCAL MARKET
-  EDUCATION FACILITY
-  SPORT FACILITY

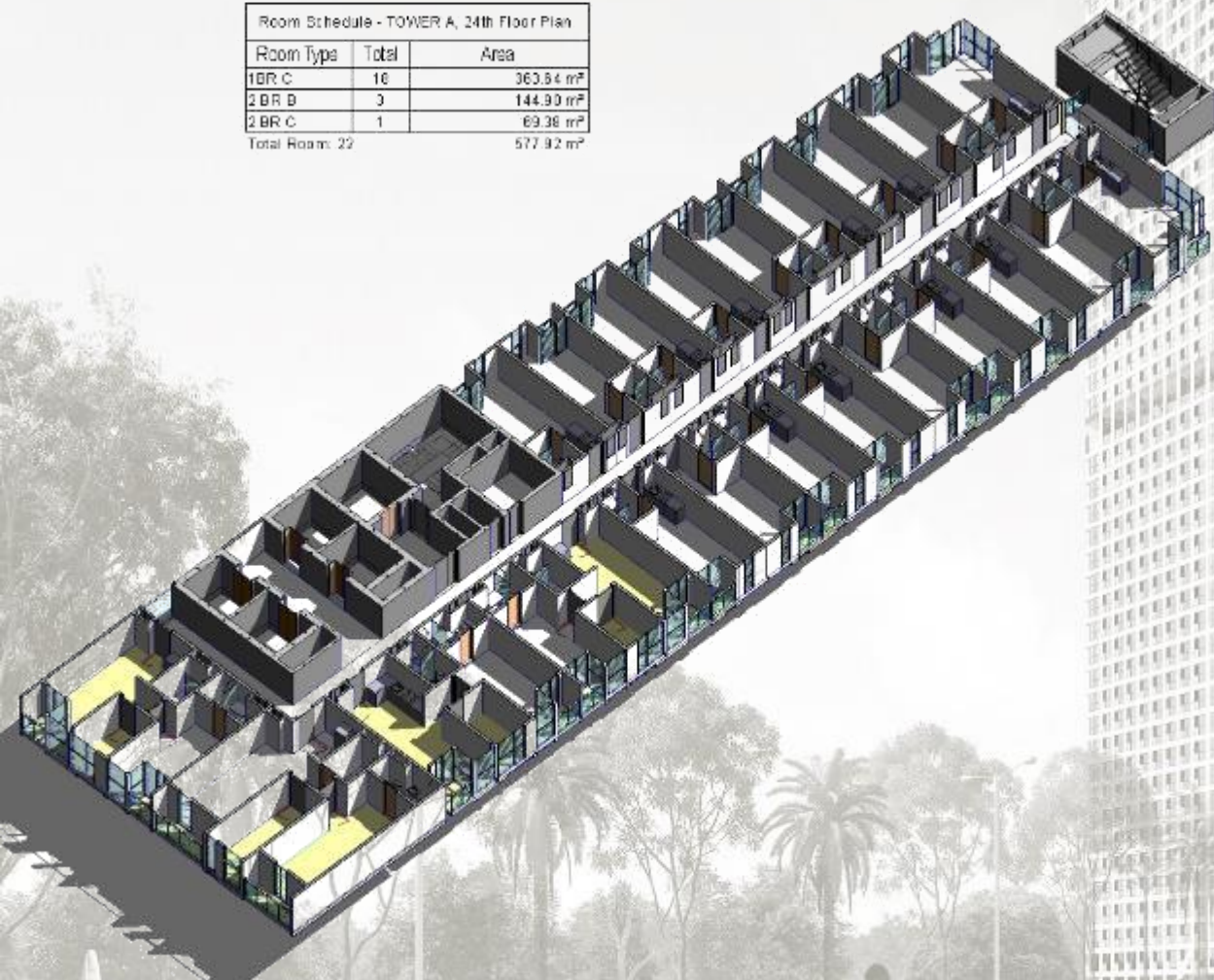
-  URBAN FARMING
-  HEALTHCARE CENTER
-  RECYCLING

OUTPUT DATA



Room Schedule - TOWER A, 24th Floor Plan

Room Type	Total	Area
1BR C	16	363.84 m ²
2 BR B	3	144.90 m ²
2 BR C	1	69.38 m ²
Total Room: 20		578.12 m ²



- LAYOUT PLAN
- ELEVATION
- SECTION
- 3D VIEW
- SCHEDULE DATA

BIM Project Implementation

MANAGE FILE

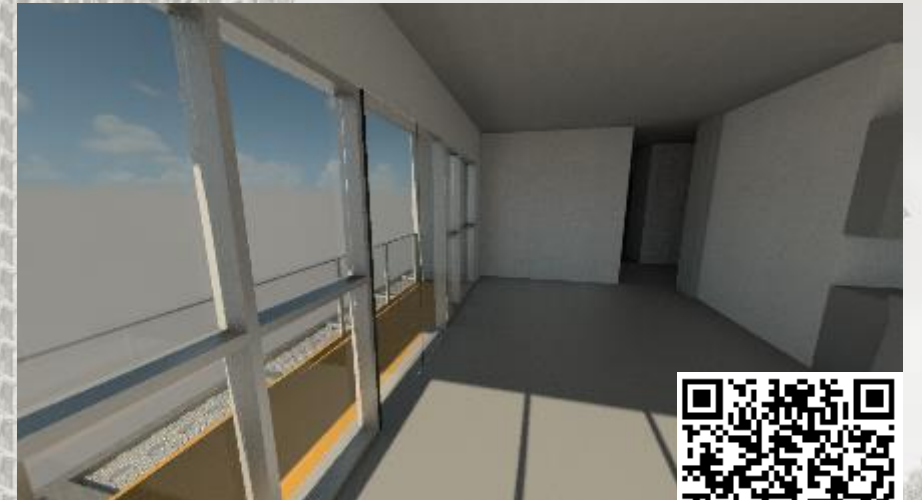
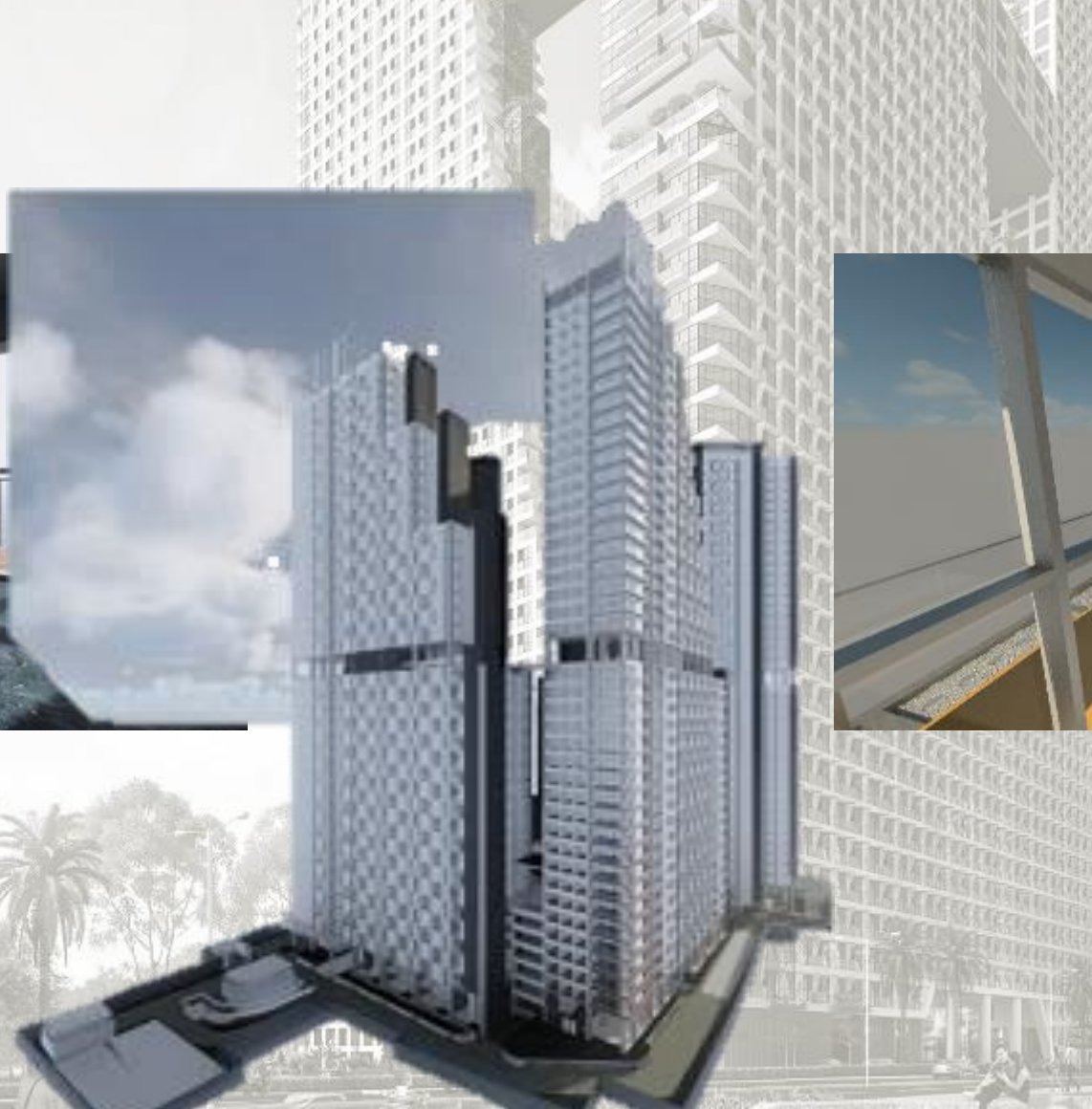
Based on Design Concept,
Total Size of models : 1,33 GB

- TOWER D BELOW + PODIUM
- TOWER D
- TOWER C BELOW
- TOWER C
- TOWER A & TOWER B BELOW
- TOWER B
- TOWER A



VISUALIZATION

- Different presentation options
- Helps client to understanding of the design and also give much more reassurance





k

KAMALA
KANDARA

CITY WITHIN A CITY
A HOME FOR EVERYONE

World
Architecture
Festival
2017
Finalist



PROJECT FACT SHEET

PROJECT NAME	KAMALA KANDARA
LOCATION	BEKASI, INDONESIA
CLIENT	PT. PP PROPERTY Tbk
SITE AREA	13,650 sqm
TOTAL GFA	163,800 sqm
TOTAL SGFA	139,230 sqm
TOTAL NFA	118,660 sqm
EFFICIENCY NFA/GFA	72%
EFFICIENCY SGFA/GFA	85%
NO. OF FLOOR	40 STOREYS
BUILDING HEIGHT	145 M
TOTAL UNITS	2,080 UNITS
STATUS	PHASE 1 SOFT LAUNCHING ON DEC 2016

TYPE	QTY (units)	SIZE (sqm)	%		NFA (sqm)
STUDIO LOFT	236	34	11.3%	70.4%	8,024
LIFESTYLE LOFT	18	72	0.9%		1,296
1BR UNIT	1210	44	58.2%		53,240
2BR UNIT	570	86	27.4%	29.6%	49,020
3BR UNIT	40	138	1.9%		5,520
TOWNHOUSE	6	260	0.3%		1,560
	2,080				118,660 sqm

Heartbeat @ Bedok, Singapore

architecture • engineering • interior • landscape • lighting / civic

World Architecture Festival Award

Finalist, 2015

**American Architecture Prize,
Landscape Category**

Winner, 2017

BCA Green Mark Awards

Platinum, 2016

BCA Universal Design Award

Gold^{Plus}, 2017

World
Architecture
Festival
2015
Finalist



BEDOK COMMUNITY & SPORTS COMPLEX, Singapore

B E D O K I N T E G R A T E D C O M P L E X

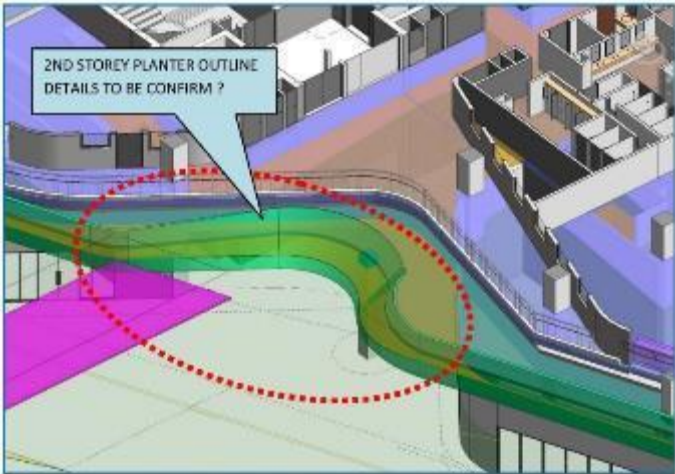
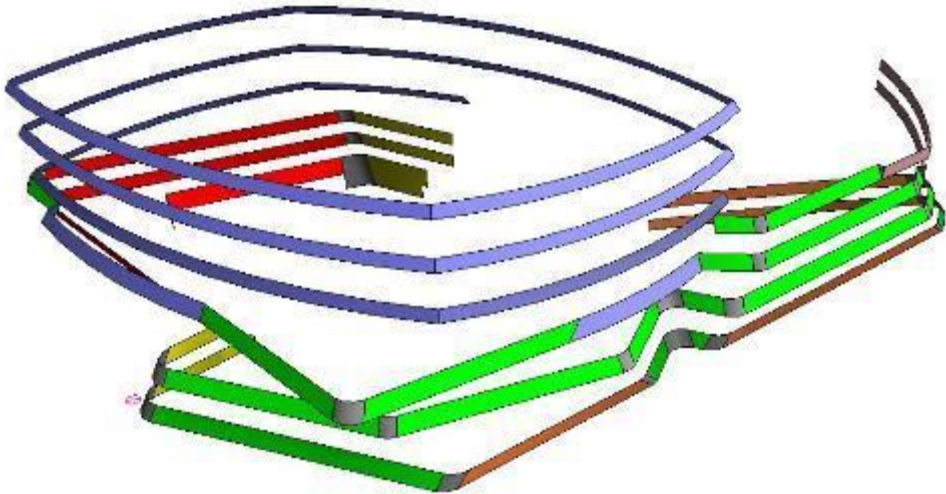
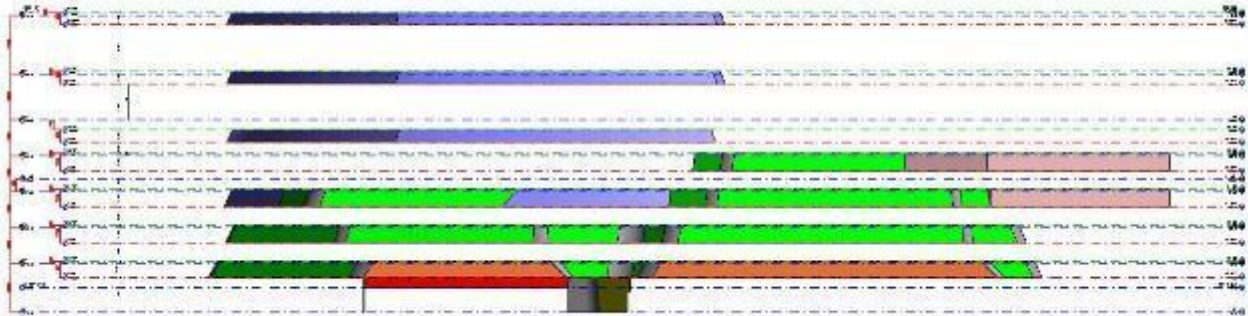


Project stage =
Under Construction

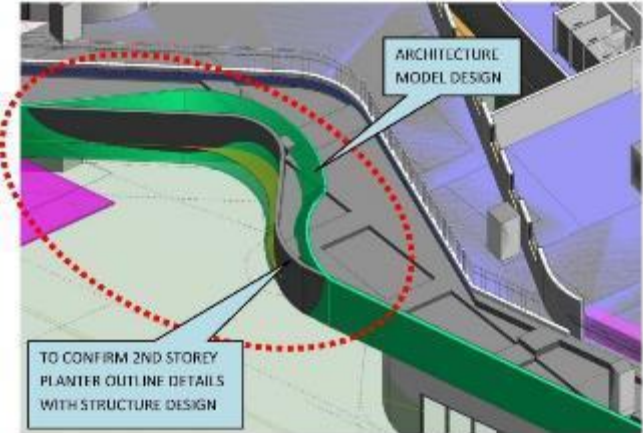
GFA = 43,600 m²

BEDOK COMMUNITY & SPORTS COMPLEX, Singapore

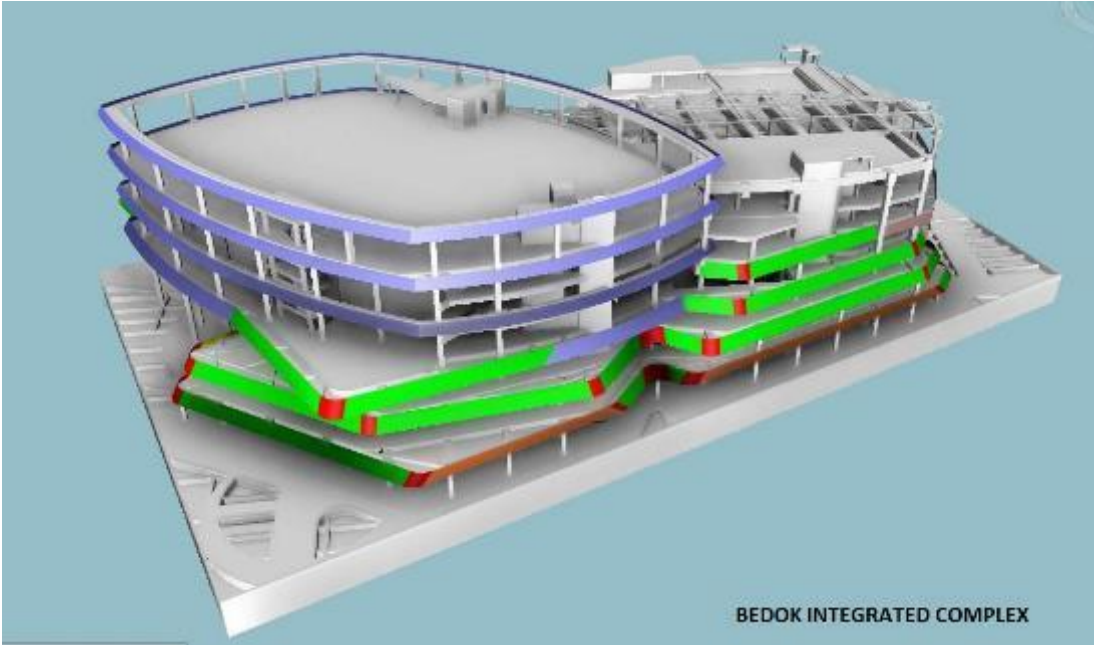
Massing & Coordinating Walls with varying angles and curves



ST07 - 1ST ~ 2ND STOREY ARCHI REVIT 3D VIEW



ST07 AREA - 1ST ~ 2ND STOREY ARCHI AND STRUCTURE COMBINE 3D VIEW



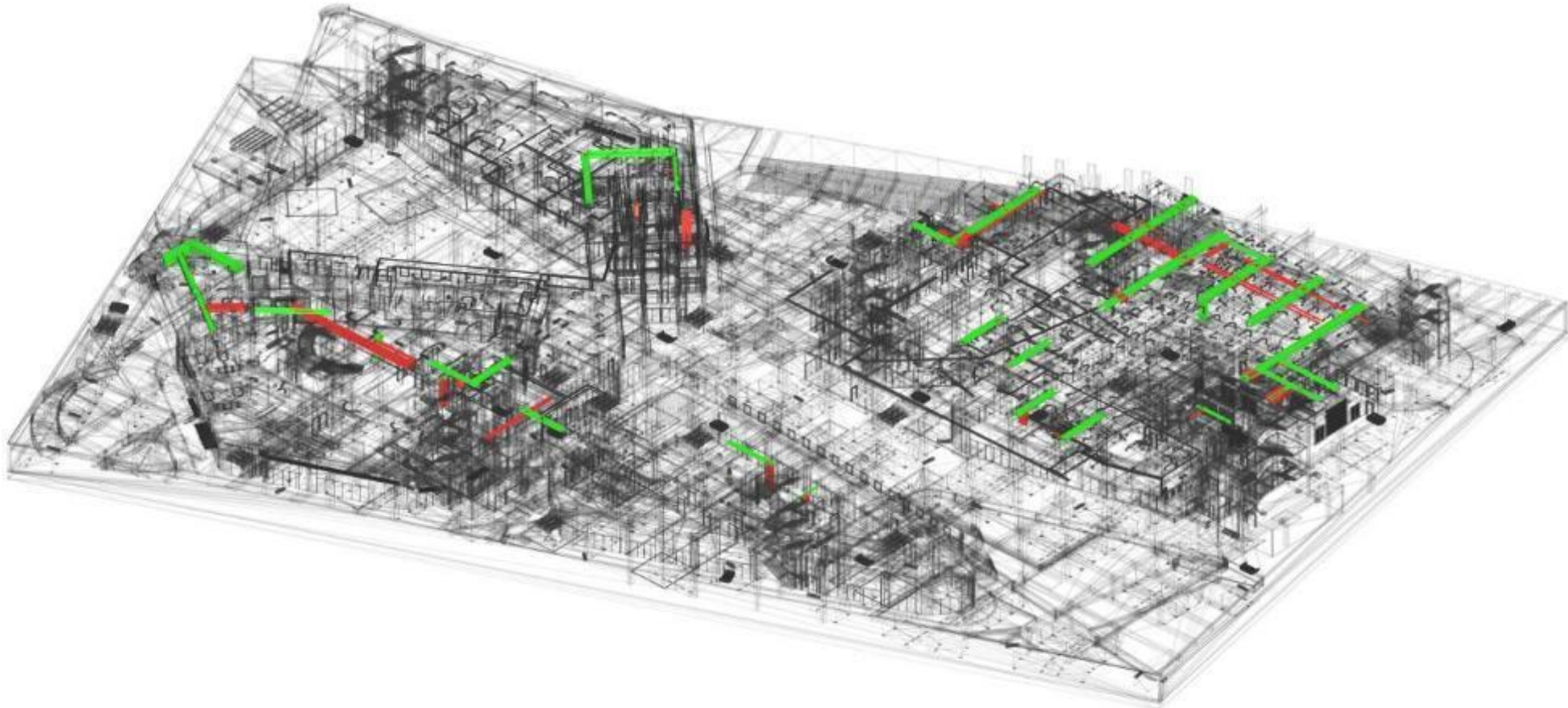
BEDOK INTEGRATED COMPLEX



BEDOK COMMUNITY & SPORTS COMPLEX, Singapore

Clash Detection Reports

Autodesk Navisworks		Clash Report														
SC_L2_ACMV vs MC Col & Bm		Tolerance	Clashes New	Active	Reviewed	Approved	Resolved	Type	Status							
		0mm	103	103	0	0	0	0	Hard OK							
Image	Clash Name	Status	Distance	Grid Location	Date Found	Item 1					Item 2					
						Item ID	Layer	Path	Item Name	Category	CategoryType	Item ID	Layer	Path	Item Name	Category
	Clash1	New	-442	R-13 : 3RD STOREY	2016/2/19 04:15:59	Element ID: 2980195	2ND STOREY	File > File > P2188-14_BIC_M_ACMV_RME15_BKS_L2 TO L6_20160202.nwc > 2ND STOREY > Ducts > Rectangular Duct > Mitered Elbows / Taps > Rectangular Duct > Supply Duct - SAD	Supply Duct - SAD	Model		Element ID: 1888354	3RD STOREY	File > File > BIC_CAARAV0001_KSH COORDINATION.nwc > 3RD STOREY > Structural Framing > RC_Beams > 550x1200 > RC_Beams > Concrete, Cast-in-Place - C40	Concrete, Cast-in-Place - C40	Model
	Clash2	New	-227	K-11 : 3RD STOREY	2016/2/19 04:15:59	Element ID: 1231783	1ST STOREY	File > File > P2188-14_BIC_M_ACMV_RME15_BKS_L2 TO L6_20160202.nwc > 1ST STOREY > Ducts > Rectangular Duct > Mitered Elbows / Taps > Rectangular Duct > Kitchen Exhaust Air - KEAD	Kitchen Exhaust Air - KEAD	Model		Element ID: 1937470	3RD STOREY	File > File > BIC_CAARAV0001_KSH COORDINATION.nwc > 3RD STOREY > Structural Framing > RC_Beams > 550x200 > RC_Beams > Concrete, Cast-in-Place - C40	Concrete, Cast-in-Place - C40	Model
	Clash3	New	-220	I-06 : 3RD STOREY	2016/2/19 04:15:59	Element ID: 2978165	2ND STOREY	File > File > P2188-14_BIC_M_ACMV_RME15_BKS_L2 TO L6_20160202.nwc > 2ND STOREY > Ducts > Rectangular Duct > Mitered Elbows / Taps > Rectangular Duct > Supply Duct - SAD	Supply Duct - SAD	Model		Element ID: 1664476	2ND STOREY	File > File > BIC_CAARAV0001_KSH COORDINATION.nwc > 2ND STOREY > Structural Columns > Rectangular Column > 800x800mm > Rectangular Column > Concrete - Cast-in-Place Concrete	Concrete - Cast-in-Place Concrete	Model
	Clash4	New	-213	E-06 : 3RD STOREY	2016/2/19 04:15:59	Element ID: 1687389	2ND STOREY	File > File > P2188-14_BIC_M_ACMV_RME15_BKS_L2 TO L6_20160202.nwc > 2ND STOREY > Air Terminals > BKS_Supply Diffuser > 600 x 600 Face 250 x 250 Connection > BKS_Supply Diffuser > 600 x 600 Face 250 x 250 Connection > Supply Duct - SAD	Supply Duct - SAD	Model		Element ID: 1927673	3RD STOREY	File > File > BIC_CAARAV0001_KSH COORDINATION.nwc > 3RD STOREY > Structural Framing > RC_Beams > 1500/1800x1000 > RC_Beams > Concrete, Cast-in-Place - C40	Concrete, Cast-in-Place - C40	Model

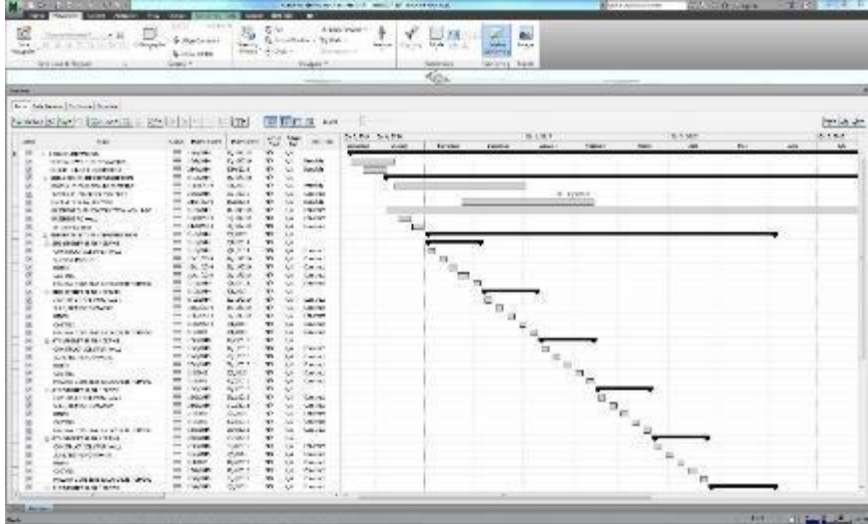
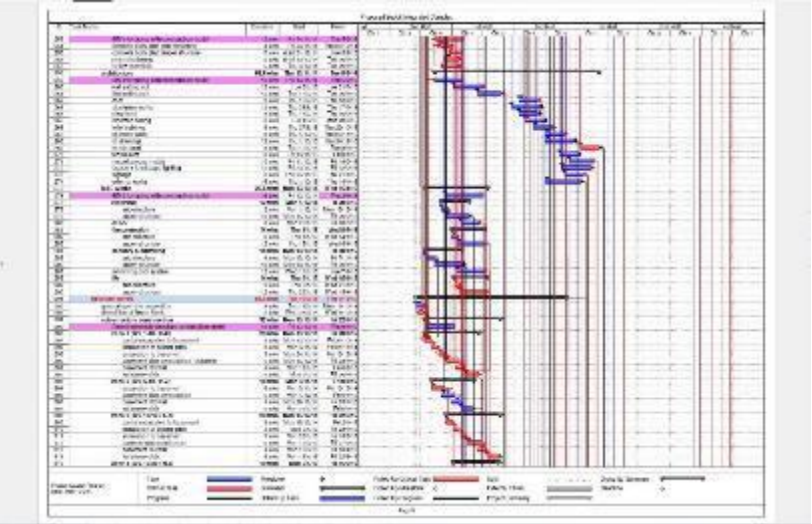


BEDOK COMMUNITY & SPORTS COMPLEX, Singapore

Workflow transformation towards the use of 4D Simulation

Master Programme

Construction simulation programme in Navisworks



4D Simulation in Navisworks

A grid of six screenshots showing different views of the 4D simulation in Navisworks. The top row shows three different 3D views of the building model, with the Gantt chart visible at the bottom of each. The bottom row shows three more 3D views, including a detailed view of the building's exterior and a view showing the construction progress over time. The Gantt chart is also visible at the bottom of these views.

ADULT DISABILITY HOME

Sembawang Walk, Singapore

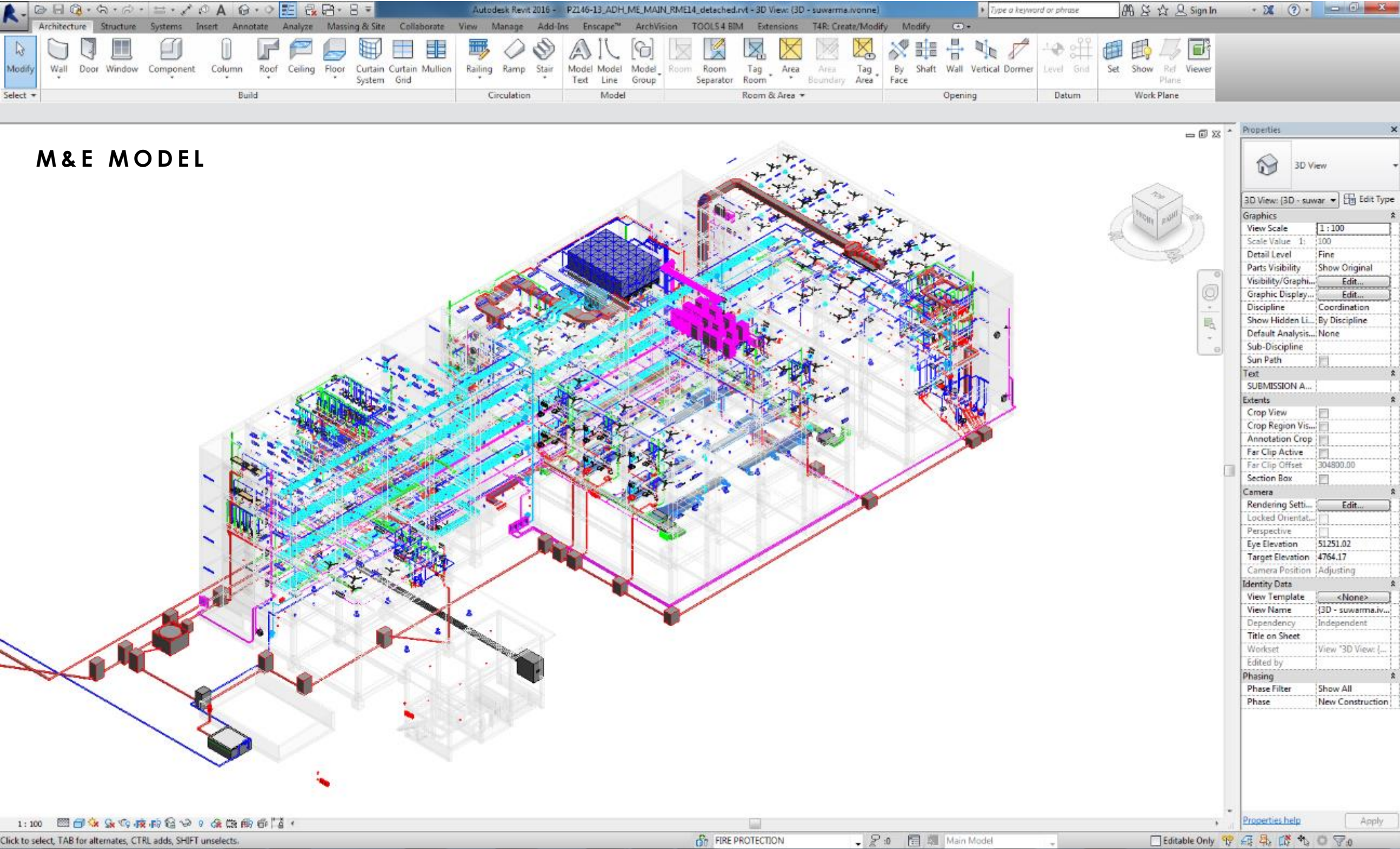
Adult Disability Home, Singapore



Adult Disability Home, Singapore



Adult Disability Home, Singapore



QUESTIONS ?

THANK YOU



ONG&ONG
group