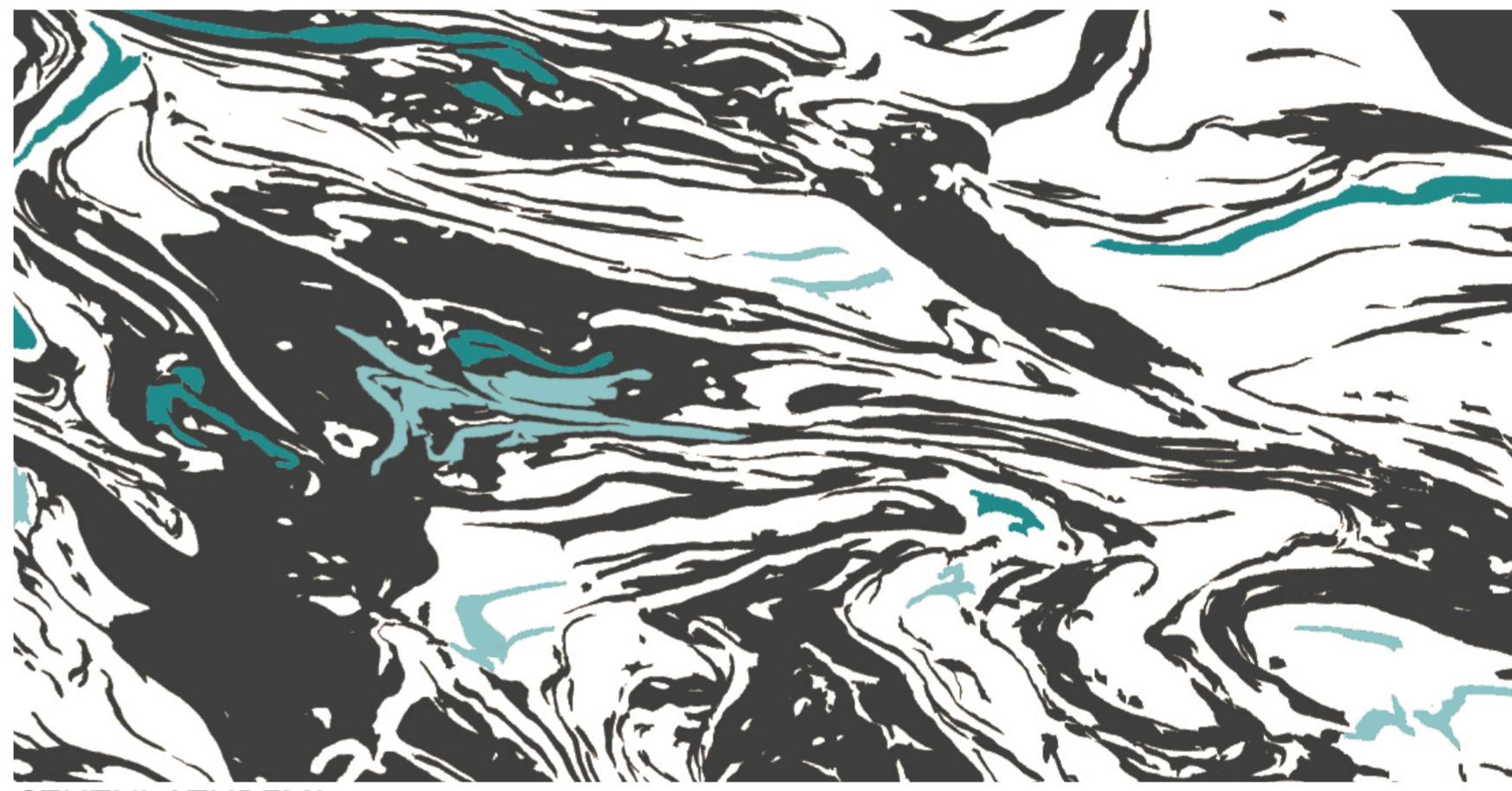


# PORTFOLIO



STUTHI ATHREYA  
MASTER OF ARCHITECTURE

SELECTED WORKS 2020-2024



# STUTHI ATHREYA



**M. Arch // B. Arch**

**10/23/1999**

**Bengaluru, India**

**Boston, Massachusetts**

I believe that architecture creates an experience that is beyond tangible, but rather abstract, observed and perceived. I believe that the process of designing plays a very important role in shaping the world. Architecture is not always about the built, it's also about who we are and what we believe in. It defines us and the world around us.

# CONTENT

The portfolio documents the projects I regard as major milestones in my journey in computational design.

Starting from the bachelor's thesis, where I identified a unique issue and take one through the journey of how I arrived at the appropriate solution.

I have also presented another academic work that dealt with highrise structures , wall detailing and contemporary design.

Professional work mainly included residential projects that were primarily influenced by sustainable architecture.

The portfolio also contains competitions that came into light and ancillary works that I've engaged in to broaden my horizons.



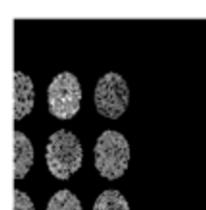
## [01] BETWIXT

Designing to understand railway buffers.



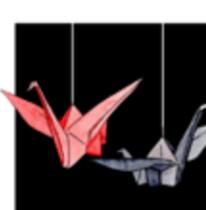
## [02] THRESHOLD

Exploring high-rise structures.



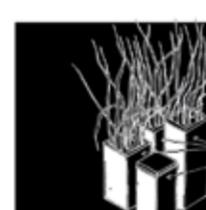
## [03] UN-NAMABLE

Designing to understand urban voids and liminality.



## [04] SKEIN

Competiton.



## [05] PRACTICE

Biome  
Fifth studio  
Freelance



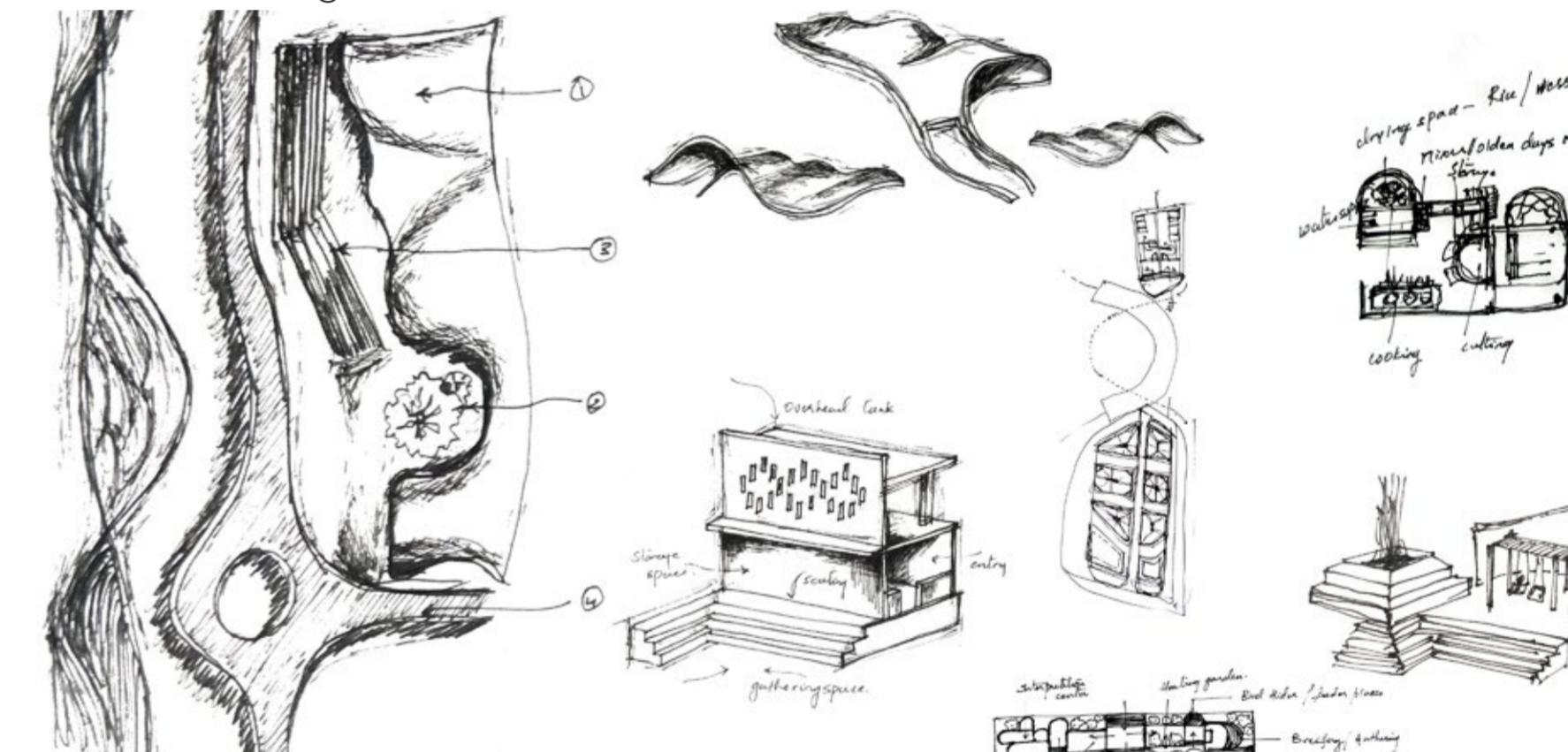
## [06] OTHER WORK

Creative Computation  
Community Build



# 01BETWIXT

the rail gulf



2021-2022

Banglore , India

Personal , Research

First author

Guides : Shilpa Sirish (Prof at BMS) , Anurag Tamhankar ( Director of Biome)

Revit + Grasshopper + Photoshop

## BACKGROUND

In India, over 8 billion people use the railways every year, the most affordable and most commonly used mode of transport. Anyone traveling on the train always looks forward to the journey and to what's to come along the way. Hence what one sees from the train is supposed to represent the essence of the city one is passing through.

However, The Indian Railways System included a byelaw set in the 1950s which indicated the need for a buffer of 30m from each edge of the railway line to the edge of the city.

Over time this buffer started to get encroached upon by migrants, slums, and LIG, and these began to have their framework. By this, I mean they have a different fabric than the city in terms of accessibility, safety, and ignorance from the city dwellers, which made them barren.

However, the encroachments kept increasing to a scale that the government or the railways could no longer relocate the people residing here and hence decided to change the bye-law to a buffer of just 3m from each edge of the railway line till the edge of the city.

ww

## PREMISE

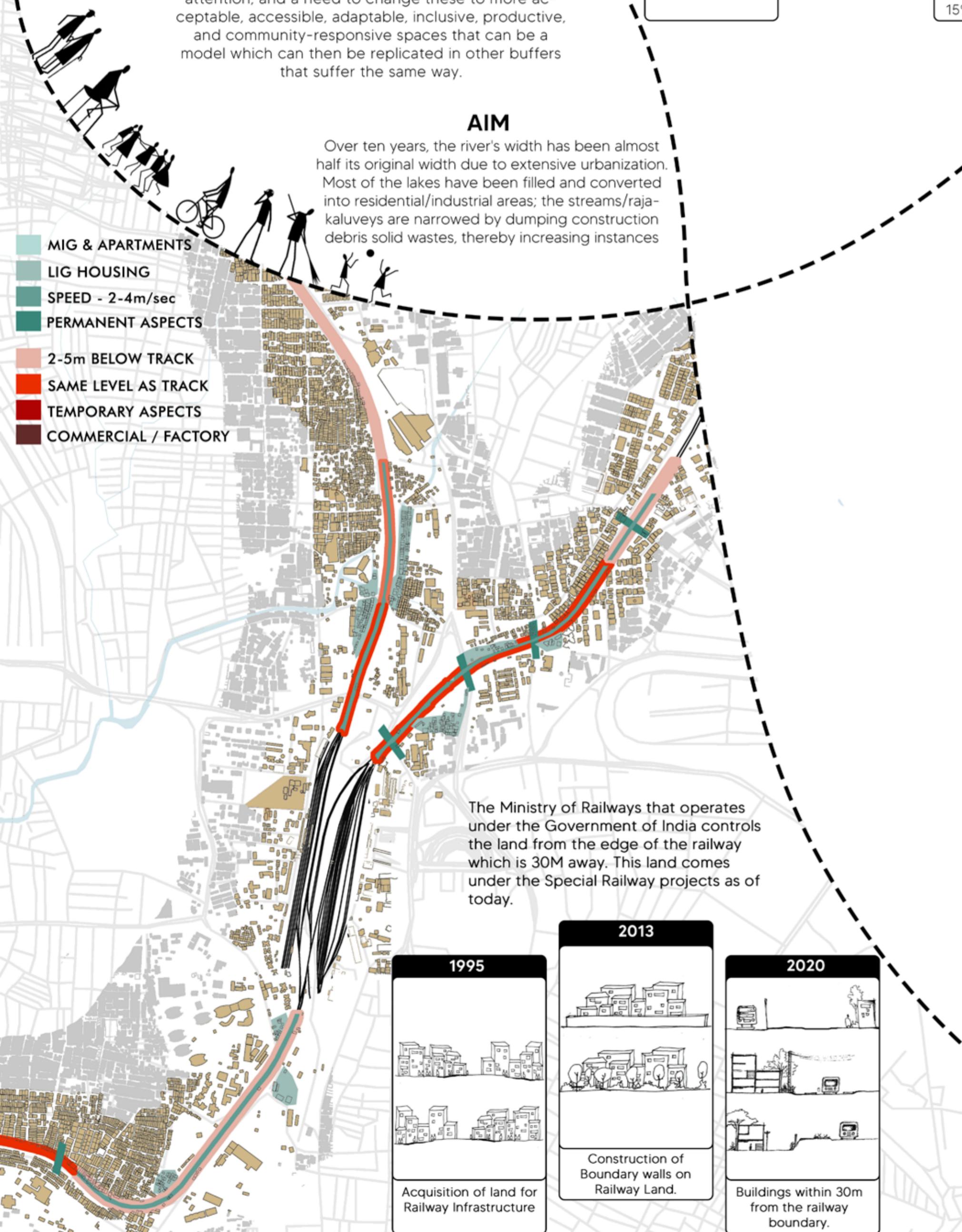
Connect the lives of the people in the buffer to the city by providing facilities and opportunities that conjure their living patterns, which enhances the imagery of a particular city and leaves a memory in the traveler's mind.

The inactive nature of these buffers is what caught my attention, and a need to change these to more acceptable, accessible, adaptable, inclusive, productive, and community-responsive spaces that can be a model which can then be replicated in other buffers that suffer the same way.

## AIM

Over ten years, the river's width has been almost half its original width due to extensive urbanization. Most of the lakes have been filled and converted into residential/industrial areas; the streams/raja-kaluveys are narrowed by dumping construction debris solid wastes, thereby increasing instances

- MIG & APARTMENTS
- LIG HOUSING
- SPEED - 2-4m/sec
- PERMANENT ASPECTS
- 2-5m BELOW TRACK
- SAME LEVEL AS TRACK
- TEMPORARY ASPECTS
- COMMERCIAL / FACTORY



The Ministry of Railways that operates under the Government of India controls the land from the edge of the railway which is 30M away. This land comes under the Special Railway projects as of today.

2013

2020

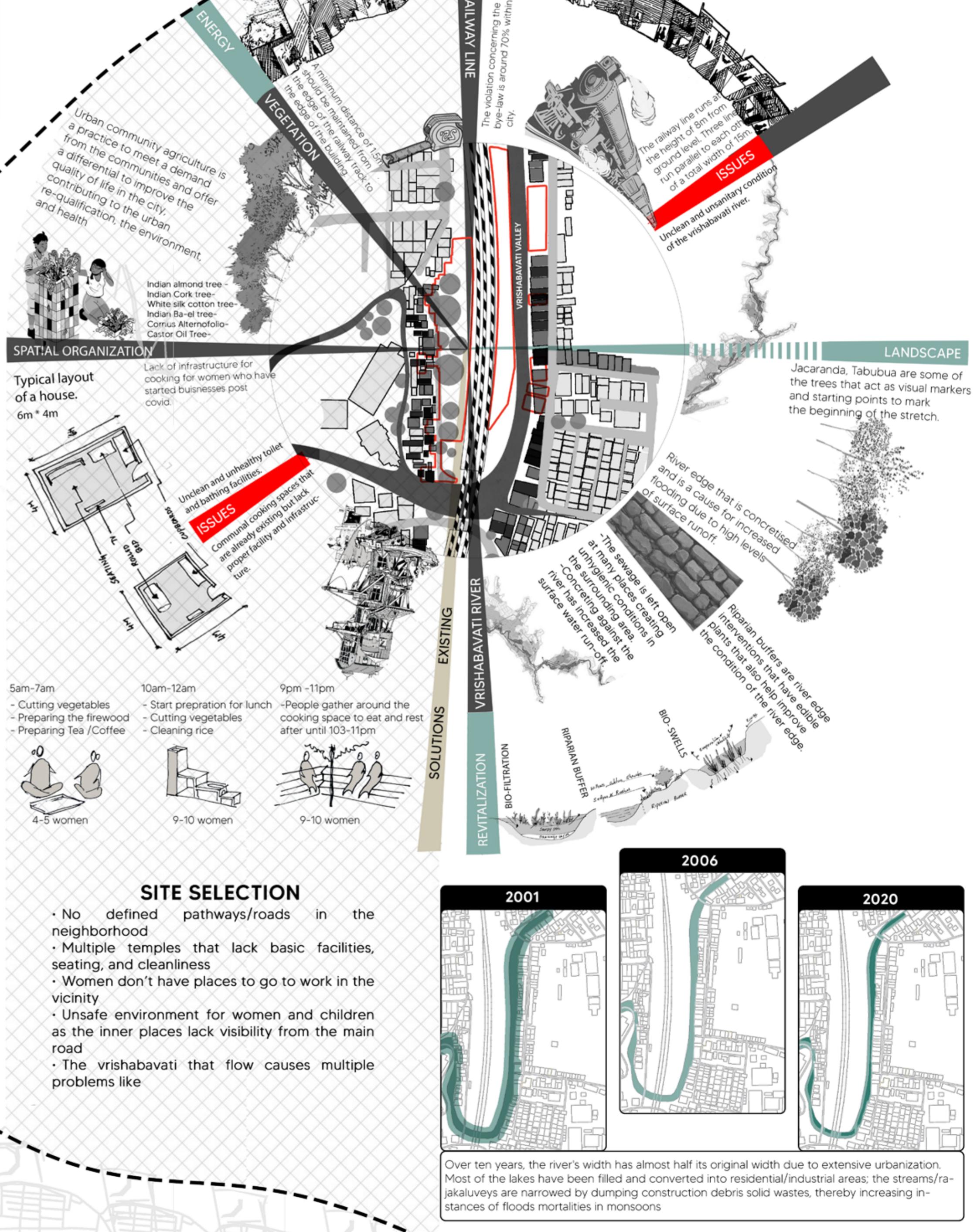
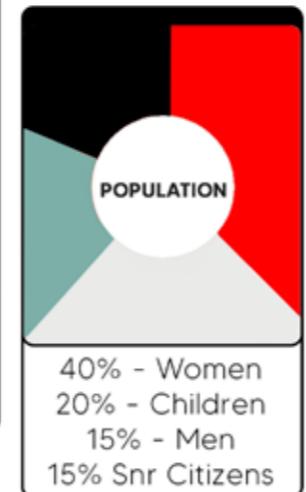
1995

Acquisition of land for Railway Infrastructure

Construction of Boundary walls on Railway Land.

Buildings within 30m from the railway boundary.

Main caste - SC/ST

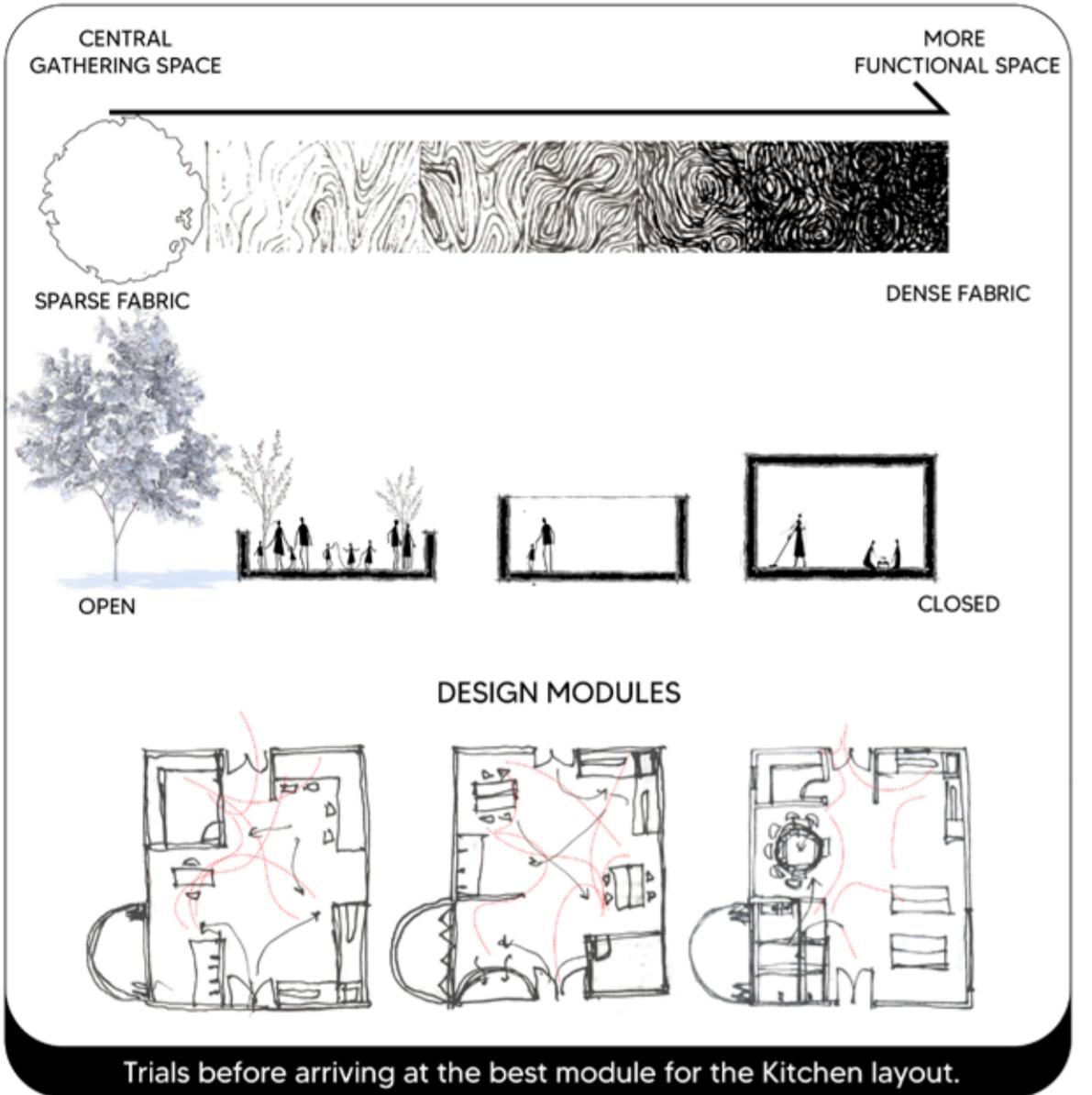


## DESIGN DEVELOPMENT

The process of designing is broken down based on the kind of context and ease of access for the community's people. A central gathering space that will further accentuate the rest of the community is placed in the center of the site. The density of the fabric of the designed space radiates from this center.

### CONCEPT

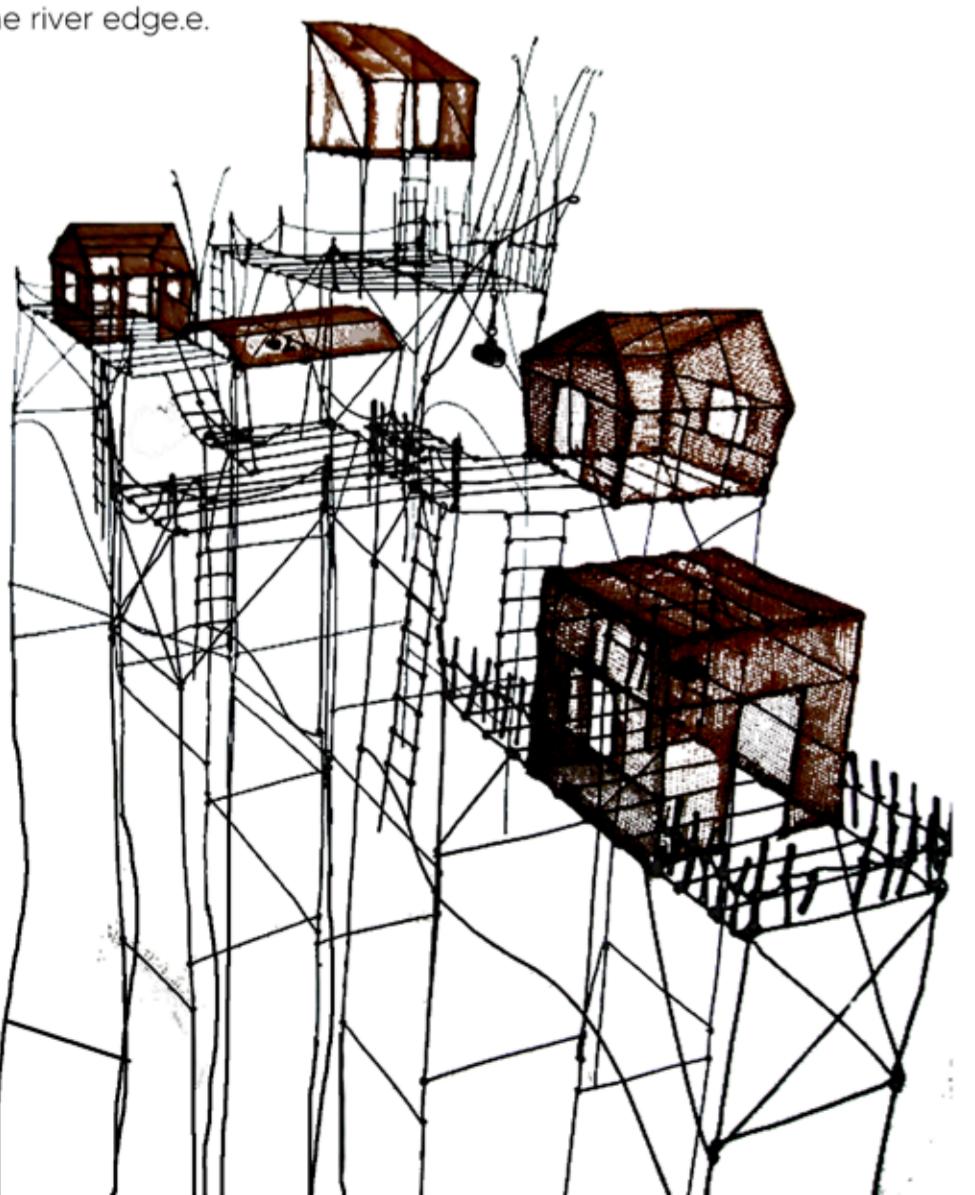
- Establish and use a certain mechanism of movement.
- How does circulation and navigation work for vehicles and pedestrians
- Services and how they function
- The standards which have to be followed



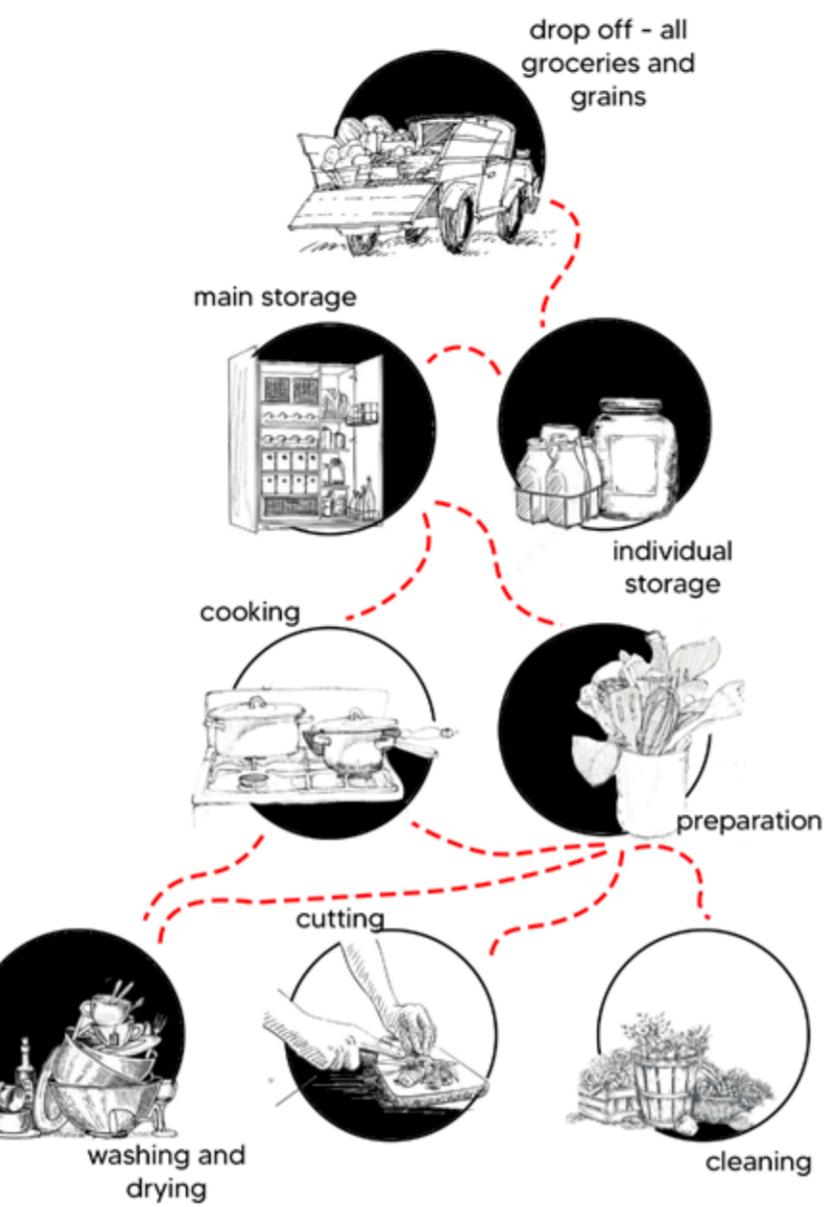
### A PERFECT STORY

One can see how the rapid urban growth has affected the flood plains of the Vrushabavati river. Concreting the edge of the river led to further problems, and one way to solve this was to give stilts.

Giving these stilts meant more space below these buildings that could be accessed and behave as usable space that can also allow in the replenishment of the river edge.e.

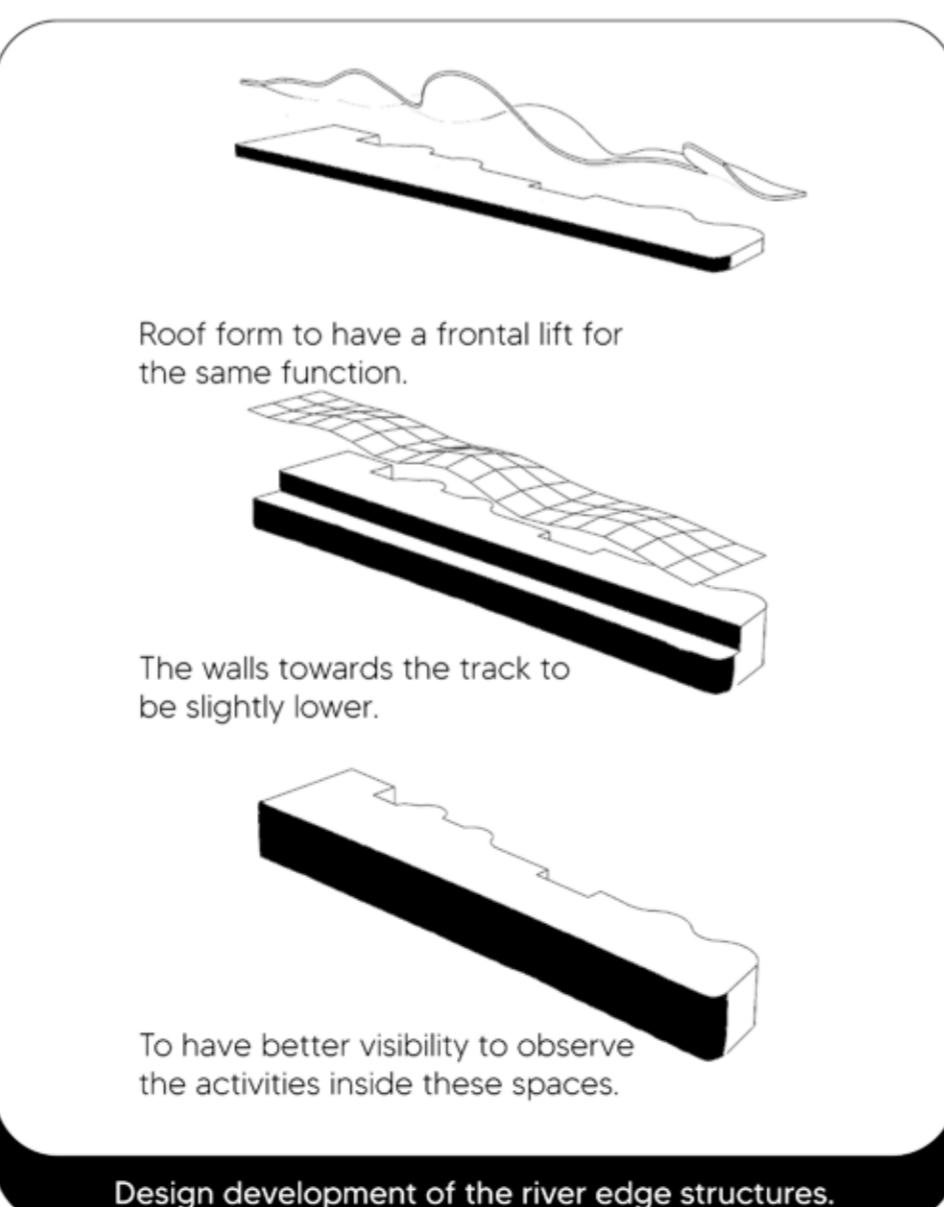


### SPATIAL DIVISION



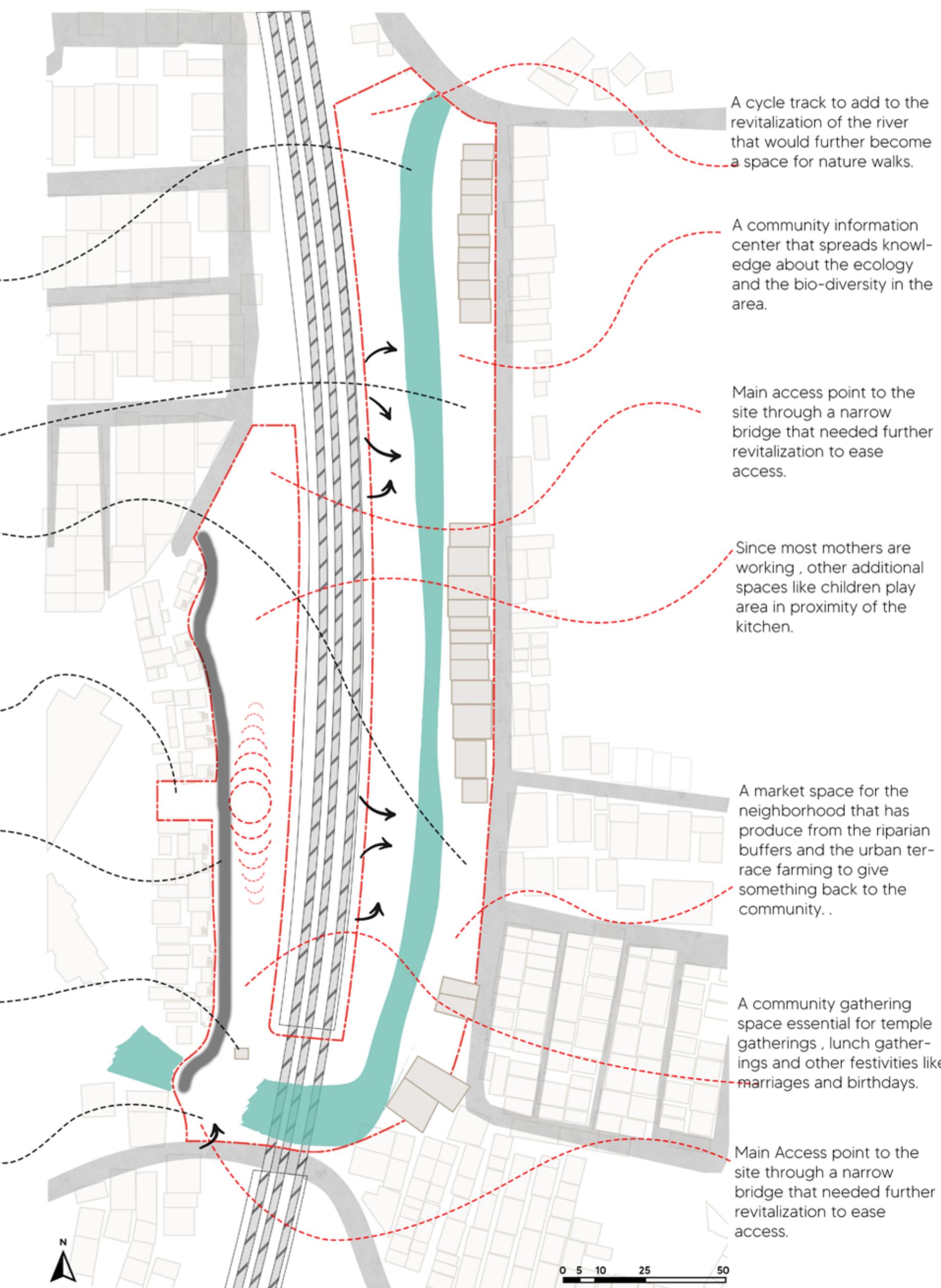
### VISUALS/ FORM

- Due to the presence of the railways, a very important part of the elevation is to have a space which can be seen through from the railways.
- Another important part is the roof form that allows such a viewing.

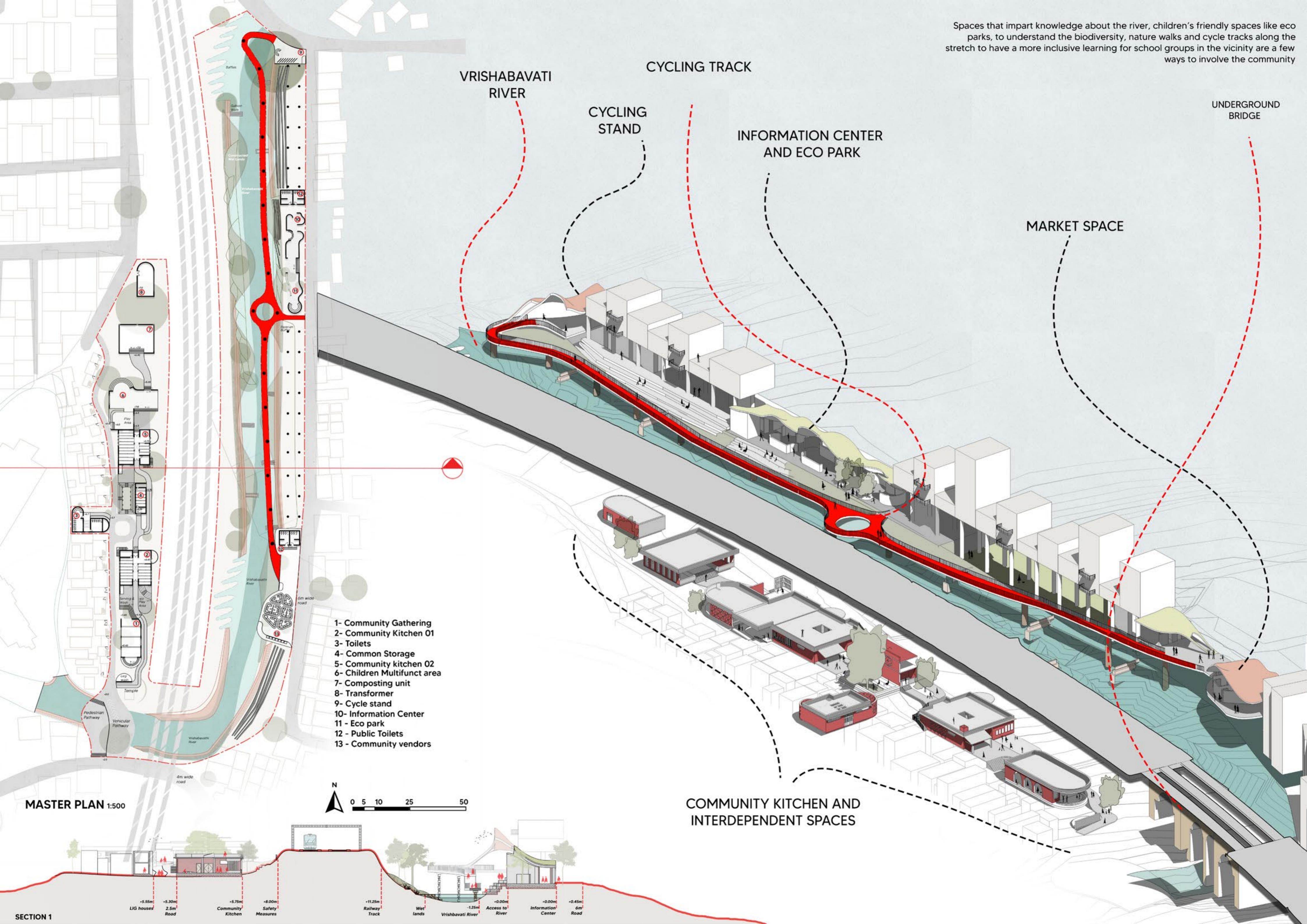


## SITE PLANNING

Beyond the monotony of establishing wind directions and sun paths, the goal was to examine a few important features related to the creation and adaptability of its surroundings. One of the important ones is the linearity of the site. This defined the position of most of the program as part of the thesis.



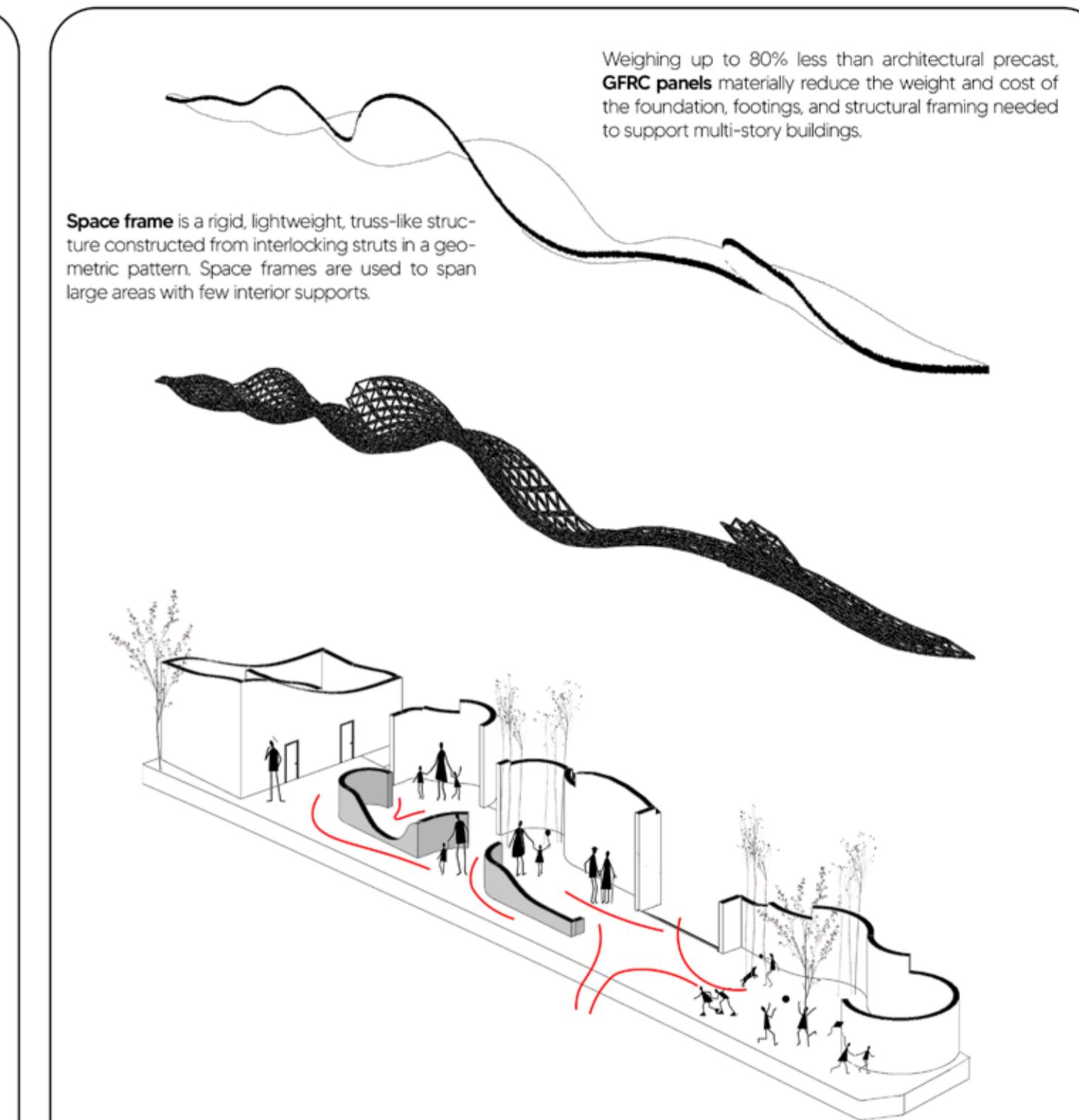
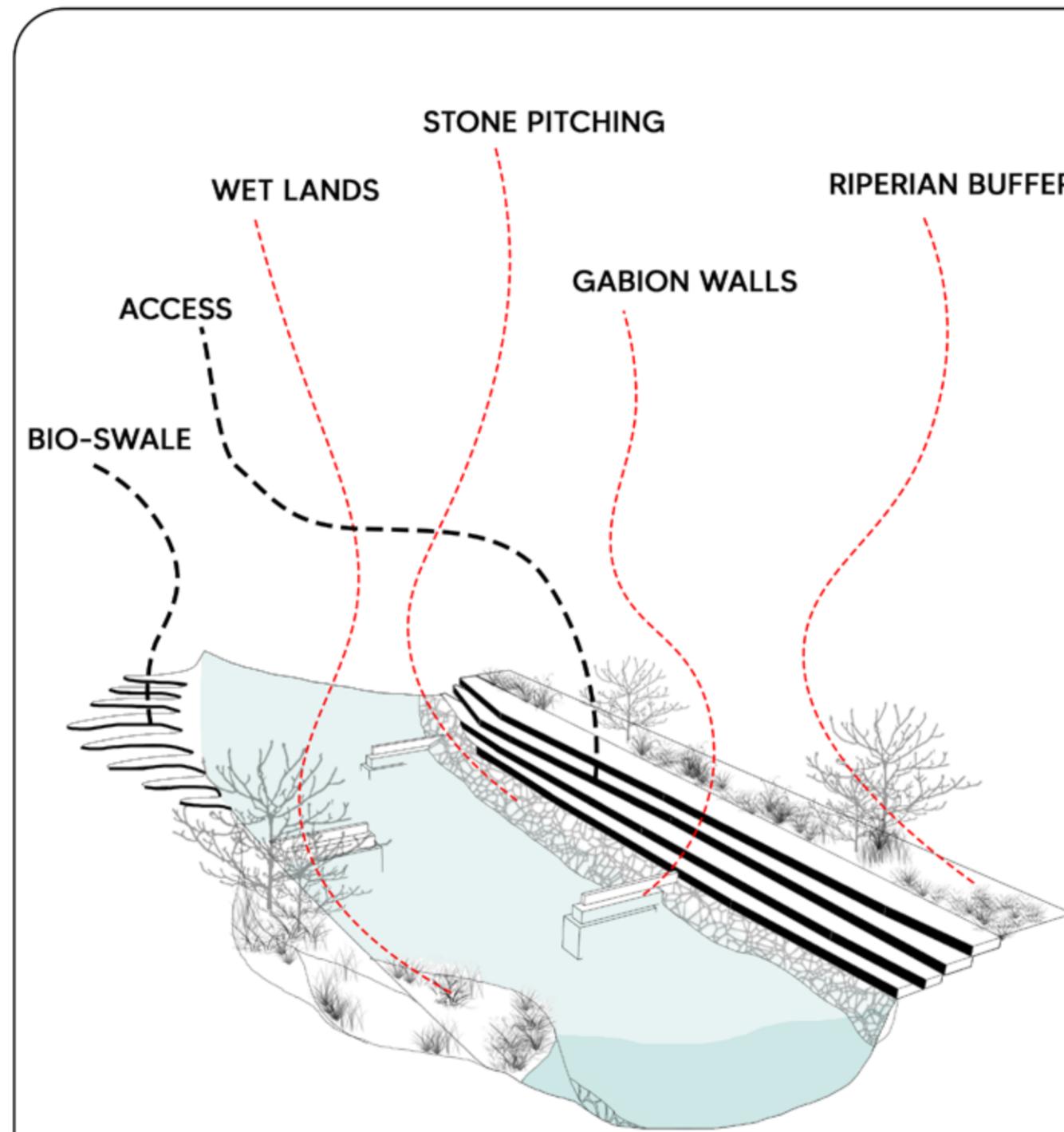
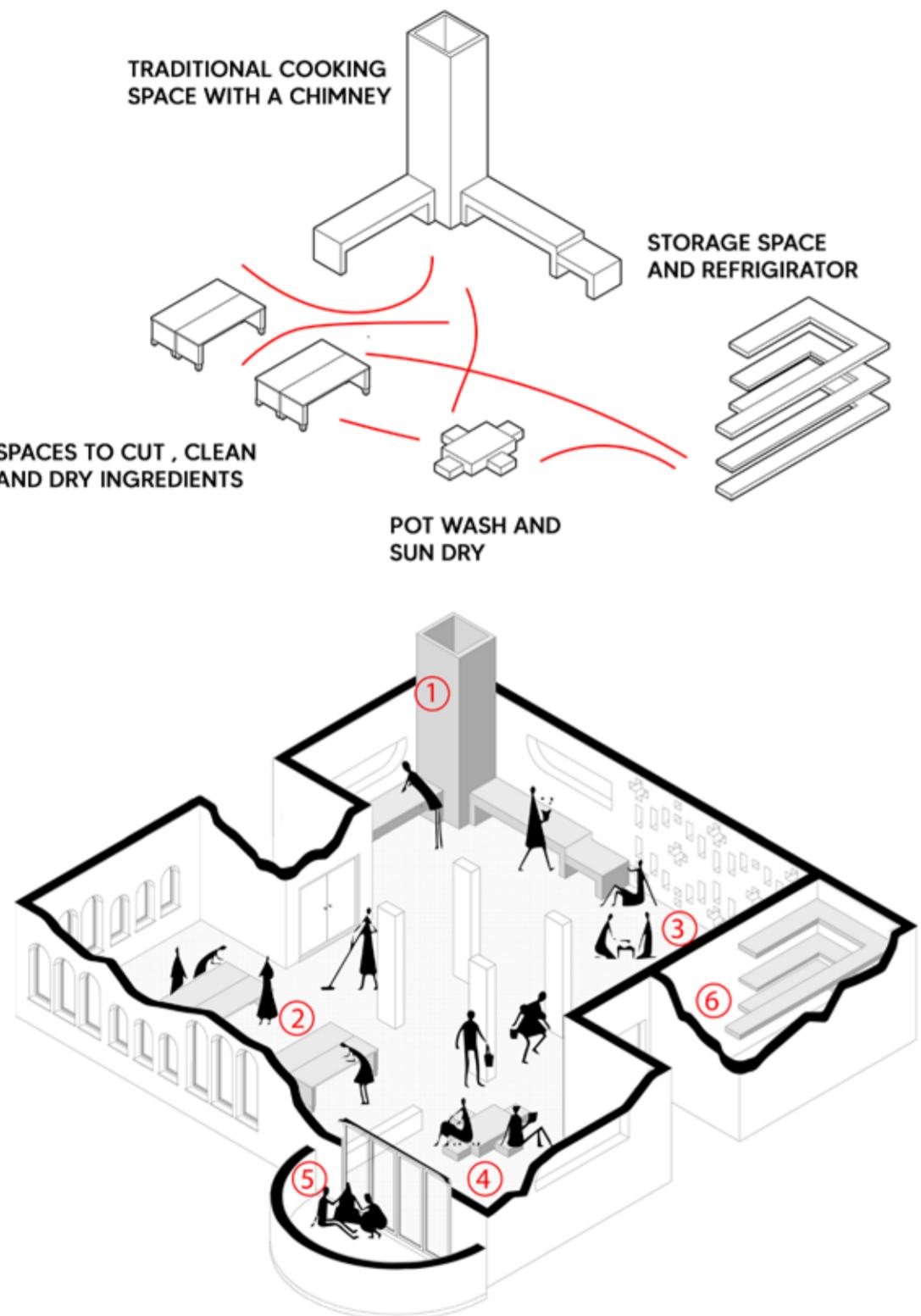
Spaces that impart knowledge about the river, children's friendly spaces like eco parks, to understand the biodiversity, nature walks and cycle tracks along the stretch to have a more inclusive learning for school groups in the vicinity are a few ways to involve the community



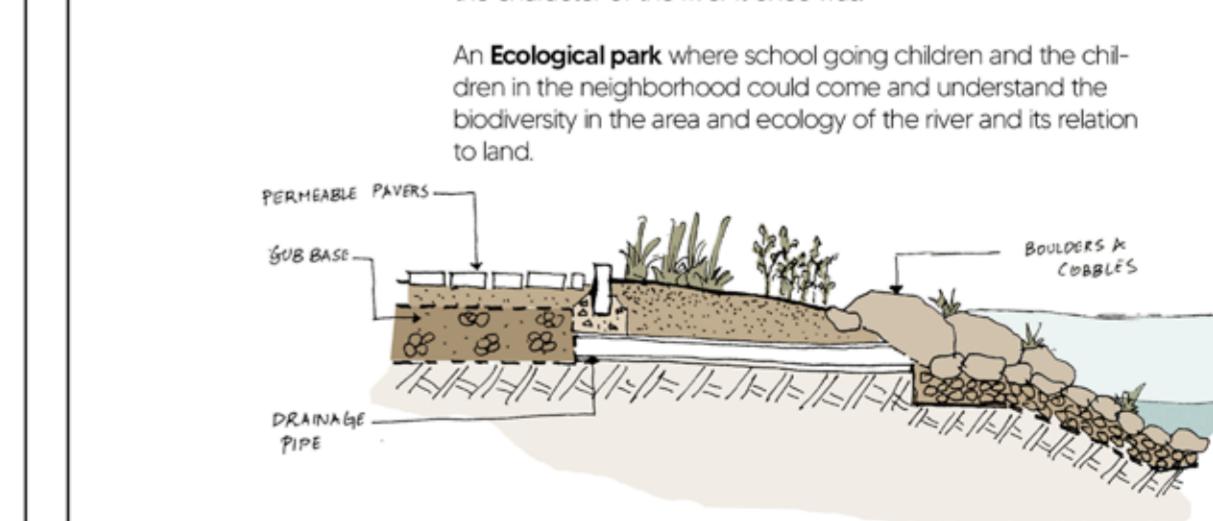
## DESIGN ANALYSIS

On one side, I have presented design solutions on how these buffers can primarily respond to communities and their needs and improve their standard of living and ways for these communities to give back to society by including a more extensive community into their spaces.

On the other side of the track, I have presented design solutions that respond to the larger community through the river. The value of the vrishabavati river has been reduced into people are calling it a drain now. This side of the buffer intends to change this river's meaning and make the people who stay along this start respecting, responding to the river, and restoring the value it once had. Restoring the river's original form and the area's biodiversity are vital things that have been dealt with in this stretch using baffles, constructed wetlands, gabion walls, and riparian buffers.



A riparian forest buffer is an area adjacent to a stream, lake, or wetland that contains a combination of trees, shrubs, and/or other perennial plants and is managed differently from the surrounding landscape, primarily to provide conservation benefits.



**RIPERIAN BUFFER**

A riparian forest buffer is an area adjacent to a stream, lake, or wetland that contains a combination of trees, shrubs, and/or other perennial plants and is managed differently from the surrounding landscape, primarily to provide conservation benefits.





The Government Services Center complex  
as originally planned by Paul Rudolph

# 02THRESHOLD

mending architecture



2023

Boston , Massachusetts  
Academic , Major Project  
First Author  
Guide : Lawrence Cheng - Principle at Bruner/ Cott Architects  
Grasshopper + Rhino + Photoshop

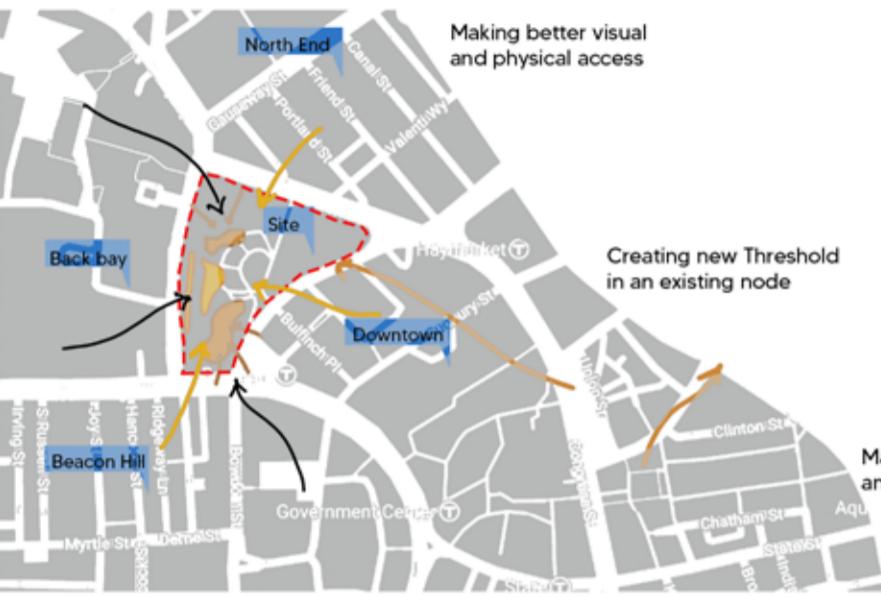
## BACKGROUND

Labelled as Boston's most Ugly building , The Government Center designed by Paul Rudolph was hailed as the symbol of a New Boston when completed in 1971. For the last 50 years, without proper maintenance and system upgrades plus changing programmatic needs, this all-concrete monolith is now considered an eyesore with various proposals for either total demolition or drastic modifications.

The Commonwealth of Massachusetts issued a Request for Proposal in 2022 to redevelop half of the complex with a Preservation Study to guide respondents on the scale of interventions. Using this as the springboard, the studio will explore how best to introduce new massing and density to the complex and to reknit the complex to the surrounding evolving urban landscape.

The function was designed based on the look alike of the building – The hanging gardens of Babylon and the need for a national garden and premier horticultural attraction for local and international visitors, a showpiece of horticulture and garden artistry that presents the plant kingdom in a whole new way. The design is a conceptual approach to the new added functions and to address the effect of this to the immediate context.

"Threshold is where the physical- visual combination of the space abandoned , and the space to be entered is accomplished"



## PROGRAM

The resemblance between the ancient hanging gardens of babylon and the Goverment center led me to my program.

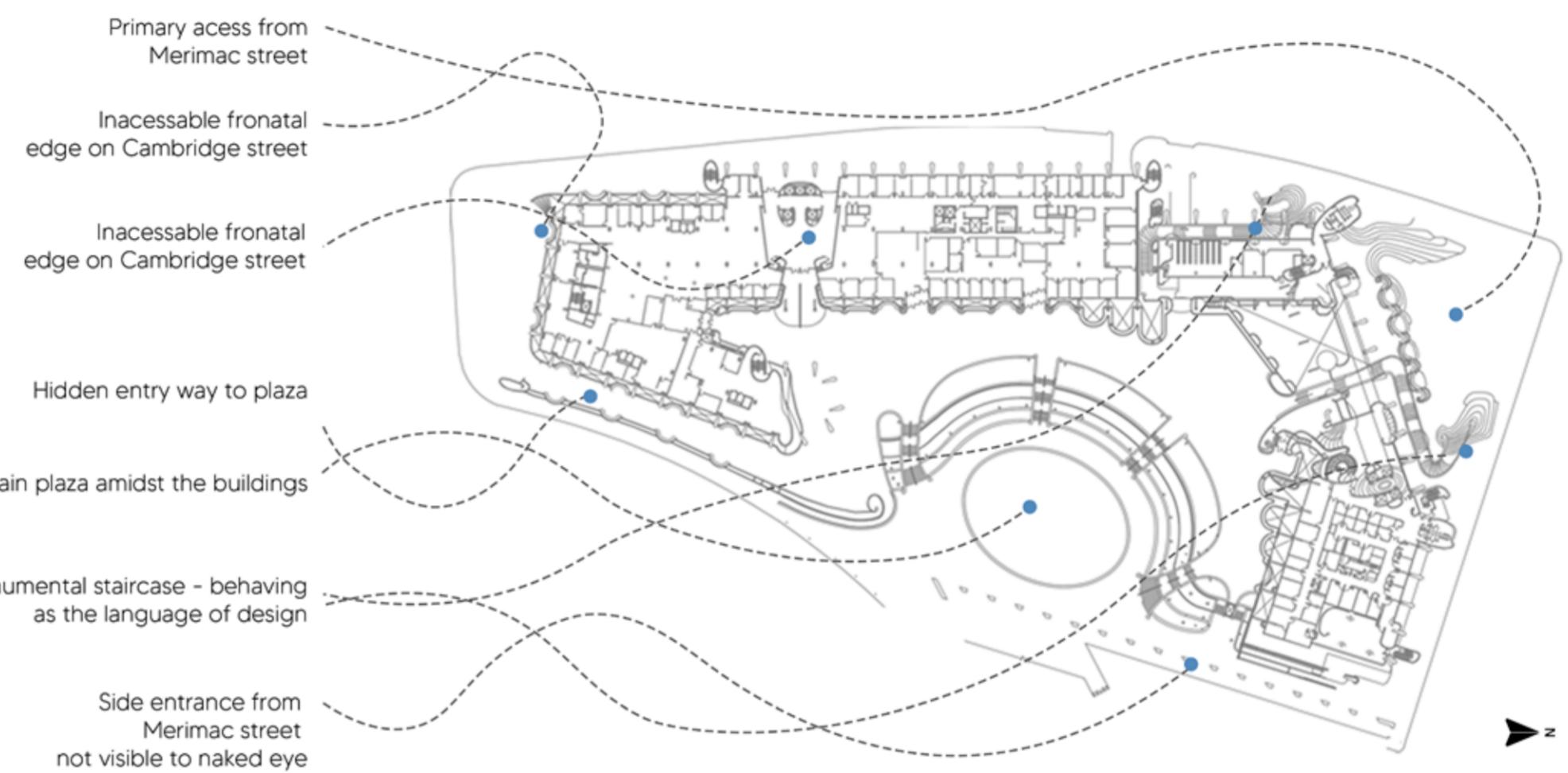
A national garden and premier horticultural attraction for local and international visitors, a showpiece of artistry that presents the plant kingdom in a whole new way, entertaining while educating visitors with plants seldom seen in this part of the world, ranging from species in different climates and habitats.



## LOCATION

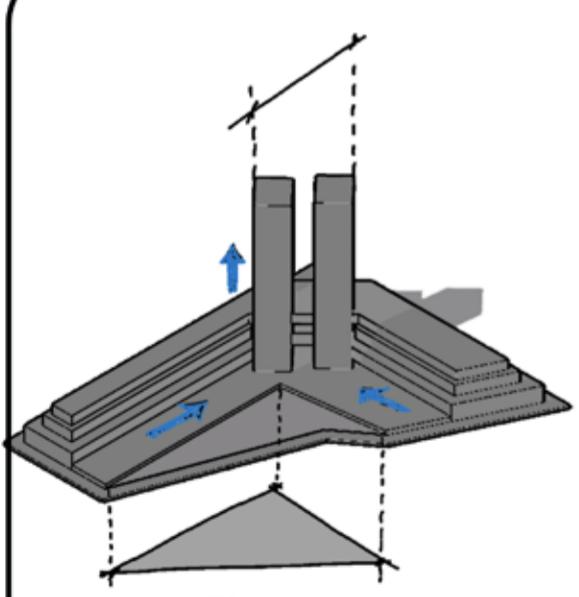
Located in central Boston as a part of Boston's Downtown , the building stands on Cambridge street to its south , Merimac street to its north.Based on initial site observations it lacks the following :

Visible access to existing site and plaza places - Overwhelming concrete columns that stand alone in this context - Large scale with respect to human anthropology - Hence seeming to be an intimidation build form-

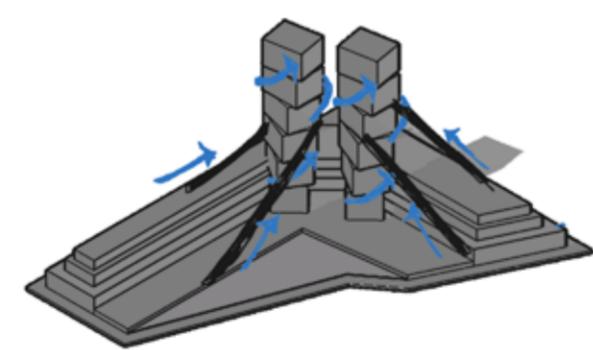


BEFORE

## DESIGN COGITATION

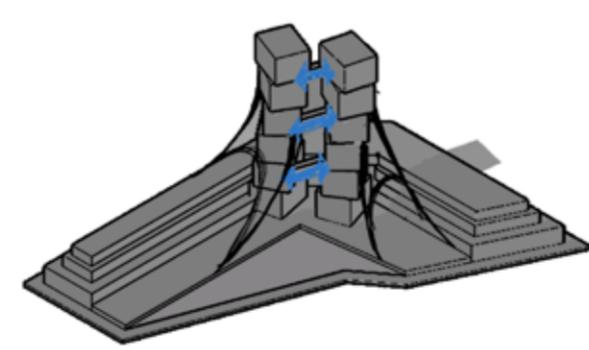


Pushed to the corner for a larger and more open landscape and gathering area.

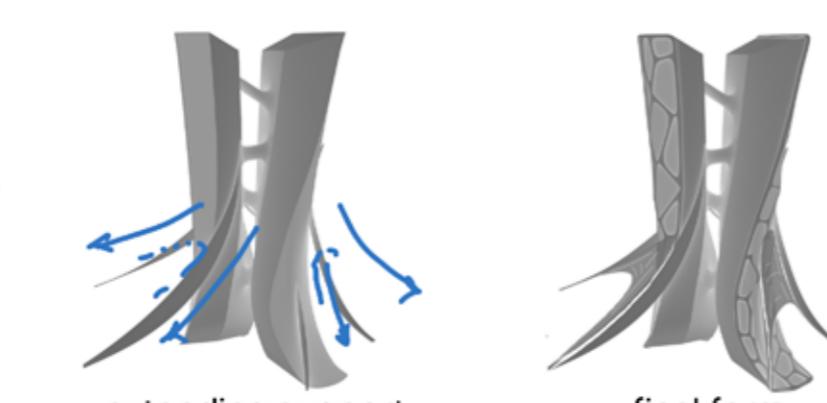
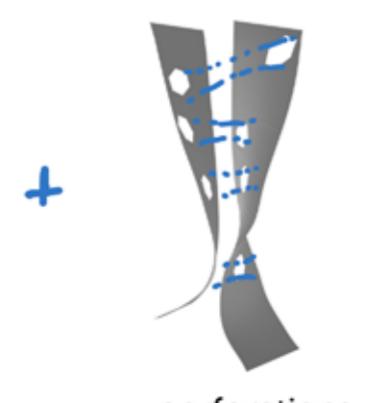
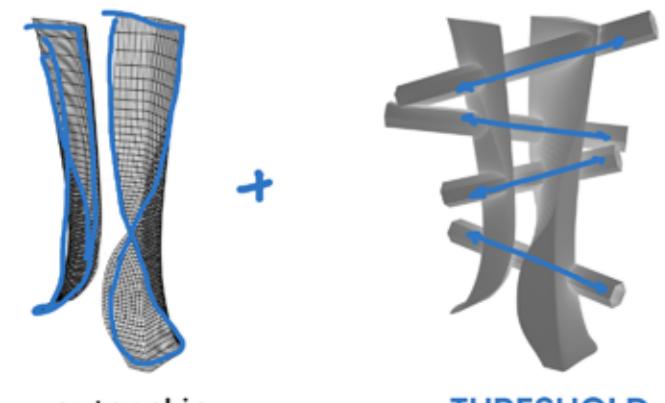


**Twisted tower** to create **THRESHOLD** space inbetween and roots to grab the existing building that act as roots

## FORM DEVELOPMENT



**Final Form** by establishing **THRESHOLD** spaces and connecting the two towers together.



## AFTER

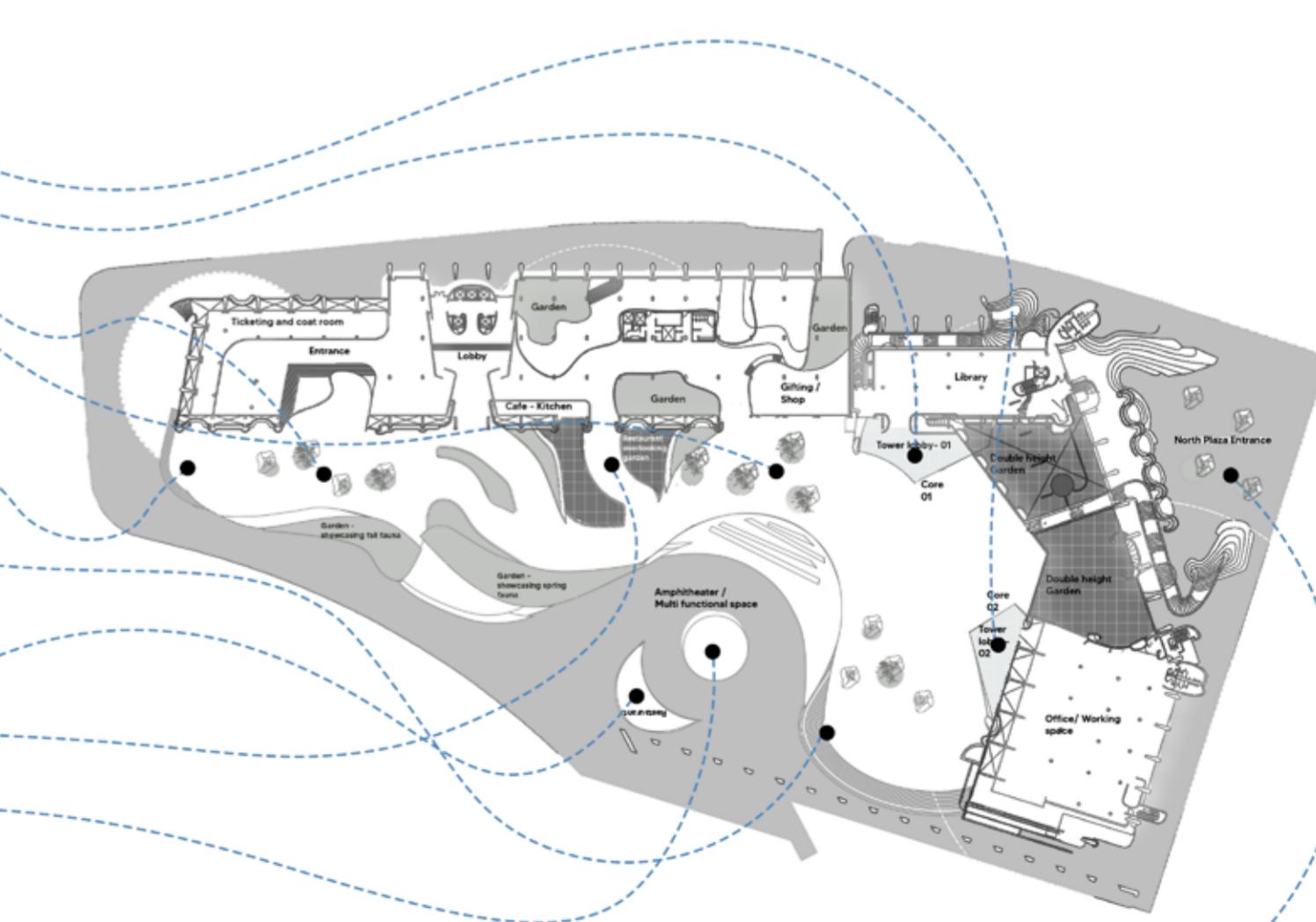
**ADDING CORE**  
Providing access to the towers from the plaza levels such that it behaves as a **THRESHOLD**

**OUTDOOR GARDENS**  
Having spaces that merge the difference between the interior and exterior to create **THRESHOLD**s

**VISIBILITY AND ACCESS**  
Better visibility and access makes the edge condition better, hence attracting more crowd to the **THRESHOLD**

**OUTDOOR PUBLIC SPACE**  
Providing additional functions in the outdoor such that it encourages people to walk into or through the site using it as a **THRESHOLD**

**INVITING EDGE CONDITIONS**  
Improving the boundary on the northern side to have more stalls and urban placemaking elements that will invite people to access the **THRESHOLD**

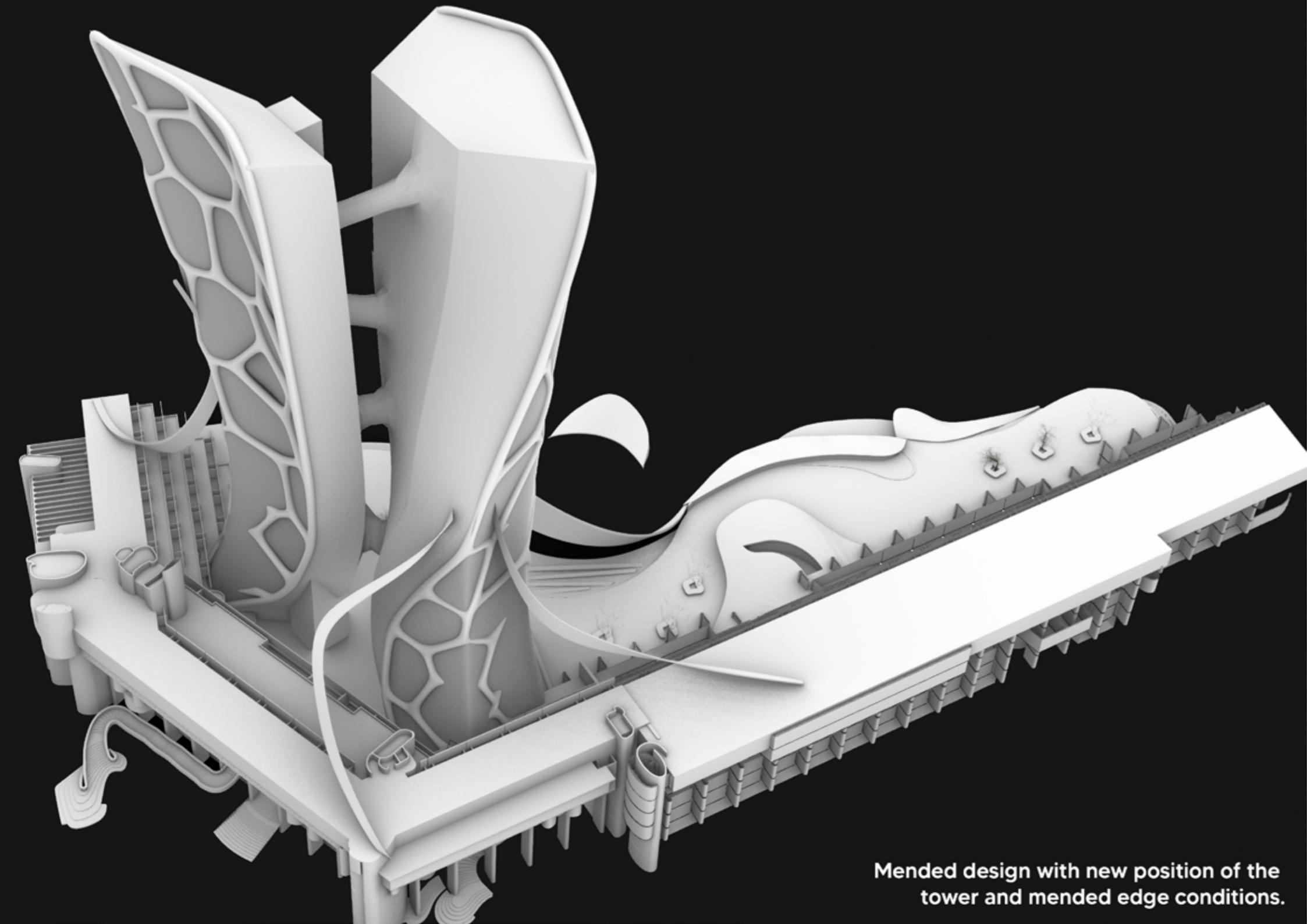


z

In the form and fabric of architecture, spaces are defined by the varied physical elements although the essentiality of space is not limited to them, and defined by the non-physical components.

**THRESHOLD** spaces reflect a fine blend of physicality as an extension of cultural appropriations and configurations. The spatiality features explicit zones of change controlled by certain motions and exercises occur.

Drawing inspiration from a tree that holds on to concrete with its roots representing how the tower will be placed on top of the existing buildings. The form of twisting derived from two trees that grow together to be built as one singular form leaving space for **THRESHOLD** inbetween.

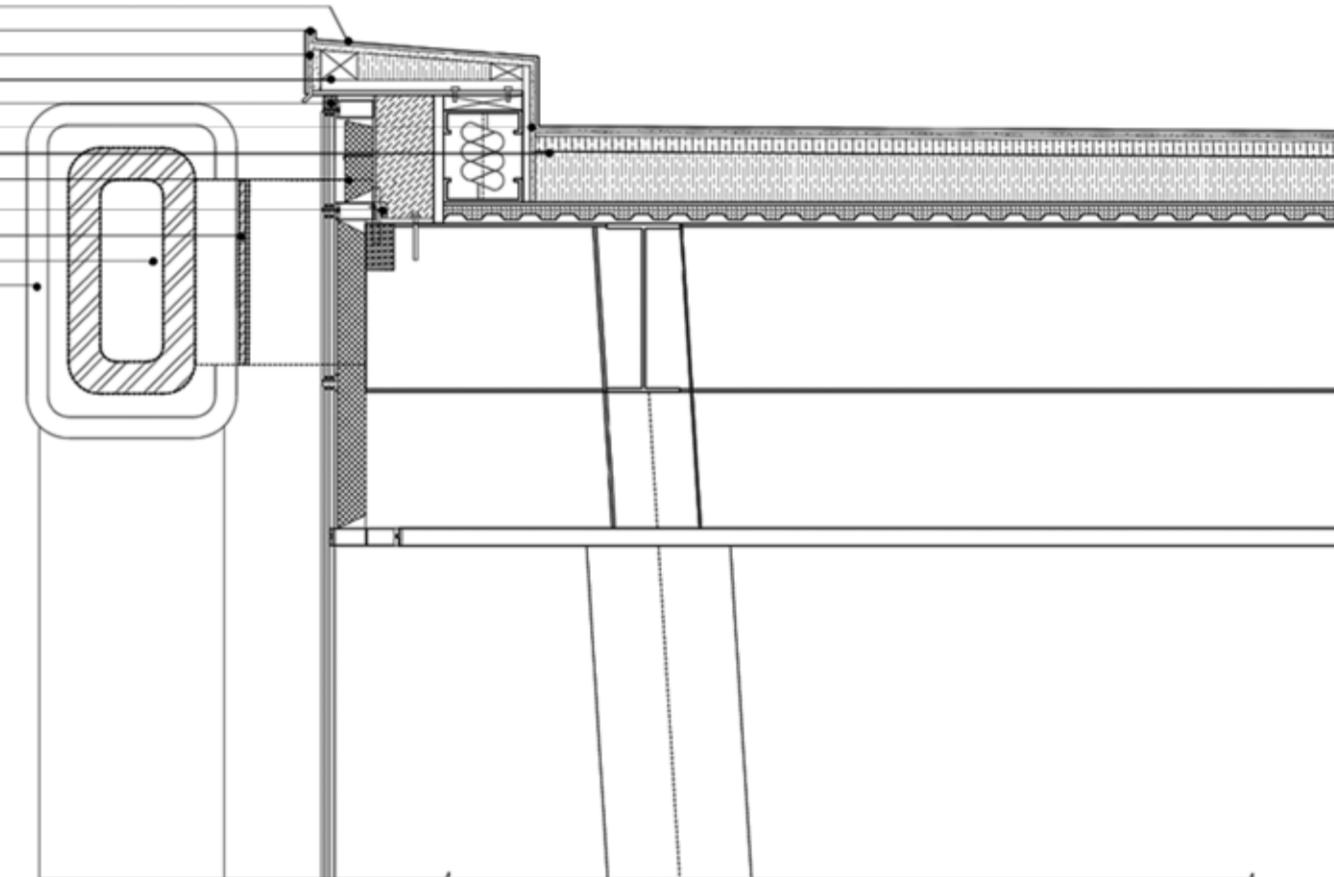


Mended design with new position of the tower and mended edge conditions.

This wall section detail represents the joinery between the curtain wall and the exoskeleton of the tower. The exoskeleton of the tower has a fire and smoke seal within it, which is then attached to a vertical mullion joinery detail that is welded into I-Beam that behaves as the structural system of the tower. This curtain wall is designed as a pre-fabricated piece, which will be interconnected to each other and fixed with an aluminium hinge to the curtain wall.

SCALE : 1'0" = 1/2"

Rubber sheathing on flashing  
EPDM Membrane  
Metal flashing on top of the parapet  
Single LVL  
Sealant  
Treated Ply Wood  
Fabric Insulation  
Mineral Wool Insulation  
Aluminium Hinge  
Thermal Break  
Exo skeleton structure  
Exo skeleton cladding



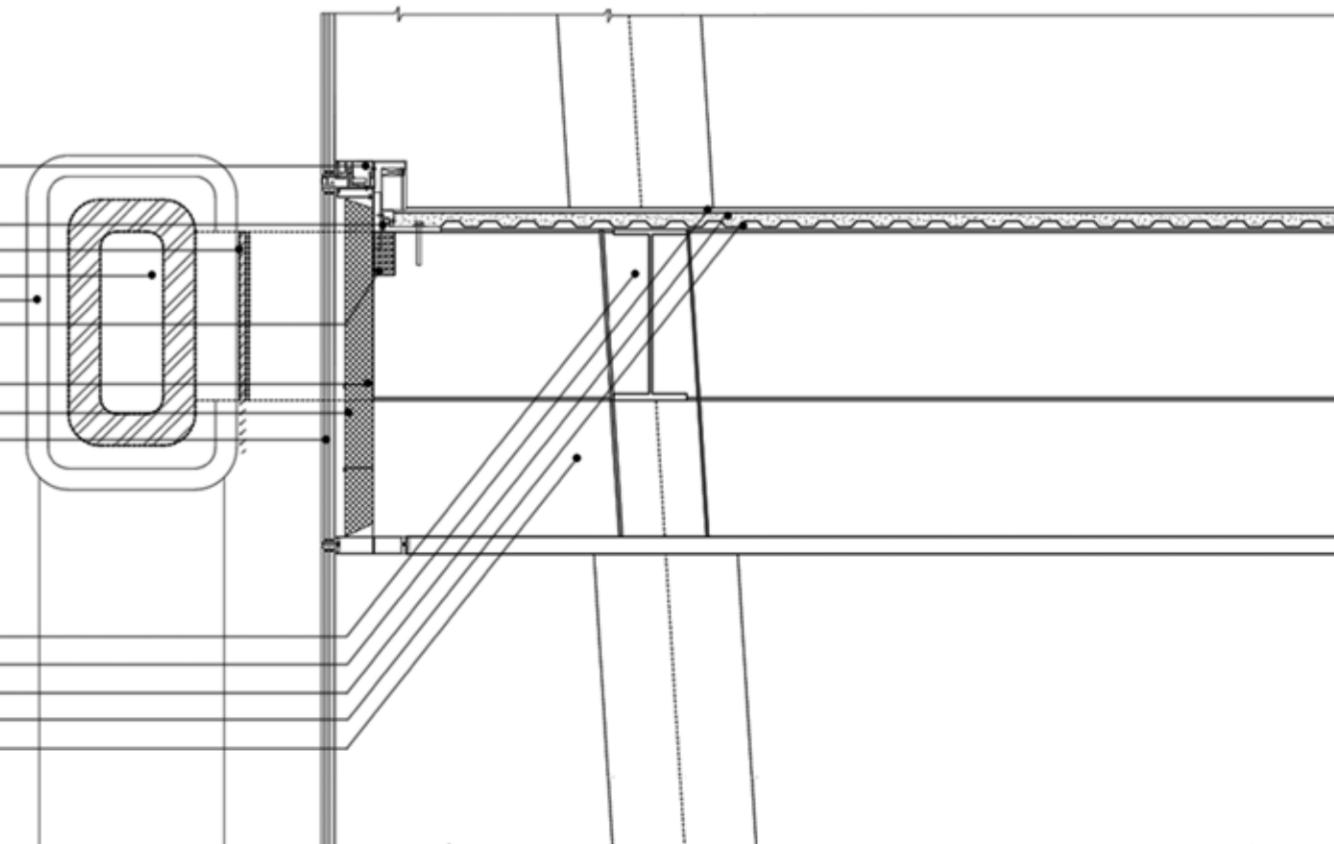
Vertical Mullion Joinary

Aluminium Hinge

Exo skeleton structure  
Exo skeleton cladding  
Firesafe and Smokesafe

Weld Pins  
Mineral Wool Insulation  
Triple glaze- Vision Glass

I- Beam  
Finished Floor  
Concrete Floor  
Metal deck  
Dropped Celing



Wall section joinery detail between glass curtain wall and exo-skeleton system of the tower building.

# 03UN-NAMABLE

liminality and voids in architecture

space

space

**2024***Boston , Massachusetts**Research , Thesis**First Author**Guides: Lawrence Cheng ( Bruner Cott & Associates - Principal )**Micheal Grove ( Sasaki - Principal )**Revit + Photoshop + Illustrator*

space

**BACKGROUND**

space

This thesis aims to study the growth of urban fabric in a city that has led to the creation of certain spaces which are ill-defined and hence labelled as an unnamable space. Urban fabric is naturally developed overtime as designers concentrate on aspects such as trasnportaion , population growth and land use. This sometimes leads to abandoned land which is underutilised though some might have potential to be woven into the urban fabric and generate quality life style that goes beyond one's home and workspace.

Viewing this phenomenon of unnamed spaces as an opportunity of design but also has the underlying capacity to improve the urban fabric in other ways like connecting communities , creating jobs, better pedestrian experience , evading lack of safety, etc. Considering a unnamable space in Boston as the urban fabric to demonstrate this thesis and successfully designing spaces that add to the further growth of the surroundings.

This thesis is still in its research phase with design intents and will be completed by the end of my course. The below date represents the research phase with certain conclusions that has led to program formation at its initial stage,

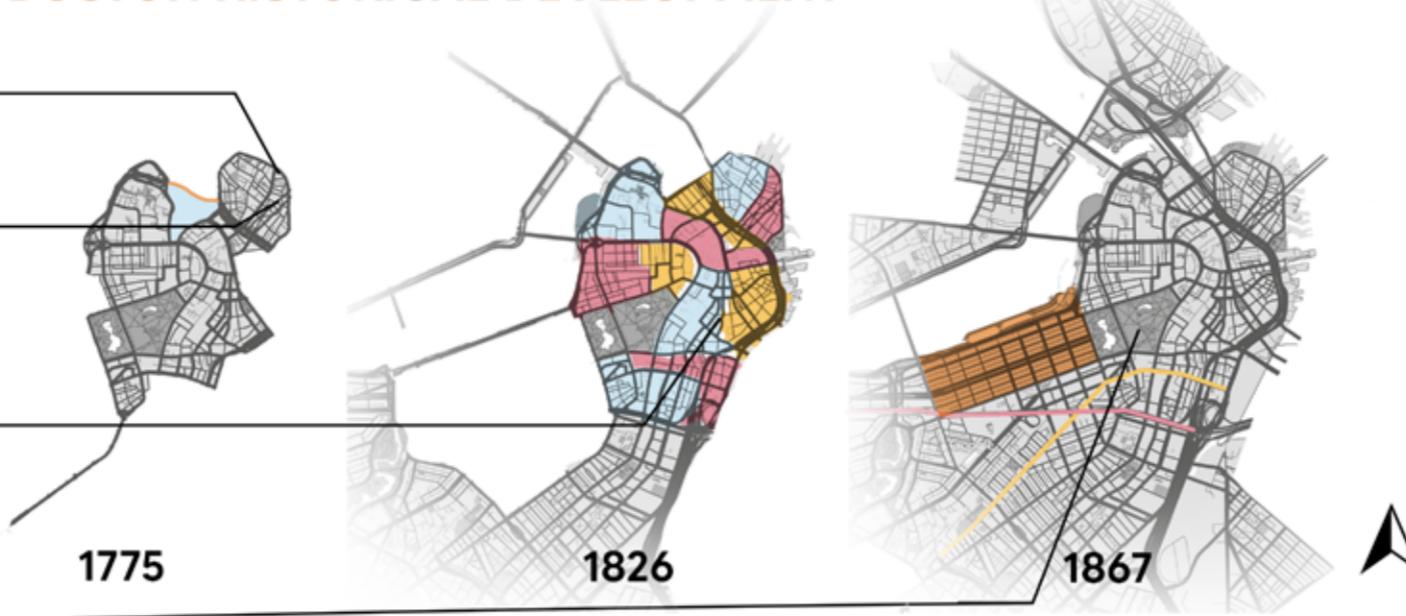
Boston was established in 1630 on a relatively small piece of land-called Shawmut by Native Americans—that was connected to the mainland by a narrow neck.

A map of Boston in 1775 shows the dam that closed off Mill Pond, which was later filled in to make new land.

In 1826, Boston's Back Bay had been dammed off but not yet filled in. The area that became today's Back Bay neighborhood is marked "Receiving Basin"

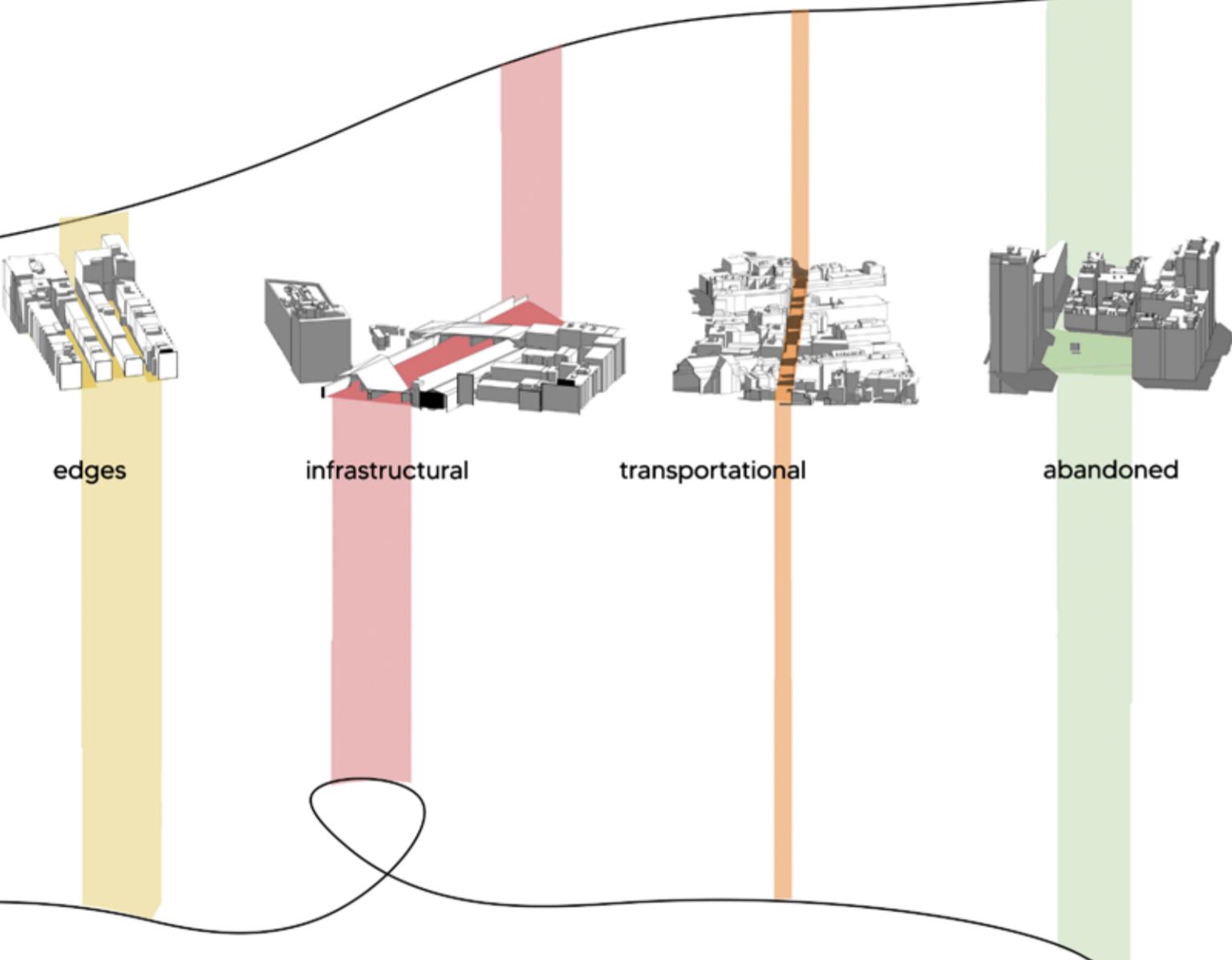
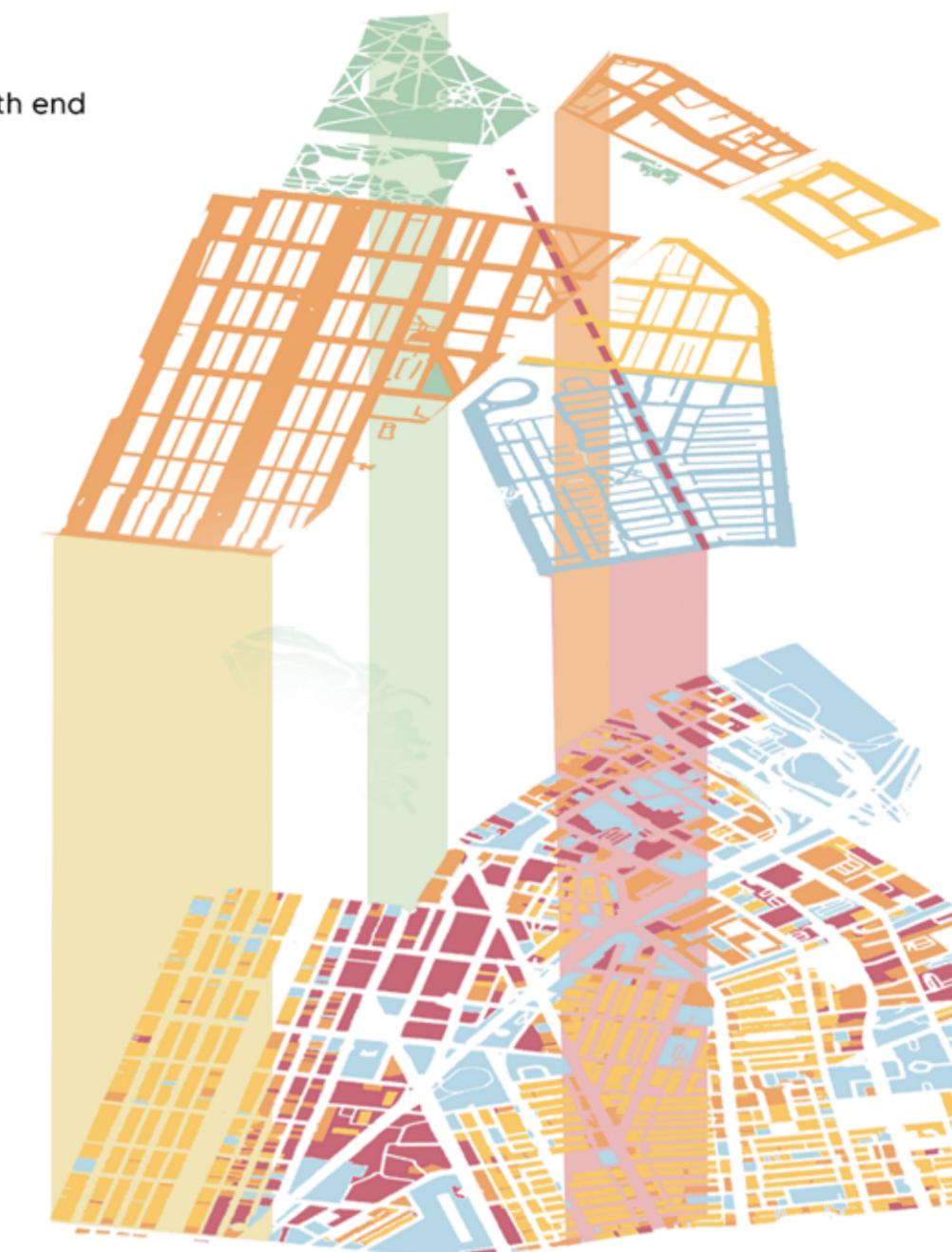
Boston's Back Bay has been partially filled in the 1867. The railroad lines that further partitioned it can be seen crisscrossing the bay on the map.

## BOSTON HISTORICAL DEVELOPMENT



## CONTEXT

- Back Bay Grid
- Back Bay Grid into South end
- Boston Common
- South end clashing
- Turnpike



## the unnamable

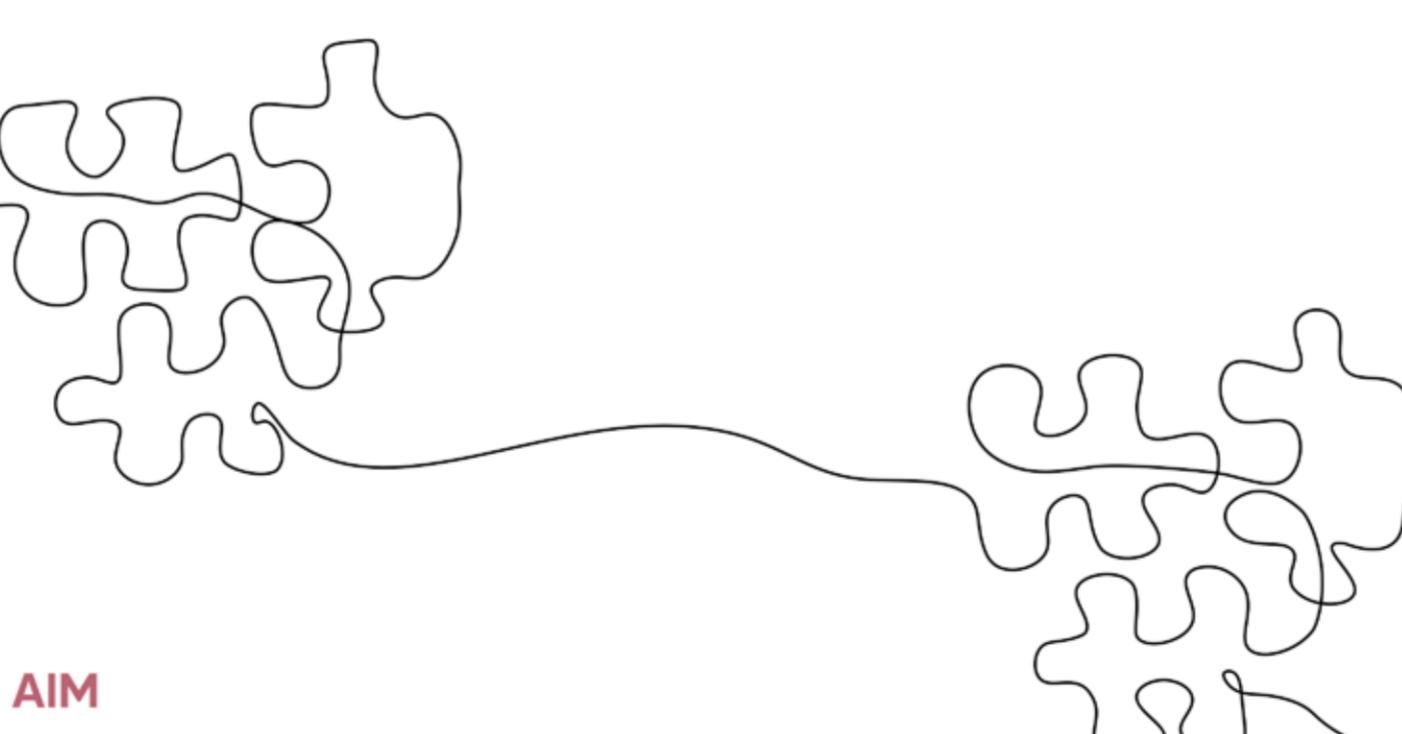
as an architecture student in-between leftover spaces or inadequately designed spaces have always intruiged me , made me curious to explore and expand the potential of such spaces with design techniques such as placemaking and social revitalization strategies.

The availability of diverse vocabulary to describe essentially the same idea, that is of an urban void might make it difficult to comprehend any such space synthetically.

### SITE

To create a link between the two communities on the two ends of the void. Provide facilities that are lacking in the context Based on understanding the demographic profiles, people who work around, visitos etc and make it a more pedestrian experience.

Understanding the creation of these voids and the role they play in the urban fabric is an important step before finalising the site and the program. Hence the study of History of Boston and the context , landuse and neighborhood studies behave as guides to design.



## AIM

The aim of this thesis is to **GIVE IDENTITY**. It aims to devise innovative ways to unearth the potential of un-named spaces to contribute to the public realm of the city and as a result improve the quality of life in certain aspects based on the context , requirements and the wants vs the needs of the people.

## METHODOLOGY

The path to achieve this includes the study of the site , its history , its development over time , the analysis of the people , the infrastructure , the user groups , the landuse pattern, the scope and need for development.

Another crucial part is the study of such abandoned liminal spaces and how they were transformed to add more value to their surroundings.

## LANDUSE

- Residences
- Apartments
- Industrial
- Commercial

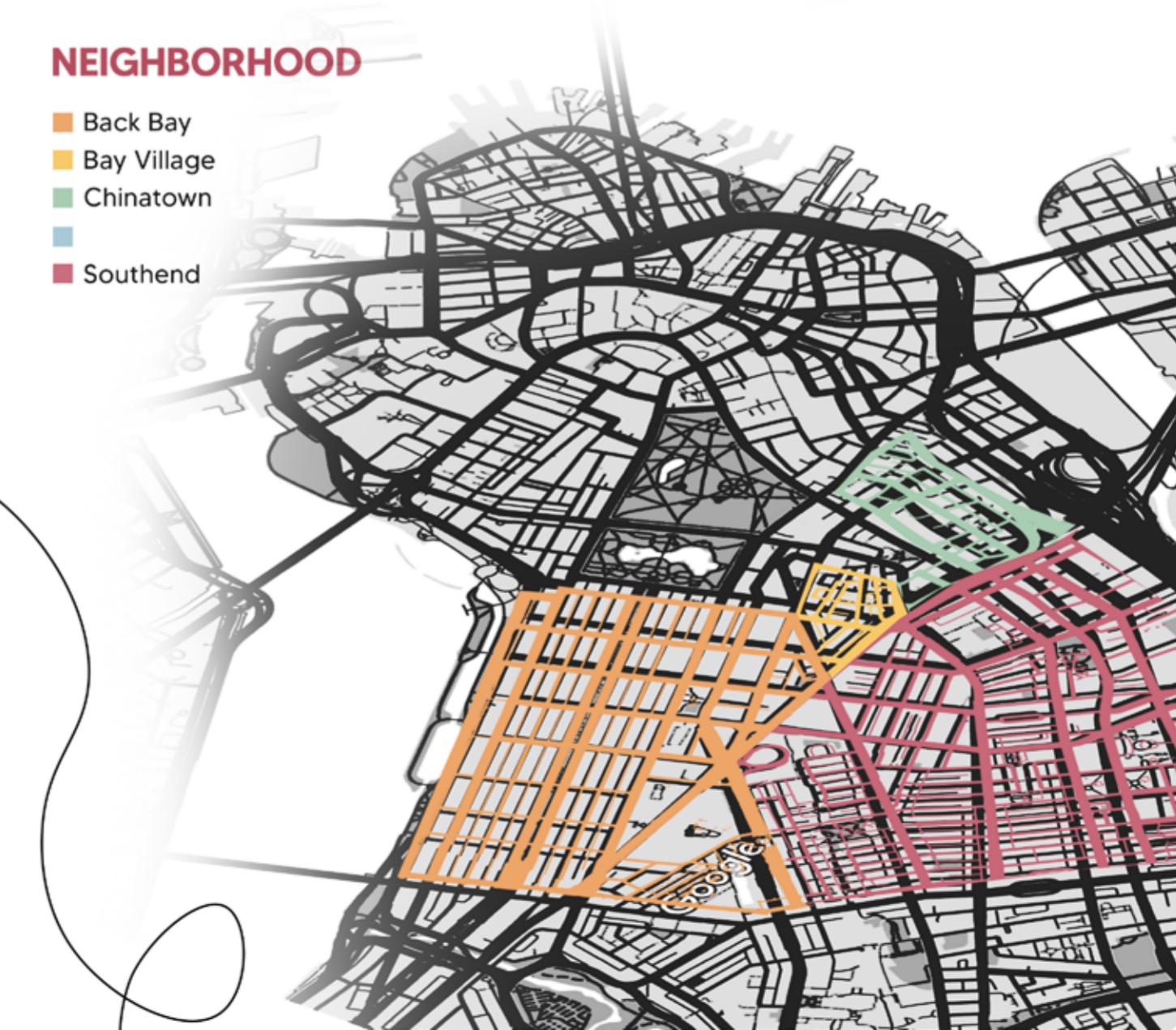


The streets of the Back Bay – Arlington, Berkeley, Clarendon and Dartmouth – connect directly across the Turnpike to the South End and re-create a portion of the Back Bay grid in the South End. Pedestrian traffic between these districts is particularly heavy on Dartmouth and Clarendon Streets, where the entrances to the Back Bay/South End Station are located.

Columbus Avenue slices diagonally across the grid of streets. Its width suggests the need for sidewalks more generous than the prevailing 12-foot-wide sidewalks

## NEIGHBORHOOD

- Back Bay
- Bay Village
- Chinatown
- Southend



## USER GROUP

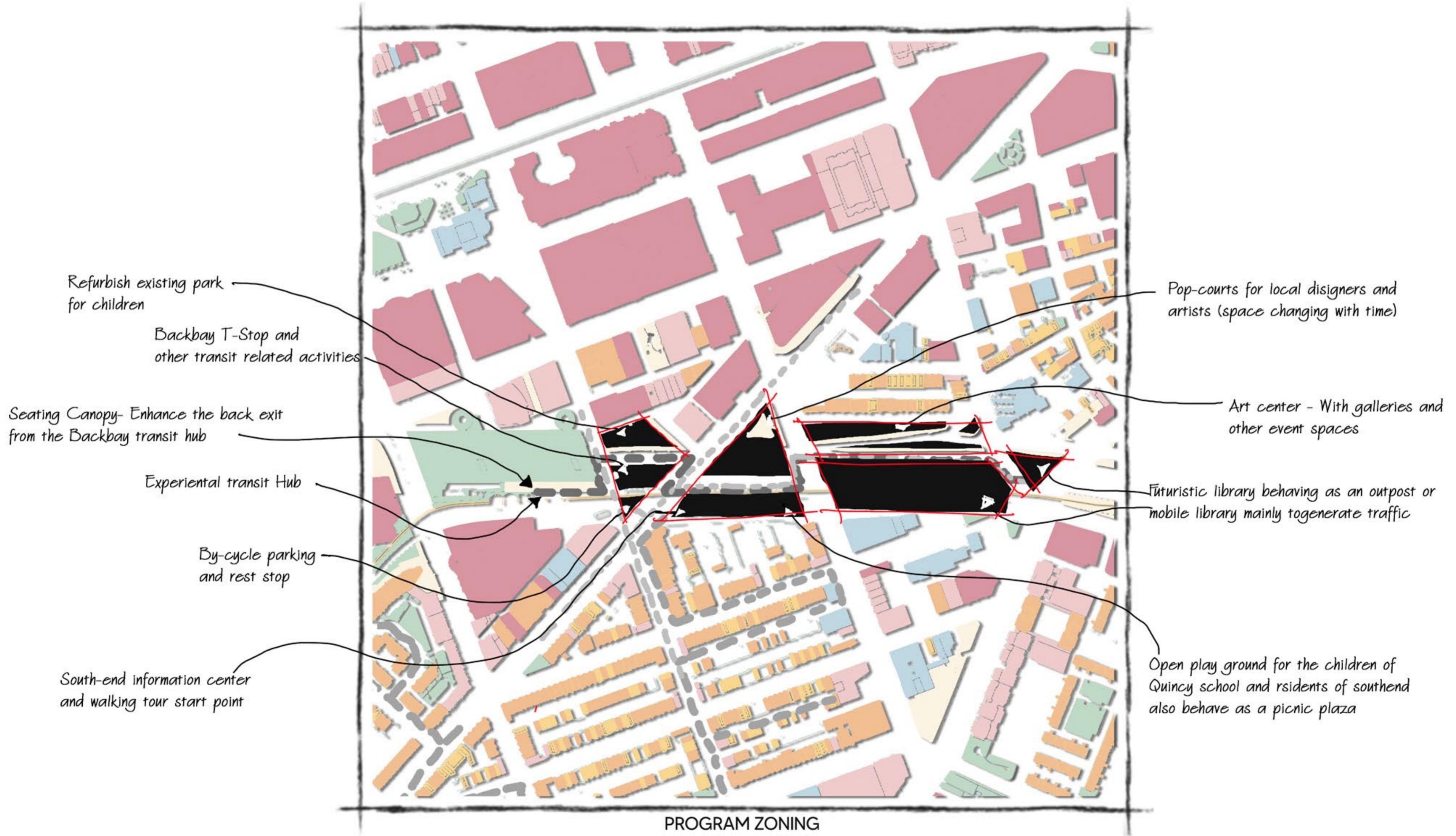
- Office Workers
- High School children
- Boston Common
- Transport commutes
- Tourist

## AGE GROUP

- 5<10
- 10<15
- 15<25
- 25<35
- 40+

## TRANSPORT

- Pedestrians
- T- users
- Four Wheeler
- Bi-cycle

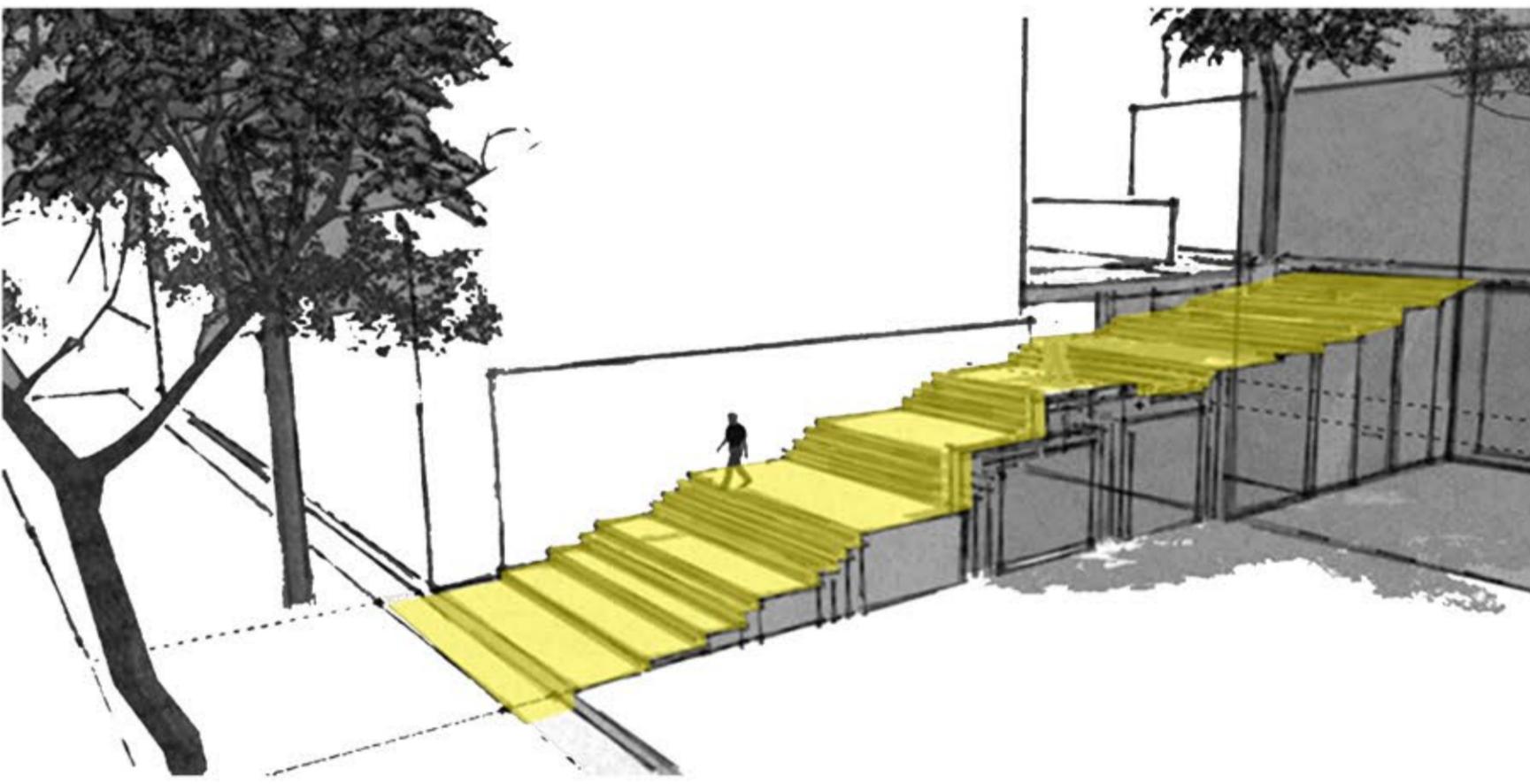


# SKEIN

" Your life is made of distant springs and falls, a straight route is not what you own for hurricanes and storms divert your path to new horizons."



## 04SKEIN urban insert



2018

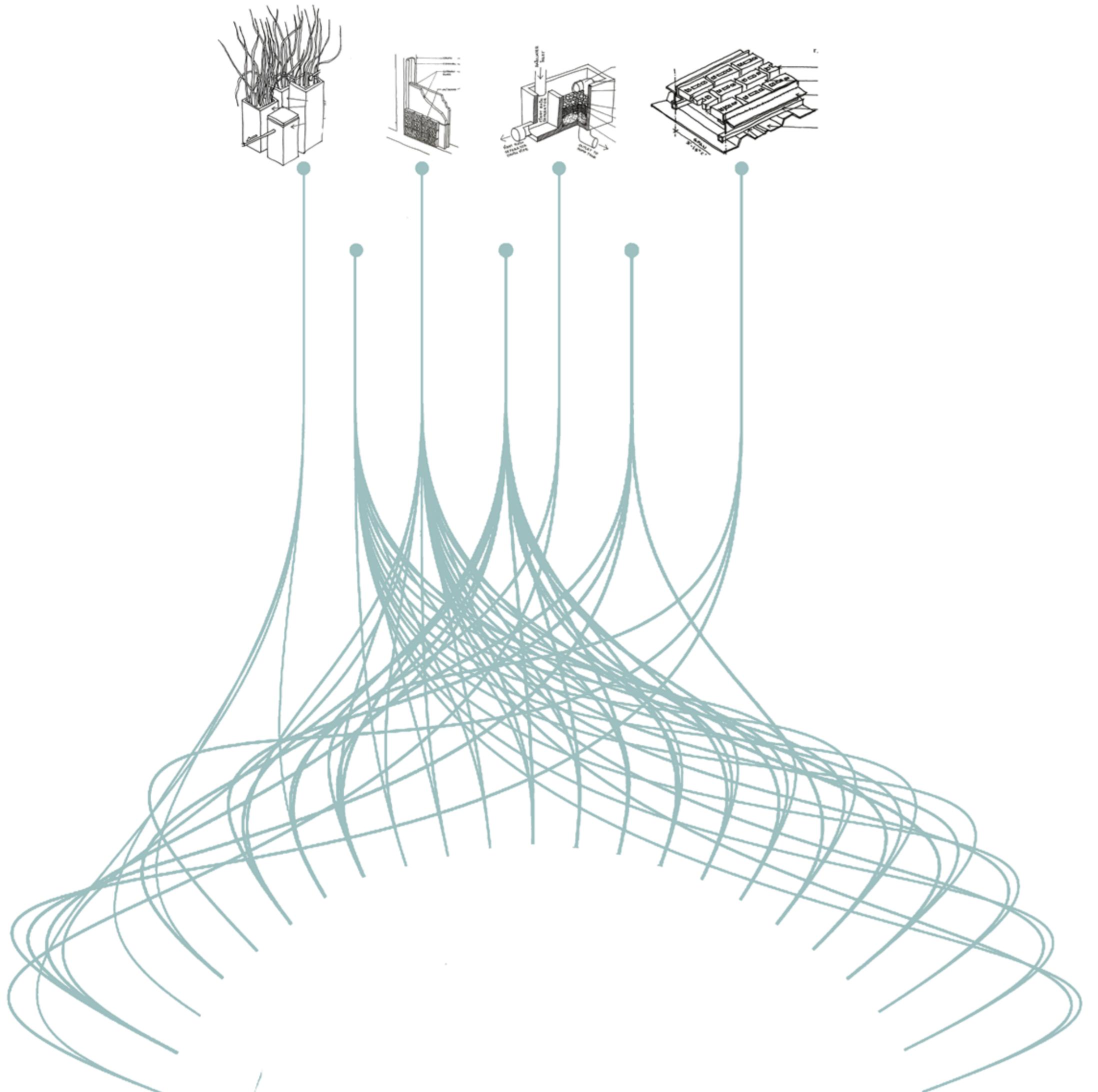
Banglore , India  
Competition , National  
Top 11 , Nationally  
Sketchup + Photoshop

### BACKGROUND

A Liminal space is considered a location that is a transition between two other points or states of being and is often abandoned or overlooked. The design program intends to explore, identify, and reinterpret liminal spaces in the respective context with a vision to inform society. They are spaces that are neither here nor there,i.e., do not belong to any category or reference point.

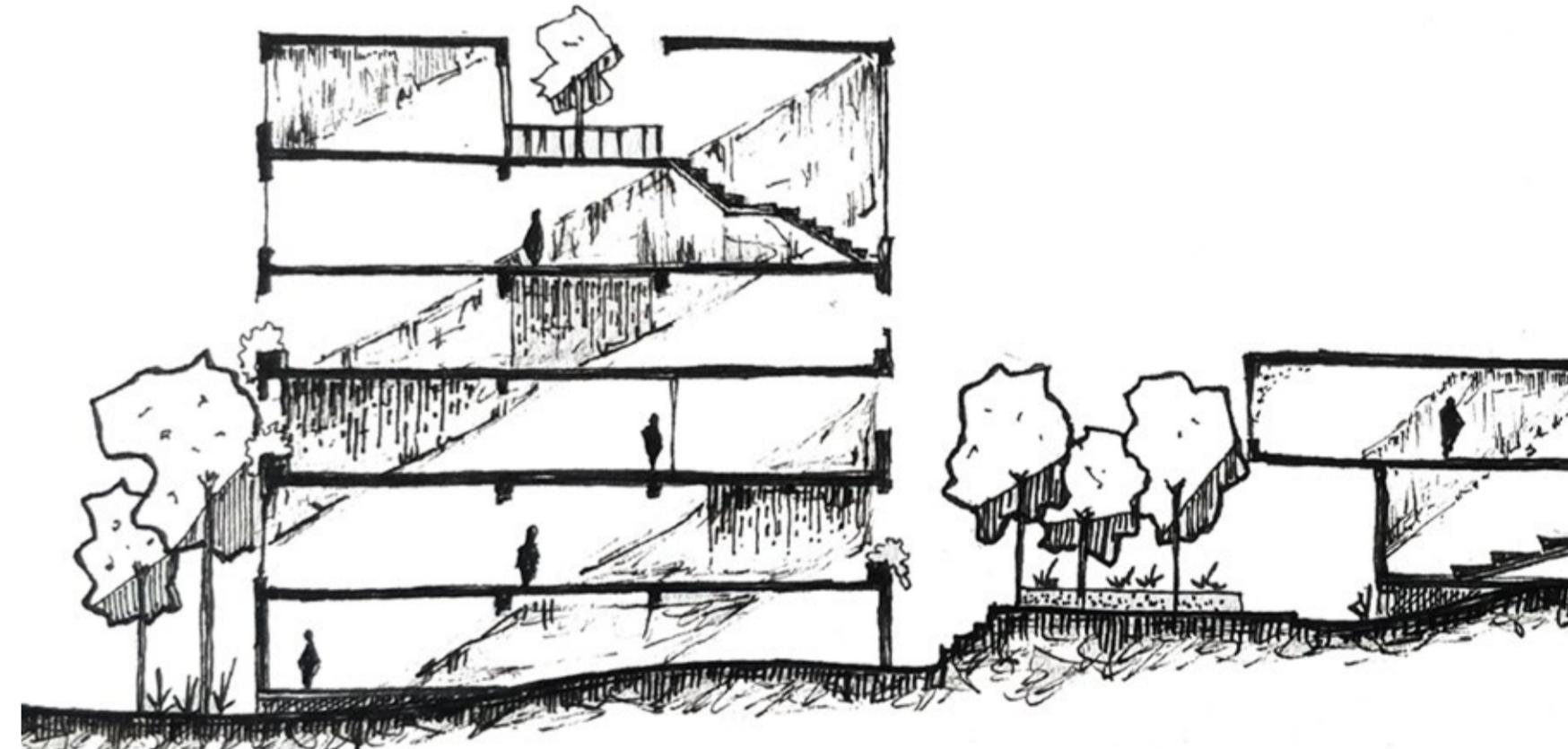
These are the spaces that are traversed the most but, unfortunately, have been the ones that are neglected as well. This design revolves around making the transition space more enjoyable, adding to the journey, and creating a pause point that makes it identifiable.

This stairway is located in Rajajinagar, Bengaluru, which is dilapidated. Being a place-making element to clean and improve the condition will not be sufficient, so adding seater boxes and shade will act as a pleasant retreat. Being adjacent to a school was an advantage, making this design all-inclusive irrespective of age.



## 05 PRACTICE

Biome Environmental Solutions Pvt. Ltd & The Fifth Studio



**2022 - current**

*Individual work is presented*

**Biome | Professional , Internship during Undergrad | Jan22' - Dec 22' | Revit + Autocadd**

Biome Environmental Solutions is a Bangalore-based design firm focused on ecology, architecture, and water. The office's diverse team includes designers, architects, civil and mechanical engineers, and urban planners from various parts of India and abroad. Design is a highly personal process; hence, they emphasize client interactions to ensure the final project incorporates the vision of sustainability with the client's aspirations for aesthetics, functionality, durability, and budget.

The work's ecologically and socially sensitive nature and commitment to spreading sustainable living practices far and wide have led to the firm's involvement in many nonprofit projects to benefit the natural environment and disadvantaged populations.

Worked closely with the design team on various project types like Tourism Village Home stays, Gated Communities, Hospitals, Residences, gaining hands-on experience. Acquired valuable insights into the firm's renowned ecological practices and construction methodologies. Made several site visits understanding how ecological design strategies are implemented from concept to reality.

**The Fifth Studio | Freelancing projects as a building Architect | Jan 23' - current | Sketchup + Revit + Autocadd**

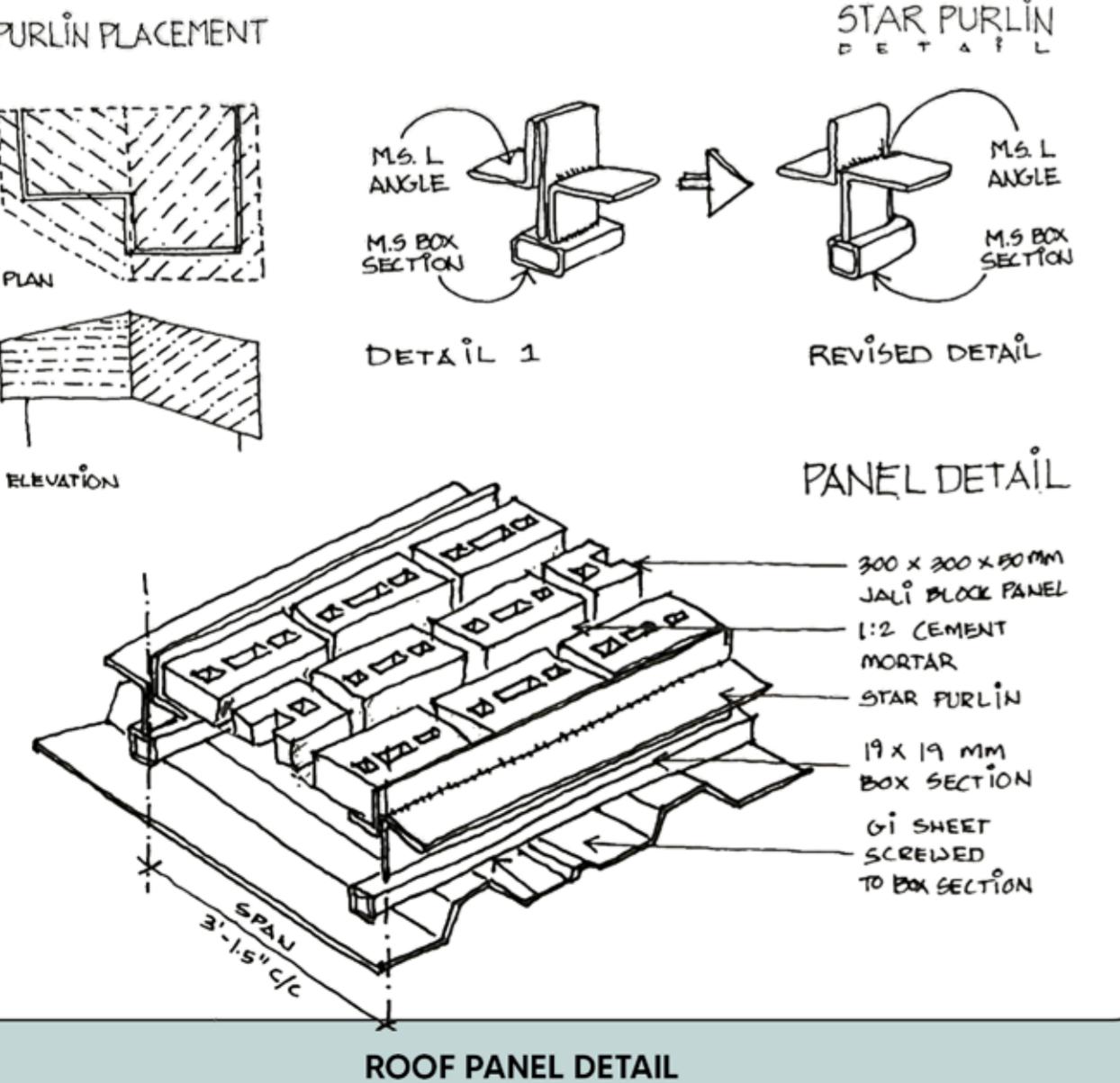
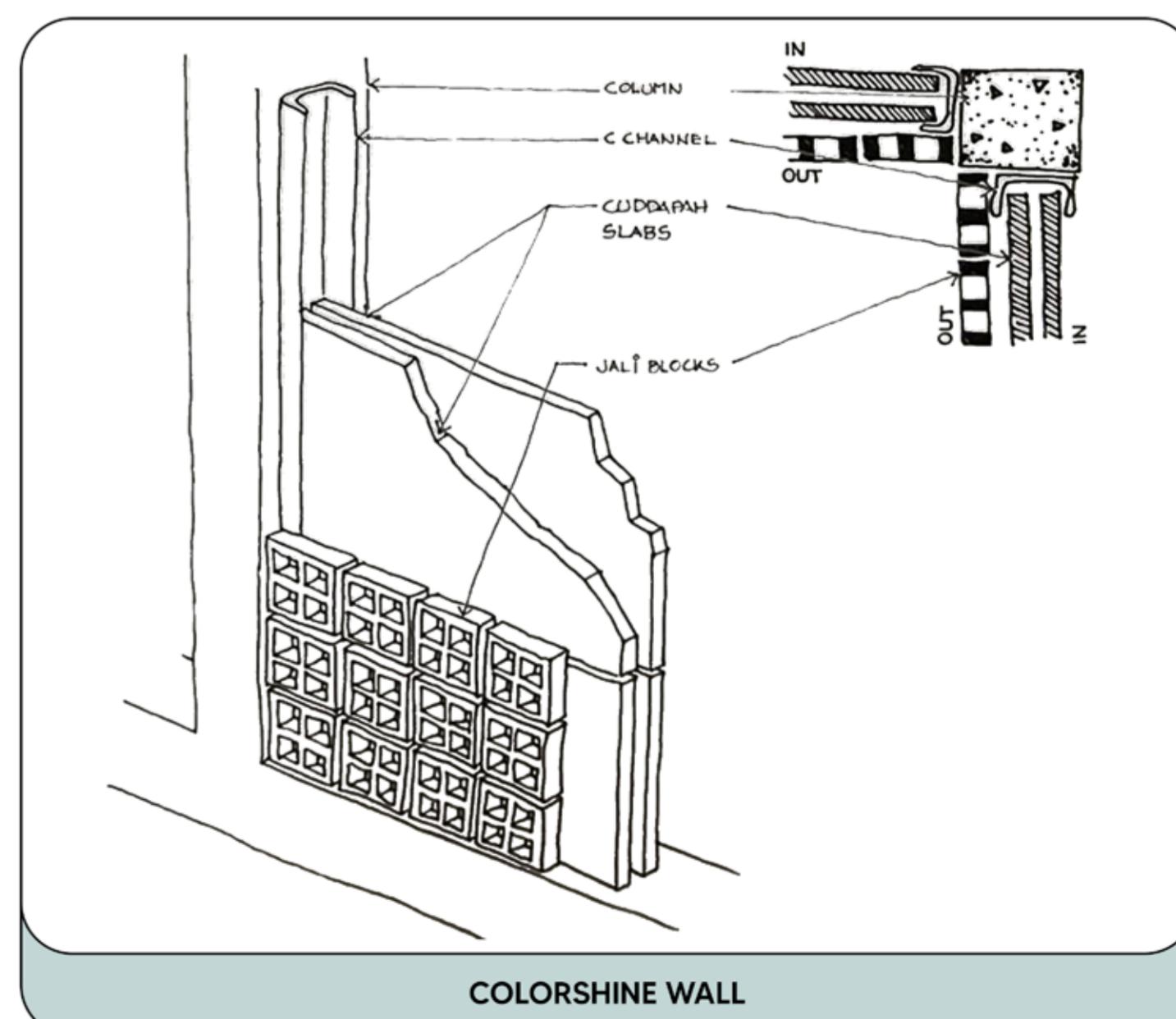
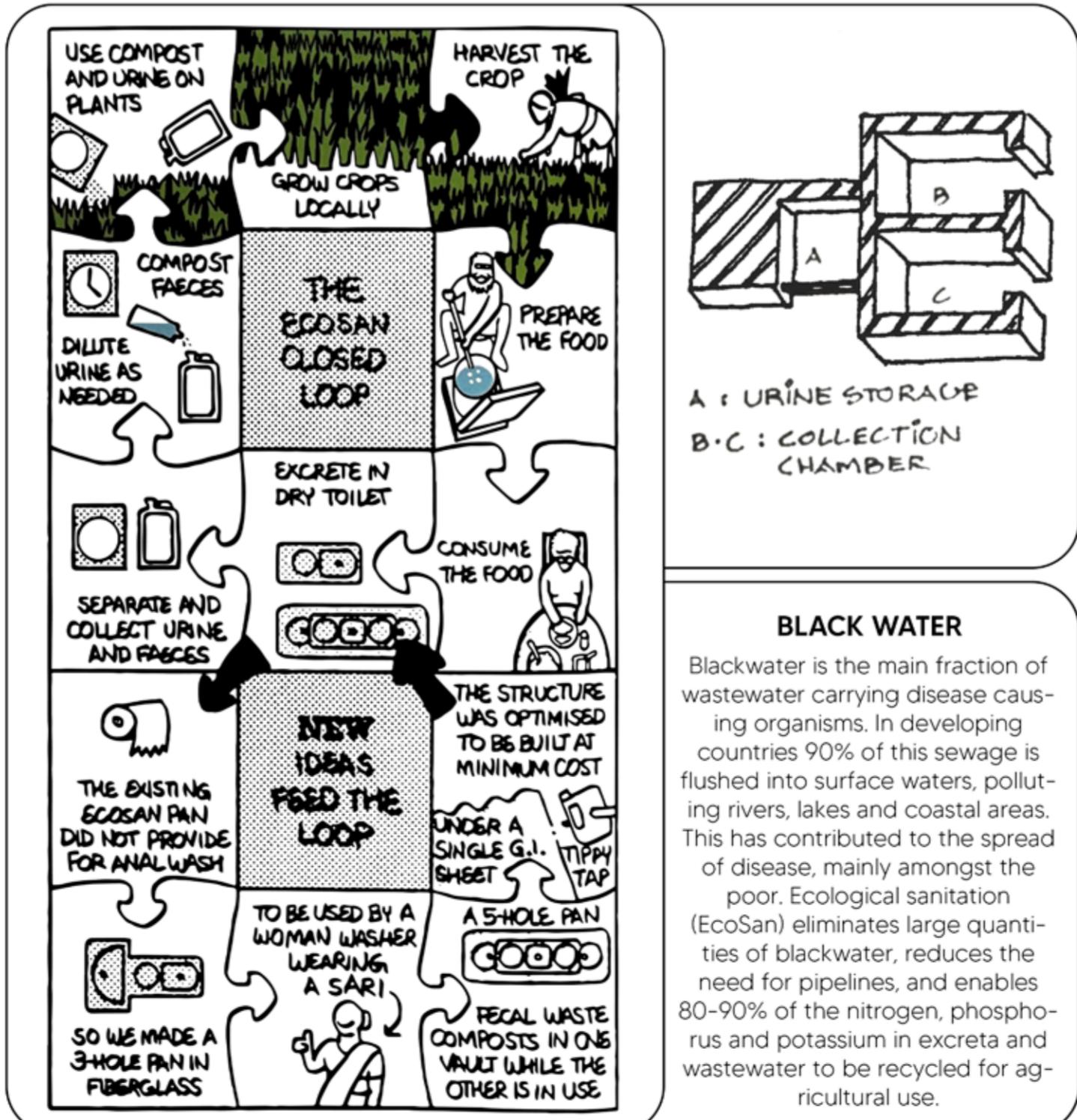
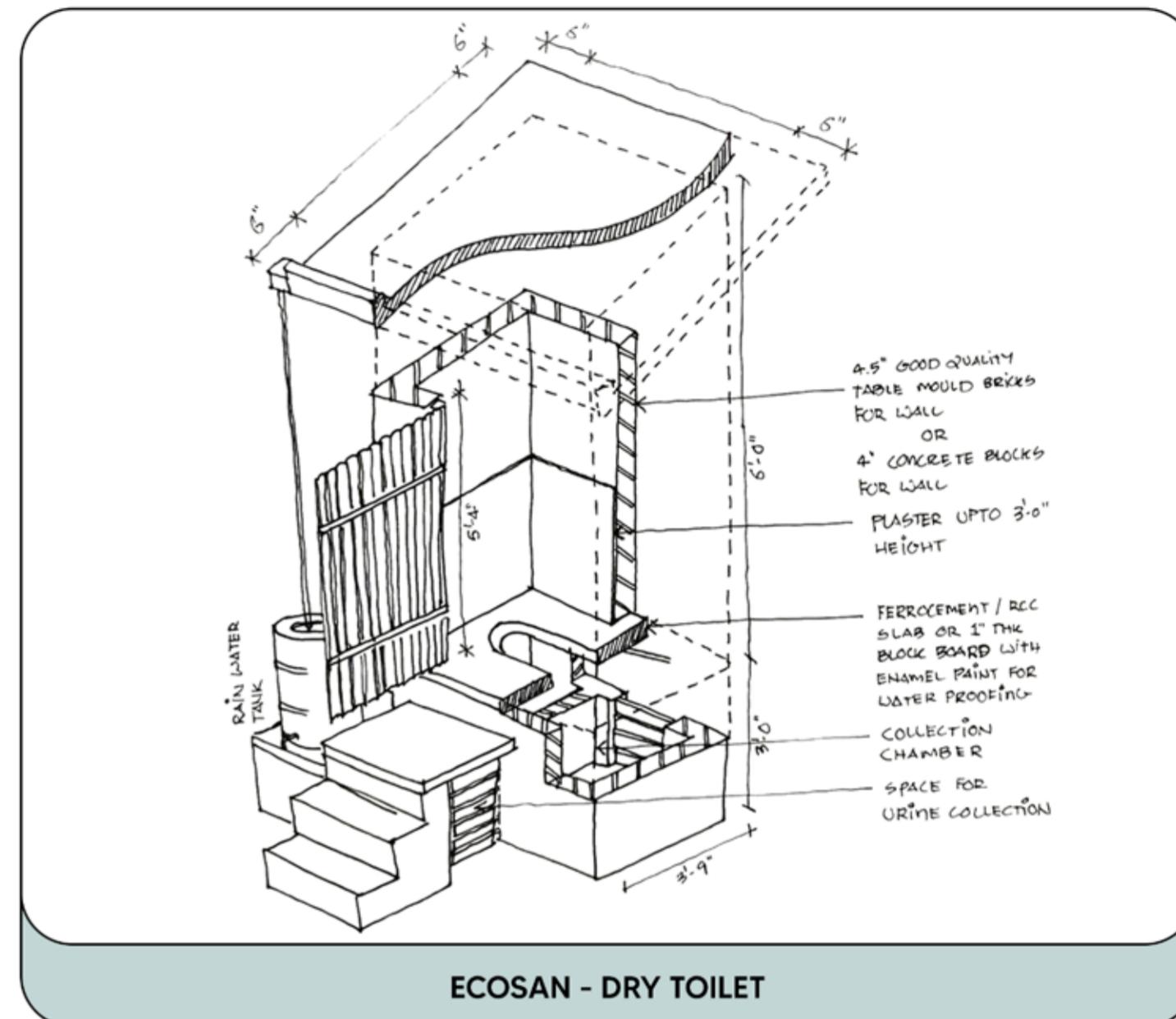
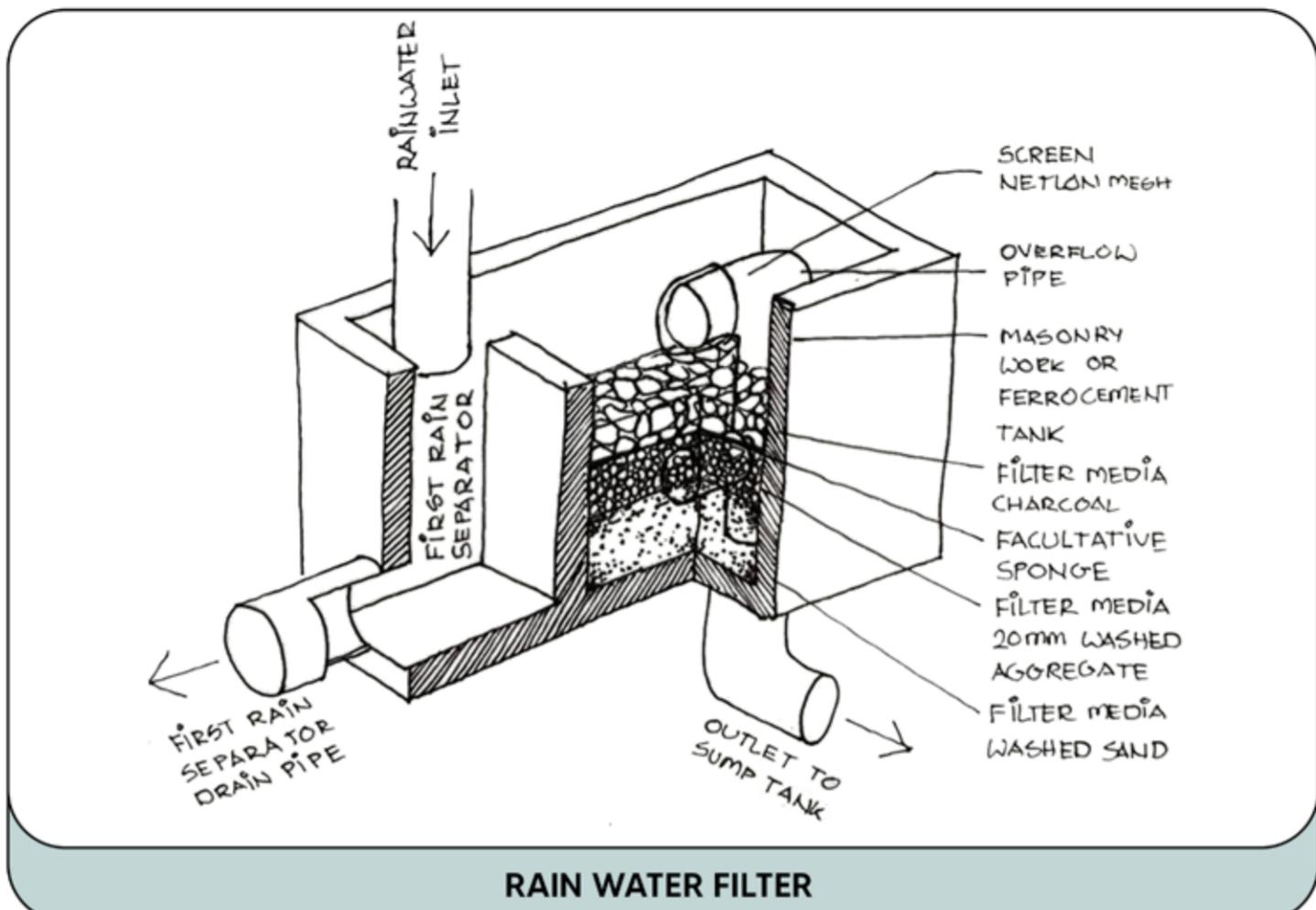
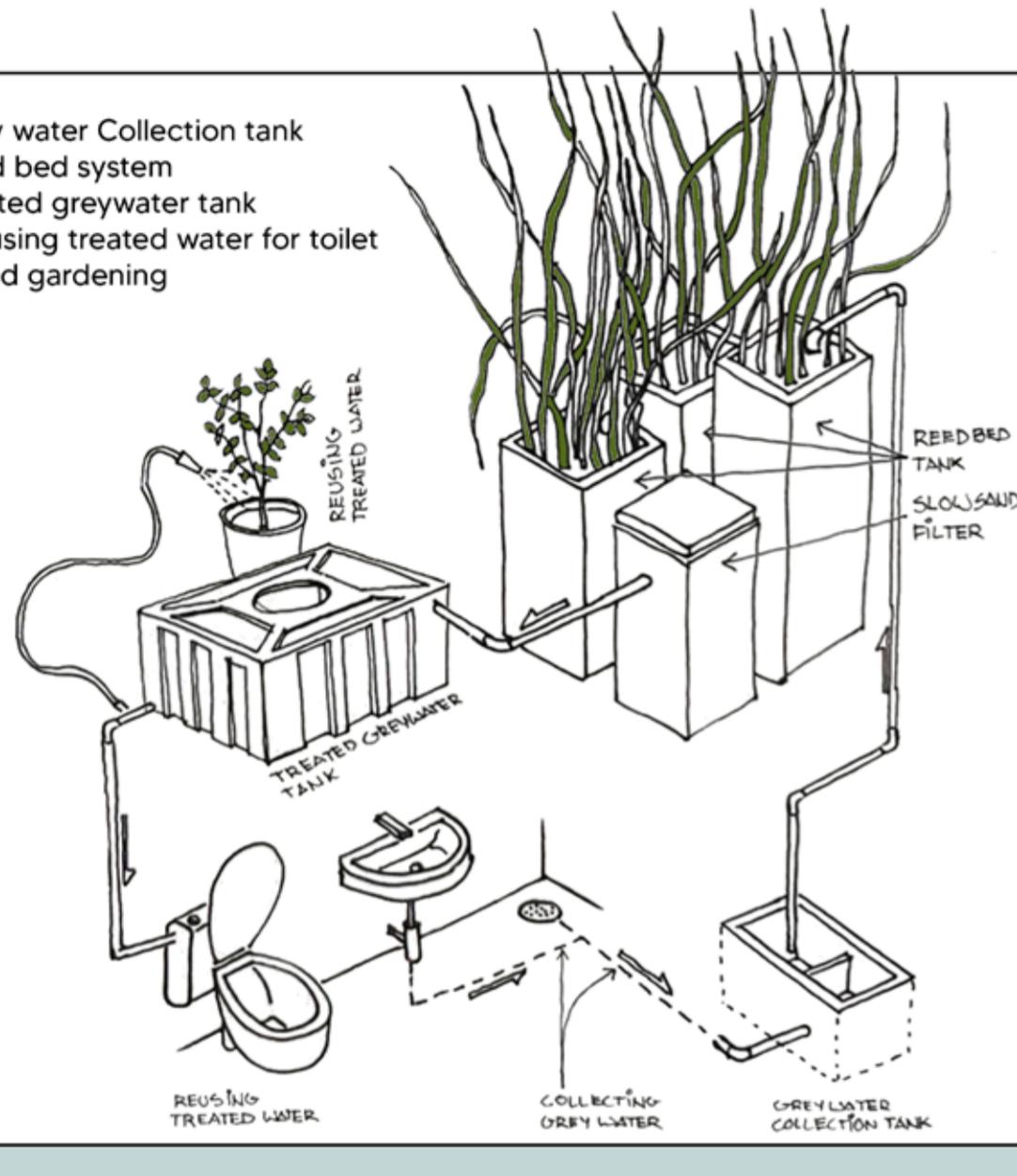
The Fifth Studio is a newly founded architecture firm started by 4 friends who shared a passion for contemporary, experimental and Indian styles. The firm deals with all things creative, including interiors, landscaping, and architecture. The team of five friends, all with different design backgrounds in the field, bring a unique perspective and set of skills to the table, allowing them to bring a plethora of options to any project. With a focus on creating innovative and functional designs, The Fifth Studio aims to be known for their bold and modern approach to architecture.

## BIOME SUSTAINABLE DESIGN DETAIL LEARNINGS

In the pursuit of building sensitively at Biome, many existing construction details have been incorporated while quite a few standard methods have been carefully improvised to suit the varying situations. As a result of such rigorous exercise for over three decades, some key construction details have become an intricate part of Biomes designs; while they are Biomes contribution to the design of ecological architecture in the region. This sketch-essay intends to convey the understanding of such important design details and its systematic execution.

Since these details have been developed at Biome in response to continuously evolving requirements and contexts, there is not one single way to approach these designs, but the idea is to incorporate them conceptually in different ways.

- A : Grey water Collection tank
- B : Reed bed system
- C : Treated greywater tank
- D : Re-using treated water for toilet flush and gardening



2020-2022

Residential

From the ground up to Finishing  
Location - Bengaluru, India

### Lohit's Residence

The client Mr.Lohit is a Engineer currently working in the USA. He wanted to move to India to live with his ageing parents. He also has a neice who will be living with them in the residence that was designed for them in Bangalore. The brief was to design a residence which must include four bedrooms , kitchen , dining and pooja room along with other basic amenities.

Lohit had a special request for a kitchenette which was partially enclosed where he could have gatherings. Lohit is also a keen gardner and hence requested for space for his side hobby.

### Design Development

The CONCEPT of the residence focuses to create spaces that brings the family together. It was also to align the spaces within the residence such that the commonly used spaces are put together and the services respectively.

Being a corner site , maximum light coming from the north , the elevation had to be designed such that this need is fullfilled.

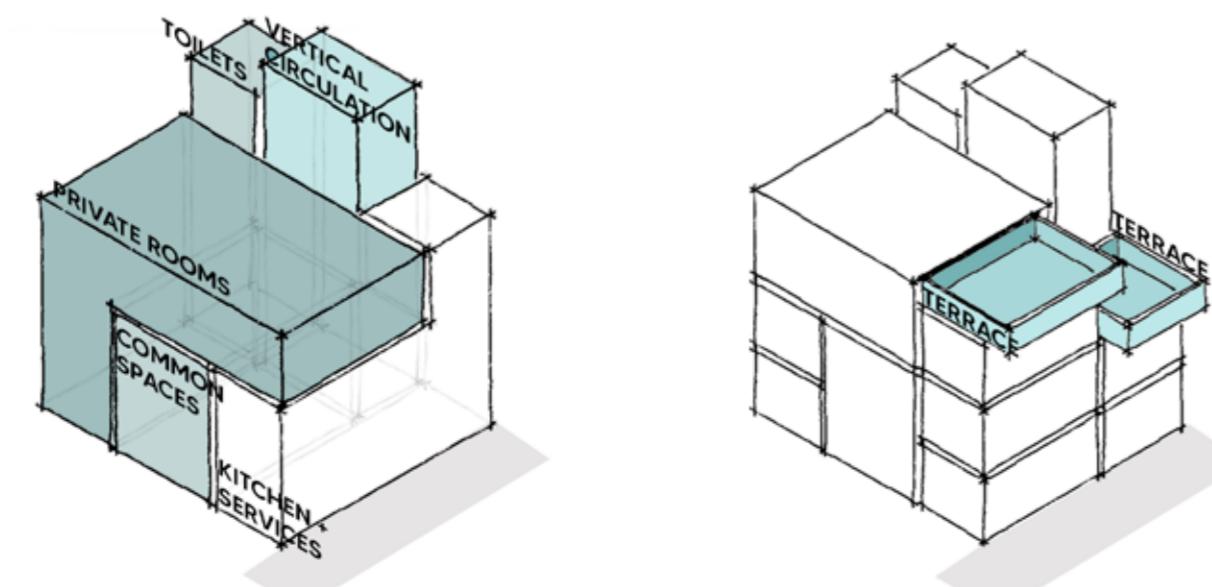
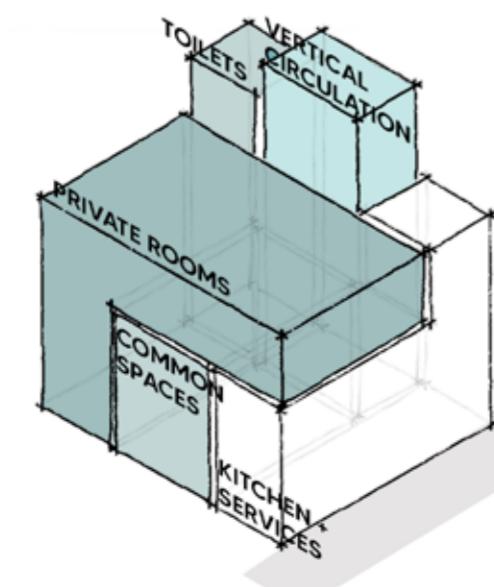
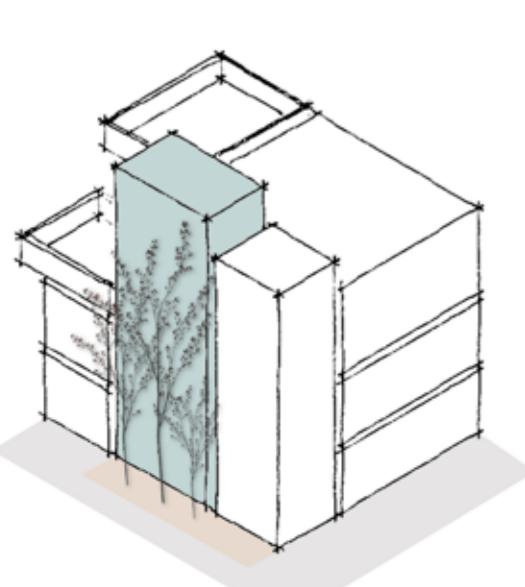
Another factor to be considered was the gardening spaces by providing multiple terraces.

### Site Study

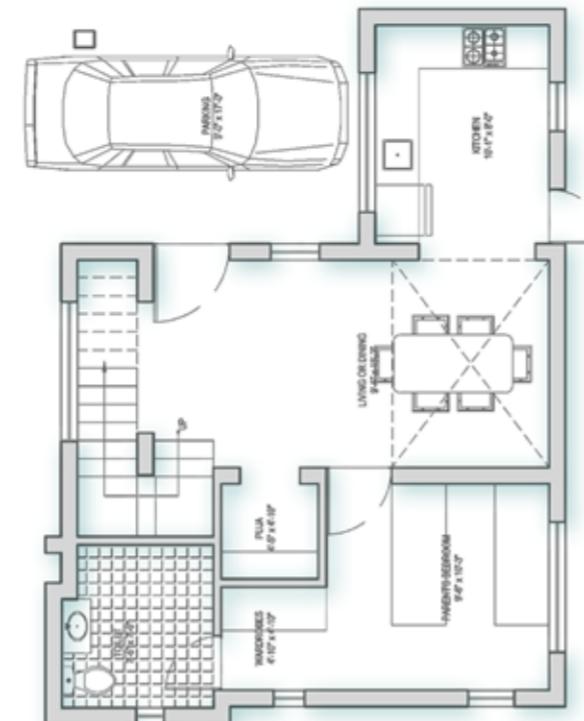
The site between a housing colony of banglore. Since the site is present in the corner the client requested for two entry and exit points from both the streets.

The Northern side of the site has existing vegetation that was considered during the design process. This lead to the placement of the vertical circulation behind it so as to not have any main functional spaces in that side.

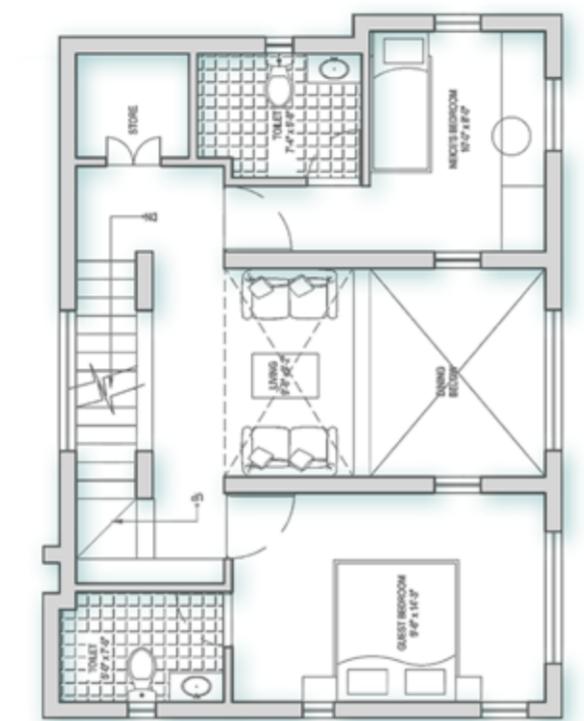
The other street , that is the western facade gets the maximum heat during the summers and since the client is keen on gardening , a trellis structure was to be designed there which was to act as a shading device for this facade.



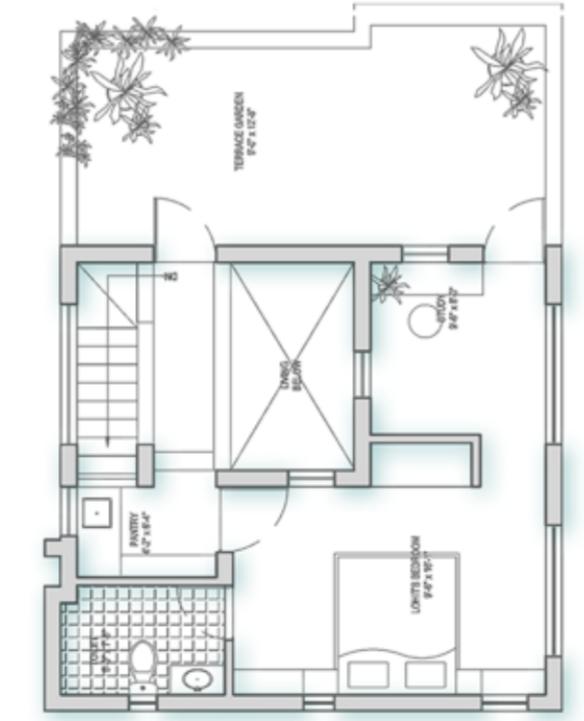
### PLAN CONFIGURATIONS



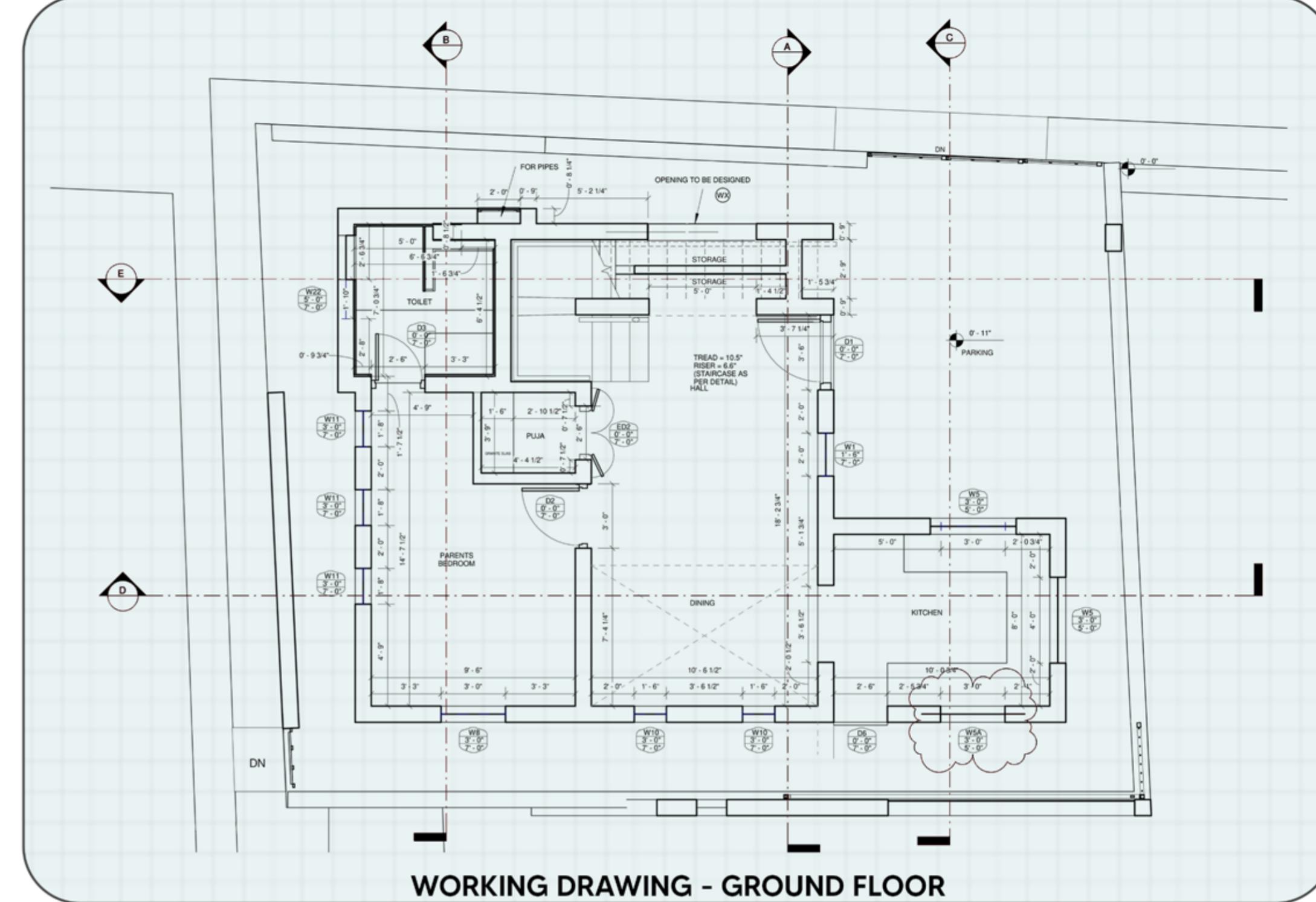
GROUND FLOOR PLAN



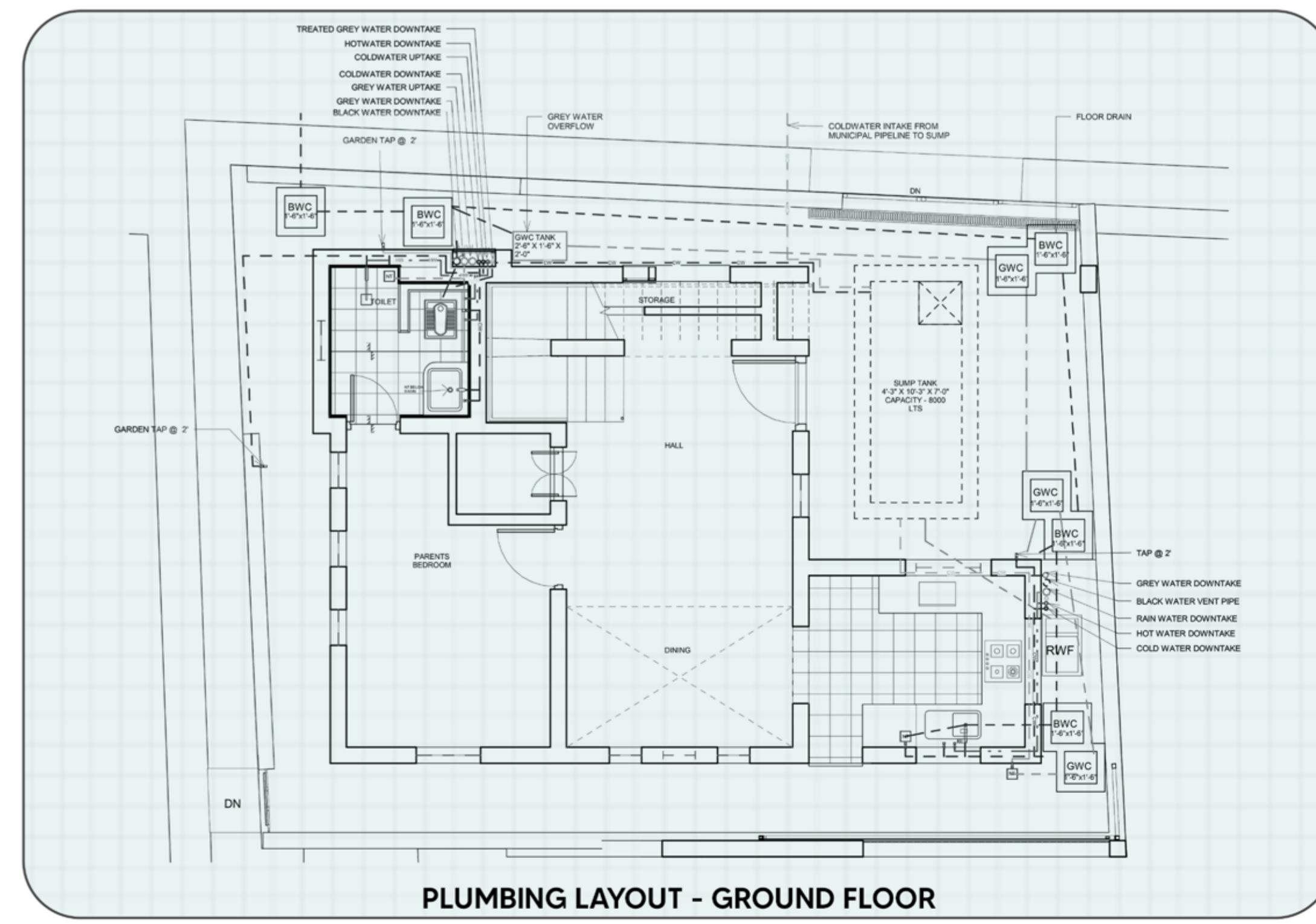
FIRST FLOOR PLAN



SECOND FLOOR PLAN



WORKING DRAWING - GROUND FLOOR



PLUMBING LAYOUT - GROUND FLOOR

**2021-2022**

**Residential**

**From the ground up to Finishing**

**Location - Bengaluru, India**

### **Athreya Urvi**

A residence built for my family of 6 in the heart of Bangalore city contains a curious mix of a modern house rooted in its traditions.

The house includes four luxurious bedrooms, one kitchen, an open-floor living and dining space, a library and yoga area, a secondary formal living space and a vast green garden.

The main architectural style of the house is traditional Kerala-style architecture, but it has a twist of modernity to fit today's life of convenience and ease.

### **Materials**

The mood board of the house varied from space to space. The kitchen had subtle colours and clean furniture layouts with a hint of contemporary architecture it,

The library had a huge book rack designed against the wall with blue laminate to match the traditional hand-made attangudi flooring and teak wood windows to contrast the blue.

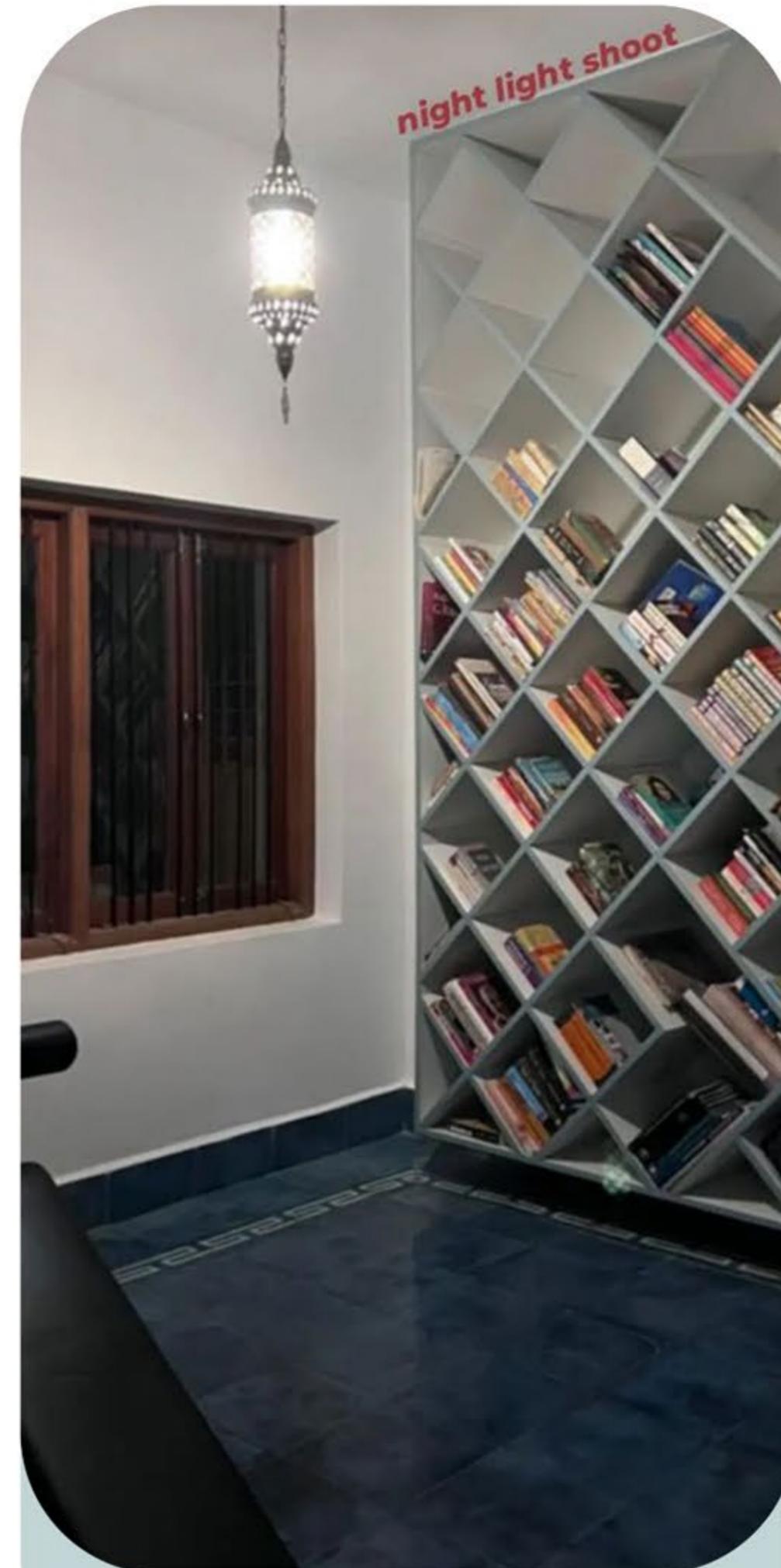
The outdoors and other shared spaces included traditional columns that were being reused from traditional CHETTINAD PALACES from southern India with simple kota stone flooring and plastered walls.

The interiors also had exposed masonry to match the other red tiles in different spaces.

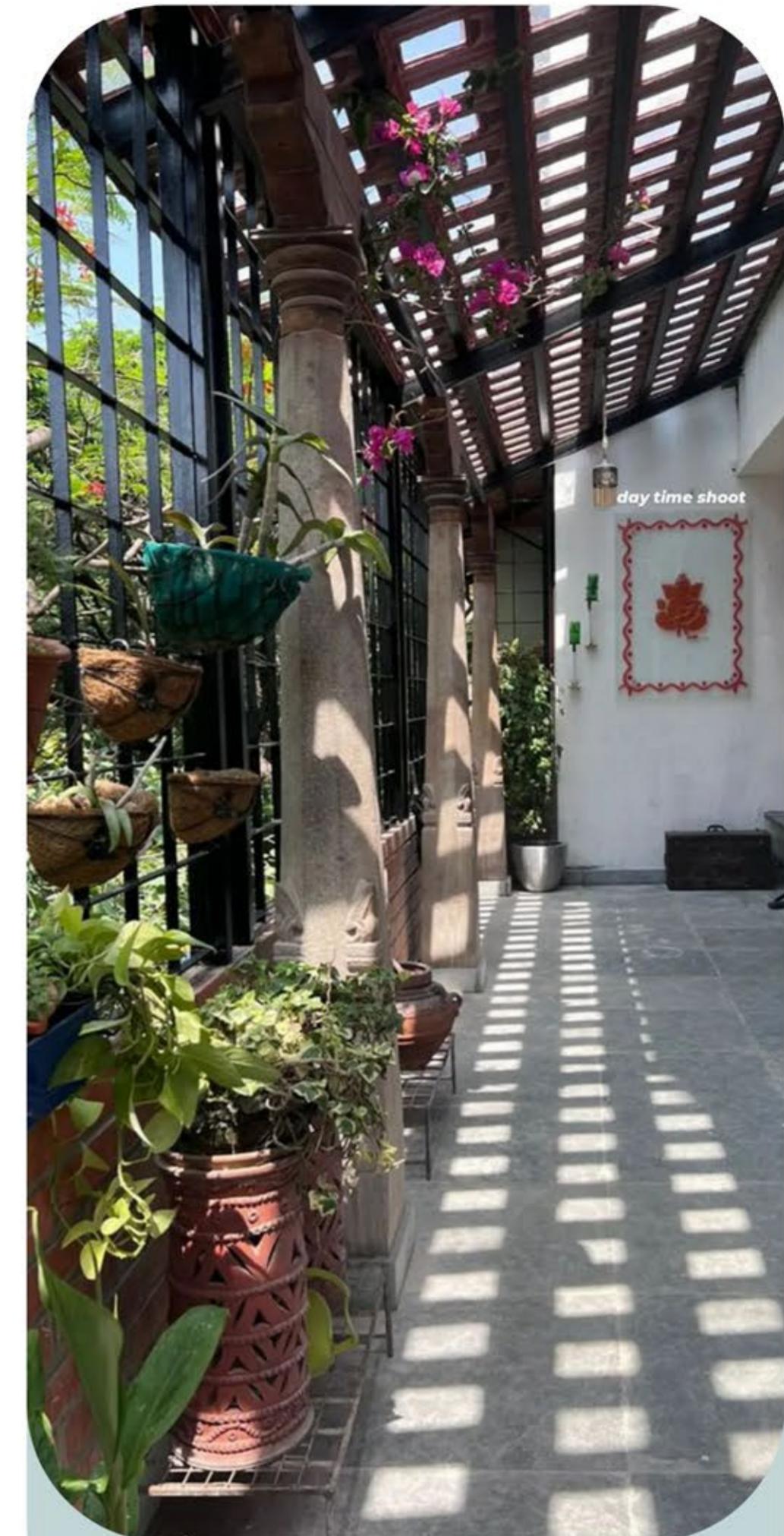
All the furniture has been designed to have subtle colours to highlight the other material colours in the space. An open plan separated by small attangudi tiles only created a visual barrier in one's head. Still, it did not cut out any visibility, which was a prominent design feature of the house.



**OPEN KITCHEN**



**LIBRARY AND YOGA**



**OUTDOOR ENTRY**



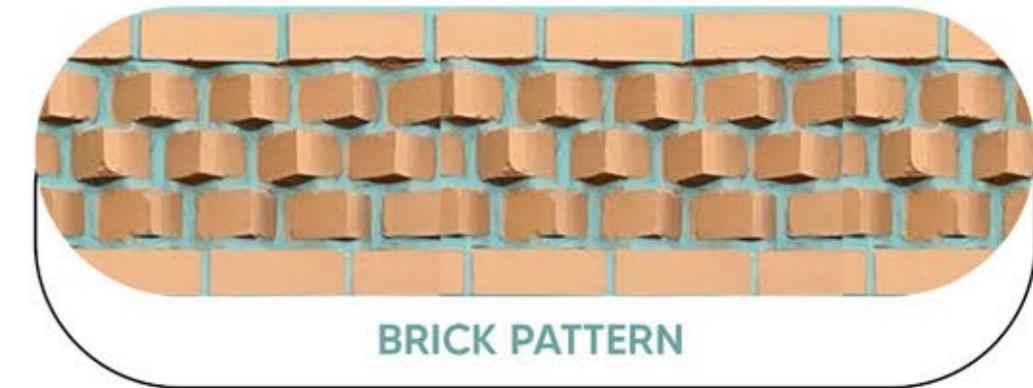
**BASE COLOR**



**TEAK WOOD**



**ATTANGUDI TILES**

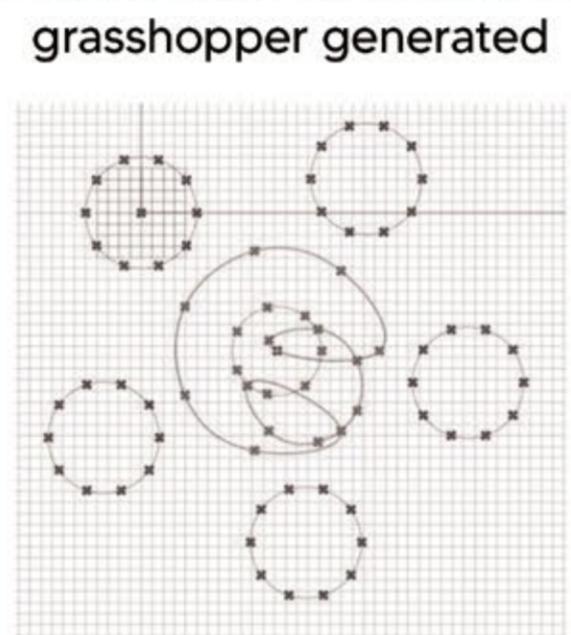
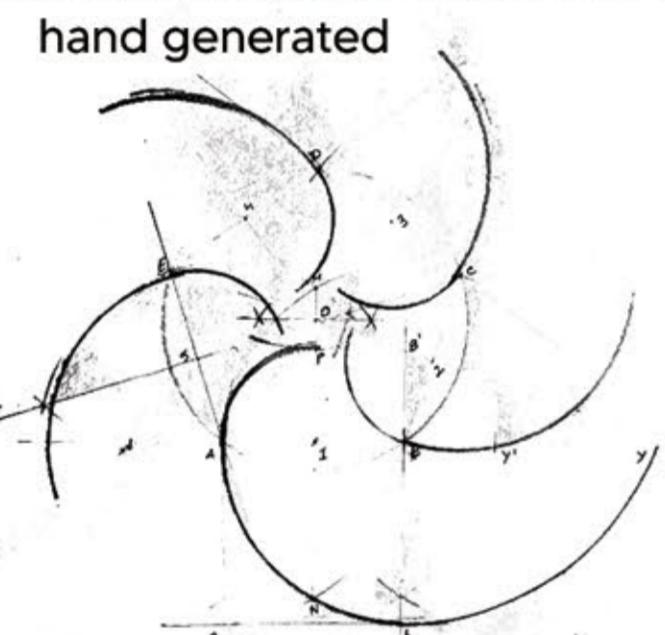


**BRICK PATTERN**

## CREATIVE COMPUTATION BY BRANDON CLIFFORD @ MIT

This course employs modes of computation that scale from the desk to the field. It engages the timeless human act of marking the earth at a colossal scale. The learnings included the fundamental principles of reciprocal computation, enabling a design process that operates in reciprocity with drawing in the field. This course disputes the default compartmentalization that is present in architectural practice today.

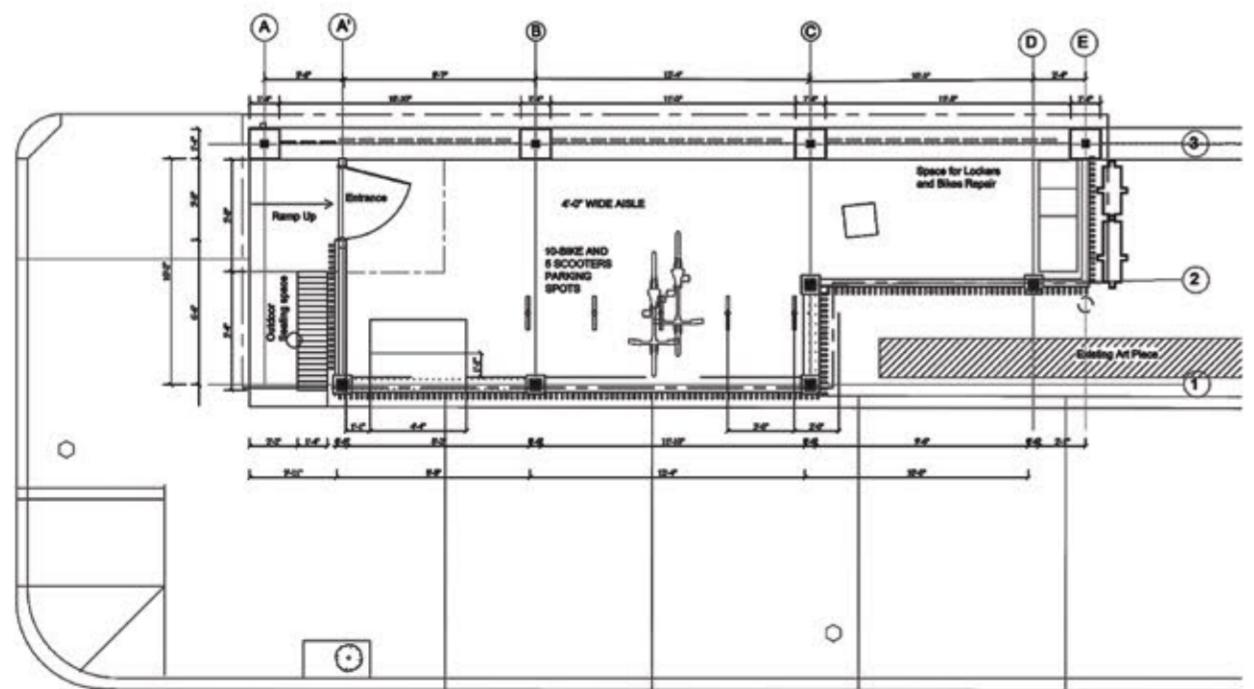
Through the tools of computation and fabrication, the course empowers one to design as architect, engineer, and crafts people.



## COMMUNITY BUILD

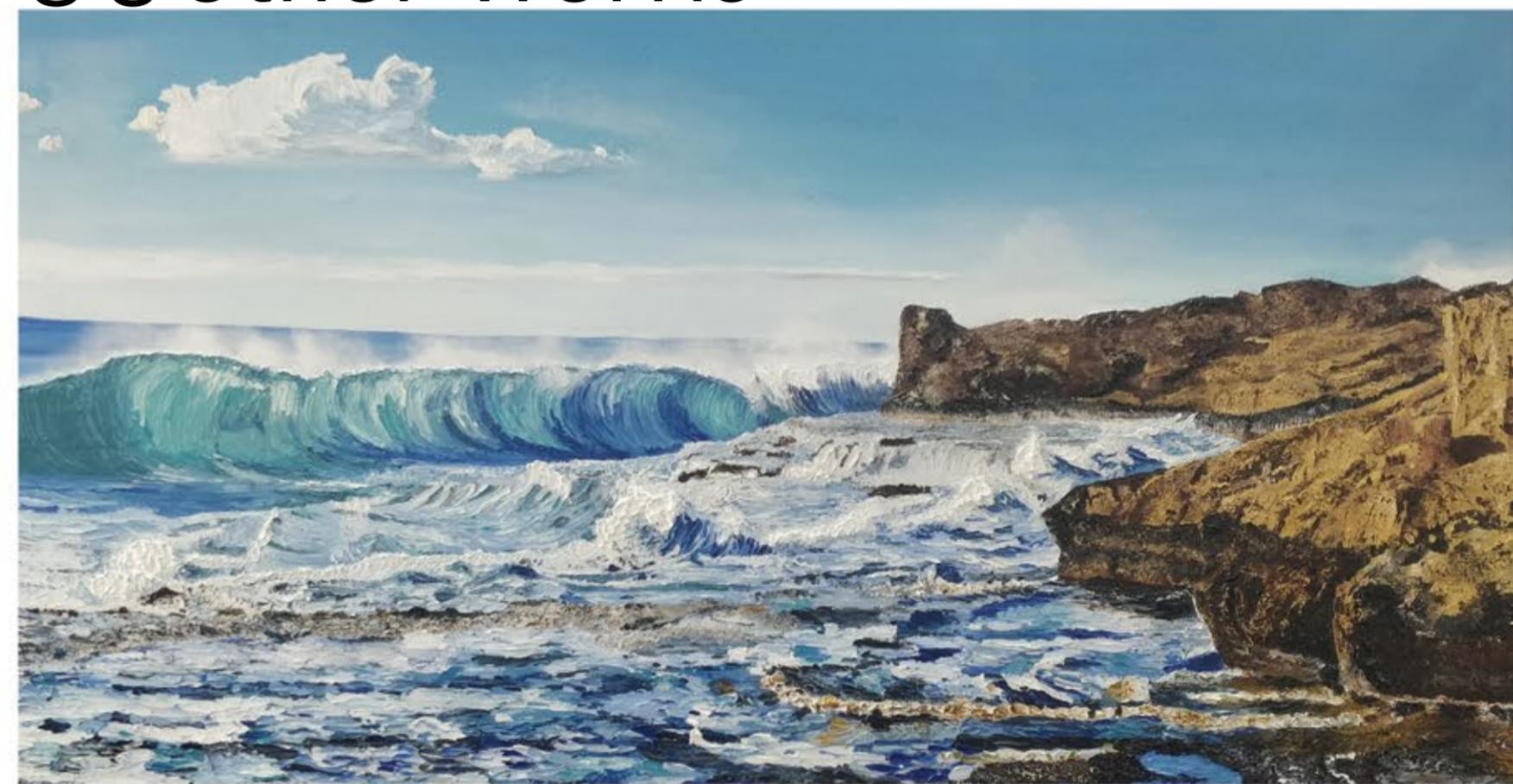
The Community Build studio engages design, building, and a local community over the course of one project over one summer. Meeting the goals of clients and users, understanding the actual constraints of structure, material, permits, and time guide the scope of the work as students work toward delivering a finished built project. The project brief addressed the rising need of E-bike parking, in the city of Boston,

keeping in mind the changing and growing by-cycle routes added to the urban development process.



FLOOR LAYOUT PLAN

## 06 other works



I have always been a child who leaned more towards Art. I could never pass a day without being compulsive to my parents to get me into an art class. I was forced to explore other fields, be it sports or other co-curricular activities; I always circled back to Art. So I discovered at that same age that being creative is something I want to do more of every day.

THANK YOU.