YEAR 2 *21-22*

ENGINEERING AND ARCHITECTURAL. DESIGN, MENG

SARA MOTWANI

THE BARTLETT SCHOOL OF ARCHITECTURE

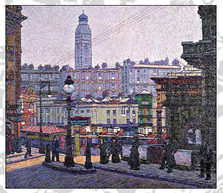
"THE PANDEMONIUM ORGANISATION"

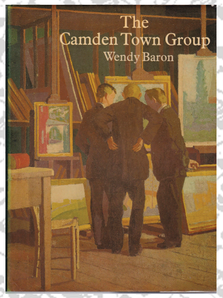
CREATING ORDER IN CHAOS

HISTORICAL CONTEXT : EVOLUTION OF THE MARKETPLACE



Marks the initial development of art in Camden





1974

On 30th March, a brand new Saturday Market opened in Camden Town





Camden emerged as a hub of British Pop Music



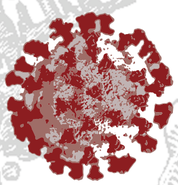


On 9th February 2008, a massive fire erupted in Camden Canal Market

2013

With the opening of supermarkets, the original stalls began to close





Camden Lock to Roundhouse was an industrial site of distilleries and warehouses dedicated to producing world renowned gin

19th Century



1898

Charles Booth produced the distribution of London Poverty map

In April 1965, the London Borough of Camden replaced the former metropolitan boroughs of Hampstead, Holborn, and St Pancras

1993

By the end of the 20th Century, entertainment related industries began to move their bases towards the area



1860s

Initial houses in Camden were mostly built for middle class



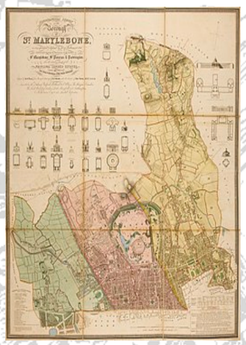
1911

Camden Town Group: Community of Painters is established

- Wealthy
- Comfortable yet Poor
- Middle Class
- Very Poor
- Moderately Poor



1965



The Market started with 16 traders





1976

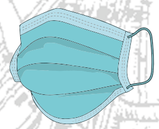
Ska/Pop Band MADNESS and others emerged and flourished in Camden

2008



A number of retail and food chain outlets replaced independent shops, driven out by high rents and redevelopment.



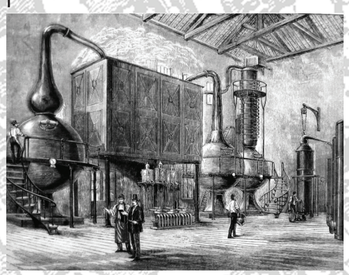


The COVID-19 Pandemic hit

2020



By mid-2013, all the original stalls had gone, being replaced by stalls similar to those of the other markets, including fast food but not produce



1820

Regeants Canal opened to traffic

1791

Charles Pratt starts development of camden town

SITE ANALYSIS

LOCATION OF SITE



RESIDENCES

RESIDENCES

OLD ENTRANCE

BONNY STREET

CAMDEN TOWN STATION

RESIDENCES

ROYAL COLLEGE STREET

CAMDEN ROAD

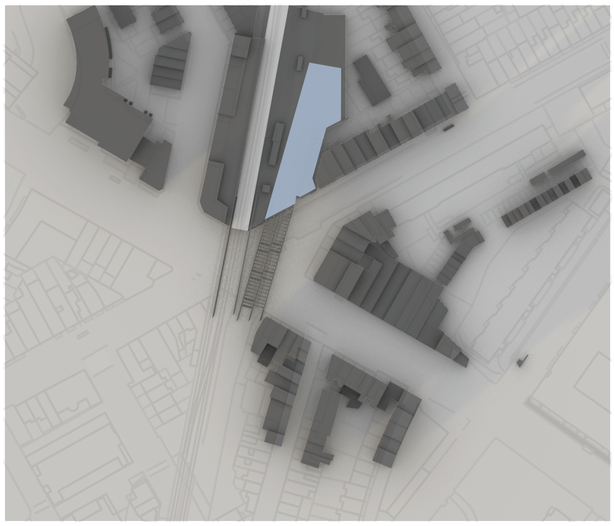
CAMDEN TOWN STATION

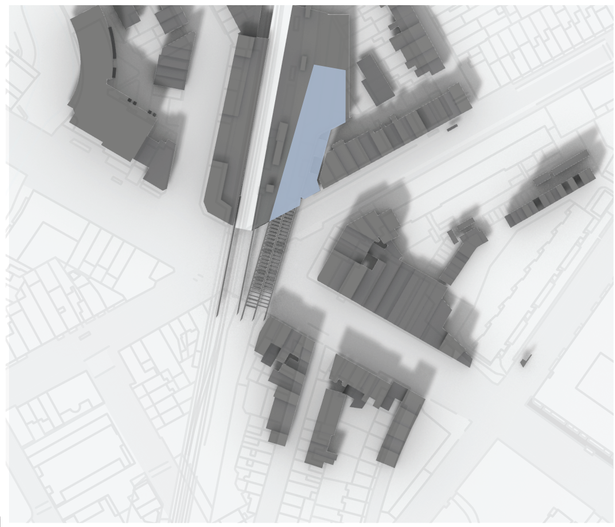
ROYAL COLLEGE STREET

CAMDEN TOWN

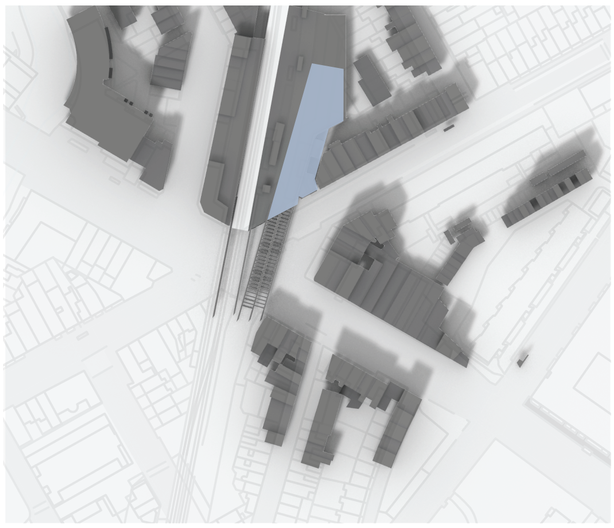
WINTER SOLSTICE

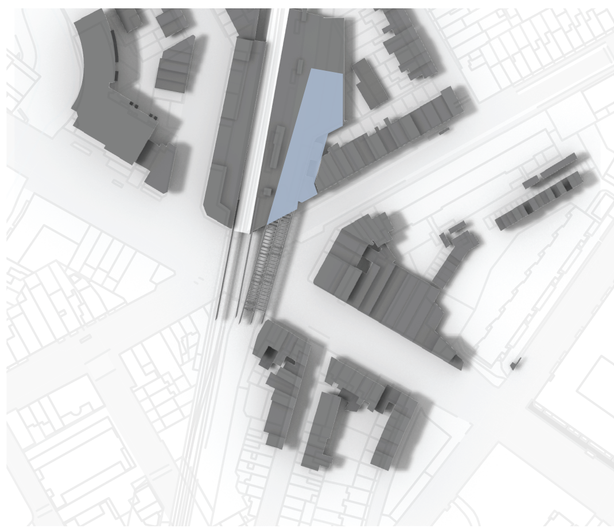
SUMMER SOLSTICE



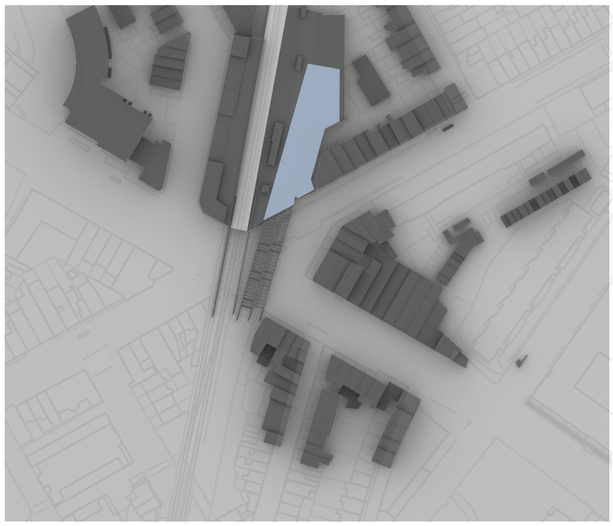


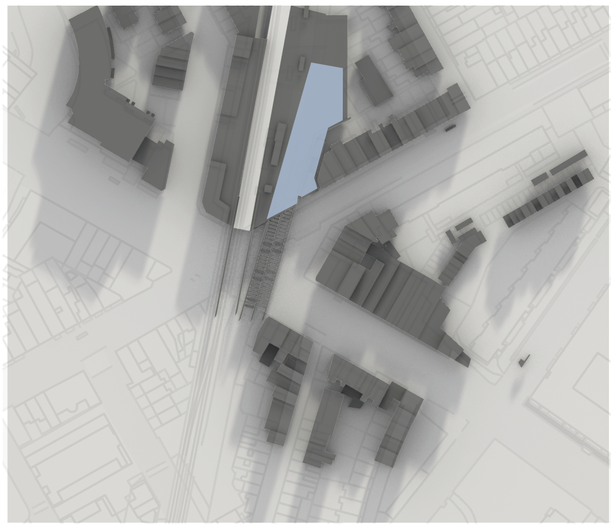
9 AM





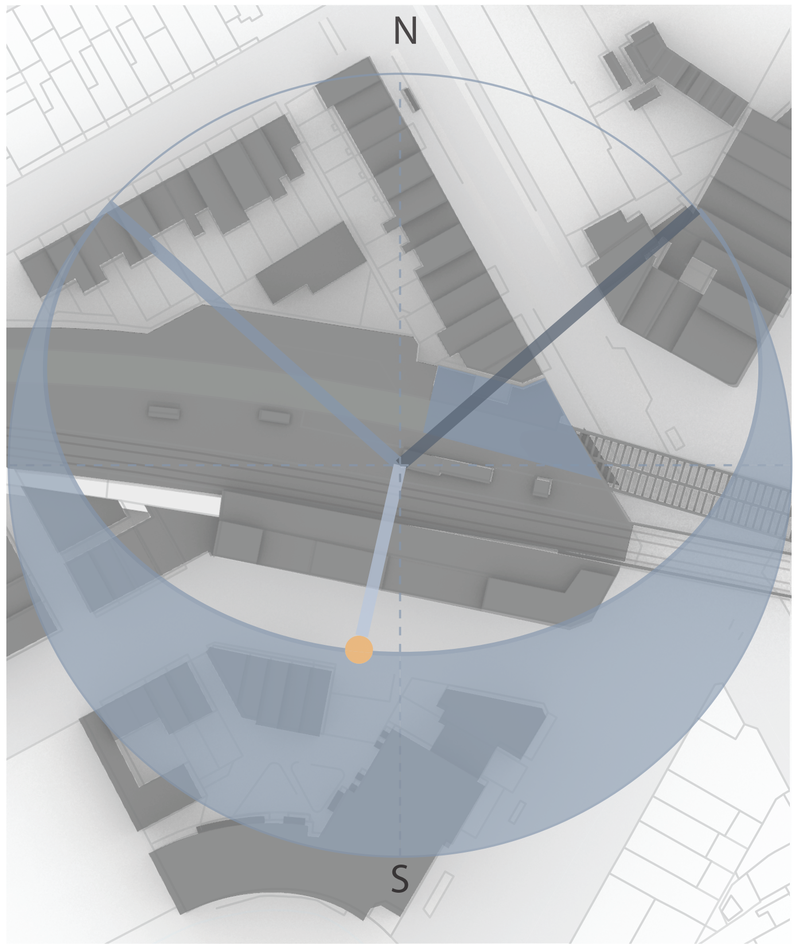
12 PM



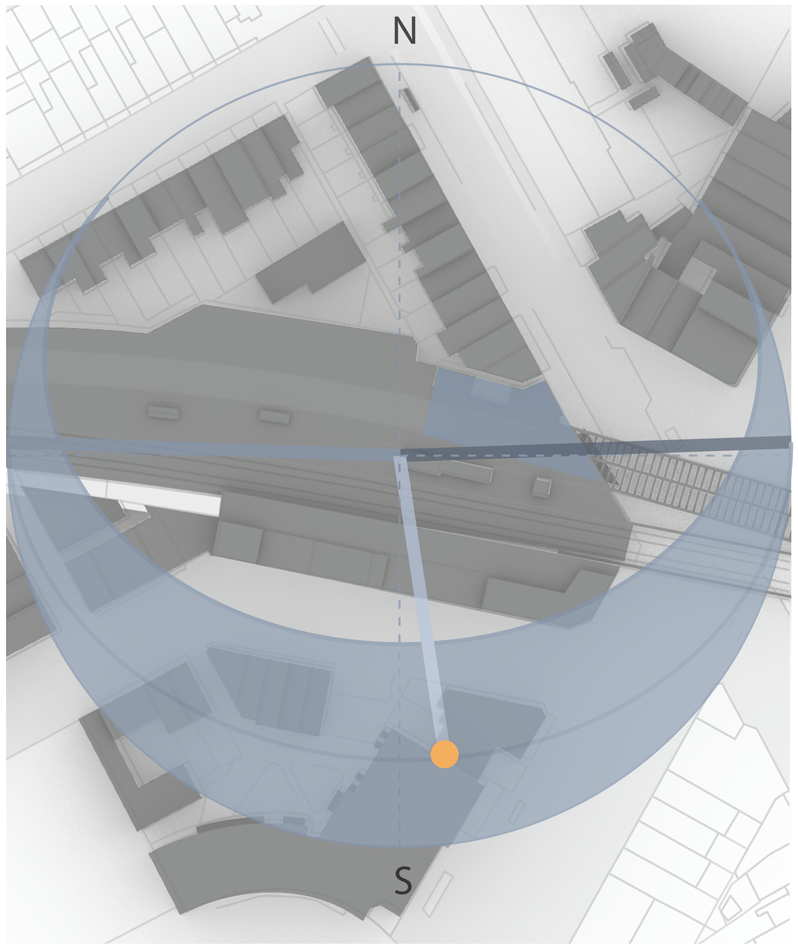


6 PM

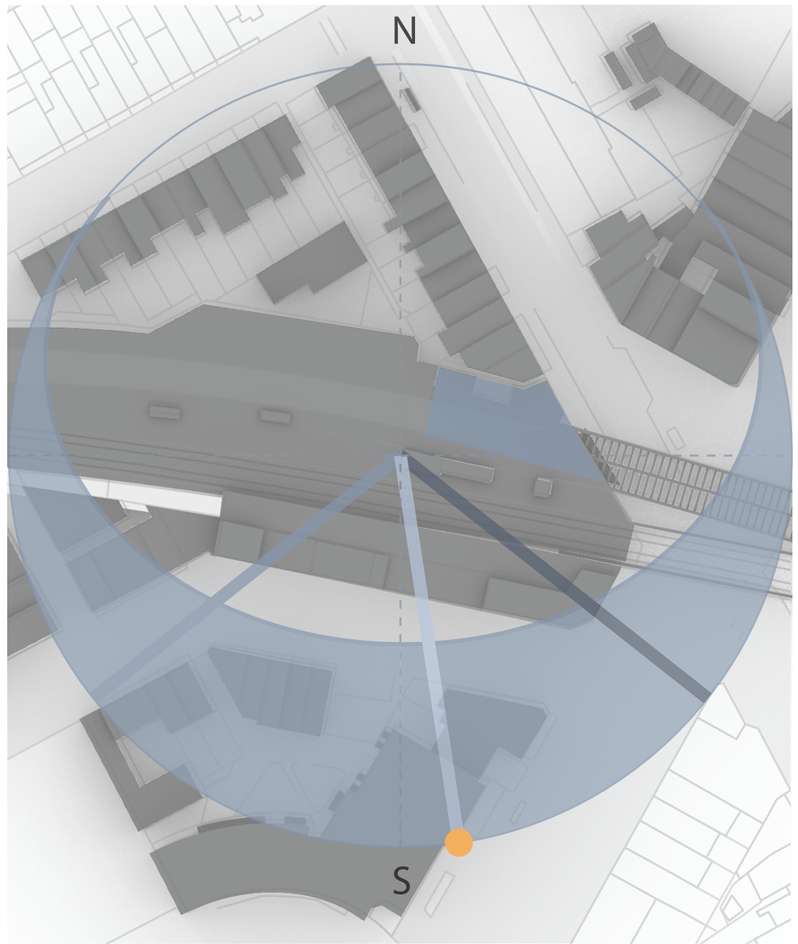
SUNPATH DIAGRAMS



Summer Solstice



Equinox



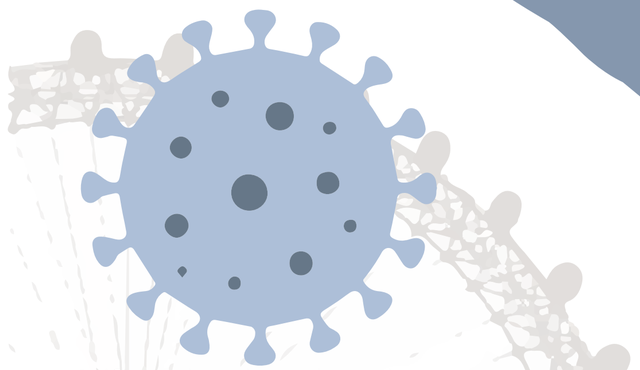
Winter Solstice

DEMOGRAPHICAL ANALYSIS : UNDERSTANDING THE OCCUPANTS

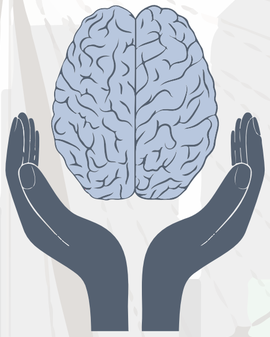
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Women and people from minority ethnic backgrounds are overrepresented among the low-paid self-employed



Self-employed workers have been more exposed to the COVID-19 crisis



The number of self-employed workers reporting “poor” or “very poor” mental health has increased from six per cent to 26 per cent since the beginning of the pandemic.

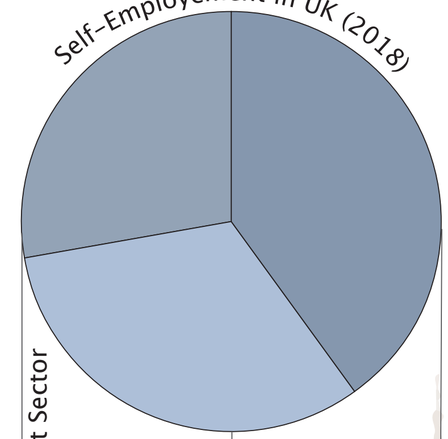


60% Arts and Entertainment Industry

45% Administrative occupations

33 % Professional Ocupations

LIKELINESS OF SELF EMPLOYED POPULATION TO BE ENGAGED IN HIGH-SKILLED OCCUPATIONS IN LONDON



36% Arts and Entertainment Sector

42% Construction Workers

52% Household Workers

Out of London’s Total Workforce of 5 million

1 Million

Self-Imployed

London: Capital of Self-Employment

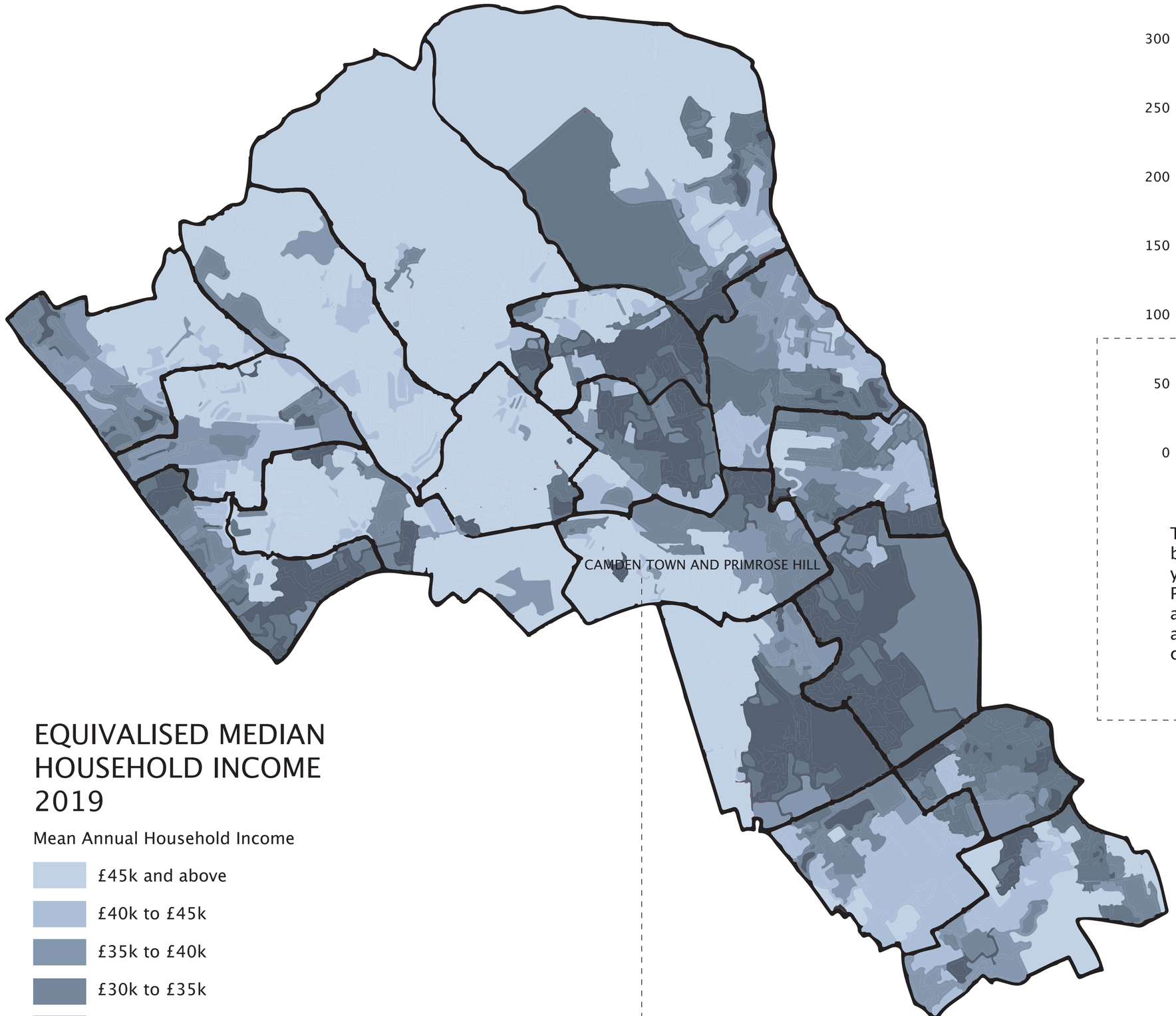
RISE OF CO-WORKING SPACES

Started in UK less than a decade ago.

Driven by changes in the working environment - rise of self employement.

Efficient and accessible technology has been one of the key drivers in the demand for coworking, making it easier than it has ever been for inspiring and established business owners alike to break through the traditional barriers to business entry.

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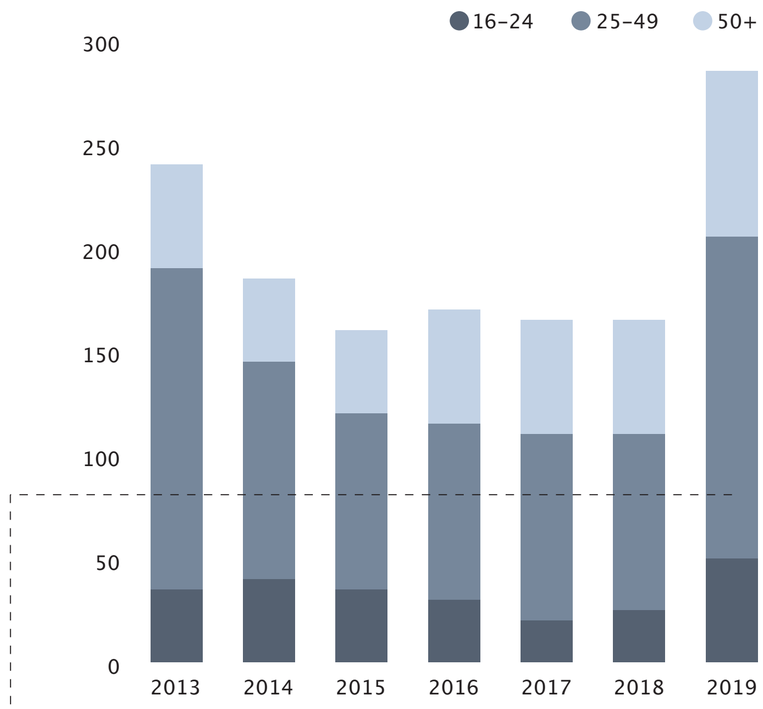


EQUIVALISED MEDIAN HOUSEHOLD INCOME 2019

Mean Annual Household Income

- £45k and above
- £40k to £45k
- £35k to £40k
- £30k to £35k
- £25k to £30k
- £20k to £25k
- Under £20k

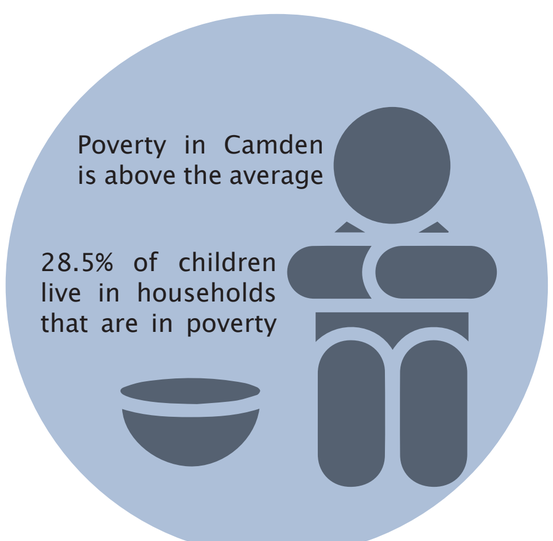
Of the 19 Wards in the Borough of Camden, Camden Town and Primrose Hill ranks 7 in terms the % of households with a Median Income less than £25k, which is the criterion for them to be houeholds in poverty.



UNEMPLOYEMENT BY AGE

The graph shows the unemployement claiment count by age in the month of November over a period of 7 years in the Ward of Camden Town alongwith Primrose Hill.The current measure of unemployment at local-level is a hybrid of Jobseeker Allowance (JSA) and unemployment-related Universal Credit claimantsreferred to as the Claimant Count.

The age group between 25-49 as evident from the data is most affected by unemployement.



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VISUAL AESTHETIC INSPIRATION FROM SITE


THIS IS BRIDGE 25
Kentish Town Road
RAILTRACK plc
0207 247 1292


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ED TO
ard Street,





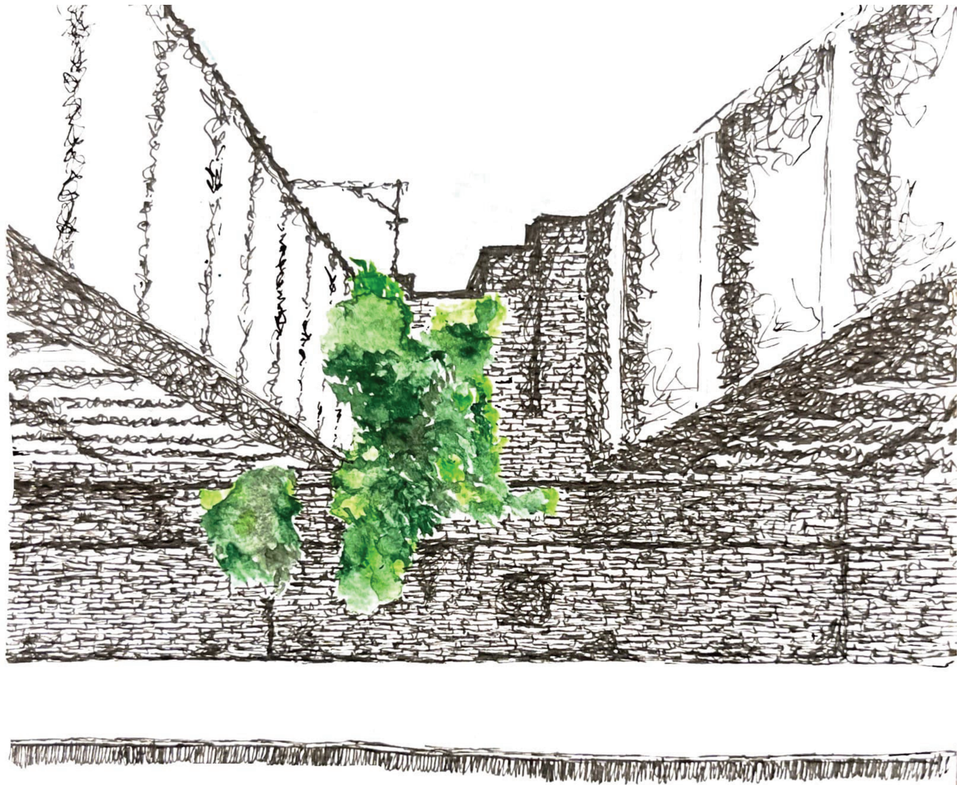


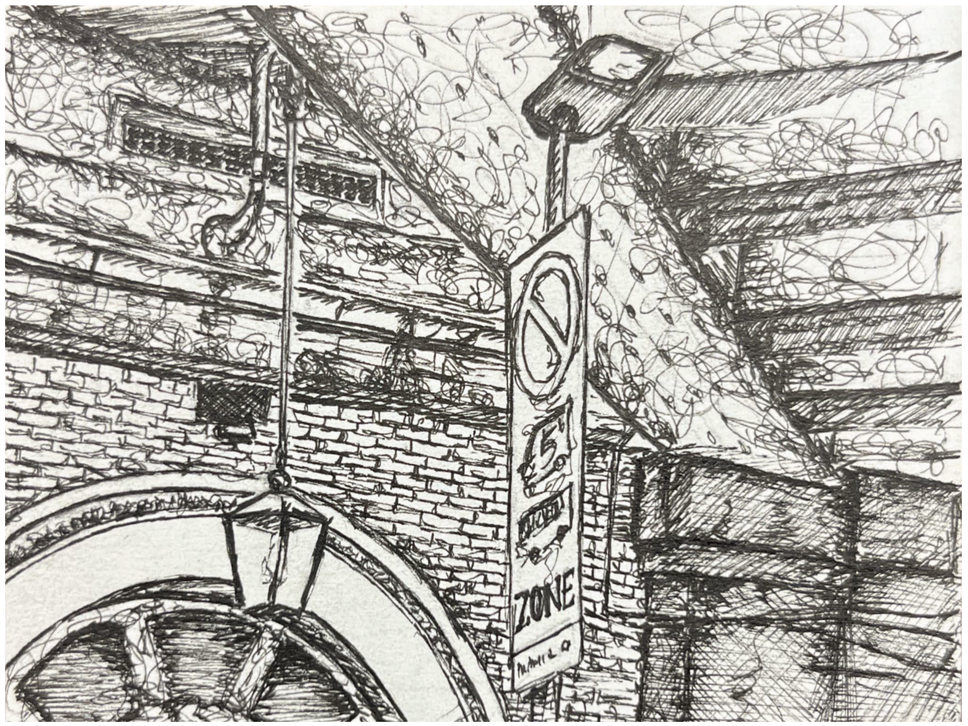




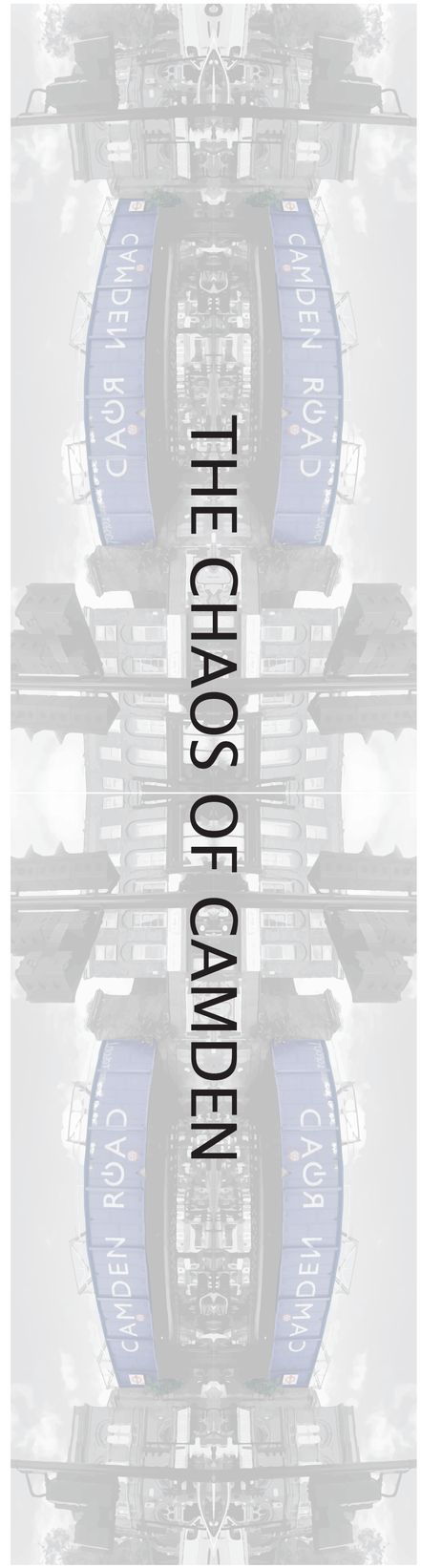




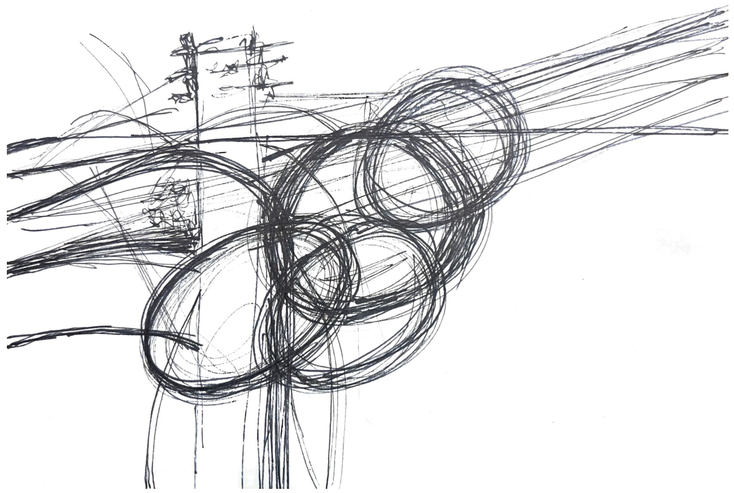



ZONE

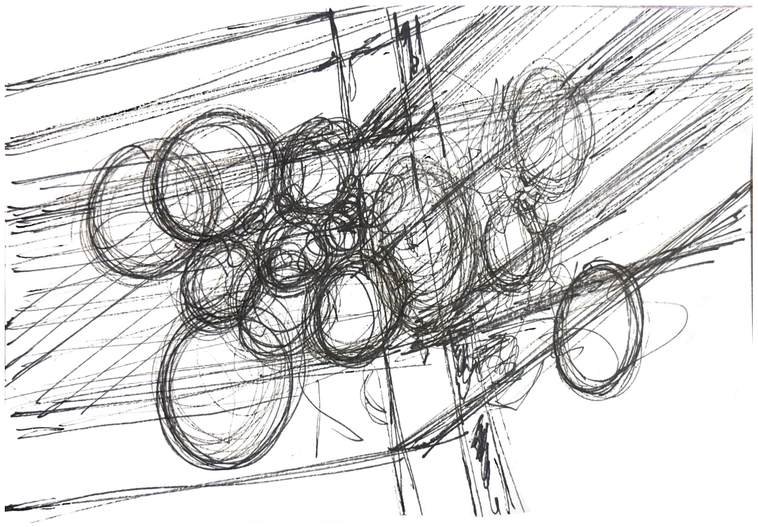

SITE INSPIRATION
CAMDEN ROAD


THE CHAOS OF CAMDEN
CAMDEN ROAD





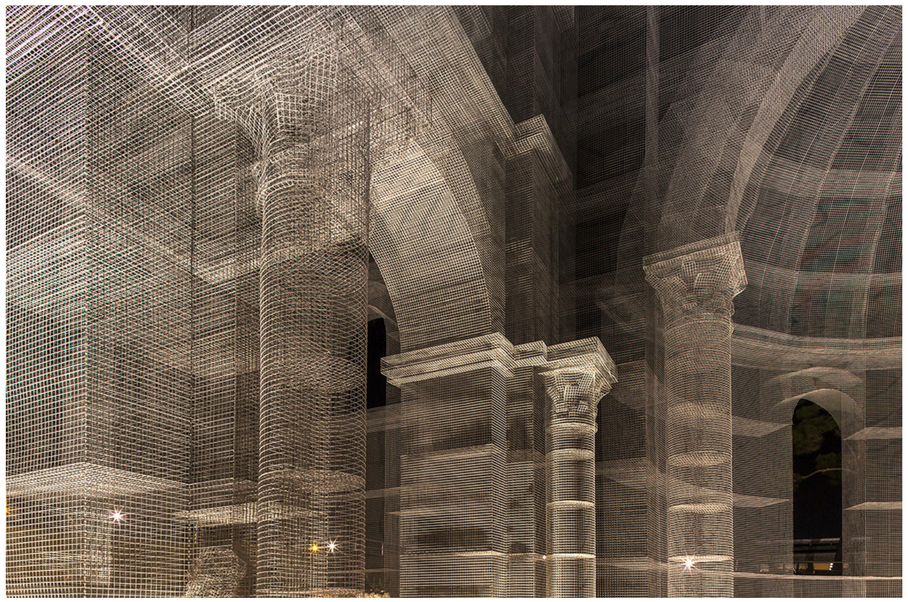


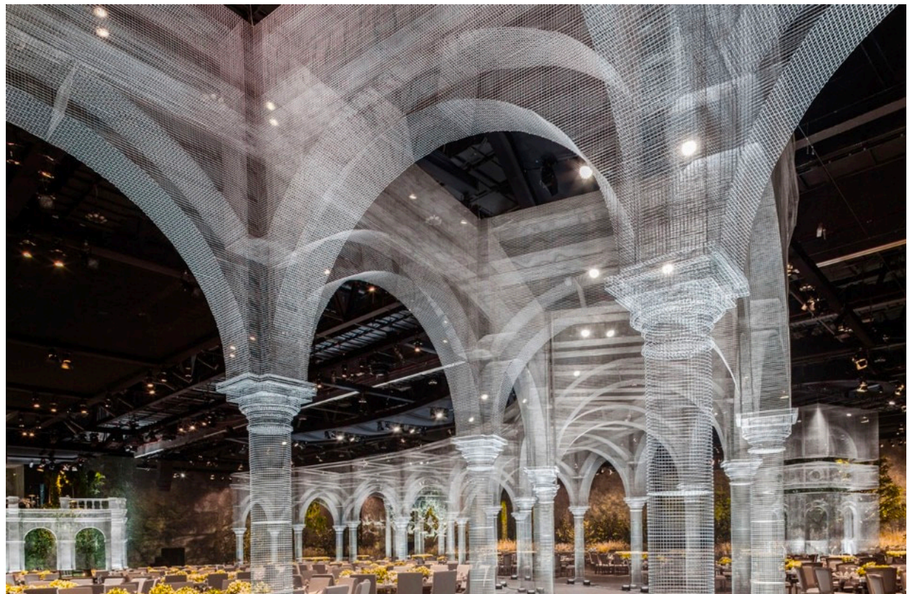












EDUARDO TRESOLDI : THE ARCHITECTURE OF ABSENT MATTER





EDUARDO TRESOLDI +
STUDIO STUDIO STUDIO'S
WIREMESH ARCHITECTURAL
FOTRESS IN SAUDIA ARABIA

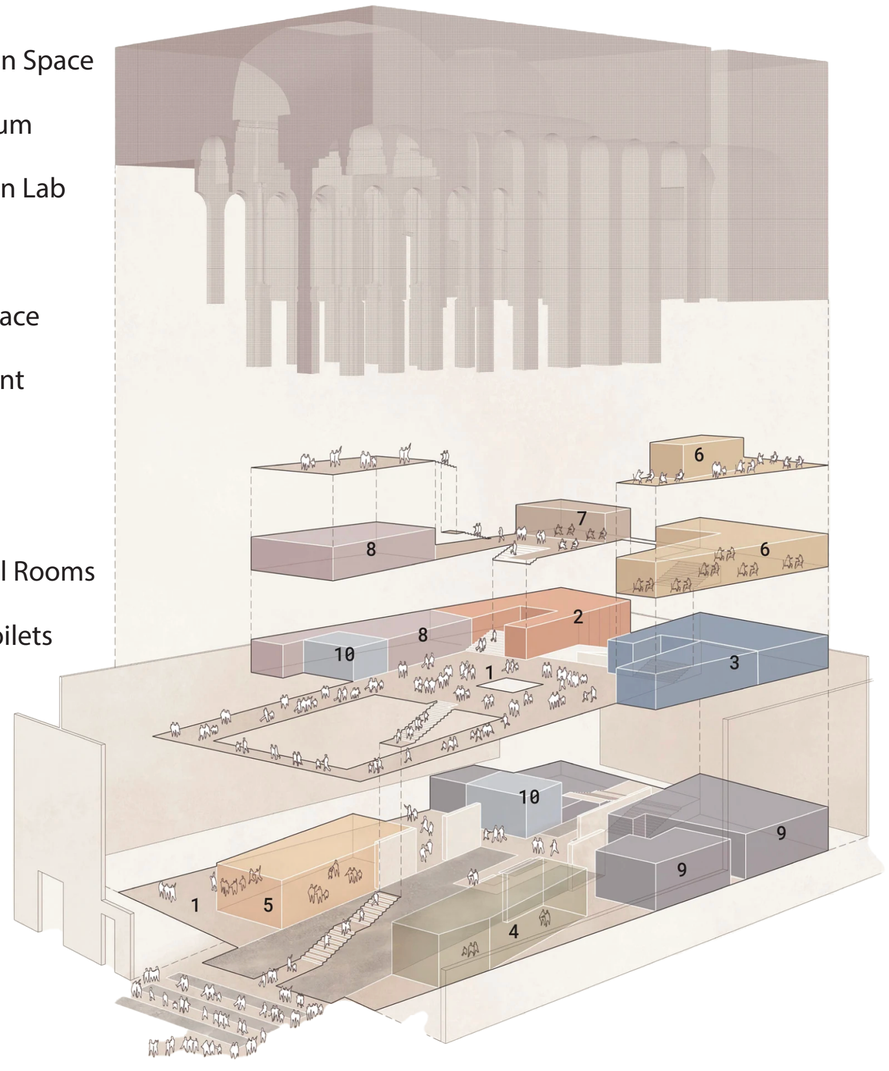
CASE STUDY : DUBAI EXPO 2020, ITALIAN PAVILION
by Eduardo Tresoldi and Dodi Moss





ELEVATION

1 Exhibition Space
2 Auditorium
3 Education Lab
4 VIP Area
5 Retail Space
6 Restaurant
7 Cafe
8 Offices
9 Technical Rooms
10 Public Toilets



EXPLODED AXONOMETRIC

PRIMARY DESIGN DRIVER: GABION

GABION WALLS

Made with Steel-Wire Mesh filled with appropriate sized Stones

Low - Cost and Easily avaliable materials

Good Seismic Behavior and Impressive Integrity

Diffuse, Block and Absorb Noise Pollution

Environmentally Sustainable

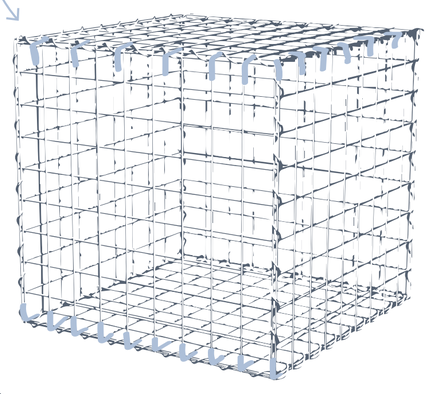
CONSTRUCTION OF A GABION BOX WALL

GABION BOX MADE WITH STEEL WIRE-MESH CAGE

WIRE MESH IS SUPPLIED AS FLAT PACKED SHEETS

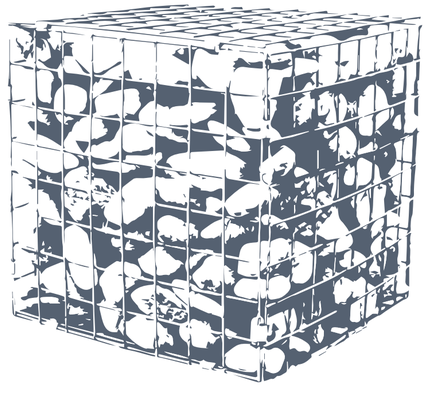
THE BOX IS ASSEMBLED USING CLIPS AT THE 8 EDGES OF THE CUBE

THE CLIPS PROVIDE TENSILE STRENGTH

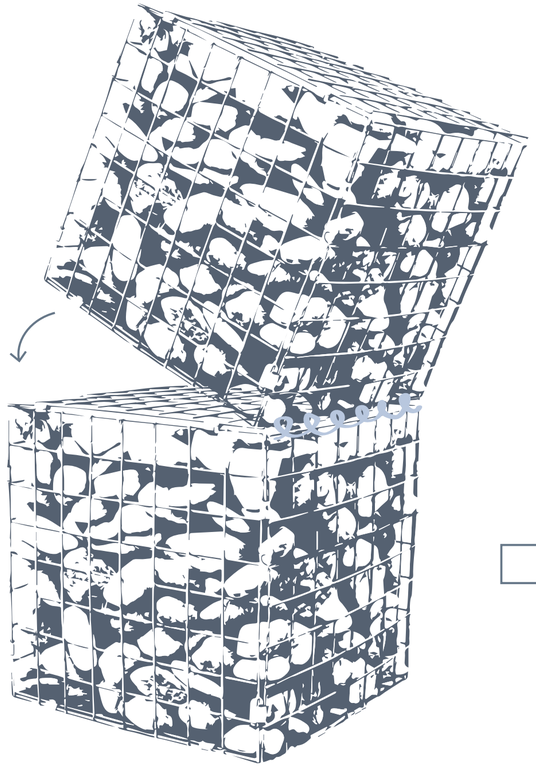


THE CAGE IS FILLED WITH APPROPRIATELY SIZED STONES

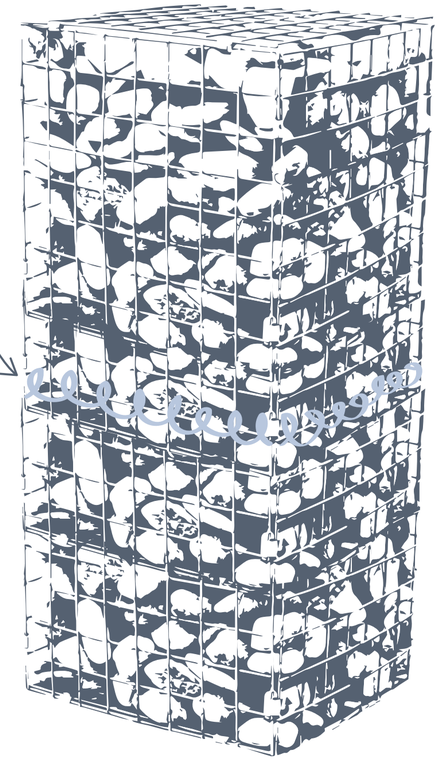
THE STONE FILLING SIZES SHOULD BE ABOUT 1.5 -2.5 TIMES THE SIZE OF THE MESH SPACING



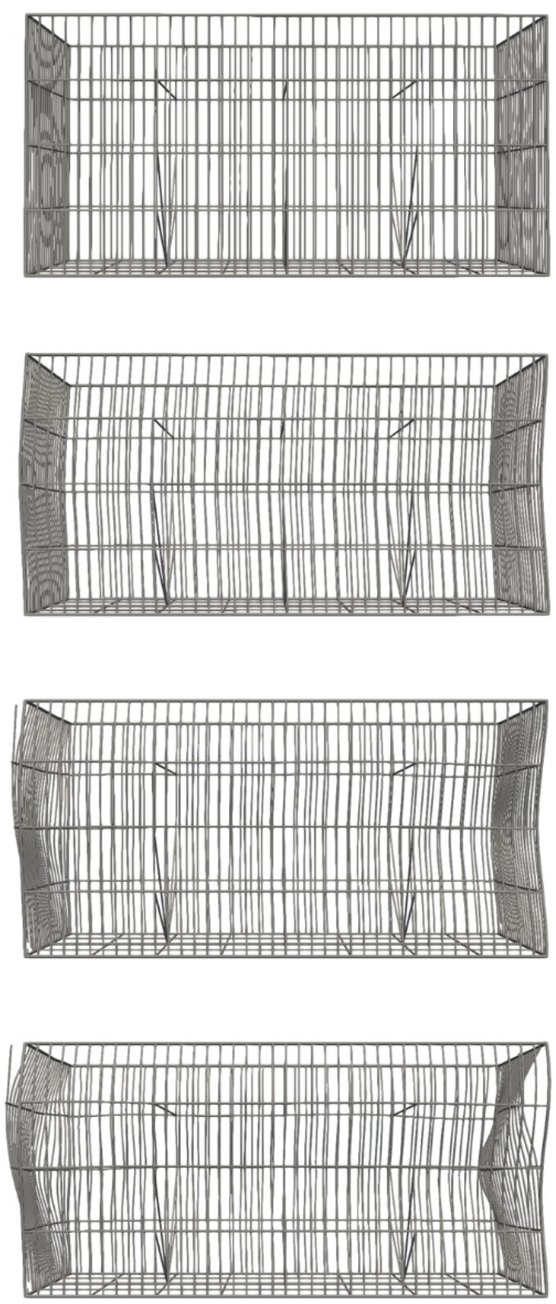
A GABION BOX WALL IS BUILT UP BY STACKING VERTICALLY EACH GABION BOX



THE BOXES ARE JOINED WITH STEEL WIRES IN ORDER TO PROVIDE TENSILE STRENGTH TO THE ENTIRE WALL

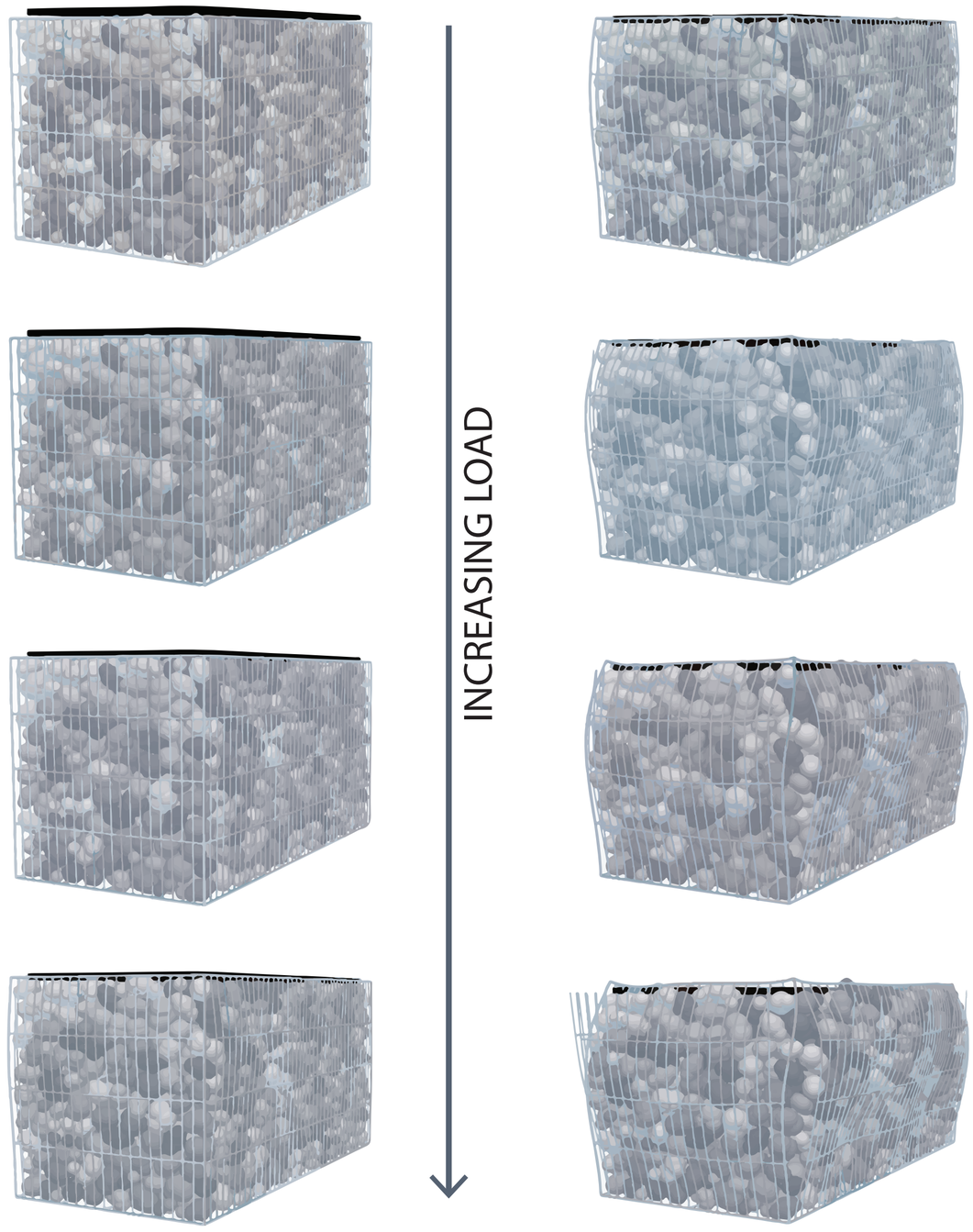


EMPTY GABION CAGE UNDER COMPRESSION

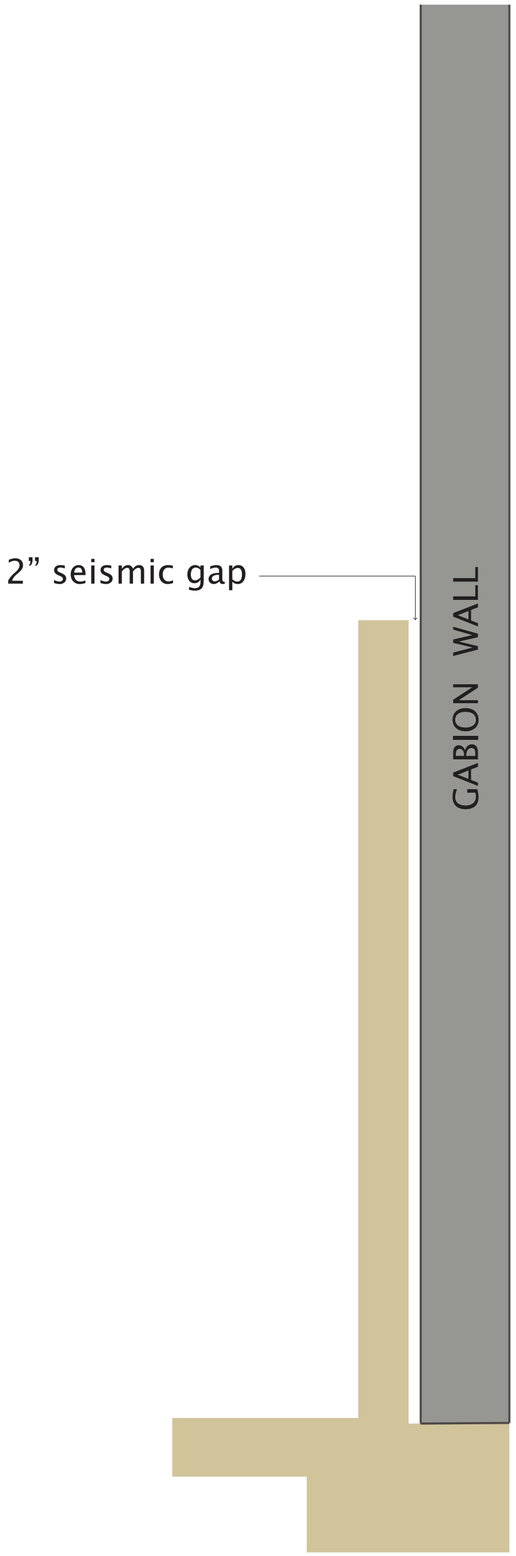


INCREASING LOAD

FILLED GABION CAGE UNDER COMPRESSION



INCREASING LOAD



CONCRETE BASING : provides support to the Gabion Wall



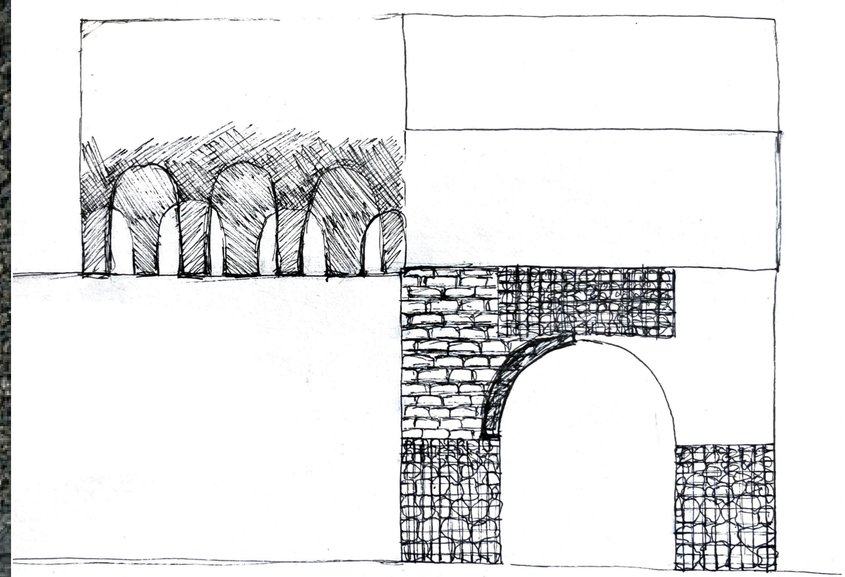
HERZOG & DE MEURON’S DOMINUS W I N E R Y

GABION WALLS AS THE MAIN STRUCTURAL ELEMENT

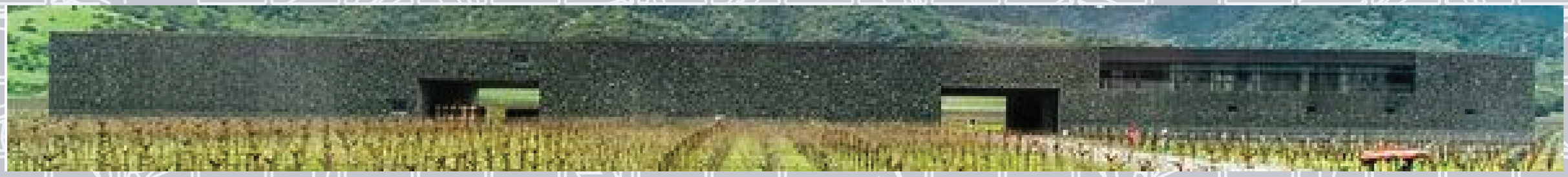


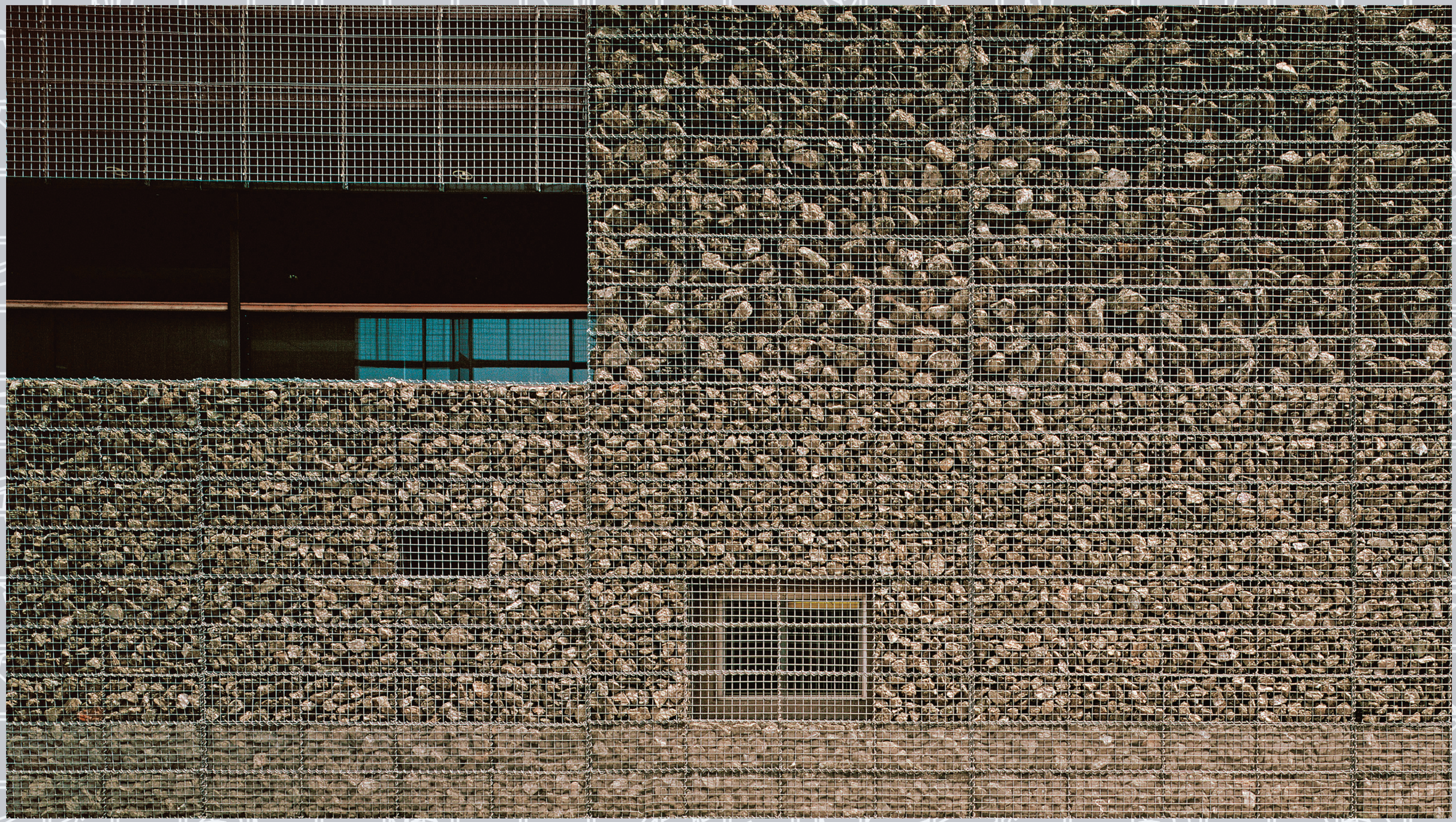
TRUSS LIKE STRUCTURE FORMED TO SUPPORT THE GABIONS, LEADS BACK TO USING TRUSSES TO SUPPORT THE CANTILEVER





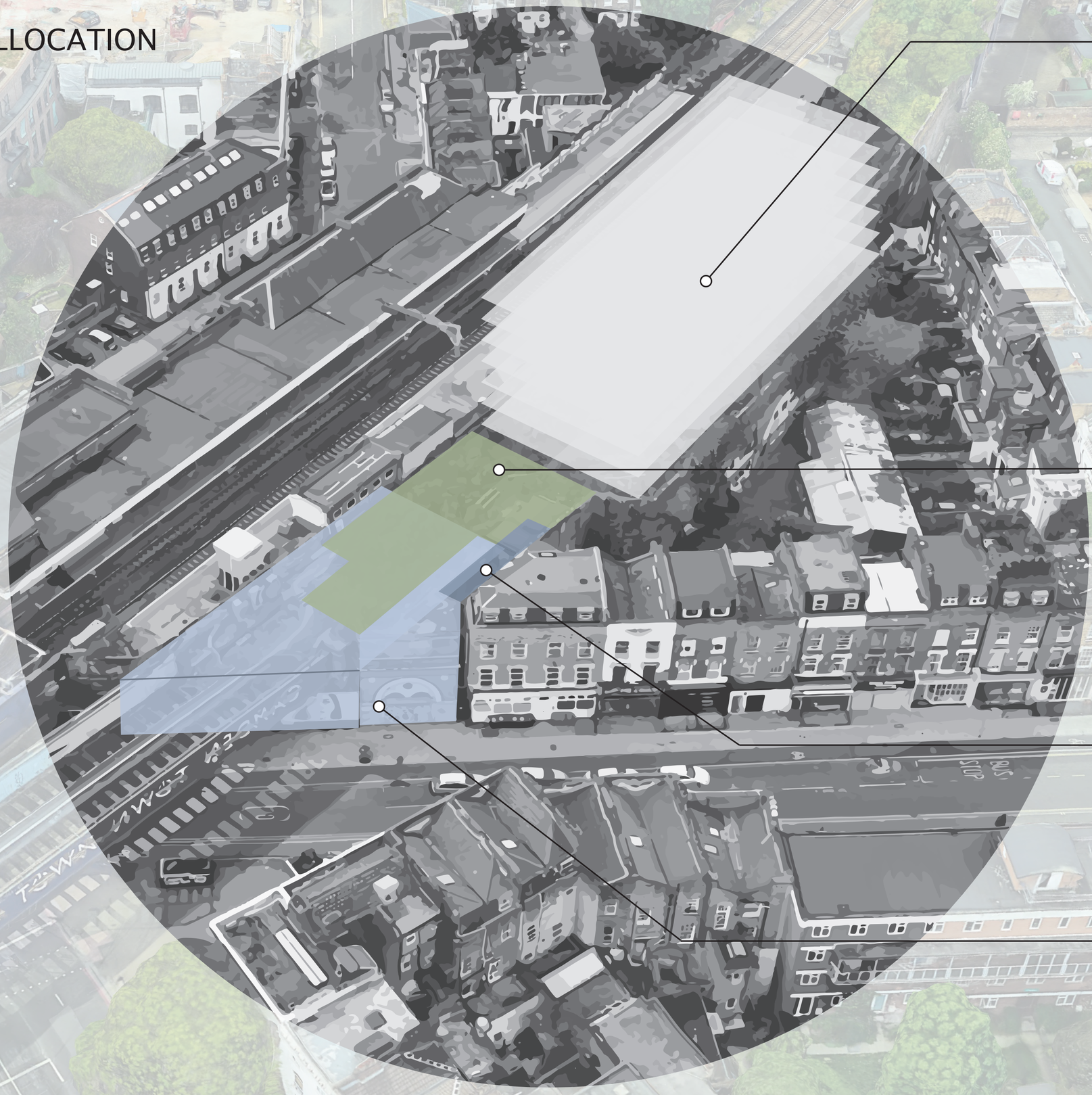
AESTHETICAL INSPIRATION FROM DOMINIUS WINERY



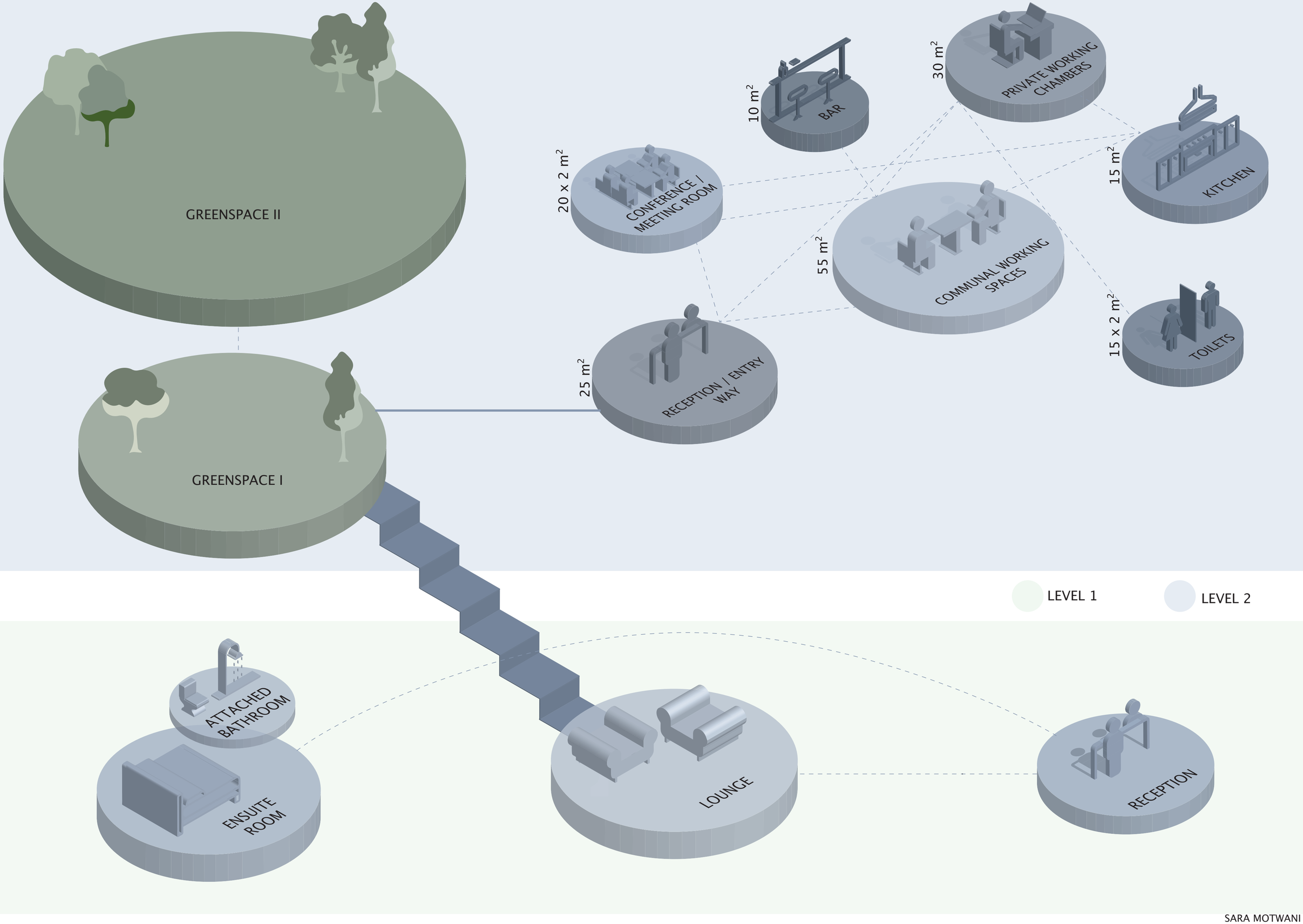


FIRST ITERATION

SITE SPACE ALLOCATION



9.23 m



SARA MOTWANI

1 RECEPTION / ENTRANCE

2 COMMUNAL WORKSPACE

3 KITCHEN

4 BAR

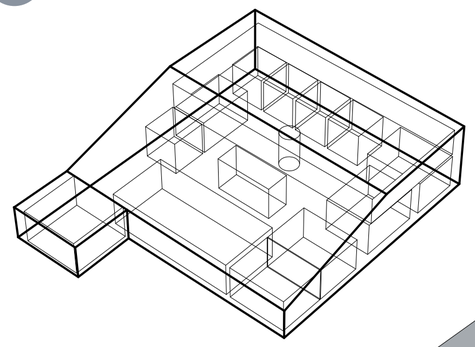
5 CONFERENCE / MEETING ROOMS

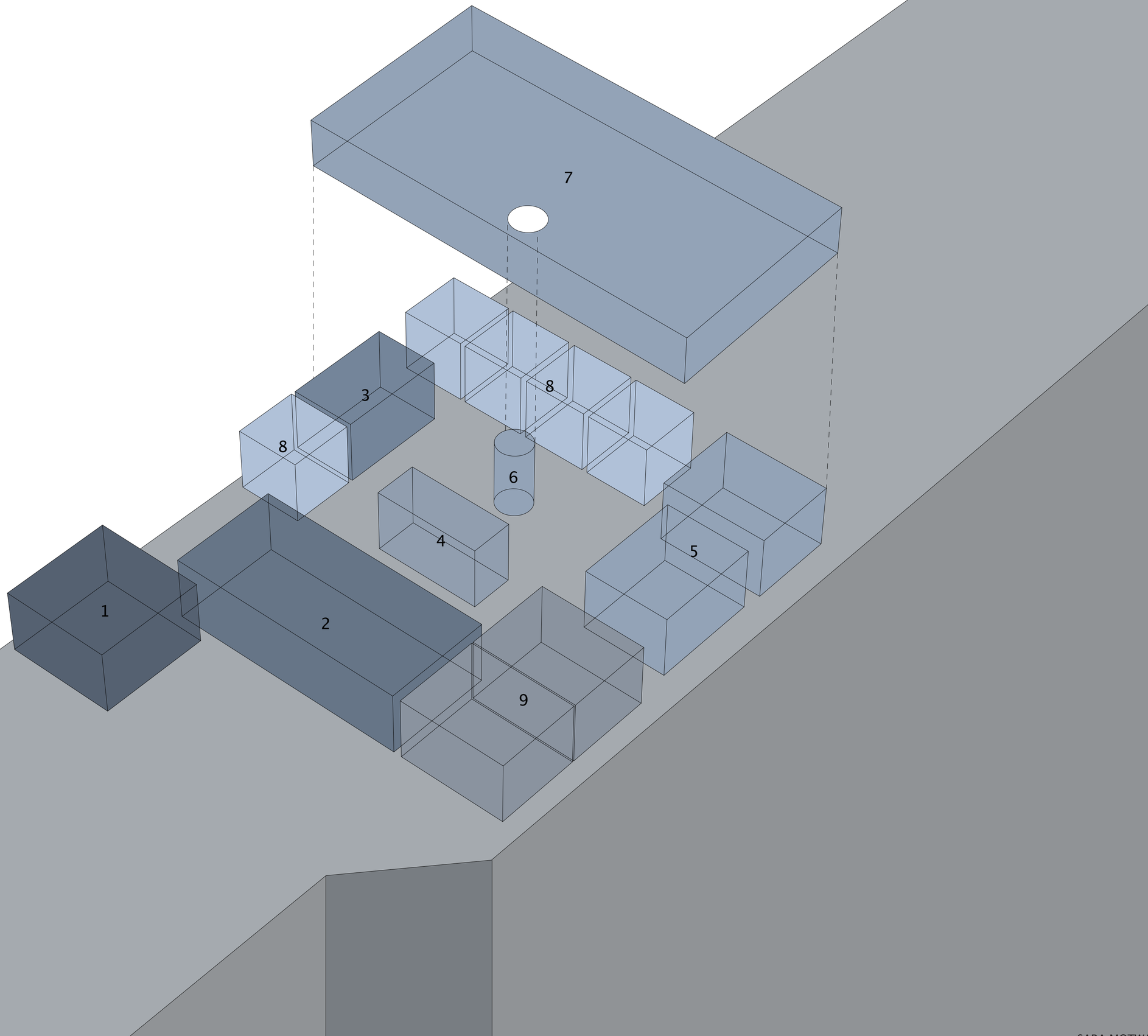
6 SPIRAL STAIRCASE

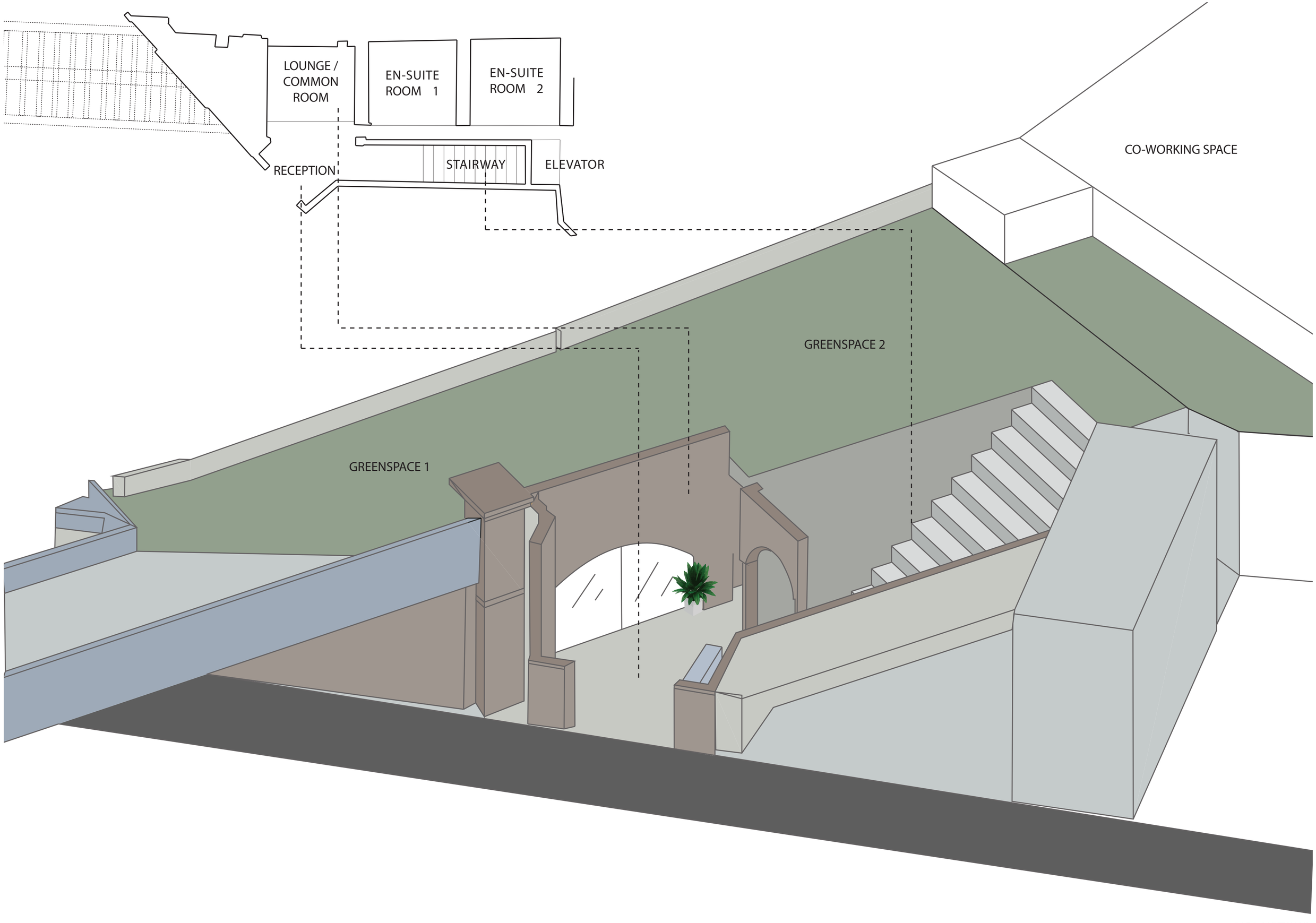
7 UPPERDECK

8 PRIVATE WORKSPACES

9 TOILETS







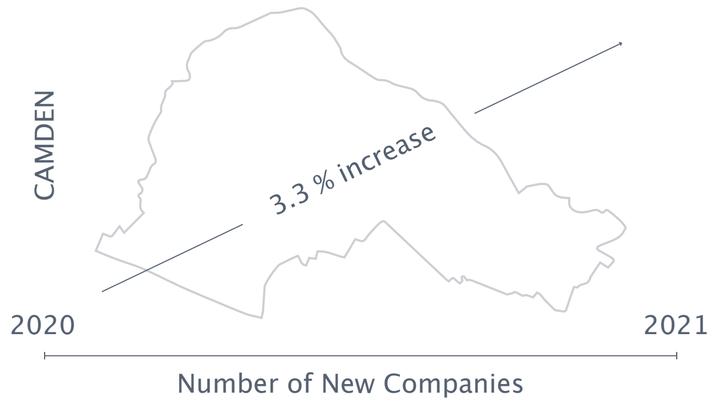
SARA MOTWANI

SECOND ITERATION

CAMDEN

“ The Silicon Valley of UK ”





“ The area has an unbeatable buzz and the energy is infectious.

“ The environment is far more relaxed than the City

“ More dynamic, diverse and inclusive than other parts of the Capital

1055 New small businesses were created in Camden between 2020 and 2021 – more business per capita than anywhere else in London

CLUB SPACE FOR RECREATION

FORMAL AND INFORMAL WORKING SPACES

GALLERY FOR BUSINESS PROMOTION

RESIDENCES DESIGNED TO WORK FROM HOME



ALL - ACCESS

MEMBERS ONLY - ACCESS

WHY?

Bringing entrpreneurs from all over London to grow their business in Camden.

Oppurtunity to interact with the active emerging businesses and entrepreneurs in Camden

In Camden, the research and talent base is there with UCL, the University of the Arts, LSE, and the London Business School.

Camden has one of the world’s top financing systems giving access to early stage capital, growth stage capital and the public markets.

There are millions of consumers.

One can walk to Whitehall in 10 minutes, or get on a train to Brussels in 90 minutes, with regulators willing to work with start-ups.

Giving a new meaning to the concept and practice of “Work From Home”


KITCHEN SERVICE
KITCHEN
STORAGE
MENS TOILET
BAR RACK
WINE STORAGE
BAR COUNTER
WOMANS TOILET
DANCE FLOOR
FOYER
SERVICE ENTRY
CLUB ENTRY
UP
PHOTO BOOTH
LANDSCAPING
OPEN TO SKY
ENTRY FOR
UPPER FLOORS
LIFT
DUCT
0
2.5
5
10m
N


CONFERENCE ROOM
MALE TOILET
MALE TOILET
PRINTER,SCANNER
SHAFT
FEMALE TOILET
MEETING ROOM 2
MEETING ROOM 1
FEMALE TOILET
CONFERENCE ROOM
PANTRY
CO WORKING SPACE
CONFERENCE ROOM
CONFERENCE ROOM
UP
LANDSCAPING OPEN TO SKY
LIFT DUCT

0 2.5 5 10m

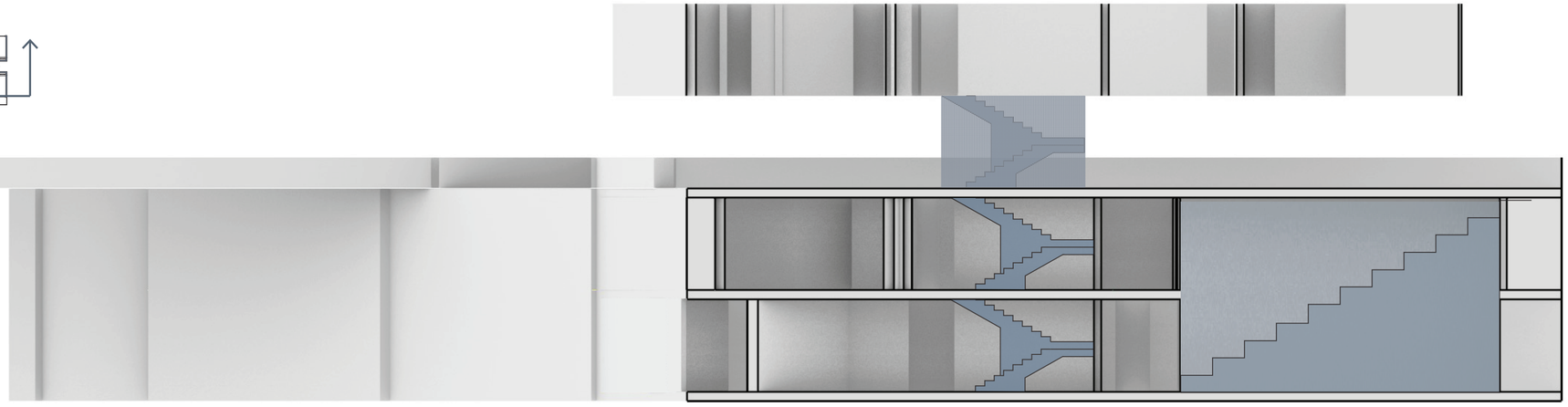
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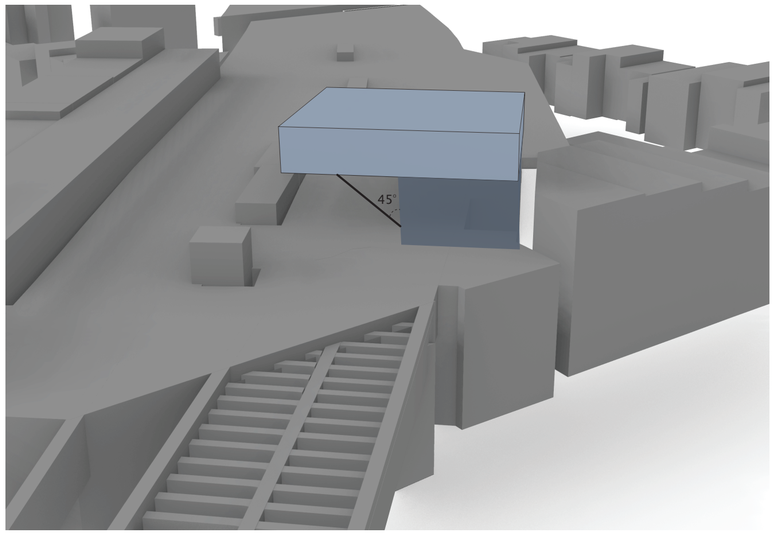


SARA MOTWANI





STRUT SUPPORT

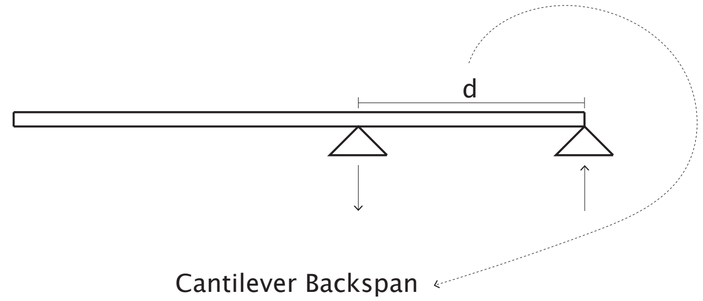


Under compressions, shortens the Cantilever Backspan

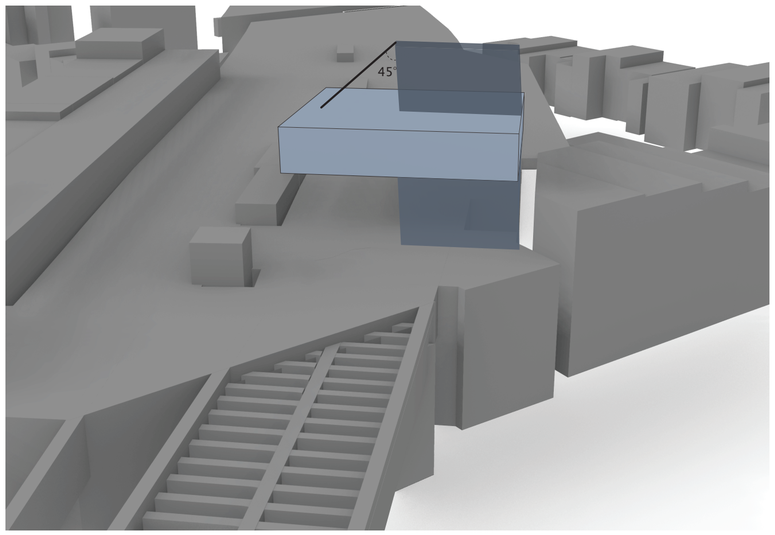
Design governed by Buckling

Intrusive to passersby on the higline level

TRUSSING



HANGING SUPPORT

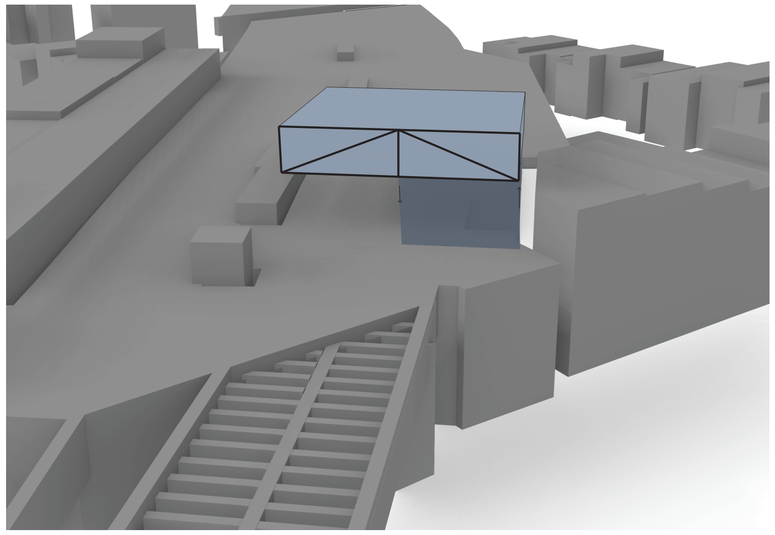


Under tension, shortens the Cantilever Backspan

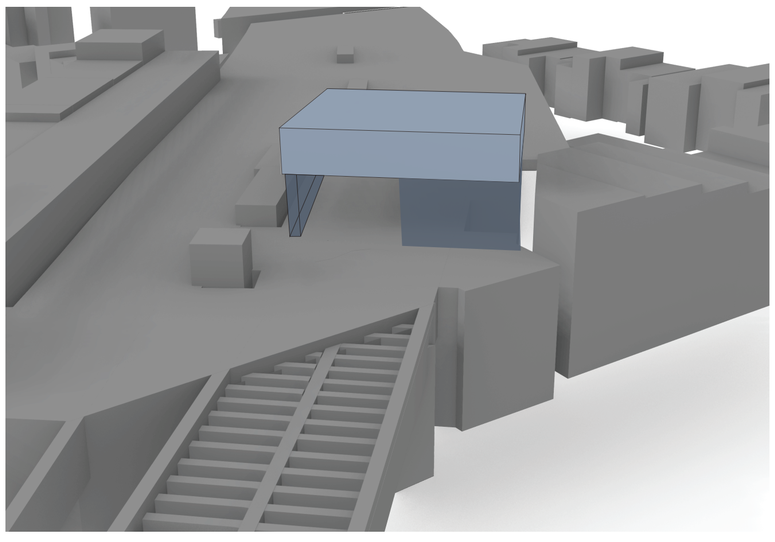
Design governed by compression under wind

Least intrusive to passersby on the higline level

PRATT TRUSS



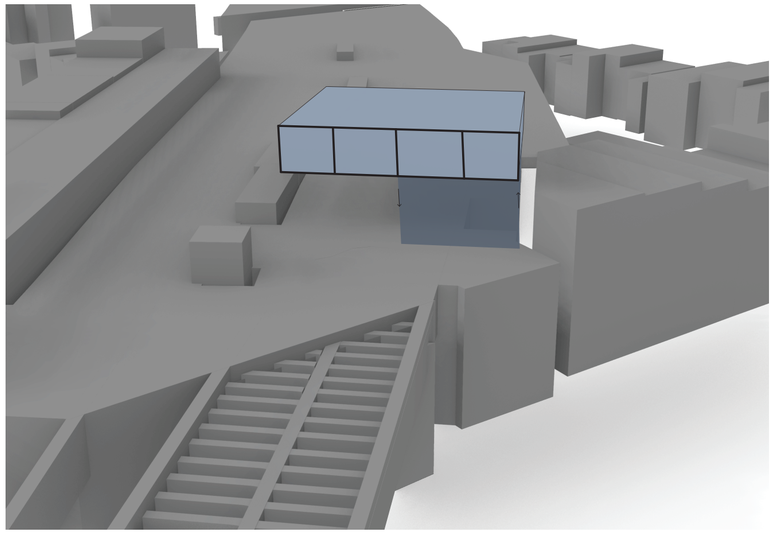
COLUMN SUPPORT



Verticle Load trasferred to the existing highline structure

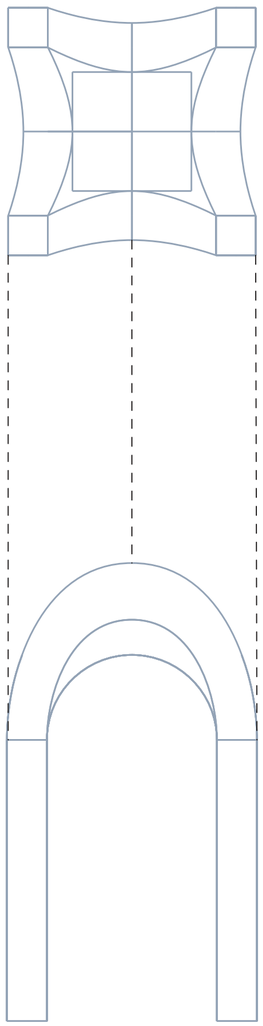
Intrusive to passersby on the highline level

VIERENDEEL TRUSS



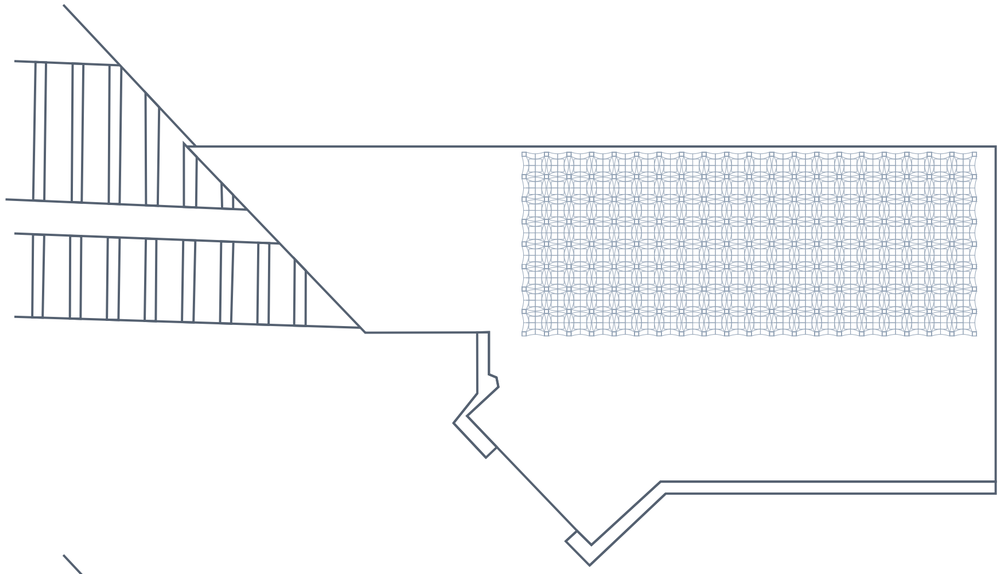


TOP VIEW

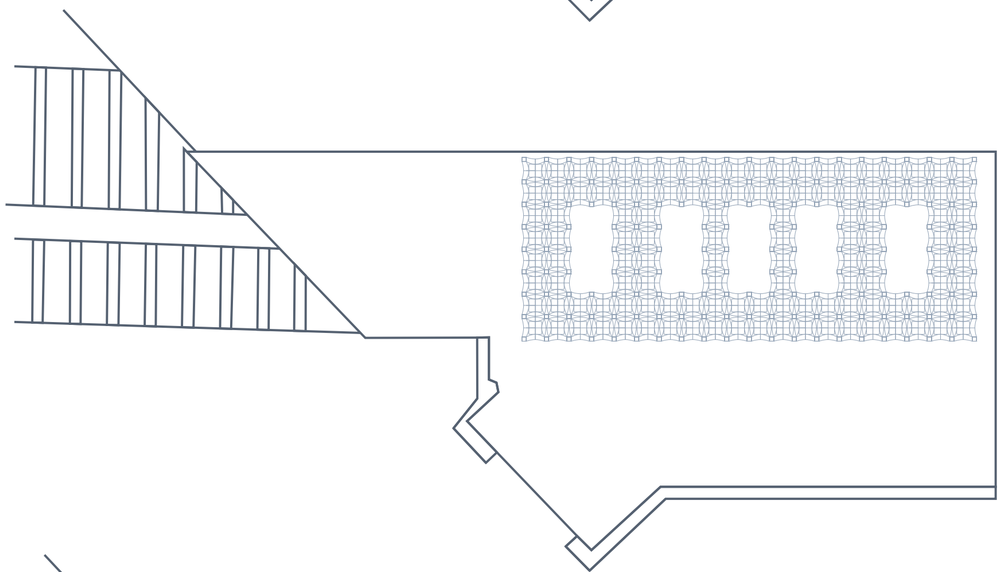


FRONT VIEW

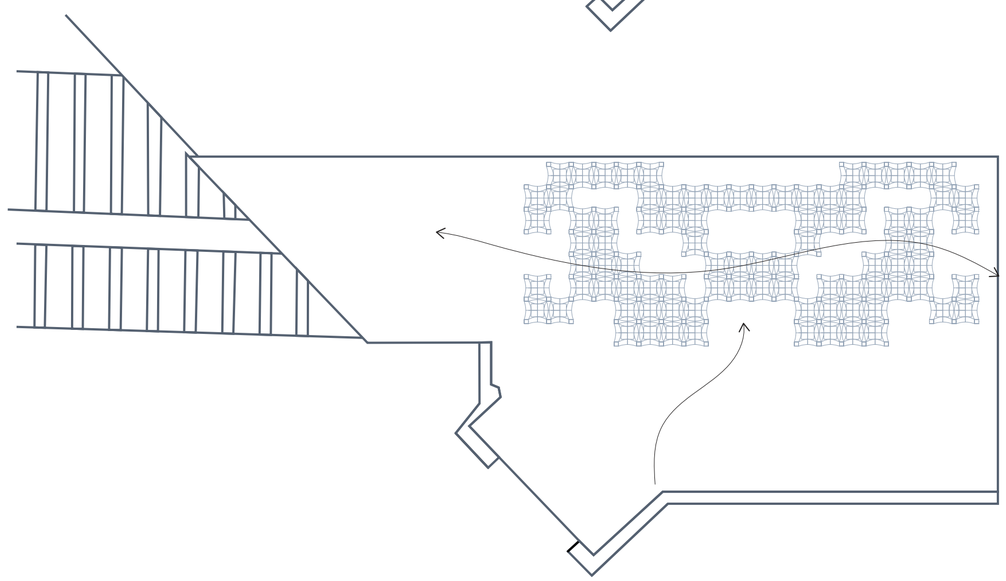
BASIC GRID



STRUCTURALLY DRIVEN DESIGN



MOBILITY DRIVEN DESIGN

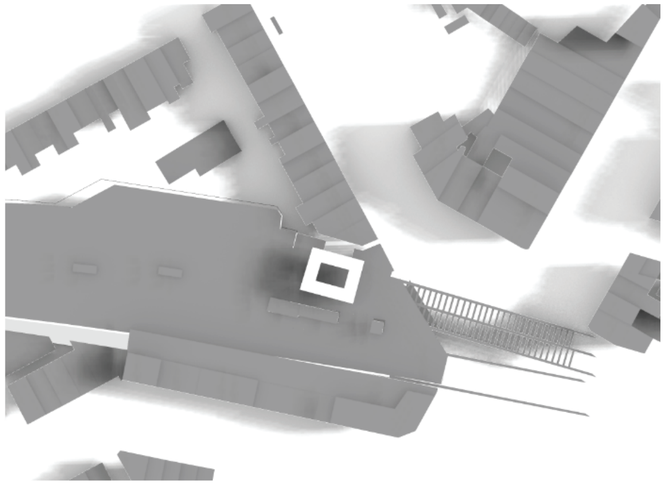


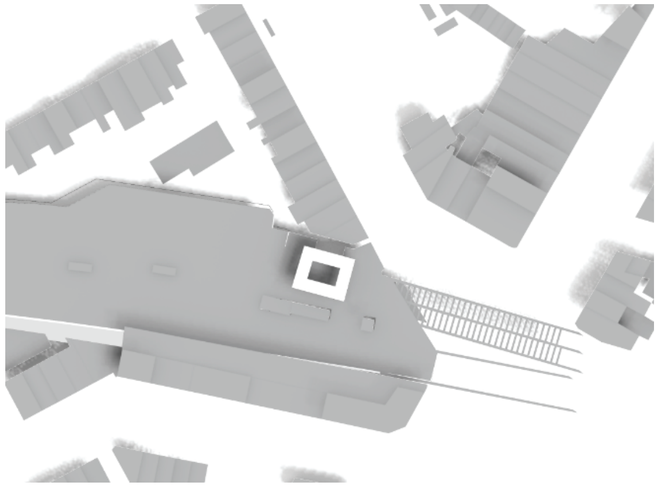
DISCOVERING THE FORM

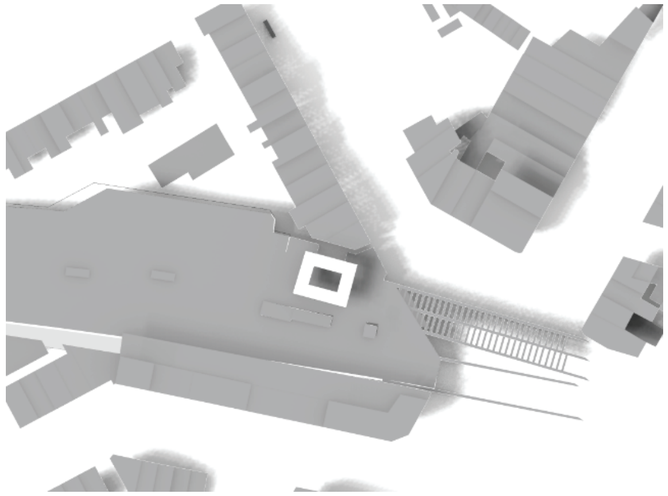
SARA MOTWANI

FORM EVOLUTION USING SUN SHADOWS

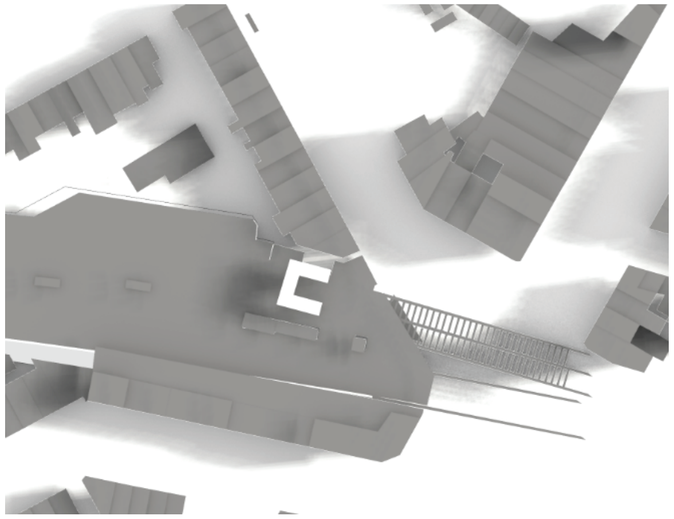
ITERATION 1

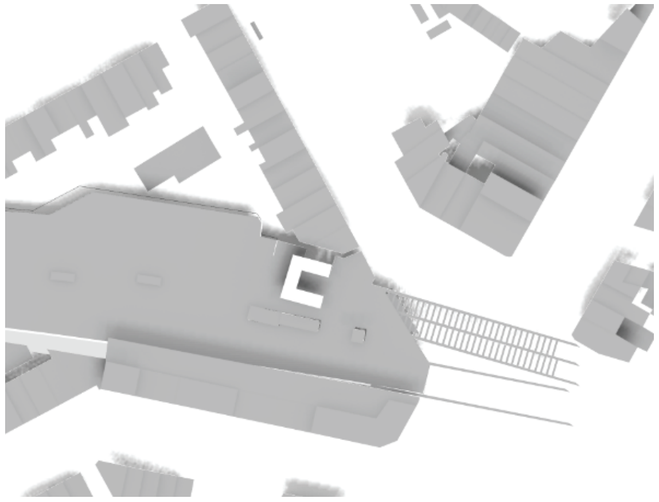


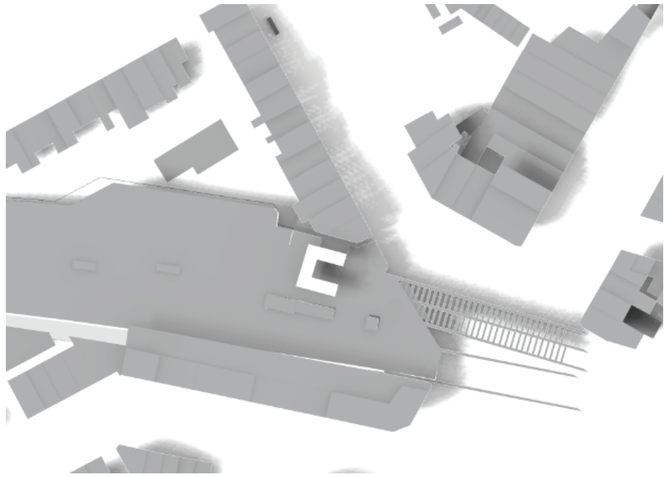




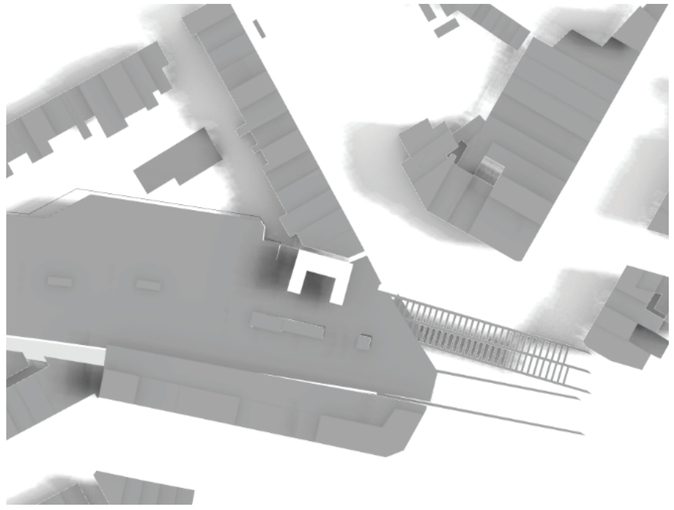
ITERATION 2

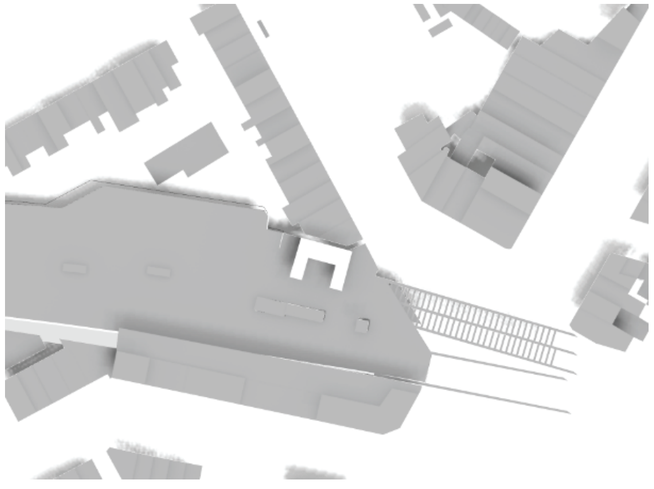


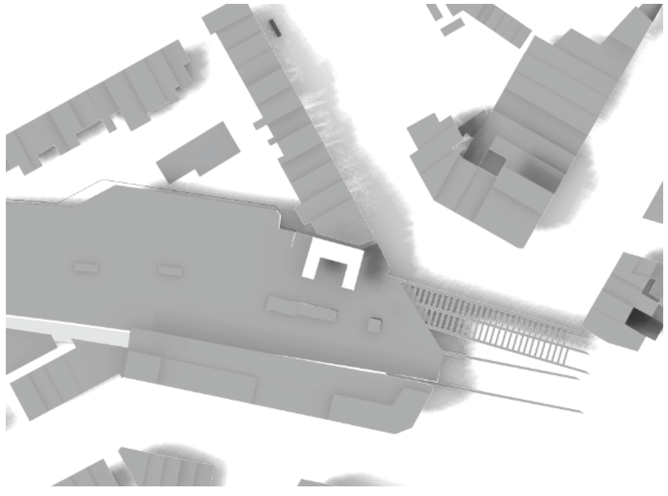




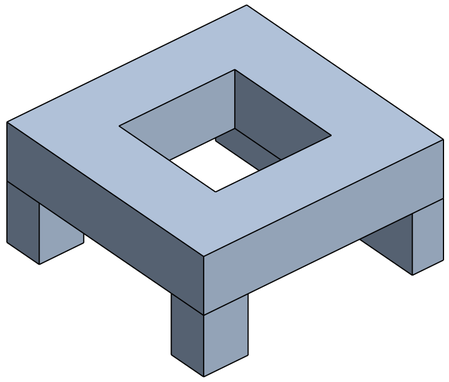
ITERATION 3

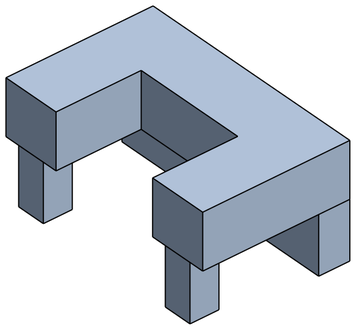


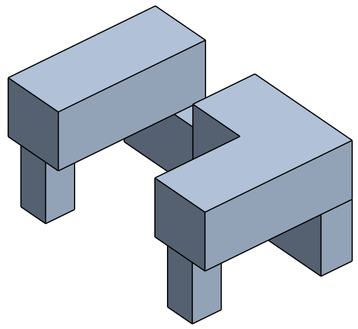


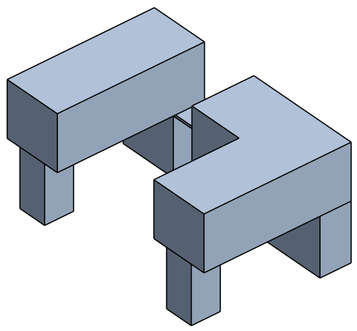


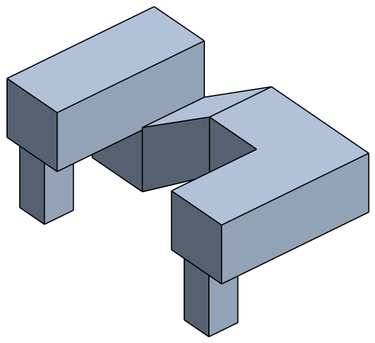
ITERATIVE EVOLUTION

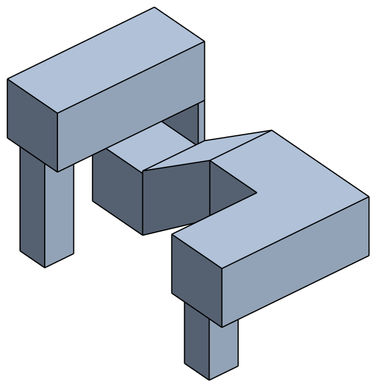


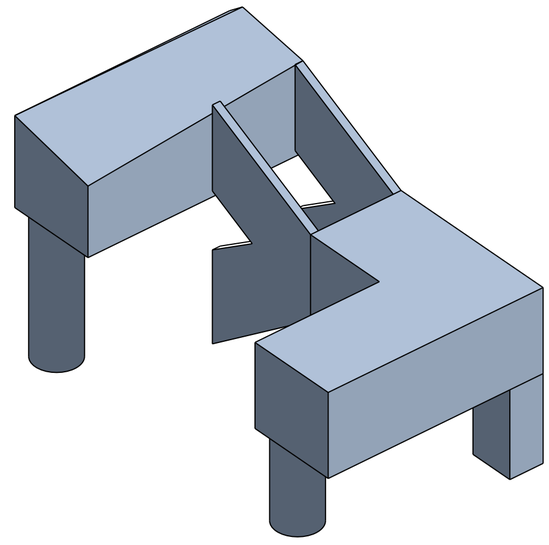


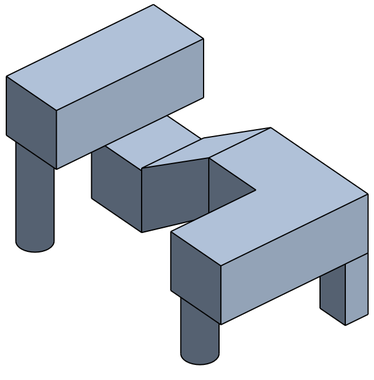


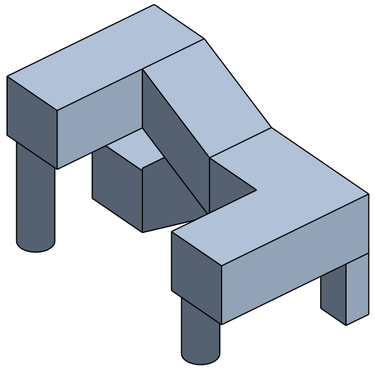


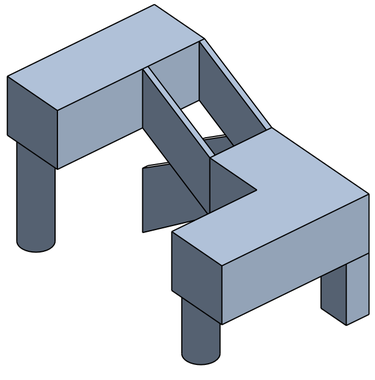










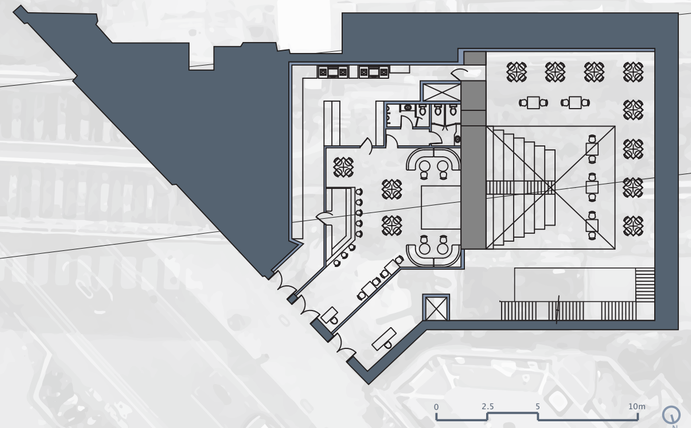


FINAL ITERATION

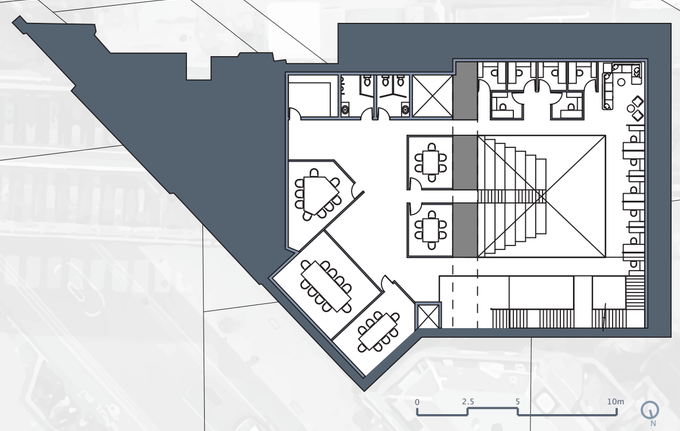
SARA MOTWANI

SEMI-DEVELOPED FLOORPLANS

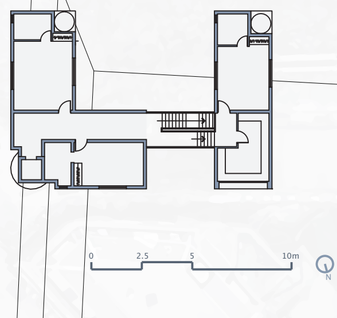
GROUND FLOOR



MEZZANINE



TOP FLOOR



SARA MOTWANI

REPRESENTATIVE PERSPECTIVE A

REPRESENTATIVE PERSPECTIVE B

ENVIRONMENTAL STUDIES

SARA MOTWANI

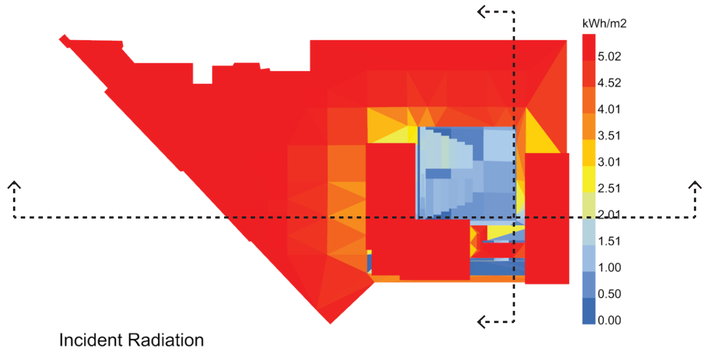
INCIDENT RADIATION STUDY

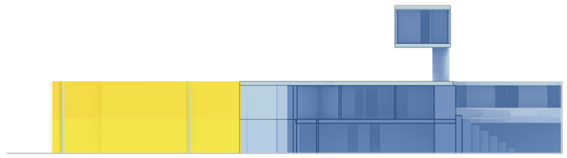
PLAN VIEW

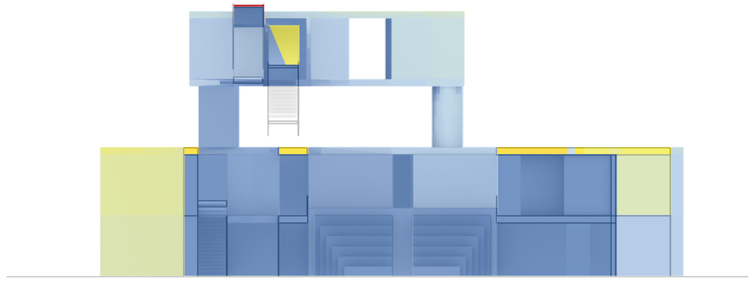
FRONT SECTION

RIGHT SECTION

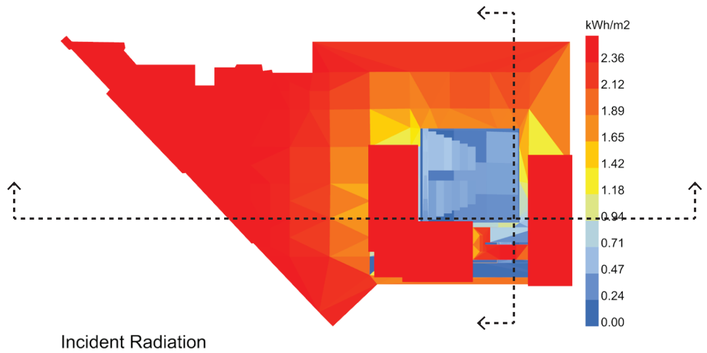
SUMMER SOLSTICE

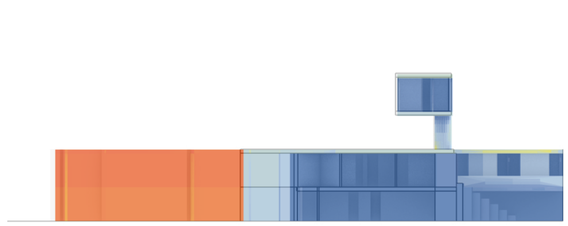






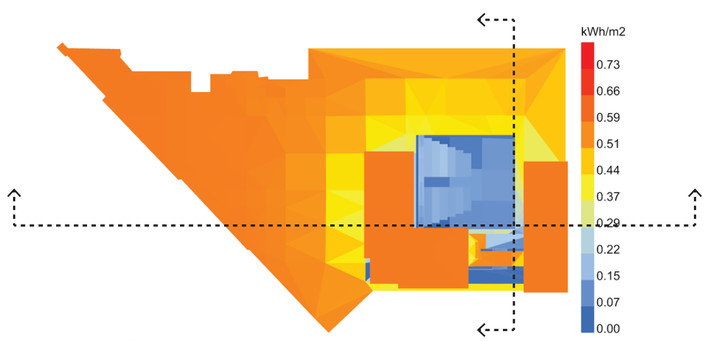
EQUINOX

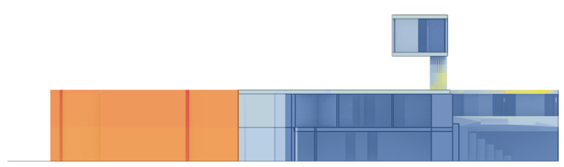


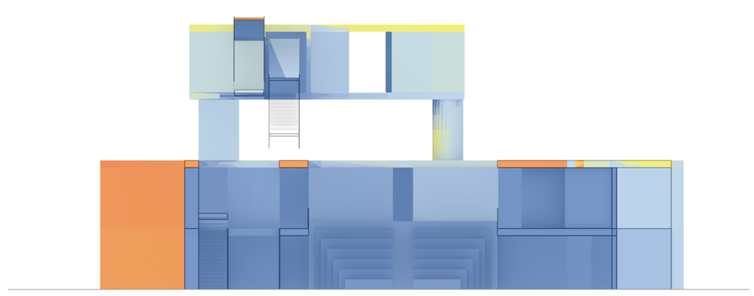




WINTER SOLSTICE



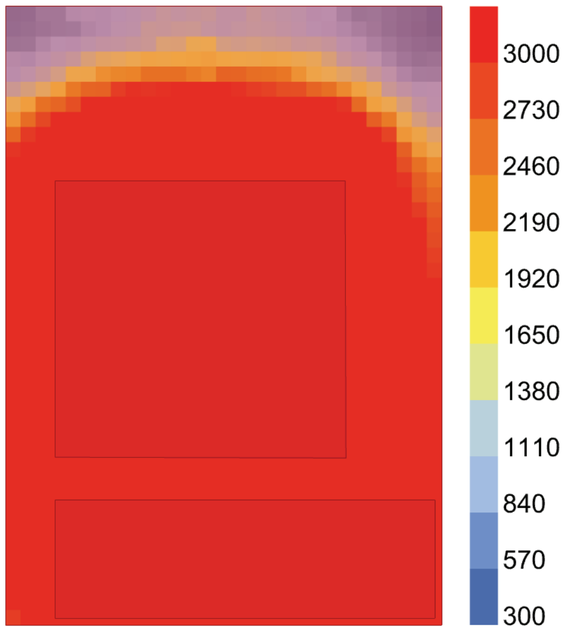




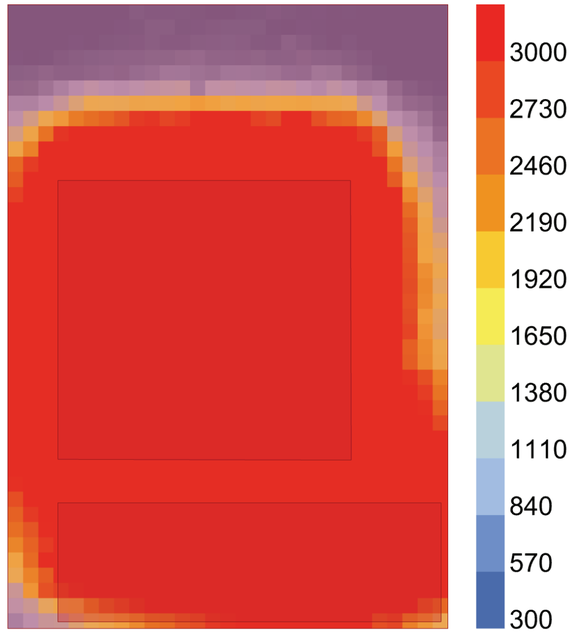
To identify surfaces receiving maximum direct sunlight

ILLUMINANCE STUDY : CAFE SPACE

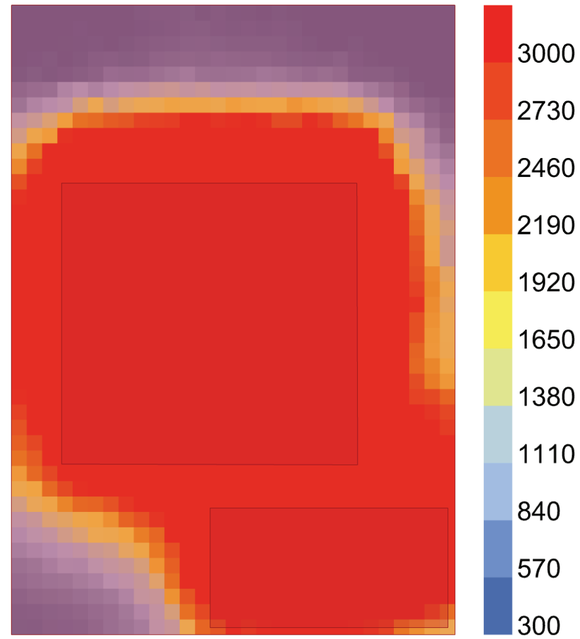
ITERATION 1 : BASELINE OPENINGS



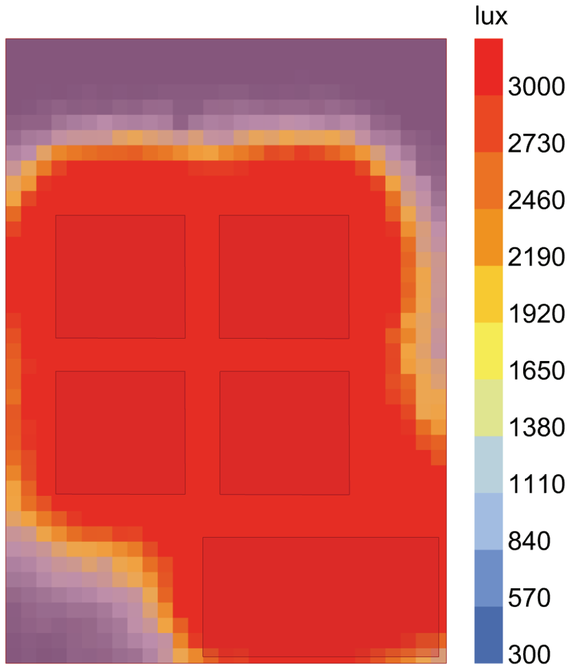
ITERATION 2 : ADDED CONTEXT (TOP FLOOR)



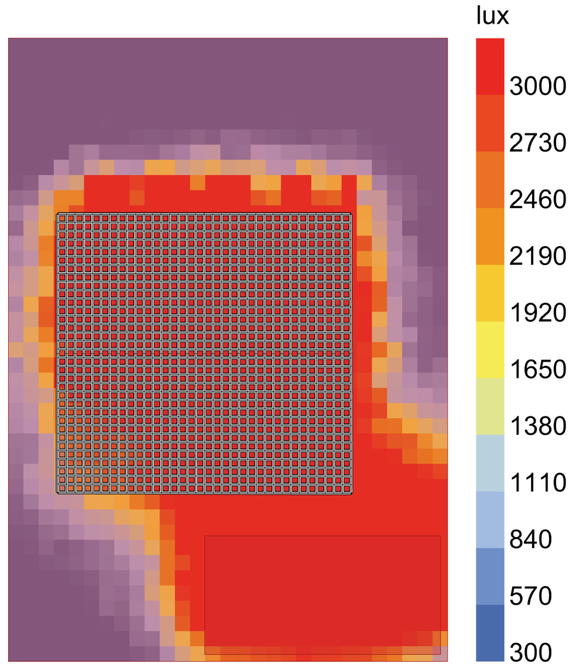
ITERATION 3 : REDUCTION IN WINDOW



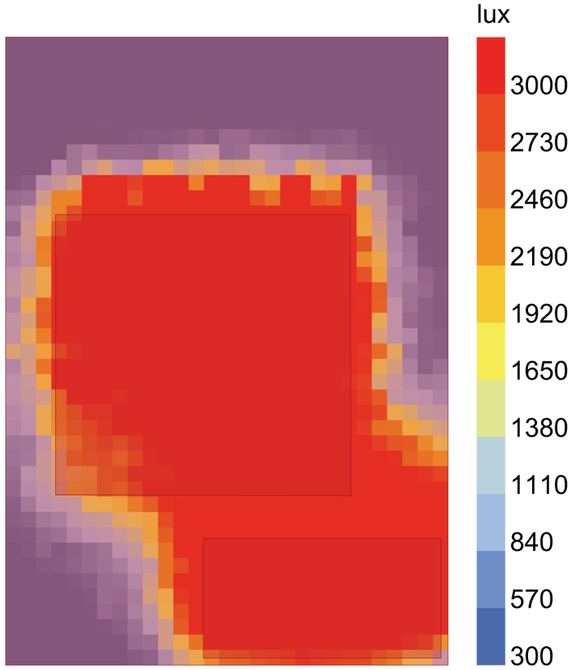
ITERATION 4 : SPLITTING CENTRAL WINDOW

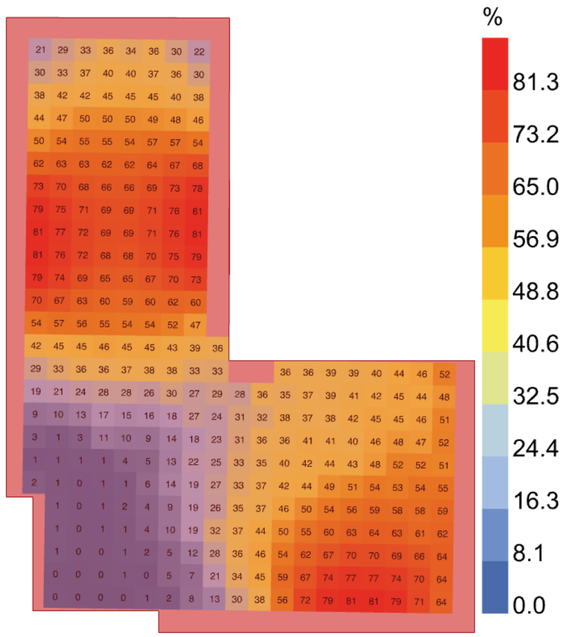


ITERATION 5 : ADDING WIRE-MESH SHADING

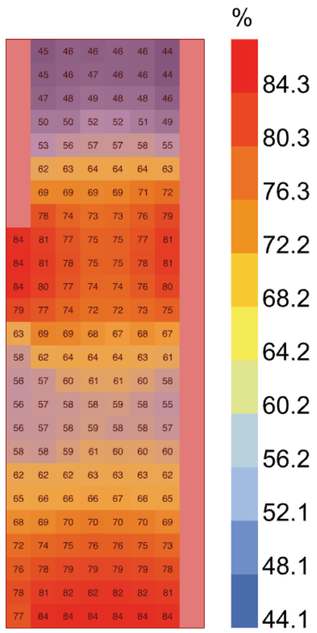


ITERATION 6 : FINAL ITERATION

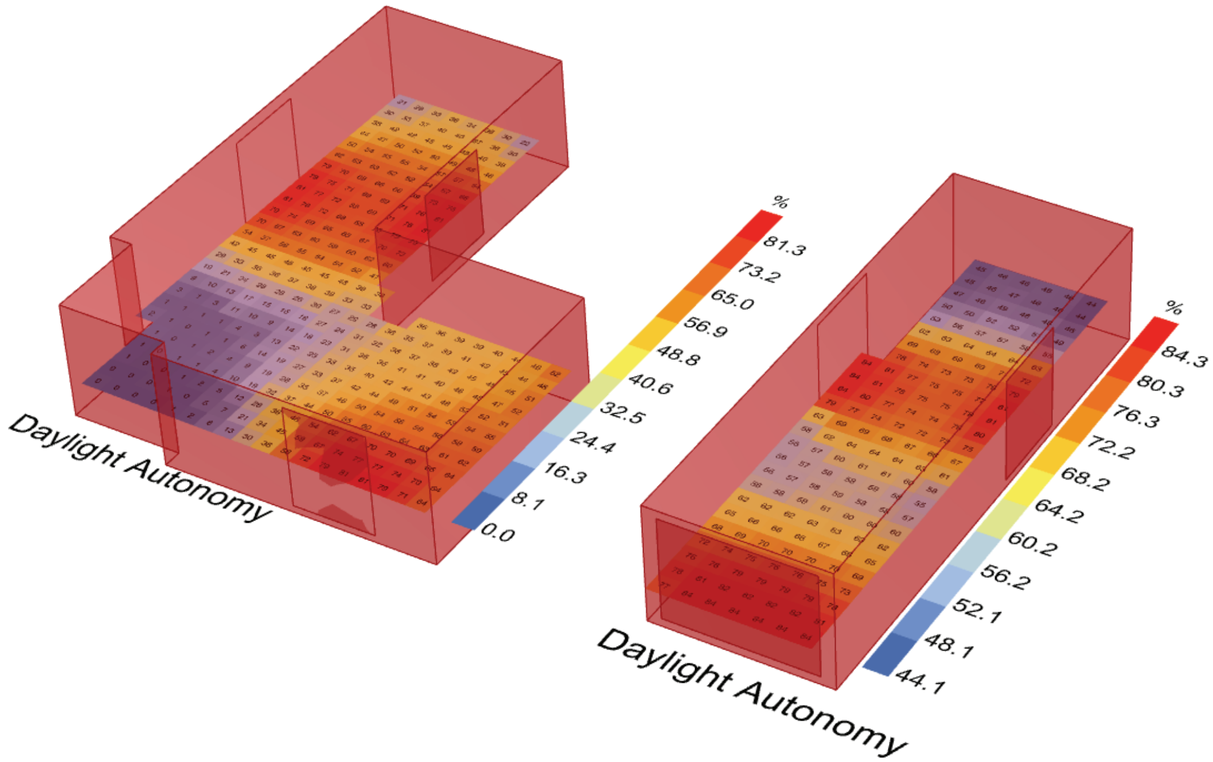




Daylight Autonomy

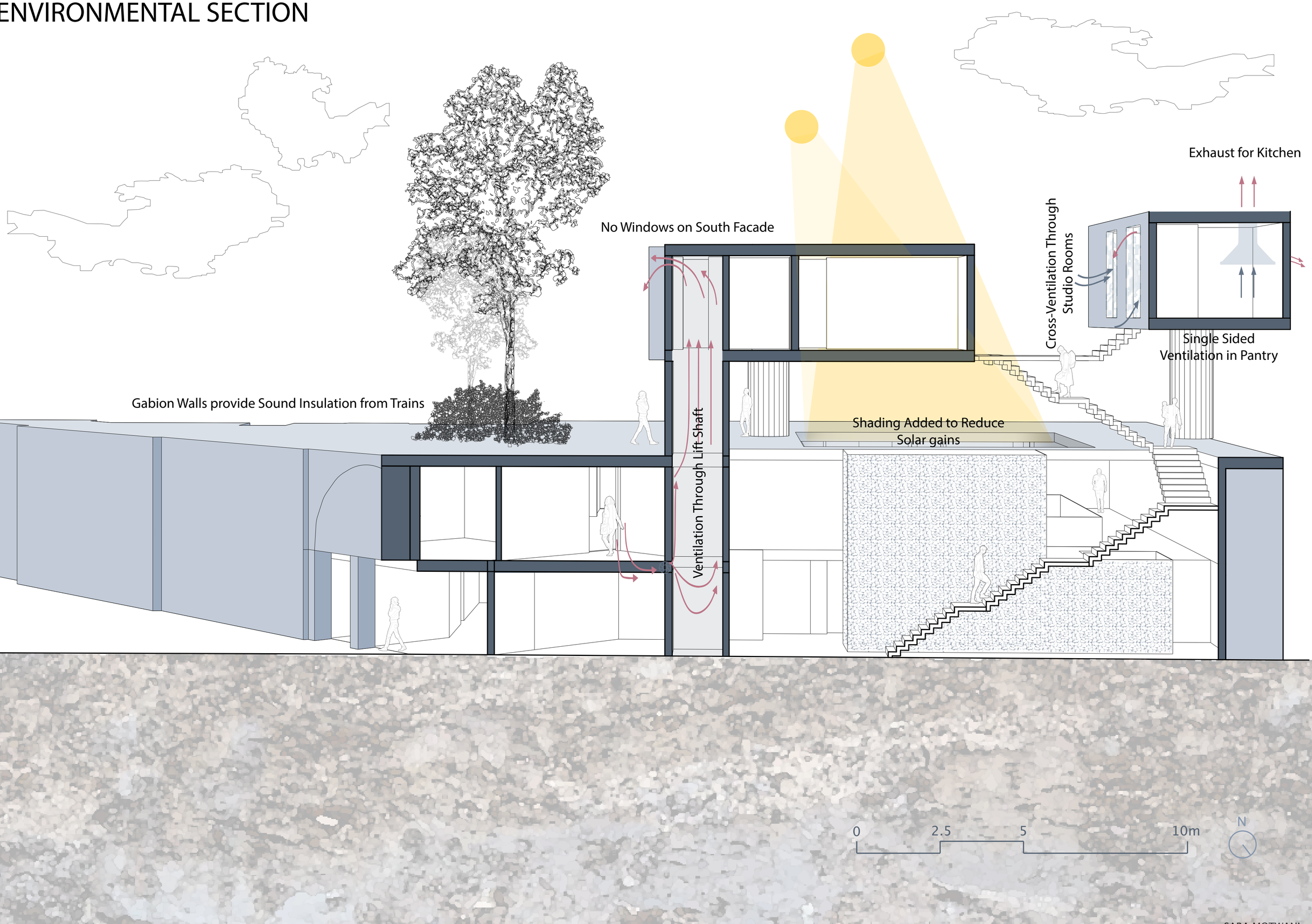


Daylight Autonomy



The building does not require artificial light to achieve minimum illuminance of 300 lux during 95 % of daylight hours per week

ENVIRONMENTAL SECTION

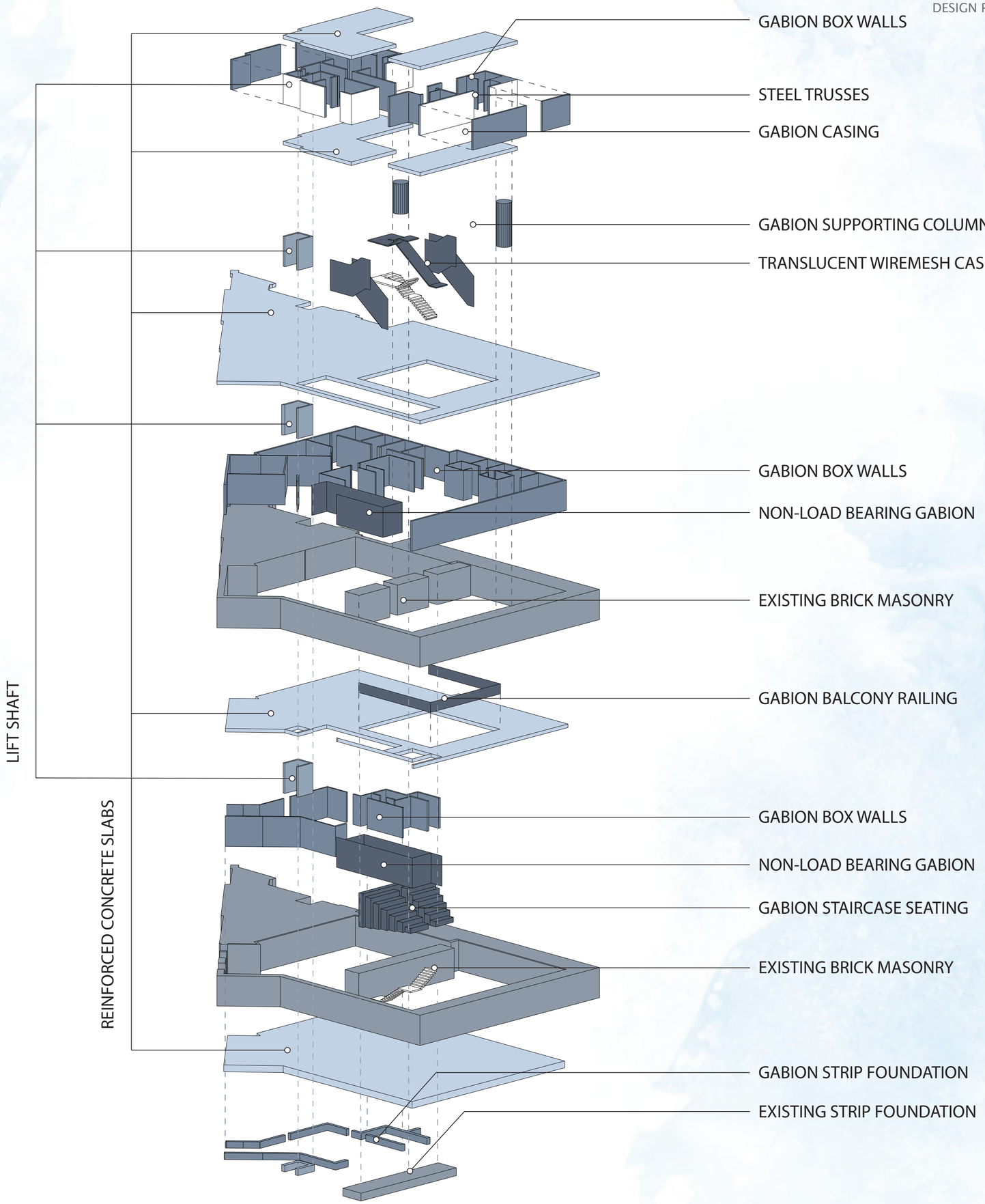


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STRUCTURAL ANALYSIS

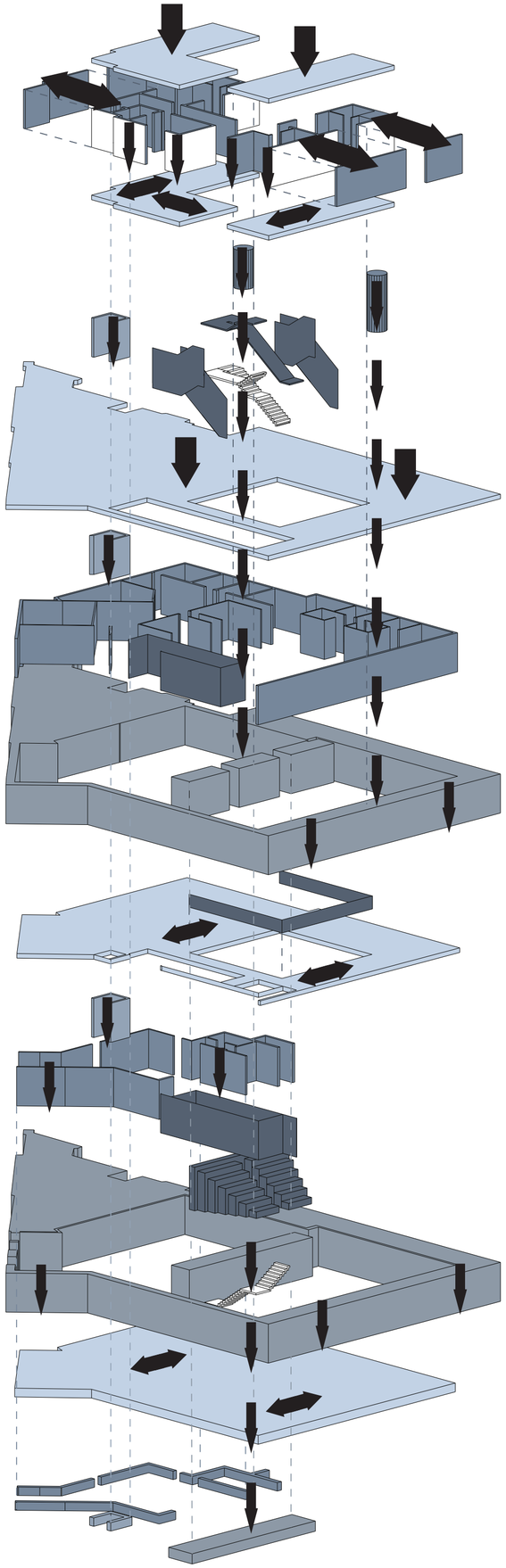
SARA MOTWANI

EXPLODED AXONONMETRIC



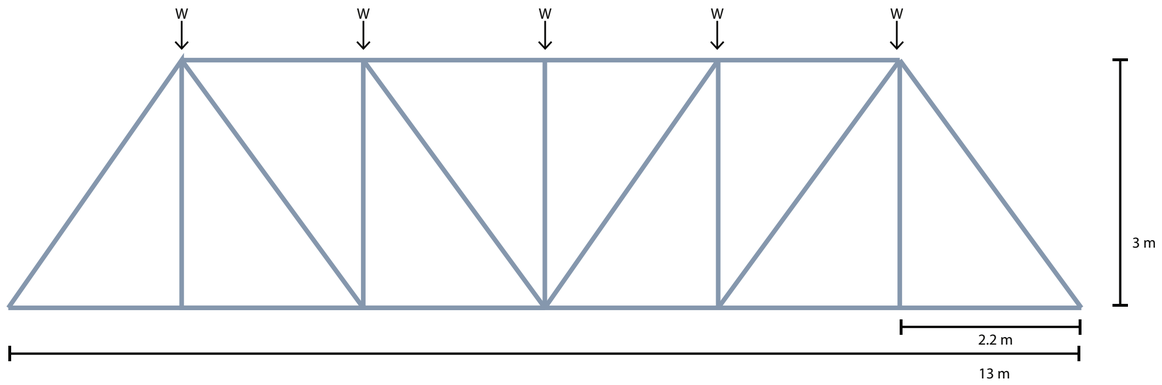
- EXISTING BRICK MASONRY
- DECORATIVE (NON-LOAD BEARING) GABIONS
- LOAD BEARING GABION BOX WALL
- LIFT SHAFT
- REINFORCED CONCRETE SLAB

VERTICAL LOAD TRANSFER

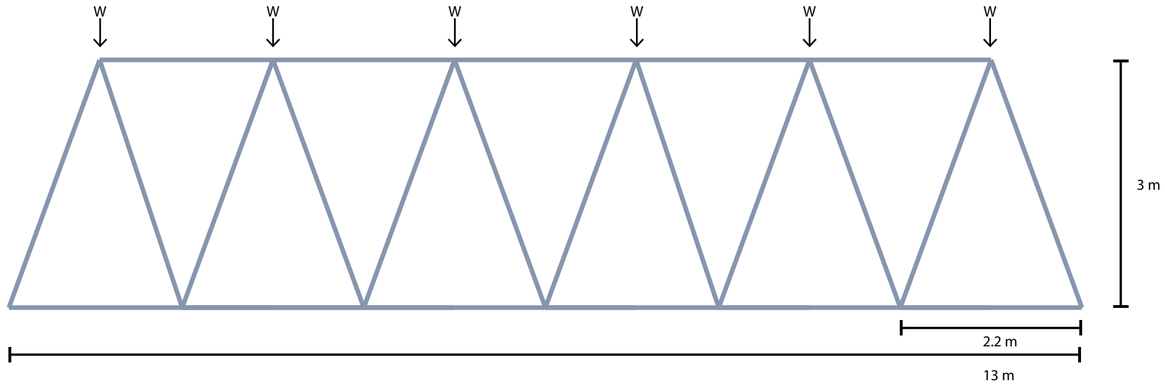


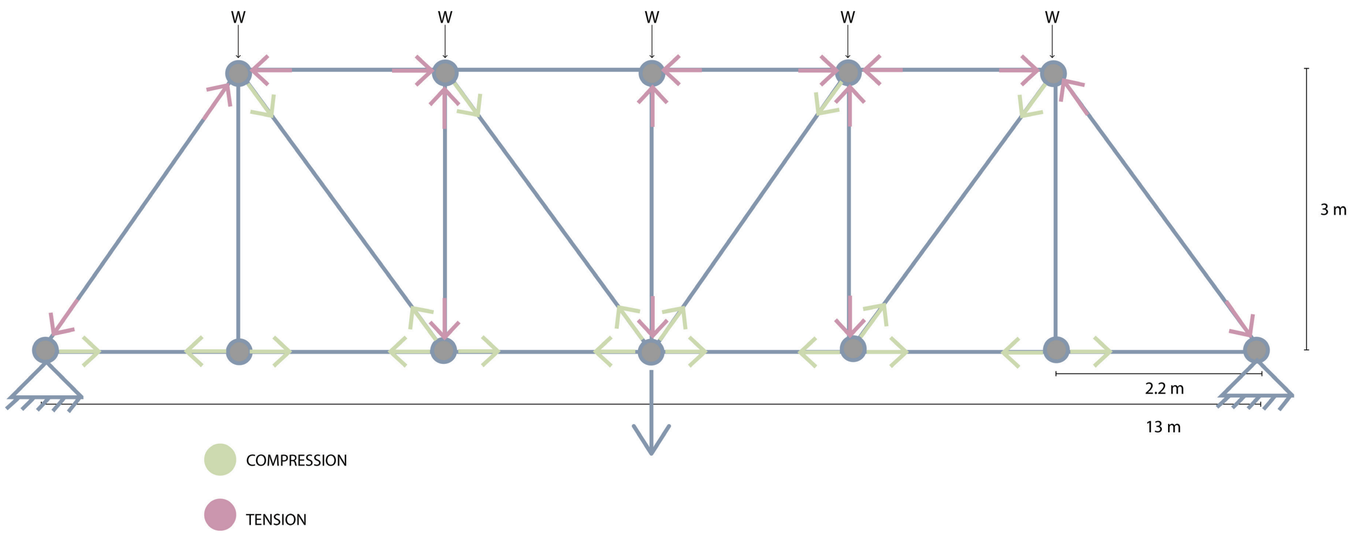
STRUCTURAL COMPOSITION AND SUSTAINANCE OF THE TOP FLOOR

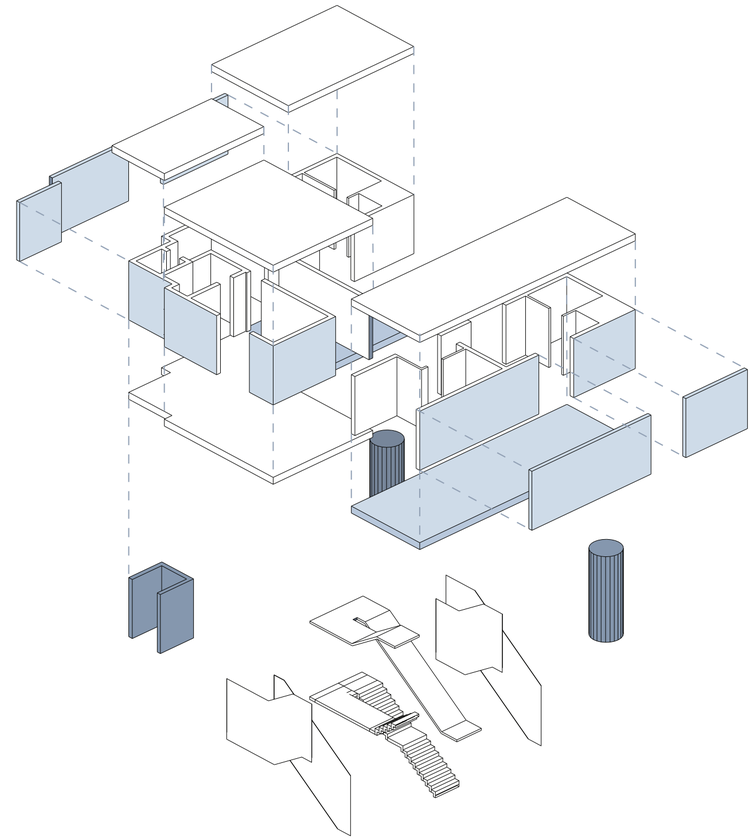
Pratt Truss

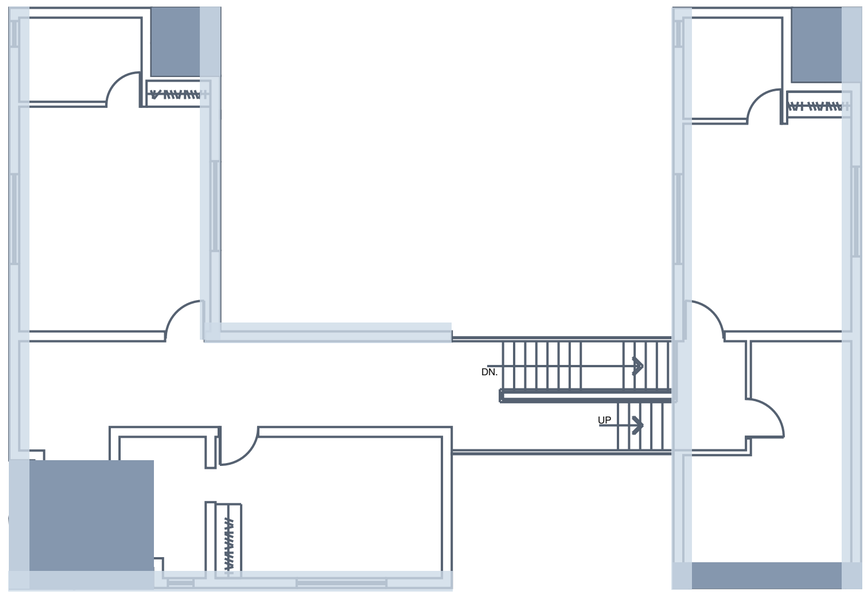


Warren Truss









WEST BLOCK

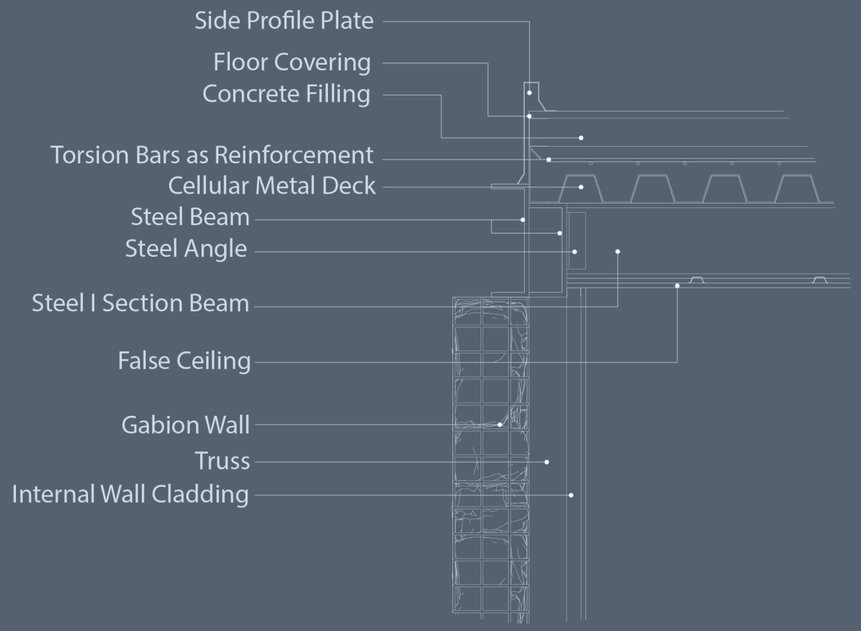
EAST BLOCK

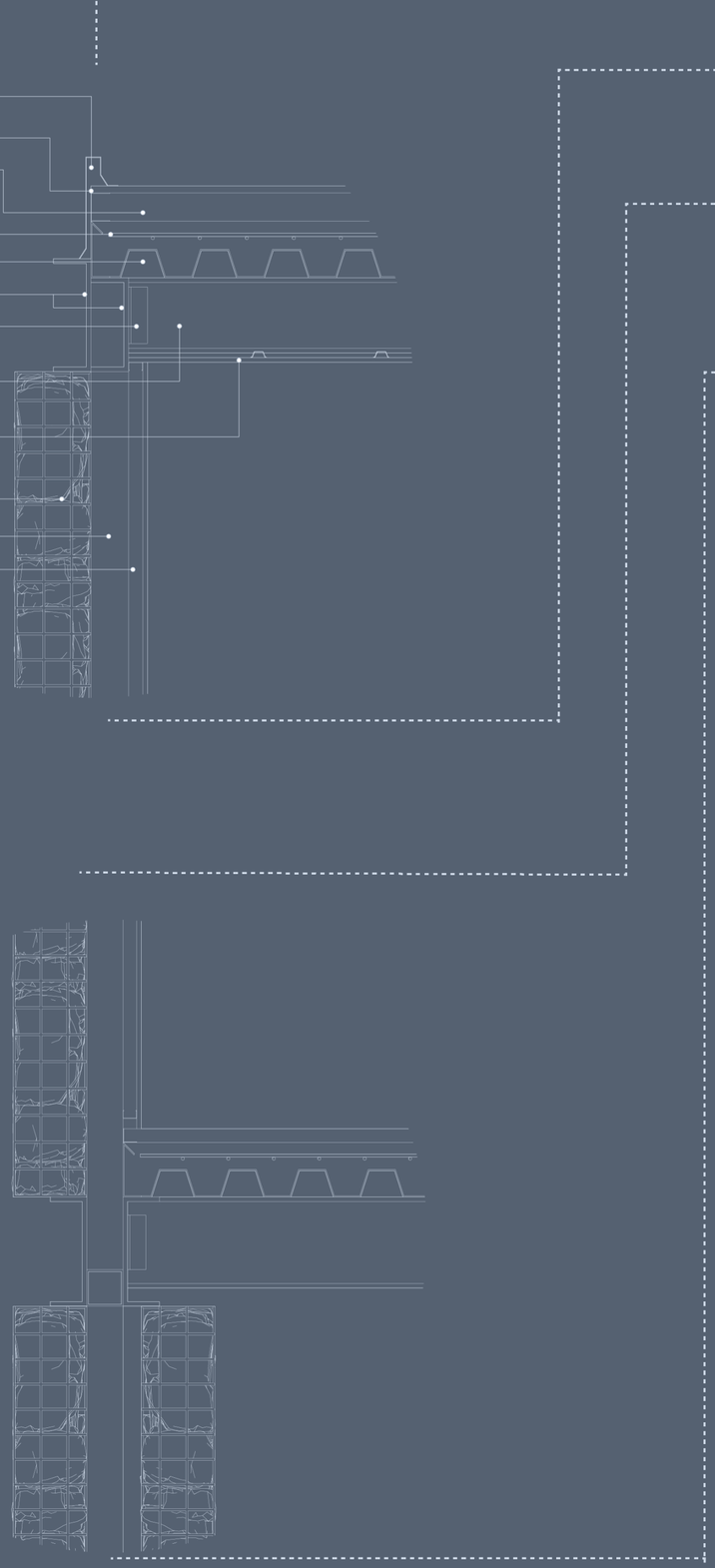
Vertical Supports

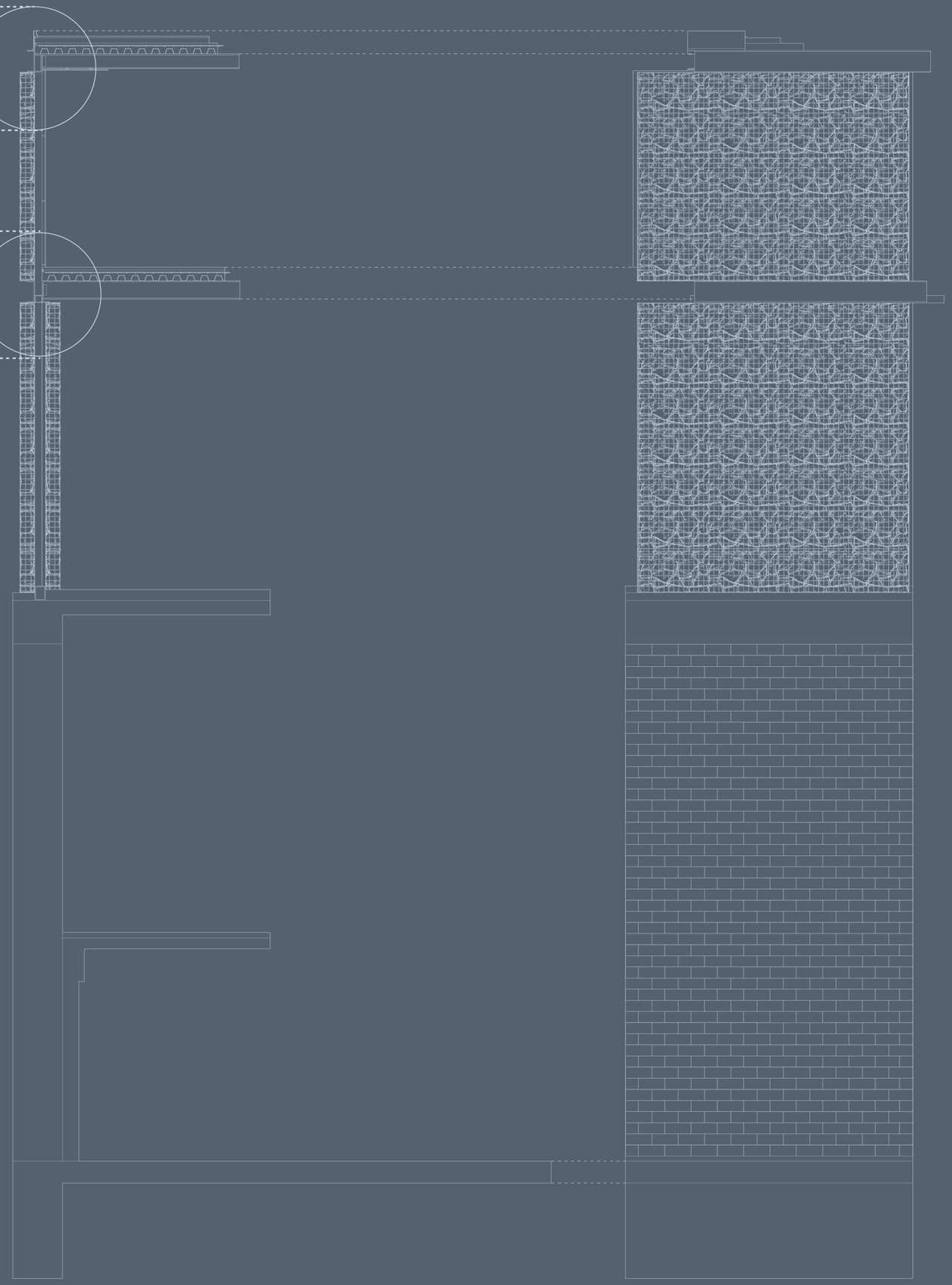
Trusses

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WALL CONNECTIONS





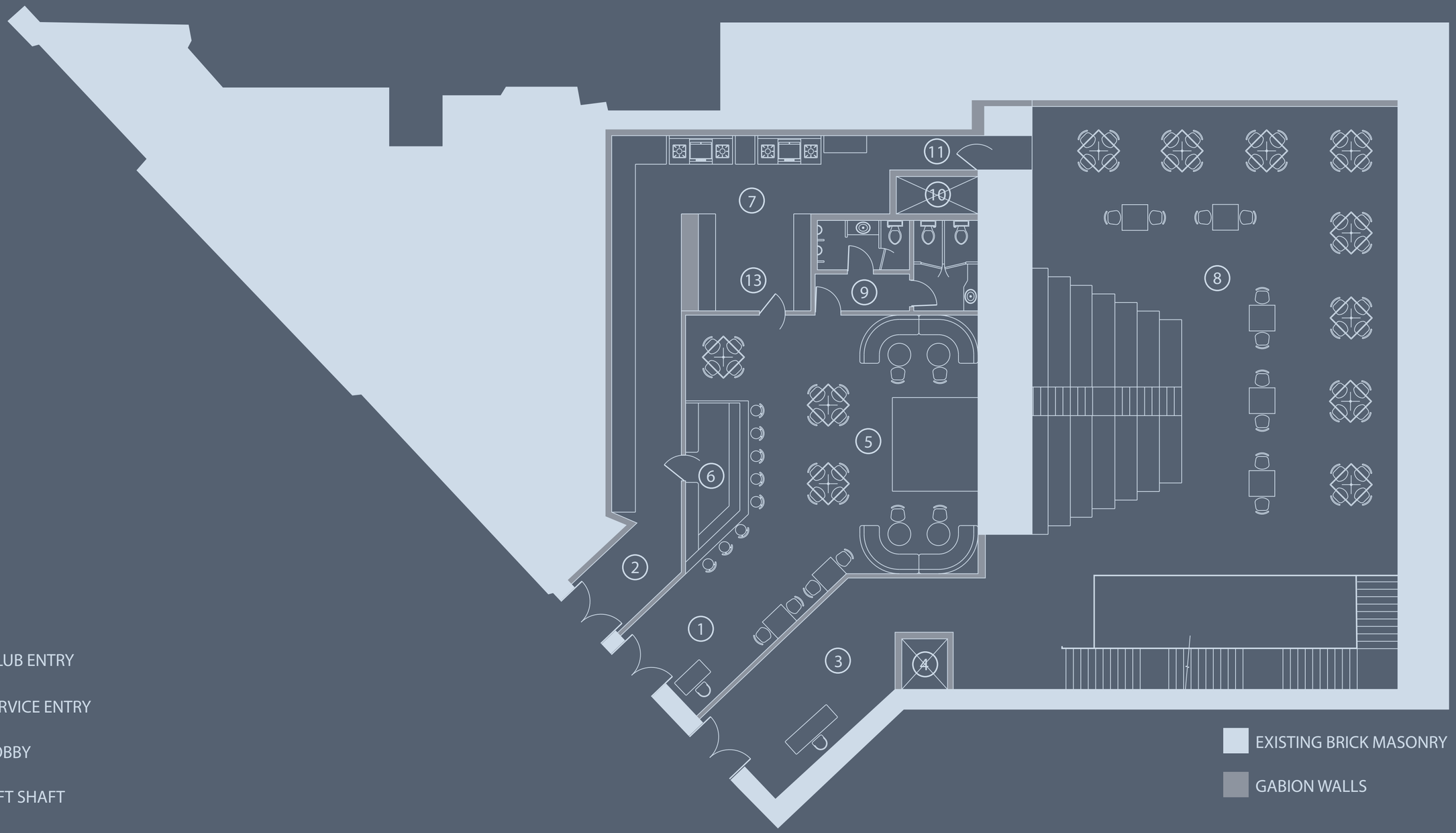


SIDE PROFILE

FRONT PROFILE

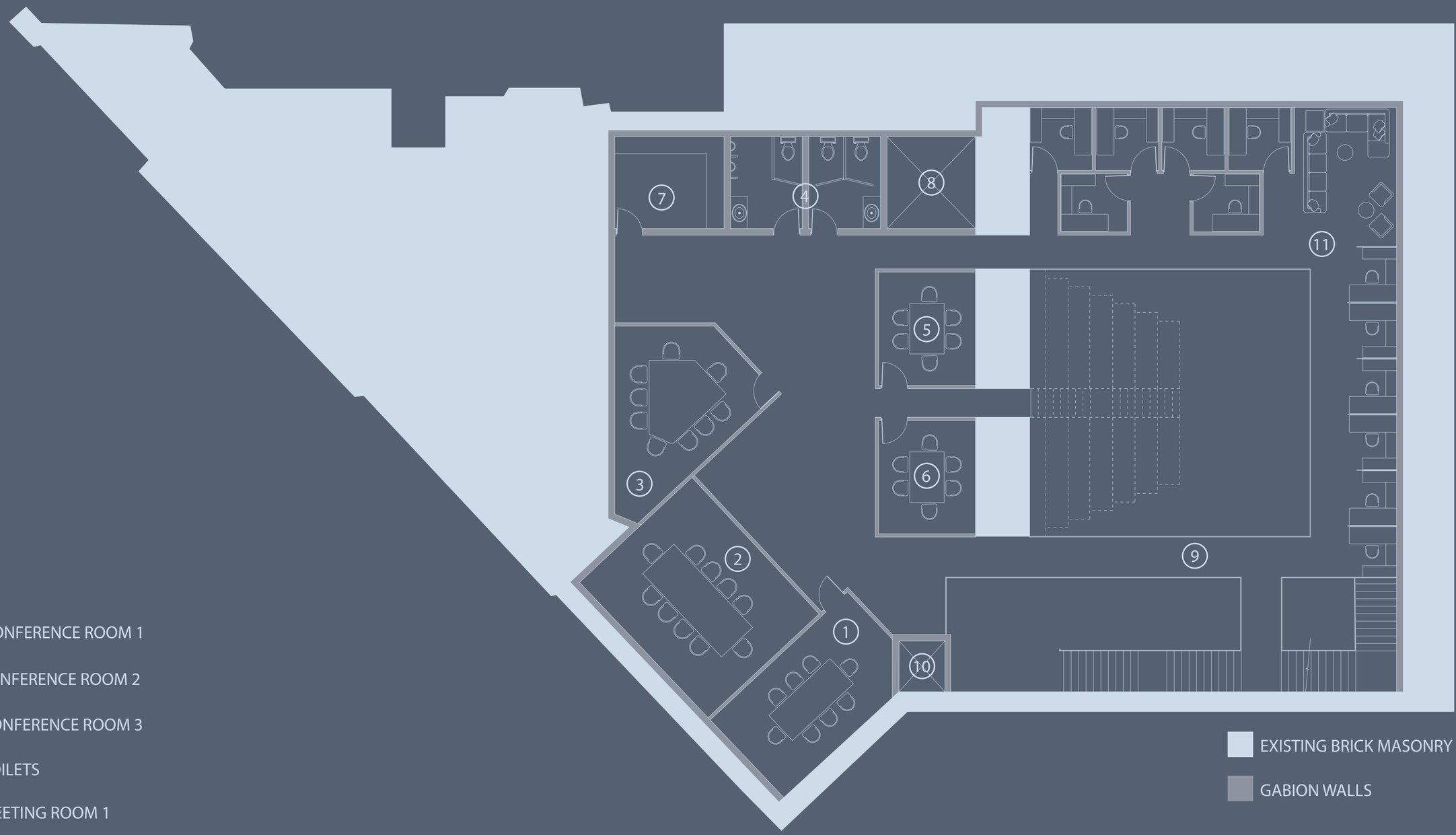
FINAL DRAWINGS

GROUND FLOOR PLAN



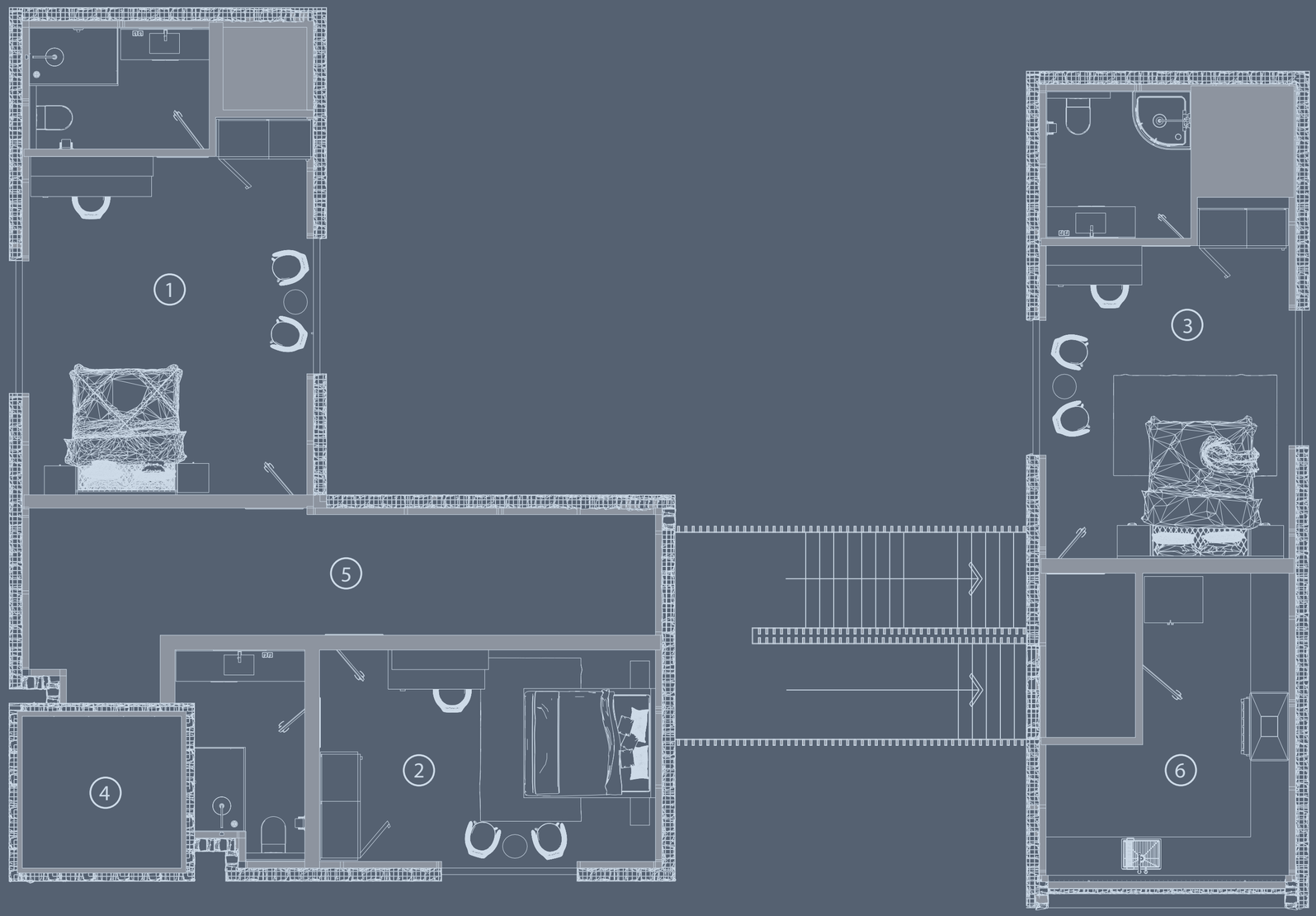
1. CLUB ENTRY
2. SERVICE ENTRY
3. LOBBY
4. LIFT SHAFT
5. CLUB AREA
6. BAR
7. KITCHEN
8. CAFETERIA
9. TOILETS
10. SERVICE DUCT
11. CAFE SERVING
13. BAR SERVING

MEZZANINE FLOOR PLAN



1. CONFERENCE ROOM 1
2. CONFERENCE ROOM 2
3. CONFERENCE ROOM 3
4. TOILETS
5. MEETING ROOM 1
6. MEETING ROOM 2
7. PANTRY
8. SERVICE DUCT
9. BRIDGE WALKWAY
10. LIFTDUCT
11. CO-WORKING AREA

TOP FLOOR PLAN

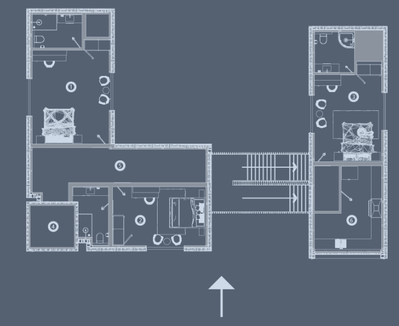


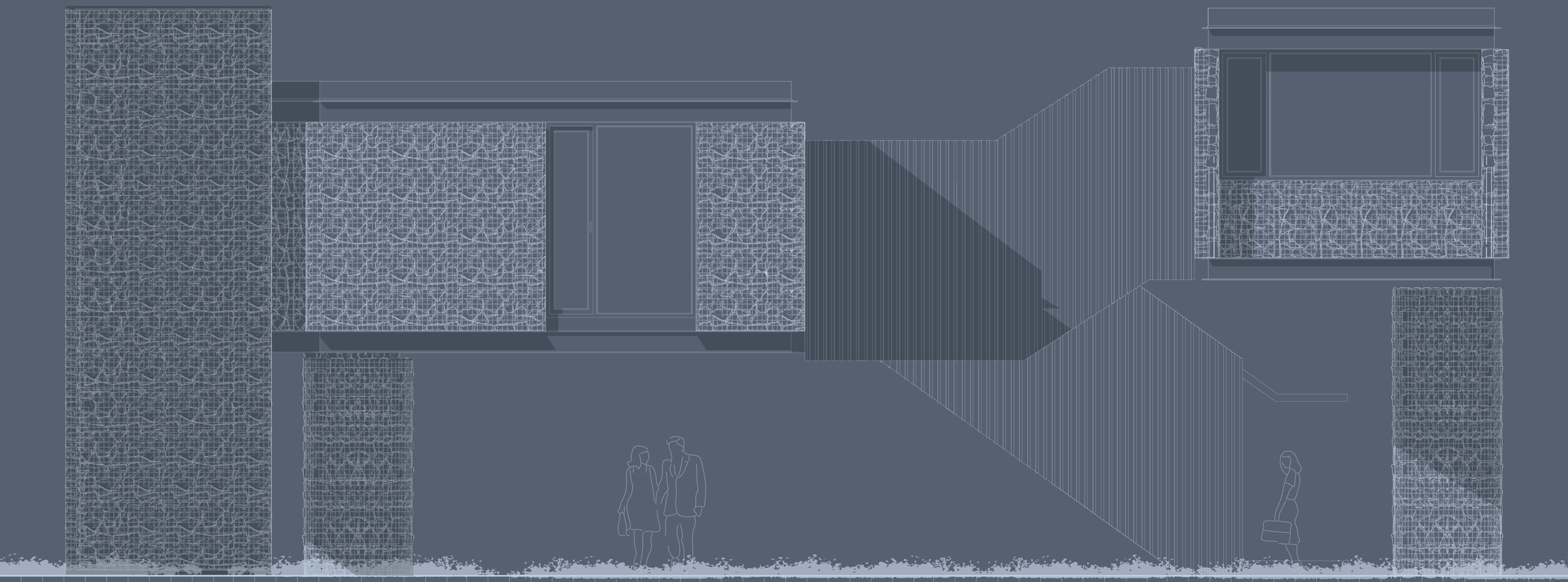
1. STUDIO APARTMENT 1
2. STUDIO APARTMENT 2
3. STUDIO APARTMENT 3
4. LIFT DUCT
5. CORRIDOR
6. PANTRY

0 2.5 5 10m

N

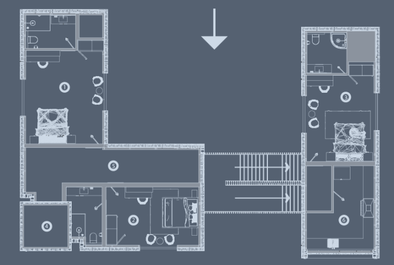
NORTH ELEVATION

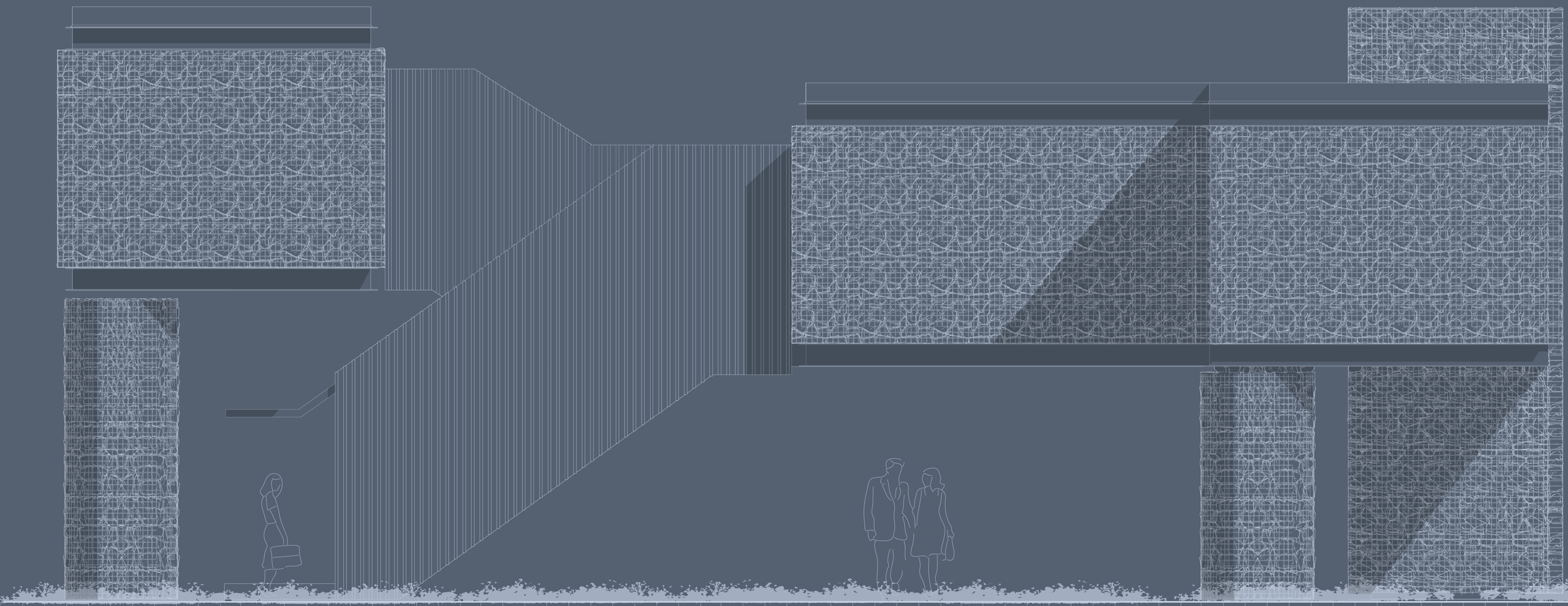




0 2.5 5 10m

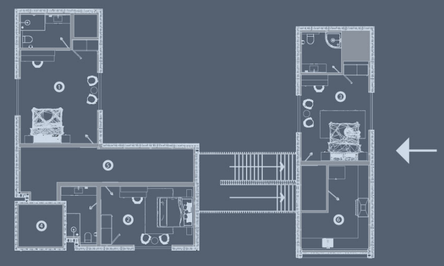
SOUTH ELEVATION

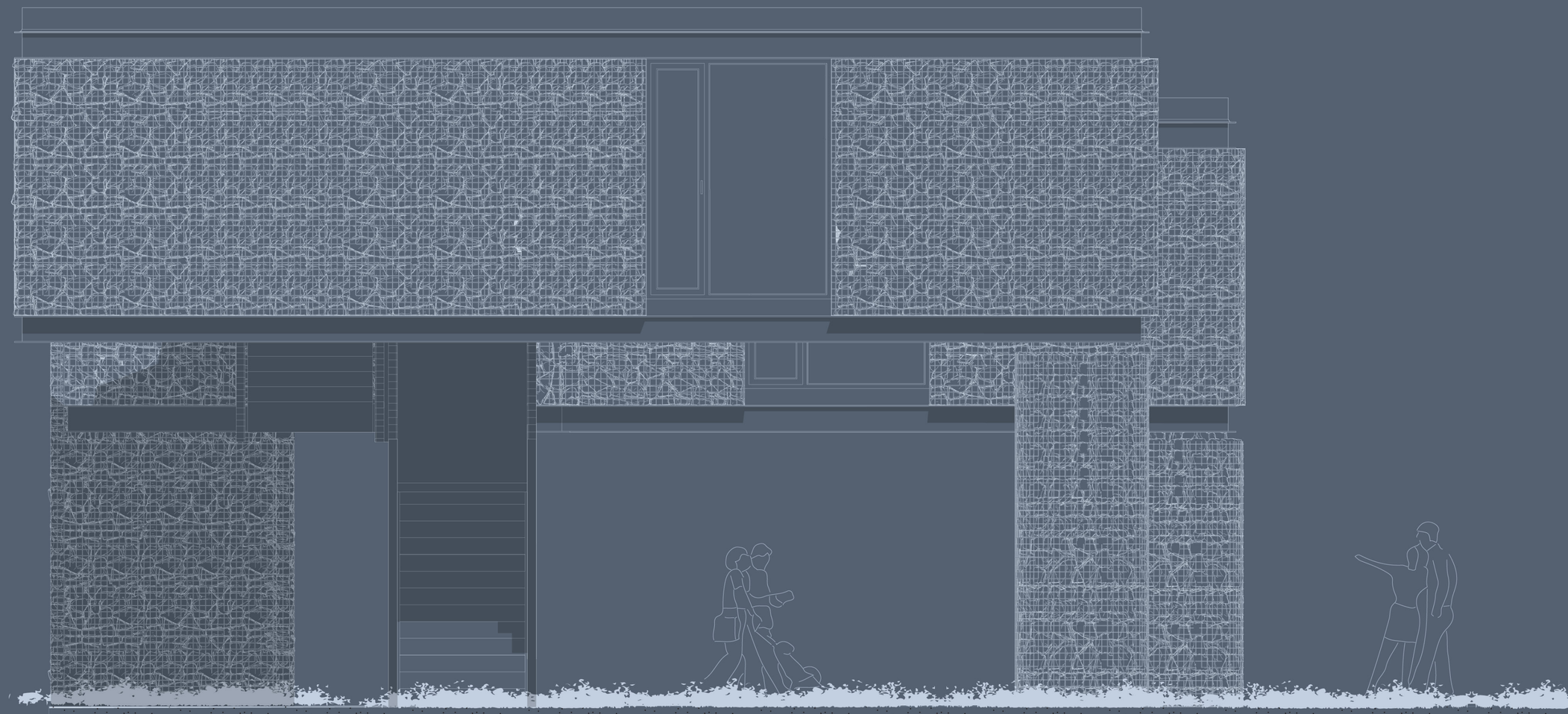




0 2.5 5 10m

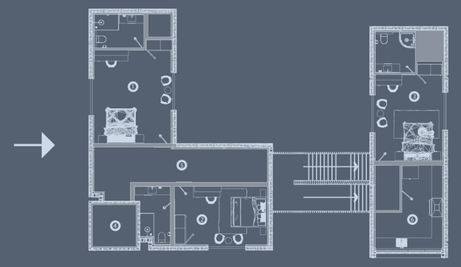
WEST ELEVATION

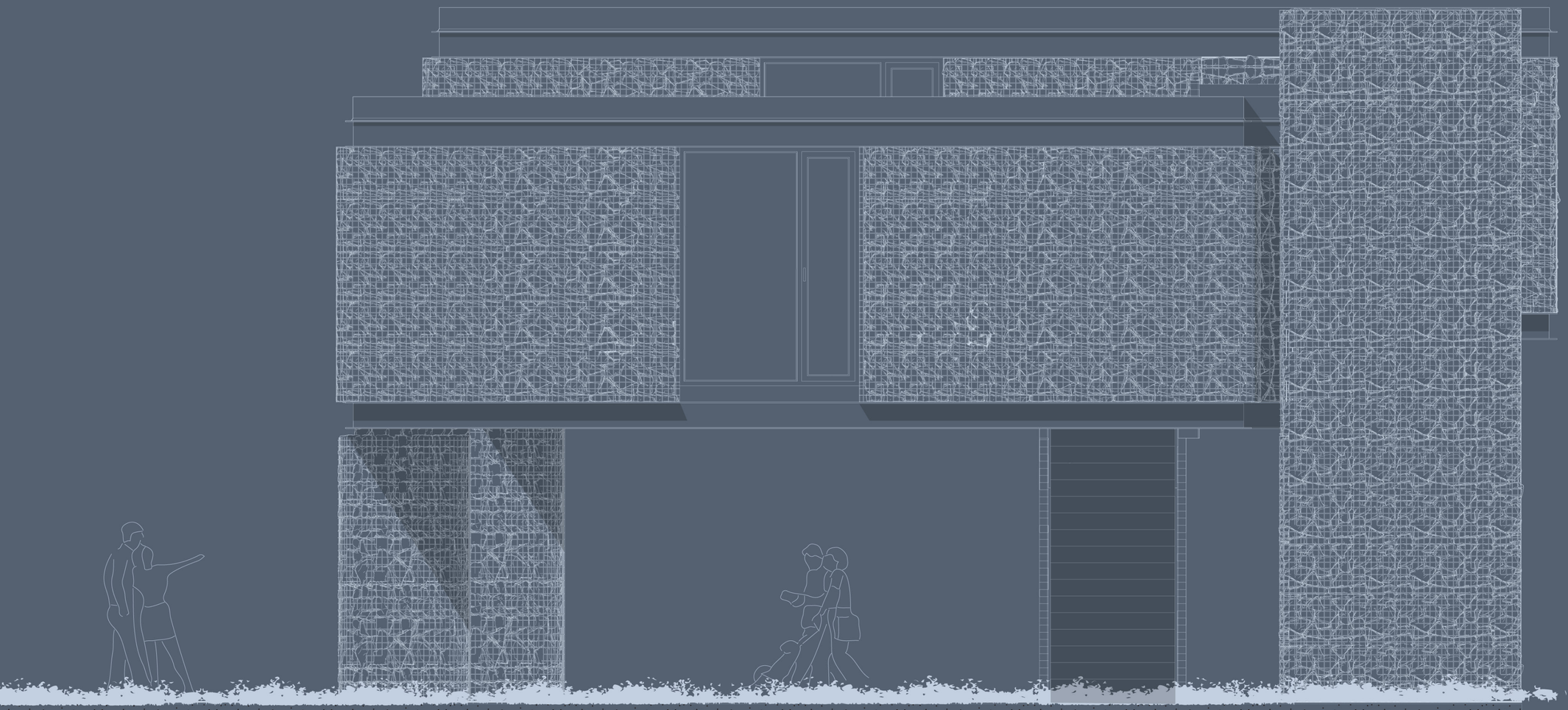






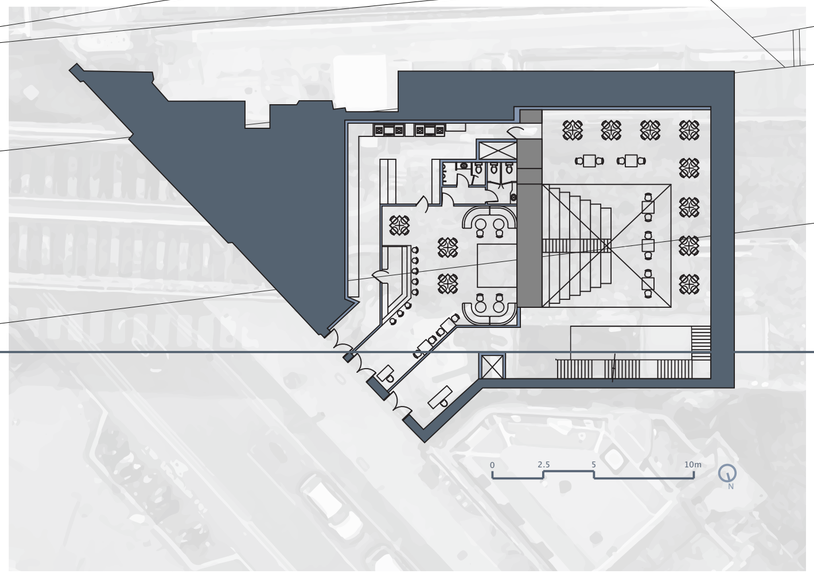
EAST ELEVATION

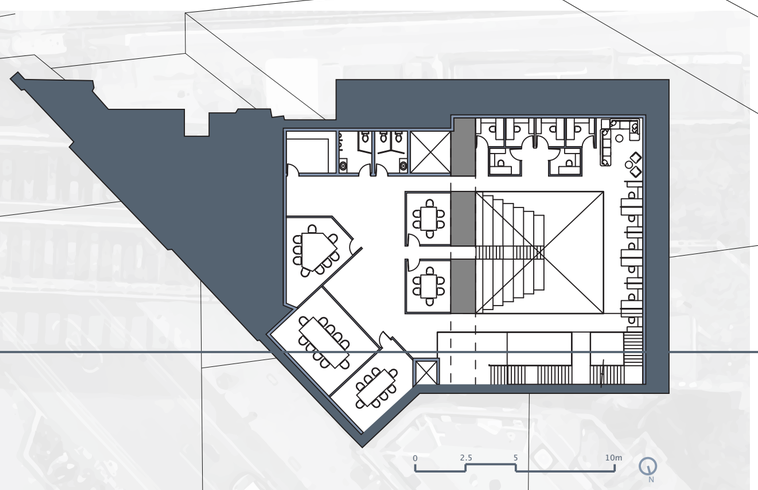


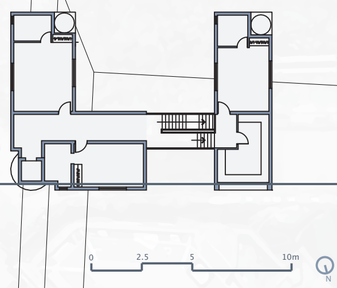


0 2.5 5 10m

SECTION A-A



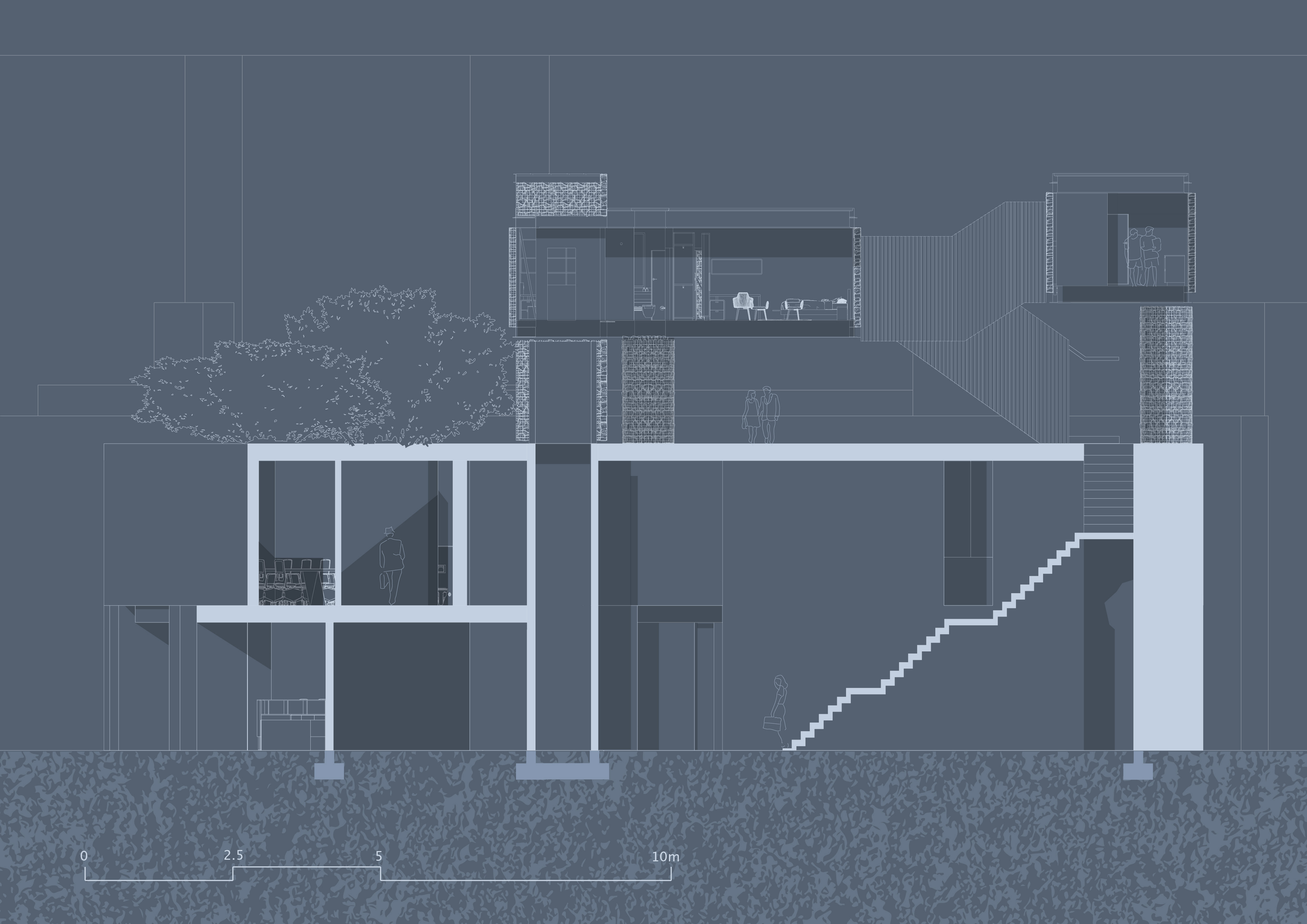




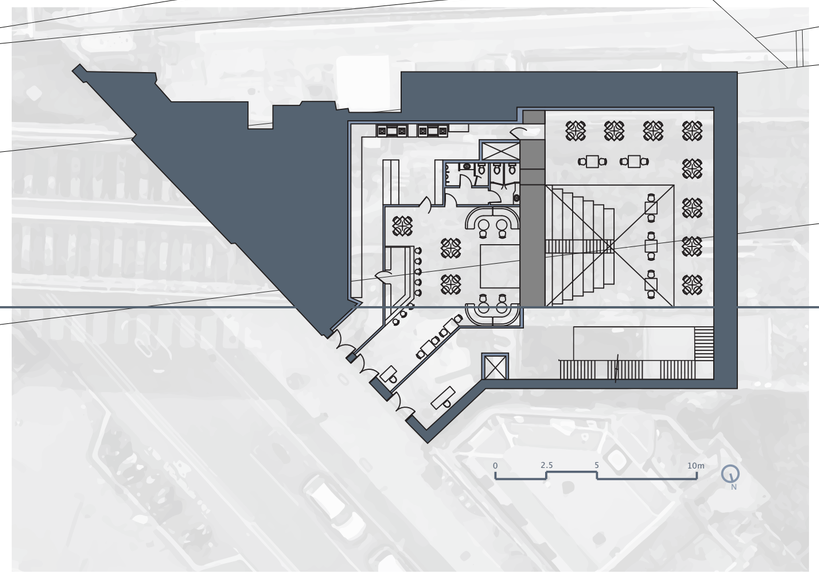
A

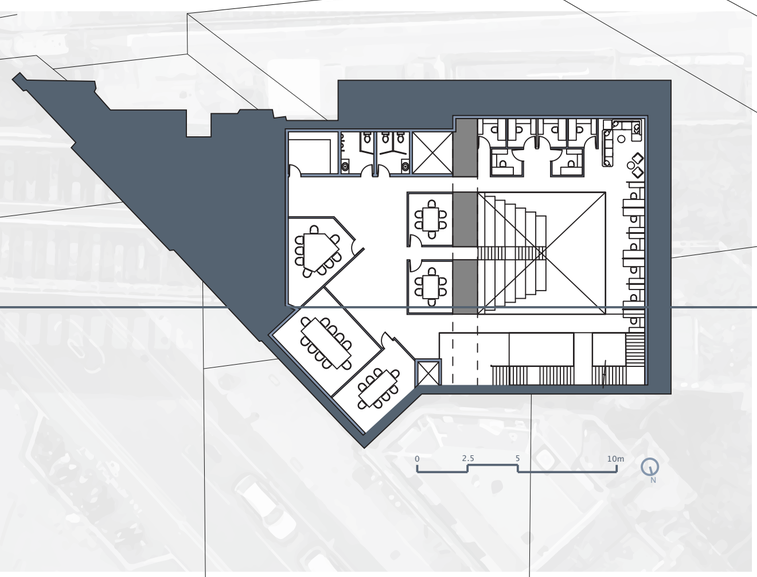
A

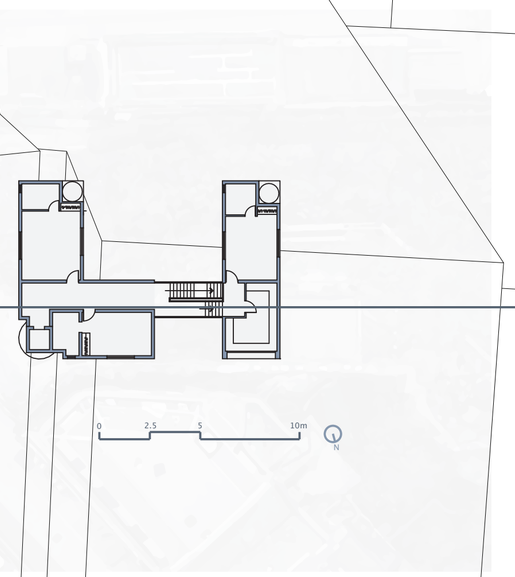
SARA MOTWANI


0
2.5
5
10m

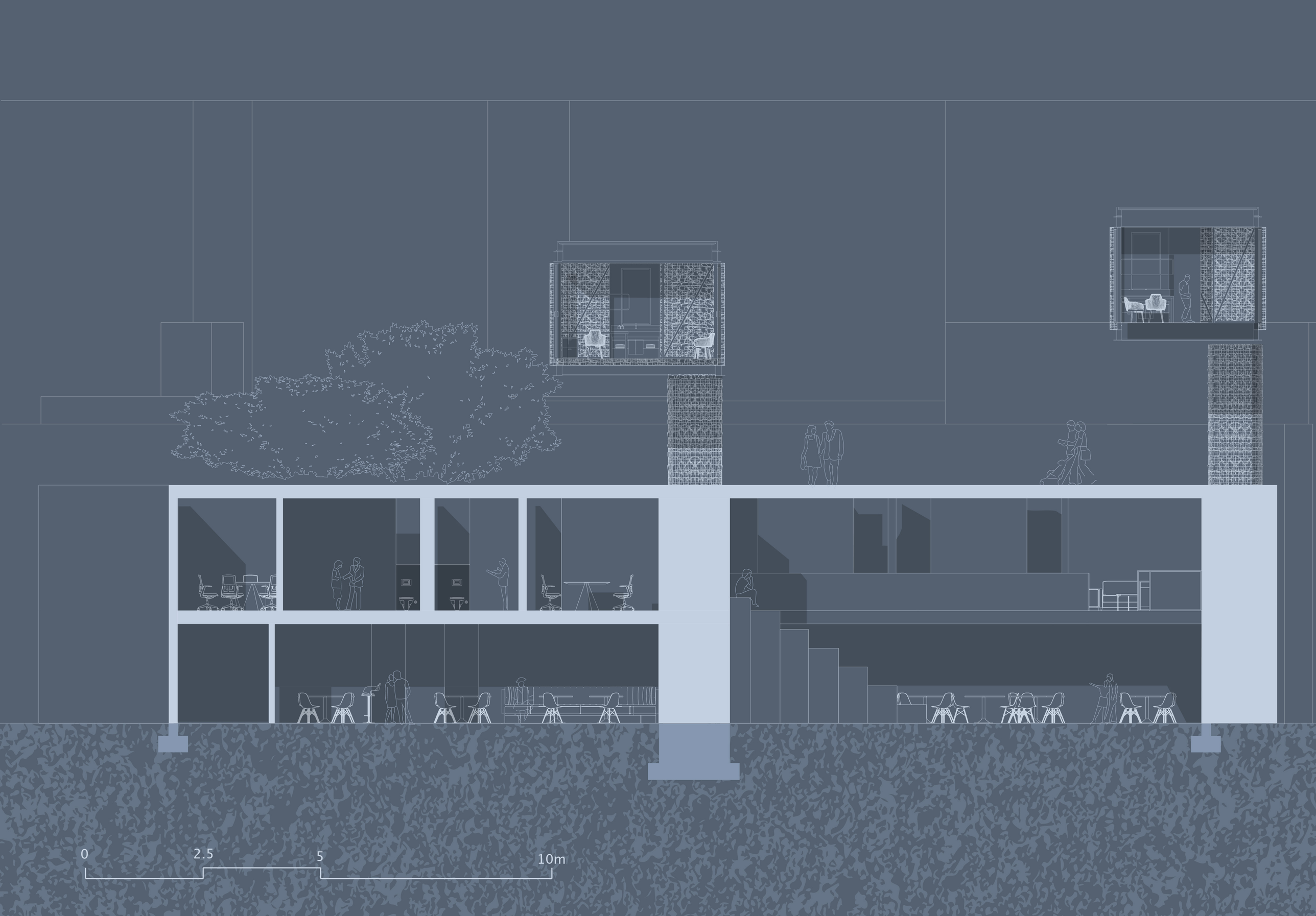
SECTION B-B



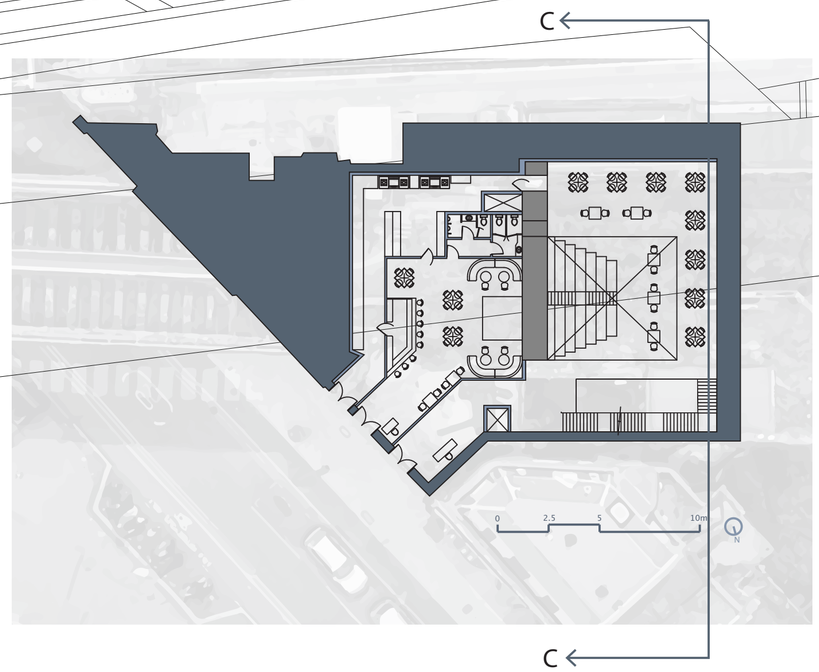


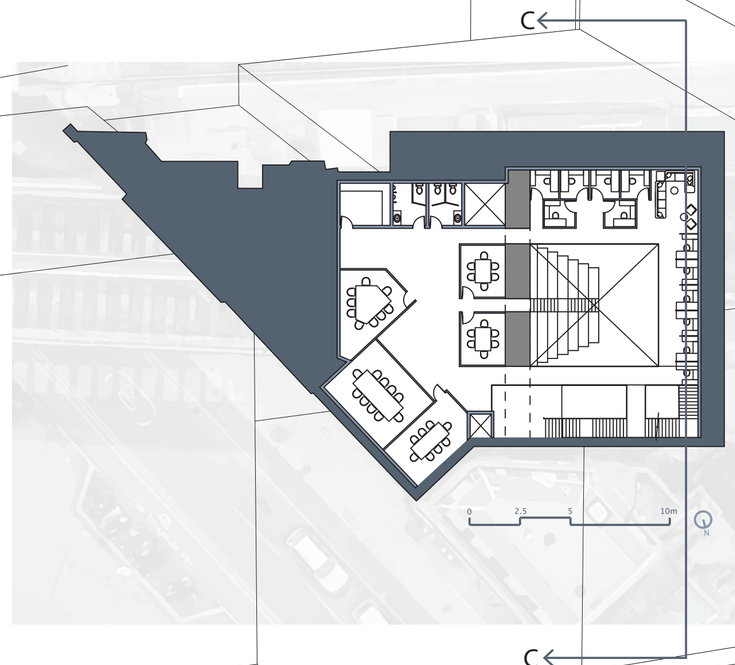


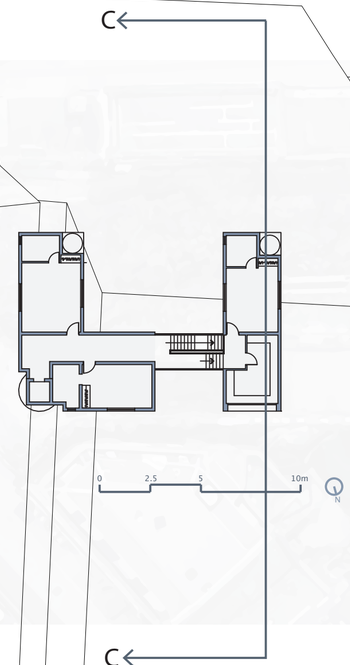
SARA MOTWANI


0
2.5
5
10m

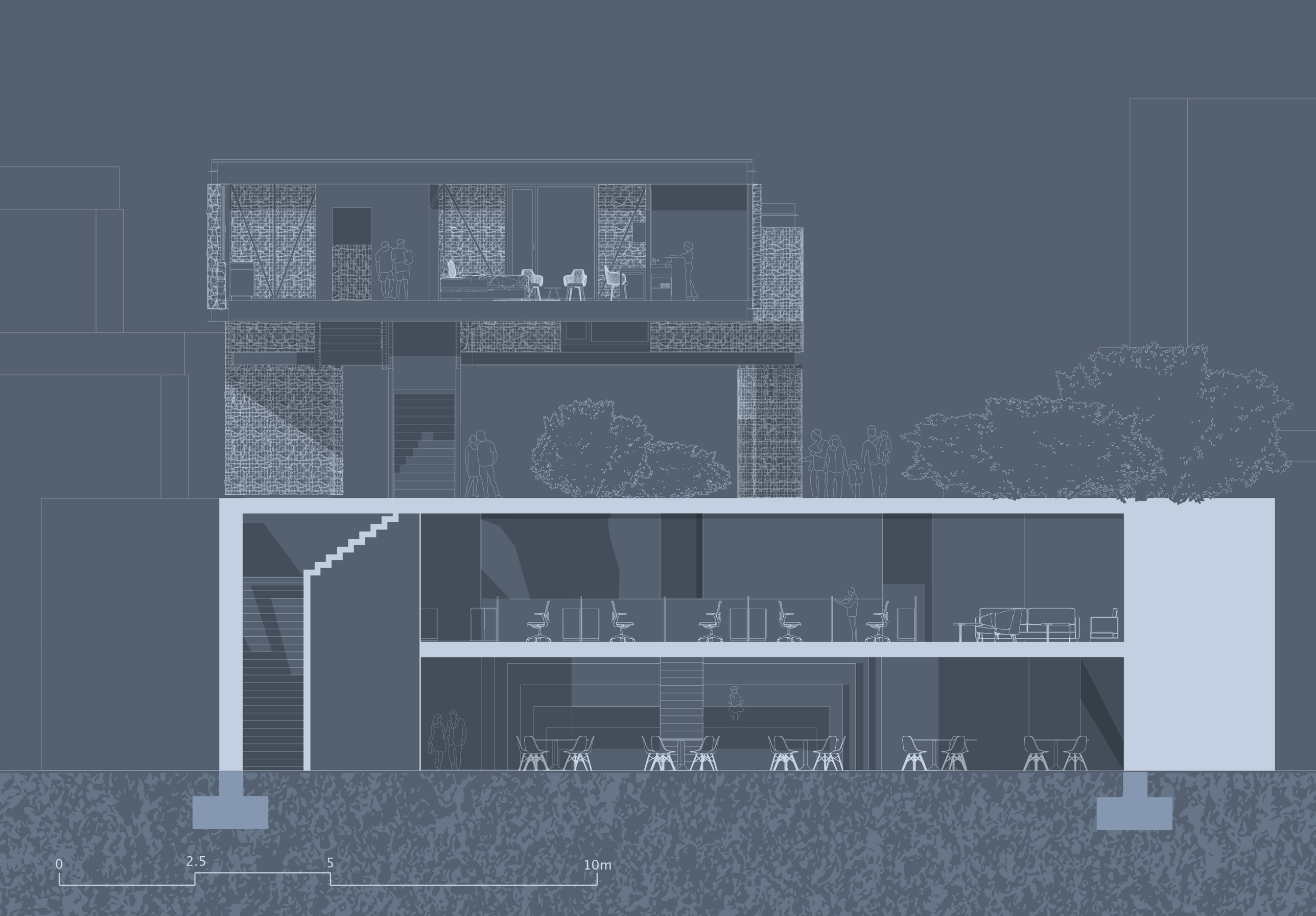
SECTION C-C







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0
2.5
5
10m

RENDERED VIEWS

EXTERNAL PERSPECTIVE - WEST



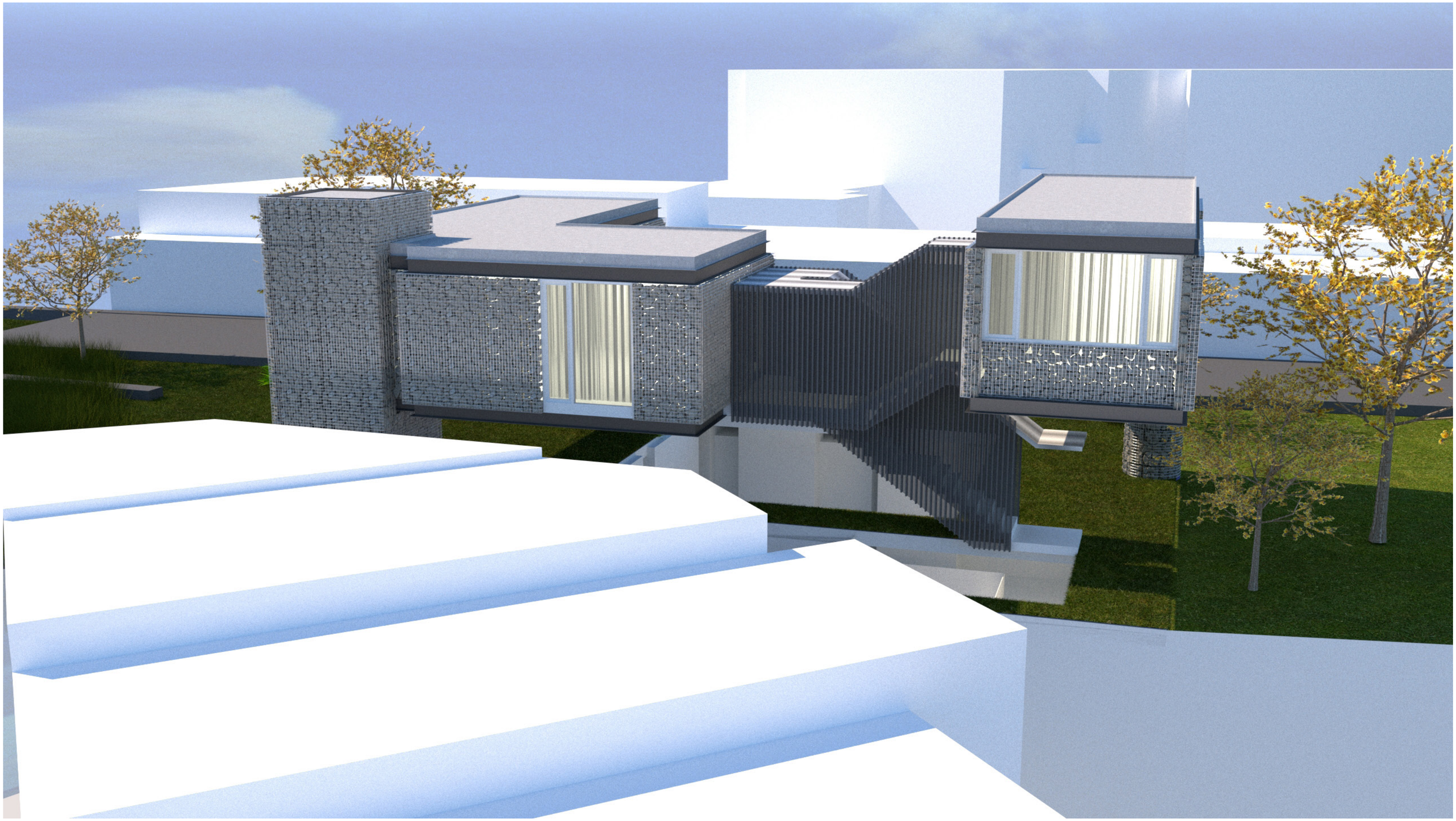
EXTERNAL PERSPECTIVE - NORTHWEST



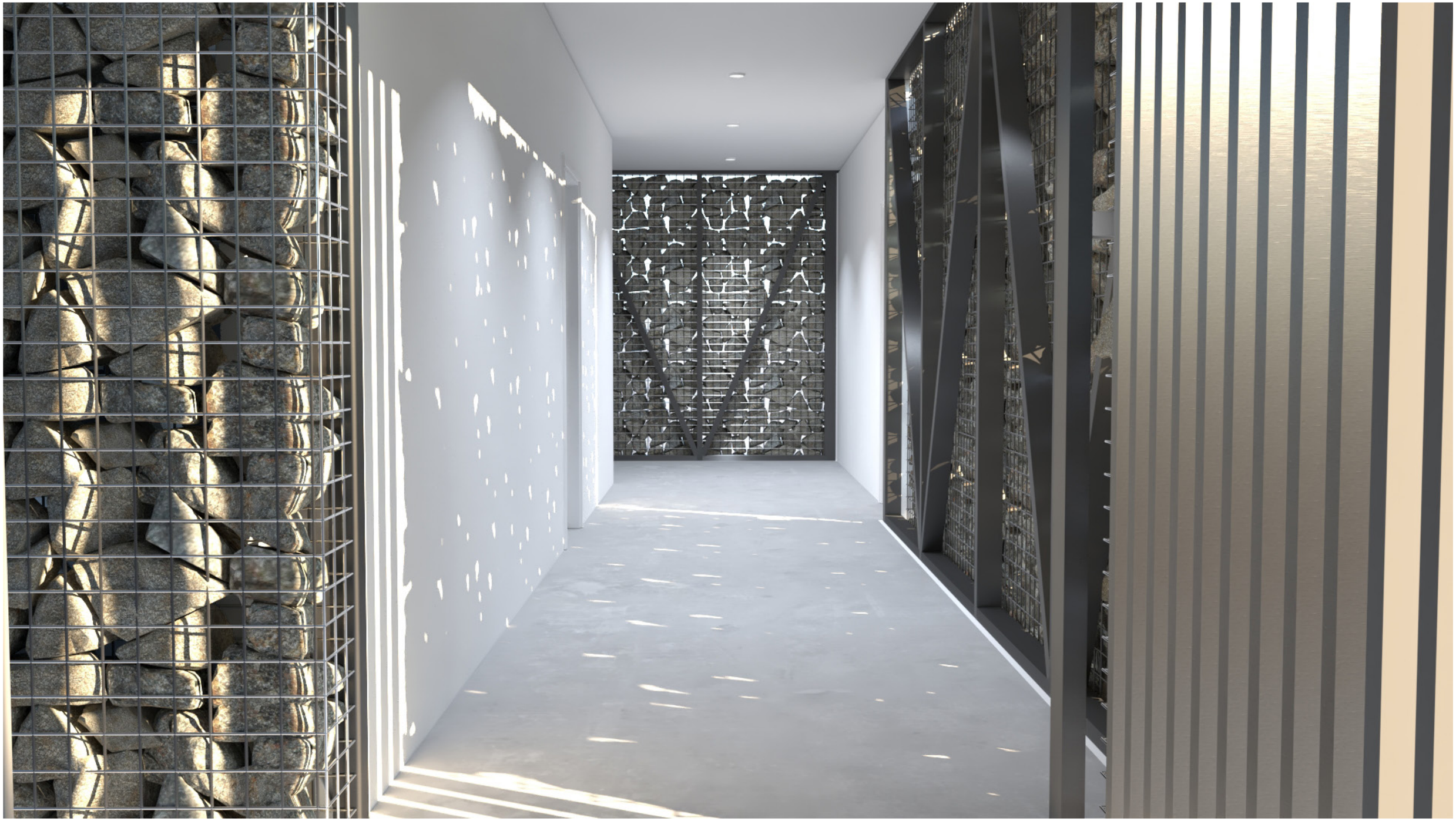
EXTERNAL PERSPECTIVE - SOUTHEAST



EXTERNAL PERSPECTIVE - NORTH



INTERNAL VIEW - CORRIDOR OUTSIDE BEDROOM



INTERNAL VIEW - STUDIO ROOM AND KITCHEN





INTERNAL VIEW - UNDER THE SKYLIGHT

