



**ZIXIAO HUANG**  
Architecture Portfolio



Surin, Thailand  
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# PORT AUTHORITY NY NJ

AIR LAND RAIL SEA

## POST-HUMAN PORT

A Performative Narration of the History of  
Brooklyn Bridge Park

Brooklyn, New York, USA

Directed Research: Proxy Landscape / Teamed with Sixuan Chen

Instructor: Marco Ferrari & Elise Misao Hunchuck

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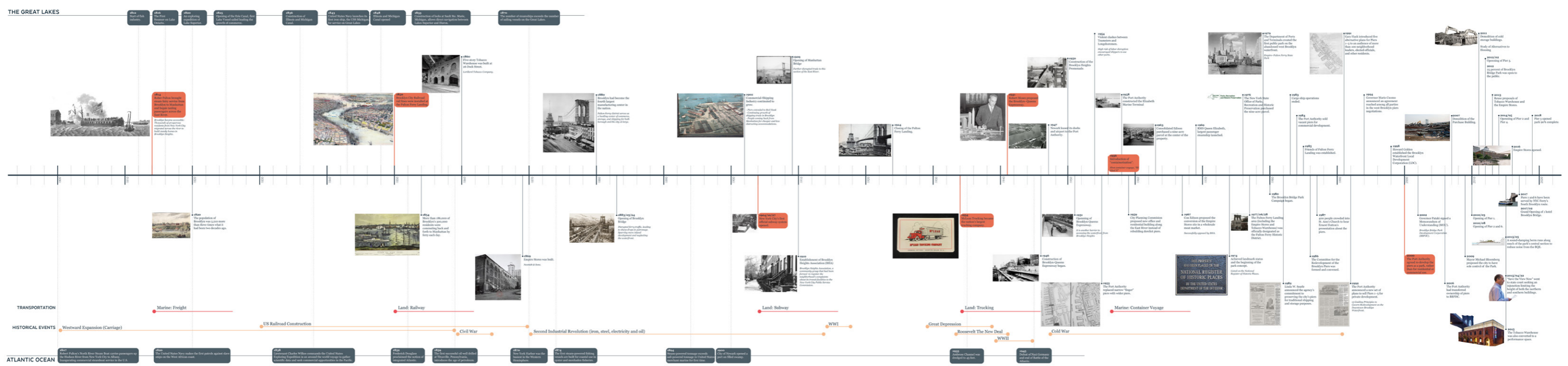
May 2022 - August 2022

Transforming from a dilapidated industrial port to a prosperous public park, the land under Brooklyn Bridge Park adapted new identities to accommodate global changes. However, if we see through the spatial development that has been constructed to maximize economic and real estate value, it reveals an overlooked yet significant component, the timber piles, who have been supporting the existence of the landscape. Therefore, the undervalued piles are a proxy for the capital structure that obscures them from above.

As the proxy relationship is embodied in the negotiation between valued and undervalued objects, we want to first identify the current system of value. Value exists persistently, yet it sustains, evolves and is presented through different modalities. Human society tends to quantify the value of a piece of land using a monetary system, whose algorithm often depicts the common and ignores the particular. In contrast, if we perceive lands with ecological perspectives, where the value is embodied through the energy flow in nature driven by multi-species, the image of a land becomes more comprehensive with values superimposed and exchanged dynamically. Therefore, our projection is to challenge the predominant interest of short-term economic benefits, reimagining the human-constructed landscape of Brooklyn Bridge Park with long-term value of ecological regeneration.

Acknowledging climate change is reconfiguring the condition of earth surfaces, we want to identify Brooklyn Bridge Park as a waterfront surface that is already exposed, preparing for conceivable submergence and projecting its future reformation to a new seabed. Start with the historical research and end with strategic method reacting to climate crisis, the installation explores the role of architecture and landscape in preserving existing values, facilitating value transformation, and unveiling obscured values through local political competition, urbanism evolution, global shipping industry fluctuation, and climate change that define a post-industrial waterfront.





Timeline of Brooklyn Bridge Park from 1800 - 2020

**Making Space for the More-than-Human**

- Brooklyn Bridge Park -

A Screenplay by  
Stella & Nicholas

1 TEXT. TITLE PAGE - 2022

Stella and Nicholas step up to the podium, greeting the audience.

STELLA  
Hi everyone, good afternoon. This is Stella, and this is Nicholas.

Nicholas smiles and greets.

STELLA (CONT'D)  
Today we will consider the Brooklyn Bridge Park as a proxy of waterfront landscape, in which its transformation is heavily affected by changes of - -

Nicholas looks confused and interrupts.

NICHOLAS  
What's Brooklyn Bridge Park? Is it related to the Brooklyn Bridge?

Stella is about to talk about some general information about Brooklyn Bridge Park and then expand on the topic of proxy in depth. But it seems a bit of historical background is needed.

2 IMAGE. 1854 - BROOKLYN RESIDENTS COMMUTING

Nicholas places a photo card, highlighted with a red dot, on the model in a line marked 1850.



STELLA  
As early as the 1850s, more than 186,000 of Brooklyn's 300,000 residents were commuting back and forth to Manhattan by ferry each day. Brooklyn began to show its potential as a center of transportation and communication.

Stella chooses to mention this as the beginning of Brooklyn's early prosperity, as thousands of prospective

(CONTINUED)

2 CONTINUED:

residents migrated from Manhattan due to great accessibility and cheap fares (ranging from 1 cent to 4 cents).

3 IMAGE. SHIP LOADING - 1880

Nicholas places a photo card, highlighted with a red dot, on the model in a line marked 1880.



STELLA  
"By 1880, Brooklyn had become the fourth largest manufacturing hub in the nation, serving as a bustling center of shipping, commerce, and storage for both the borough and the city at large."

Stella looks down at her notes which state "As Brooklyn Height became a popular residential destination, the lowlands along the East River gradually developed into a thriving commercial area with docks and ferry landings along the waterfront".

4 IMAGE. BROOKLYN BRIDGE - 1883

Nicholas places a photo card, highlighted with a red dot, on the model in a line marked 1880.



STELLA (CONT'D)  
The opening of the Brooklyn Bridge in 1883 promoted ground transportation while deviating people's dependence on the maritime traffic system. The life at Brooklyn waterfront became overshadowed.

Nicholas wants to point out that it was true that most residents, from bankers to merchants, were able to ride to work by horse-drawn carriages. Yet, while the bridge slowed the ferry service's growth, it still attracted more investment and activities to Brooklyn. But the image fades too quickly.

5 IMAGE. BROOKLYN-QUEENS EXPRESSWAY - 1941

Nicholas places a photo card, highlighted with a red dot, on the model in a line marked 1940.



STELLA (CONT'D)  
In 1941, commissioner of New York City's parks, Robert Moses, announced his ambitious plans to build a four-lane highway, known as the Brooklyn-Queens Expressway, through the middle of Brooklyn Heights, which further jeopardized Brooklyn shipping industry by obstructing local land distribution.

Stella looks around the room, but can't remember that almost at the same time period, the Port Authority of New York proposed to control the planning and maintenance of the Brooklyn Piers for the preparation of larger modern cargo vessels by replacing 25 thin piers with wider ones and demolishing 130 old warehouses. "Between 1956 and 1964, the New York Dock Company constructed thirteen piers along the 2.5 mile stretch of shoreline between the Brooklyn Bridge to the north and Red Hook to the south."

6 IMAGE. CONTAINERIZATION - 1956

Nicholas places a photo card, highlighted with a red dot, on the model in a line marked 1960.

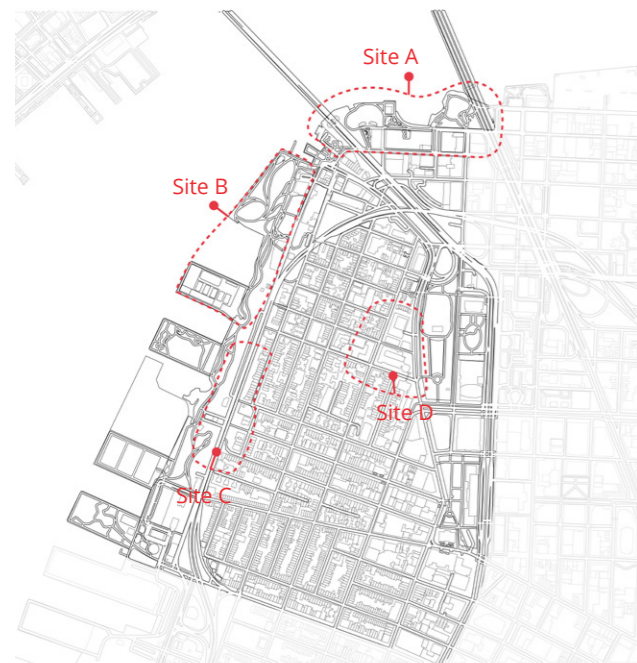


STELLA (CONT'D)  
In 1956, businessman Malcolm McLean introduced the practice of "containerization" to the global maritime industry. The shift from break bulk to containerized cargo left the once-dominant Brooklyn piers whose deck deserted, as they couldn't adapt to new requirements.

Trying not to derail from the historical records of the piers, Stella skipped the disuse and disrepair of the Fulton Ferry Landing which happened during the same period. "The gradual decline of the ferry service, which ceased operation

(CONTINUED)





6 CONTINUED: completely in 1924, had precipitated the collapse of the borough's once-bustling center of storage, shipping, and trade. The landing area was further isolated by the opening of the Manhattan Bridge in 1909, which completely bypassed the area, and by the opening in 1951 of the Brooklyn-Queens Expressway, whose enormous concrete supports formed an imposing barrier between the district and the rest of the borough".

7 IMAGE. IDEA OF A PARK - 1980  
Nicholas places a photo card, highlighted with a red dot, on the model in a line marked 1980.

STELLA (CONT'D)  
The idea transforming the abandoned Brooklyn waterfront into a public park first emerged after the establishment of Empire-Fulton Ferry State Park, promoted by the Department of Ports and Terminals. Despite the debate between public use versus commercial development, the land eventually became the Brooklyn Bridge Park we know today.

Nicholas turns toward Stella by the model and asks.

NICHOLAS  
It's such a complicated history! It seems that Brooklyn waterfront has been shaped by multiple factors, locally, regionally and globally. How are you capturing the relationship and causations behind those changes?

Stella takes a quick glimpse at her notes.

STELLA  
I think photographs are the most powerful when trying to recover the historical identity of a place. They became puzzles for me to compose the whole

(CONTINUED)

7 CONTINUED: STELLA (CONT'D)  
picture and understand how the site's spatial quality, organization, and function react to different values held by various parties.

Stella points at the model.

STELLA (CONT'D)  
As a result, I'm able to recognize four significant values on our site at that time period, including industrial, infrastructural, cultural and environmental values.

Nicholas is very confused, touching his chin.

NICHOLAS  
How did you come to this conclusion? Could you please show us an example?

STELLA  
Sure!

COLLAGE. 4 SITES - 1845 TO 2016

Stella looks excited to show her collage, and Nicholas moves closer to the screen.

STELLA  
Four important locations were chosen and re-illustrated through photo collage in a timely manner. By highlighting elements that hold different values, you can tell which value outweighed the other.

Nicholas points at the screen.

NICHOLAS  
The pier gets a yellow dot, which is Industrial value. The bridge is added

(CONTINUED)

8 CONTINUED: NICHOLAS (CONT'D)  
with an orange dot, and that's infrastructural. I see the logic now. And the dashed circles?

STELLA  
Oh, the dashed circles mean decreases of this value. As you can see the Borough Hall is losing its industrial value.

NICHOLAS  
Now I get it. So then you are going to put them together and --

Stella raises her voice.

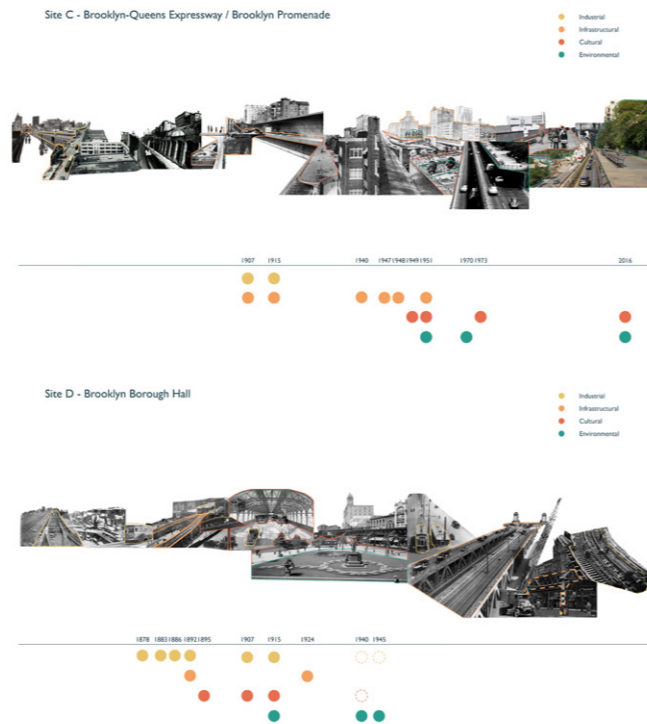
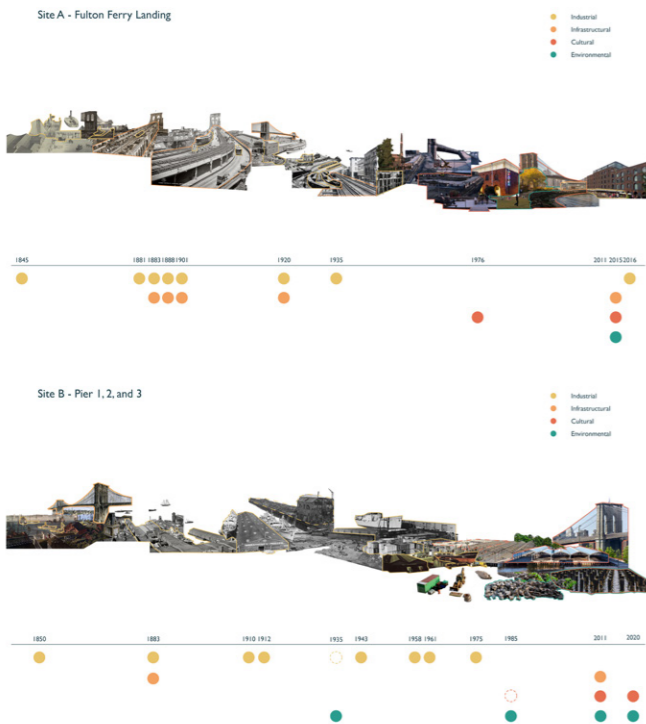
STELLA  
Right!

9 DIAGRAM. SHIFTS OF VALUE - 1845 TO 2020

STELLA (CONT'D)  
By tracking across time and calculating the total number of each value, it shows how the site shifted from an industrial-driven era to the cultural-driven present.

Nicholas looks very curious.

NICHOLAS  
It must be a very valuable land, so that the society never ceased to adapt her to changing conditions. There is a continuous interests and efforts to **unearth its inherent value**. As the current Brooklyn Bridge Park presents its popularity both for locals and tourists, it seems to be a good demonstration of a successful transformation for a post-industrial landscape.



Shifts of Value



*"By tracking across time and calculating the total number of each value, it shows how the site shifted from an industrial-driven era to the cultural-driven present ... There are continuous interests and efforts to unearth its inherent value."*



Brooklyn Bridge Park

10 COLLAGE. MONETARY VALUE - 2022

10

Stella moves toward the mounted collage and starts to talk.

STELLA

Yes, I agree. The land of the park, along with its adjacent neighborhood, all became much more valuable. And the value I mean here is specific and concrete - it is the dollar, the economy.

Nicholas moves toward the collage too and points at a dollar sign.

NICHOLAS

That's true... we can't deny that economic value is the standard in today's society. Everything has to be cost-effective, in a monetary sense. Just like what you did here; Trees are worth 27,300,000 dollars! How did you come to that?

Stella points at a tree.

STELLA

Yes, the numbers are surprising. When calculating for trees, I had to consider the discount of air pollution removal, carbon storage, health care value, ultraviolet radiation reduction, etc.

Stella turns and points at the waters.

STELLA (CONT'D)

And for the waters, I looked up the value of restored oysters, not only the economical value of the oysters themselves, but also the value of

(CONTINUED)

10 CONTINUED:

STELLA (CONT'D)

nitrogen removed and the amount of water them filtered. The water transportation is also a huge component of water value. Also the monetary value of the recreational activities can be calculated from medical care cost and the value of salt marsh can be understood as the amount of floodwater absorbed and the biodiversity it brings - -

Stella steps back and looks at the collage for a while.

STELLA (CONT'D)

It's just... everything can be described by a dollar sign!

Nicholas steps closer and looks like he has something to say.

NICHOLAS

Interesting, it looks like the whole system is working like a machine vision, organized and precise. But do you think the value of this land can be depicted fully through the monetary system?

Stella thinks for a moment and responds.

STELLA

This is how real estate or dealer usually describe the landscape. It does look promising, but just like all the algorithms do, they capture the common while neglecting the particular. For instance, have you noticed the piles under the decks? They are the very

(CONTINUED)

10

10 CONTINUED: (2)

STELLA (CONT'D)

foundation of the park, yet the current spatial construction has rendered them less valuable. They have even been developed and visualized to maximize economic and real estate value, through the calculation of restoration plans and being demonstrated as heritage sites.

Nicholas leans closer.

NICHOLAS

It seems like that the piles are undervalued by the structures and activities that conceal them from above.

STELLA

Right. To expand on that, the piles here become a proxy for the very capital structures that obscure them. And the monetary system, that is temporary and static, is insufficient in capturing the whole picture of the landscape.

NICHOLAS

If so, are there other ways to perceive values, that is more comprehensive?

STELLA

Let me think... What if we perceive lands with an ecological perspective? Then the value is embodied through the energy flow in nature driven by multi-species. With values superimposed and exchanged dynamically, the image of a land would become more comprehensive.

(CONTINUED)

10 CONTINUED: (3)

STELLA (CONT'D)

(clearing throat)

I think it is important and meaningful for us to challenge the predominant interest of short-term economic benefits, and to reimagine the human-constructed landscape of Brooklyn Bridge Park with long-term value of ecological regeneration.

Nicholas walks toward the model, examining it.

NICHOLAS

And you made this?

STELLA

Yes! Acknowledging climate change is reconfiguring the condition of earth surfaces, I want to identify Brooklyn Bridge Park as a waterfront surface that is already exposed, preparing for conceivable submergence and projecting its future reformation to a new seabed.

Nicholas picks up a photo card.

NICHOLAS

I see you continued with the photo collage strategy. Are you trying to identify the what elements are affecting and being affected during each stage of sea level rise, and tracing its potential changes? I guess there will be many possibilities, such as being removed, displaced, or reconfigured?

STELLA

That's correct. May I show you how it works?

(CONTINUED)

*"It is important and meaningful for us to challenge the predominant interest of short-term economic benefits, and to reimagine the human-constructed landscape of Brooklyn Bridge Park with long-term value of ecological regeneration."*

*"The undervalued piles here become a proxy for the very capital structures that obscure them. And the monetary system, that is temporary and static, is insufficient in capturing the whole picture of the landscape."*





10 CONTINUED: (4) 10

NICHOLAS  
Of course! I can't wait.

11 MAP. SEA LEVEL RISE 5FT - 2060 11

Nicholas and Stella both walk toward the model and stand by the end of the model marked "Brooklyn Bridge".

STELLA  
From now until 2060, the sea level will rise about 5 feet. There is only minor inundation along the shoreline. We will start from Pier 1. As the sea level rises, more salt marsh will be created.

Nicholas reaches into his pocket, takes out another collage of salt marsh, and places it beside another salt marsh collage that is already in the model marked "Pier 1".

STELLA (CONT'D)  
And some of the salvaged granite will be submerged.

Nicholas puts a blue dot sticker on the granite collage on the model marked "Pier 1".

NICHOLAS  
Let's mark it with a blue dot since they remain valuable on the site, as new habitats for marine animals.

Nicholas and Stella both walk toward the other end of the model; Stella is on the side and Nicholas is in front of it.

STELLA  
Yes, and the same situation for the intertidal zone at Pier 2.

Nicholas puts a blue dot sticker on the intertidal zone collage in the model and places collages of crabs and oysters beside it.

(CONTINUED)

▶ SEA LEVEL RISE 5FT



11 CONTINUED: 11

Nicholas and Stella move toward Pier 3.

STELLA (CONT'D)  
Pier 3 survived the first phase of sea level rise, so we will leave it alone.

Nicholas and Stella move toward Pier 4. Stella points at a collage of people lying on the lawn by the shoreline made of salvaged granite.

STELLA (CONT'D)  
Sadly, these people will need to find another place to relax.

Nicholas picks up the collage with people and put it in a box beside the model.

STELLA (CONT'D)  
But the lawn, combined with the granite will become a salt marsh, serving other species on earth.

Nicholas puts blue dots on the lawn and granite, and adds some more maritime species onto the model. After this, Nicholas and Stella walk toward Pier 5.

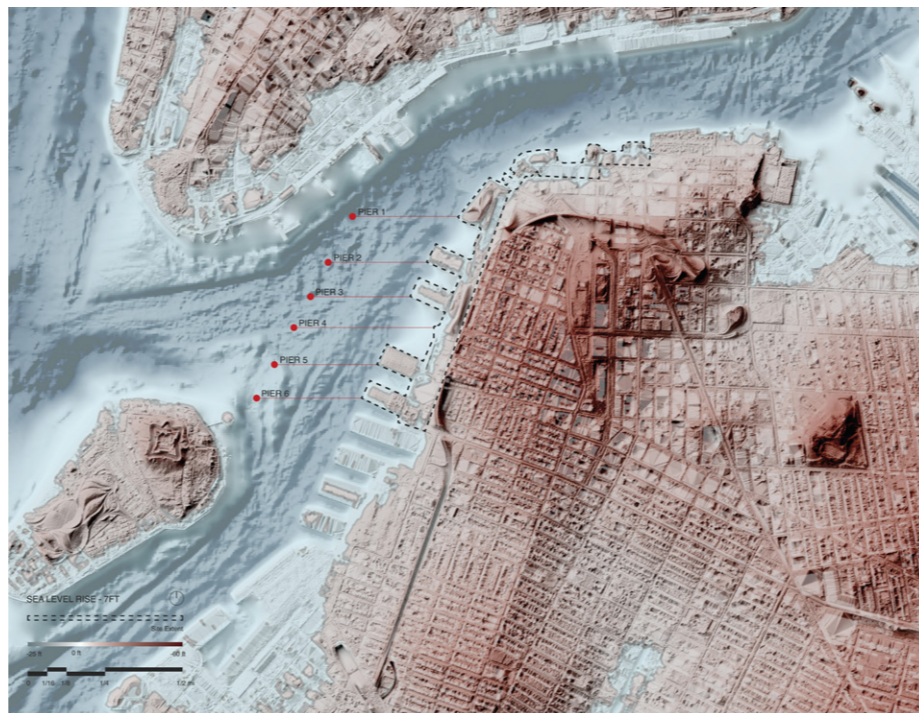
STELLA (CONT'D)  
The upland of Pier 5 currently features playgrounds and picnic peninsula. But with sea level rising, we have to say goodbye to them.

Nicholas picks up collages of human activities, picnic tables, ice cream shop, and playground and about to dump them into the box but hesitates.

NICHOLAS  
Wait -- seems like the wooden tables and benches, metal equipment

(CONTINUED)

▶ SEA LEVEL RISE 7FT



11 CONTINUED: (2) 11

NICHOLAS (CONT'D)  
can be recycled somehow, we can't just --

STELLA  
Yes, the wooden benches and metals are actually salvaged from the Cold Storage Warehouse. We will store them somewhere else for recollection.

Nicholas hangs wooden tables and benches onto the wall and returns. Stella and Nicholas walk toward Pier 6.

STELLA (CONT'D)  
Pier 6 is relatively high. So it will remain lively as Pier 3. (Looking at the screen) Now it seems like we have covered all the piers at the first phase of sea level rise. Let us go into the second phase, which is 35 years later, with the sea level rising about 7 feet.

12 MAP. SEA LEVEL RISE 7FT - 2095 12

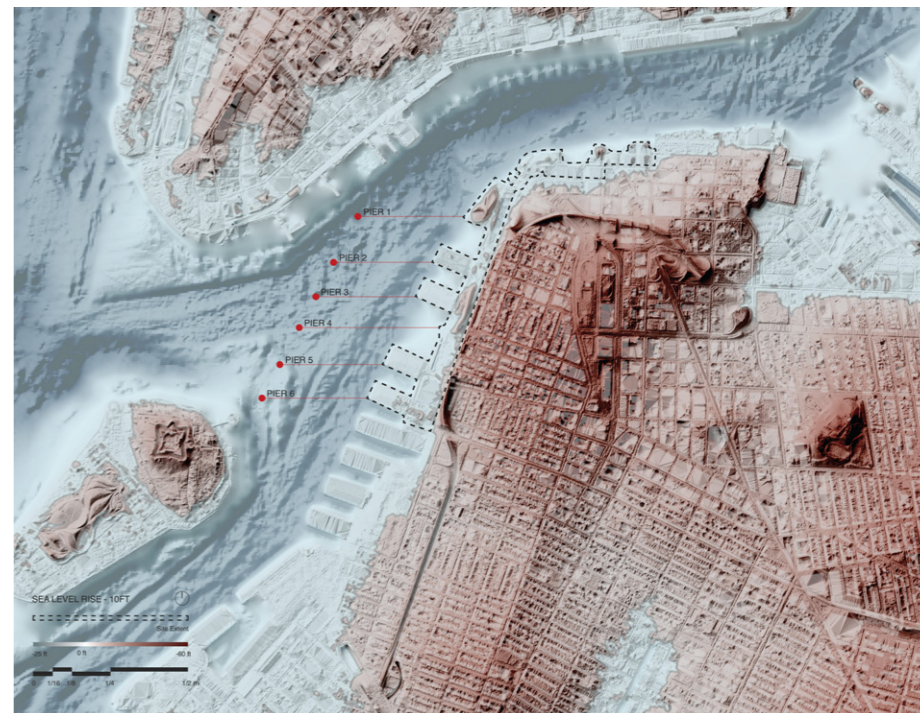
Nicholas and Stella stay where they are right now.

STELLA (CONT'D)  
By the year 2095, Pier 6 is not as lucky as it was in the first phase. This time its perimeter and all the entrances are completely underwater, making it inaccessible and all activities to disappear.

Nicholas puts a blue dot sticker on the collage of Pier 6 walkway, picks up the photos of activities and pier signs and about to dump them into the box. But when Nicholas is about to put them in the box, Stella stops him.

(CONTINUED)

▶ SEA LEVEL RISE 10FT



12 CONTINUED: 12

STELLA (CONT'D)  
Wait, I think the pier sign should go somewhere else. It occupied this site for 30 years before it was salvaged from the Port Authority and refurbished for the park. It's a heritage that should be collected, just like the salvaged wood.

NICHOLAS  
Okay. I will hang it on the wall.

Nicholas hangs the pier sign on the wall.

STELLA  
Also, because the sea water is entering the planted area on Pier 6, all the terrestrial plants are threatened. They will be gradually replaced by aquatic plants and the entire place will be in a transition to a salt marsh. Could you please take some of them out for now?

NICHOLAS  
For sure.

Nicholas picks up some of the collages of trees and garden plants and dumps them into the box. Nicholas and Stella move back toward Pier 5.

STELLA  
Pier 5 is facing the same situation as what is on Pier 6. It loses its intended use.

Nicholas removes collages of boats, fishing, soccer, and the pier sign. Nicholas hangs the sign on the wall and puts the rest into the box. When Nicholas comes back from the wall, he notices something on the model.

(CONTINUED)



12 CONTINUED: (2) 12 12 CONTINUED: (3) 12 12 CONTINUED: (4) 12 12 CONTINUED: (5) 12

NICHOLAS  
What's this? Will it be affected?

STELLA  
These are floating wave attenuators. Though it remains, some refinement could be added.

Nicholas puts a blue sticker on the attenuators.

NICHOLAS  
What can we do about them?

STELLA  
Towards the land side, captive soil can be added to connect with the existing wetland on site.

Nicholas places a collage of captive soil on the model next to the attenuator. 1

STELLA (CONT'D)  
Towards the water side, oyster/mussel reef could be added to achieve additional attenuation depth and better protection from the surface waves.

Nicholas places a collage of oyster/mussel on the model next to the attenuator, but on the other side.

STELLA (CONT'D)  
Also the planted revetment. The addition of rock, soil, and plantings are beneficial to the local habitat and express a more living waterfront. For the attenuator, the weight of these items also provide permanent ballast while simultaneously eliminating wave reflection, a common seawall problem.

(CONTINUED)

Nicholas puts a collage of planted revetment on the model next to the oyster/mussel collage. Nicholas and Stella walk toward Pier 4.

STELLA (CONT'D)  
Pier 4 and its vicinity are now all underwater. We can take the advantage of tidal energy here.

Nicholas places a collage of a project by Roosevelt Island Tidal Energy (RITE) on the model.

STELLA (CONT'D)  
East River is a tidal strait with strong water currents that change direction between flood and ebb tides approximately four times each day.

Stella tries to recall what she learned from her research.

STELLA (CONT'D)  
When the water velocity exceeds around 1.0 m/s, the turbine blades begin to rotate and the units can generate electricity for approximately 4.5 hours.

Nicholas looks closer at the turbine.

Nicholas  
It seems to be a good addition to the value of water.

Nicholas and Stella continue to walk toward Pier 3. Nicholas takes the pier sign and hangs it on the wall.

STELLA  
Yes, you can find these signs now. They exist on all piers except Pier 1 and 4. It's good we keep the heritage collected and preserved.

(CONTINUED)

STELLA (CONT'D)  
(looking back at the model) Pier 3 is very much like Pier 6, trees and other vegetation which will gradually be replaced.

Nicholas takes some of the trees off the model and places them in the box.

STELLA (CONT'D)  
Right behind Pier 3 upland, there is a sound berm that is used to block noises from BQE. Now it will be a perfect infrastructure base to be transformed into breakwater facilities, preparing for a future seawater invasion. (thinking) We can reference the Living Breakwater Project used at Staten Island for future ecological intervention.

Nicholas places collages of the Living Breakwater Project on the model. Nicholas and Stella move toward Pier 2. 2

STELLA (CONT'D)  
Because the water cut off the entrance to the pier deck, all the activities on pier 2 will stop. It's time to recycle the pieces of equipment.

Nicholas removes collages of activities and infrastructure from the model. Nicholas moves the pier sign from the model to the wall. Stella walks toward Pier 1 and starts talking.

STELLA (CONT'D)  
As the water further inundates the shoreline, the existing salt marsh will extend naturally.

Nicholas adds more salt marsh collages to the model.

(CONTINUED)

STELLA (CONT'D)  
Also, like other piers, inaccessibility removes all activities and facilities. Let's take them down and recycle.

Nicholas removes all the activities and facilities photos. 3

13 MAP. SEA LEVEL RISE 10FT - 2100  
Nicholas and Stella stand still.

STELLA (CONT'D)  
Now after 2100, marked as the third phase, the park is completely submerged. Without human activities and built structures, this waterfront let go not only its industrial background, but also the recreational present. Yet, on the other hand, the landscape returns to its original ecological form, whose inhabitants involve more than humans. While nothing is constructed for values, everything becomes valuable, because each of them contributes to the energy flow within the ecological system as a whole.

Nicholas and Stella begin to put various sea animals and sea plants onto the model. 3

14 TEXT. END - 2022 14  
Nicholas still looks at the model, thinking.

NICHOLAS  
Now if I think back to the beginning, the story starts as a historical documentary, then by analyzing the shifts in values and criticizing the short-term monetary

(CONTINUED)

*"The installation explores the role of architecture and landscape in preserving existing values, facilitating value transformation, and unveiling obscured values through global shipping industry fluctuation, local political competition, urban development, and climate change that define a post-industrial waterfront."*

14 CONTINUED: 14

NICHOLAS (CONT'D)  
value system, the ending projects to the future with ecological regeneration as a guideline.

STELLA  
Yes. The installation explores the role of architecture and landscape in preserving existing values, facilitating value transformation, and unveiling obscured values through global shipping industry fluctuation, local political competition, urban development, and climate change that define a post-industrial waterfront.

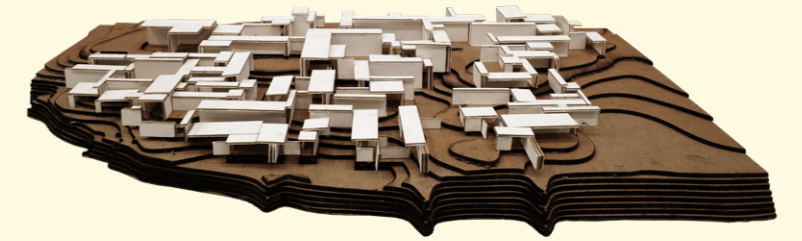
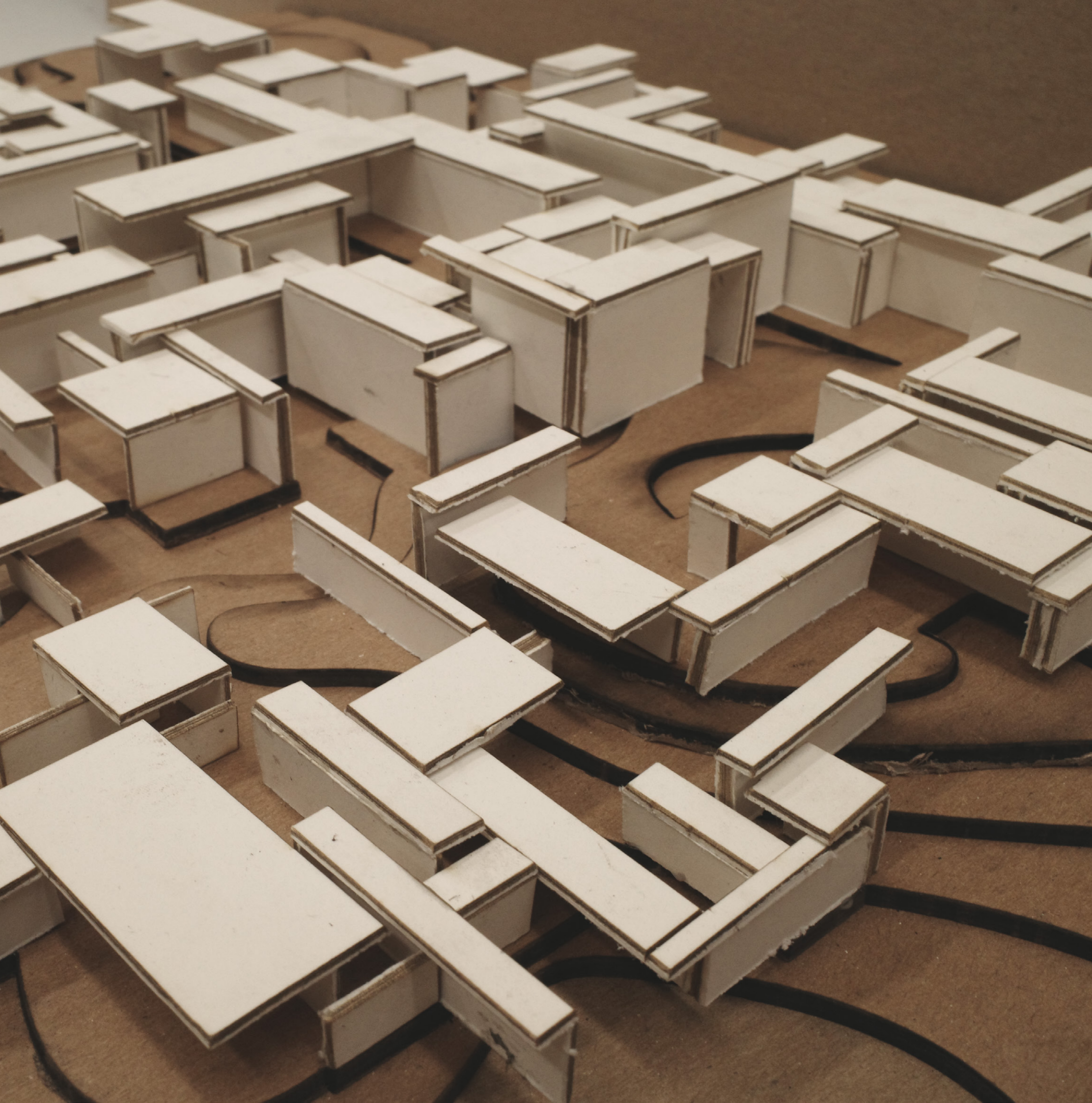
Nicholas and Stella walk toward the center of the stage and stop in front of the model.

STELLA (CONT'D)  
And that brings us to the end. Hope you enjoy the show and thank you for your time and attention.

Nicholas and Stella bow to the audience.







## THICKENED POROSITY

### Mental Health Clinic Reimagined

*Long Island City, New York, USA*

Directed Research: MASS EFFECTS :: Reinhabiting Thickness / Individual

Instructor: Marc Tsurumaki

Email: marc@tlarchitects.com

September 2022 - December 2022

The project is trying to achieve an overall thickness in relation to space and society by rethinking the current professional structure of the mental health treatment system. There's a significant gap between privately run offices and institutional facilities in mental health care practice. Though an independent psychiatrist could provide private and personalized treatment plans for the patients, which a mental health hospital lacks, the psychiatrist still needs labs and equipment for professional research, and the patients are being referred and referred if the mental situation gets worse or as simple as needing a special examination. Moreover, nowadays private psychiatrists are facing more problems like unfriendly neighbors in a general office building, long-term lease insecurity, and the existing office setting which were not ideal for psychotherapies.

Therefore, this project tries to explore the possibility of combining these two systems together architecturally and socially. The complex has an outpatient wing consisted of private offices and talk rooms and an inpatient wing for mainly patient wards. The two parts of the project are connected by shared programs, like labs and meeting rooms, and public spaces. Private practitioners can do their research and attend professional meetings next door, the hospital can gain external knowledge and help at hand, and the community can come and learn about mental health and how mental health problems are treated. Therefore, by thickening the gap, however, the two systems can work more seamlessly and efficiently.

By making a lot of rooms without ever having a truly enclosed space, as the walls are always held a bit apart, the spatial condition is one of a thickened porosity that on the one hand works through a kind of diffusion of solid elements, the walls, but does so in a way that the relation between mass and space and space to space creates a kind of overall density. The mass in the project is being both atomized and distributed, like the idea of a colloidal suspension in chemistry where one element is diffused into another without dissolving. Having created this condition what are its benefits for the project as relating to both the program, the building's performance, and the experience of users, the project managed to generate a sense of privacy or intimacy while still maintaining a connection to light, exteriority, and the larger spatial assemblage.

# THE GAP BETWEEN PRIVATE PRACTICES AND HOSPITALS IN MENTAL HEALTH TREATMENT PROGRAM ANALYSIS

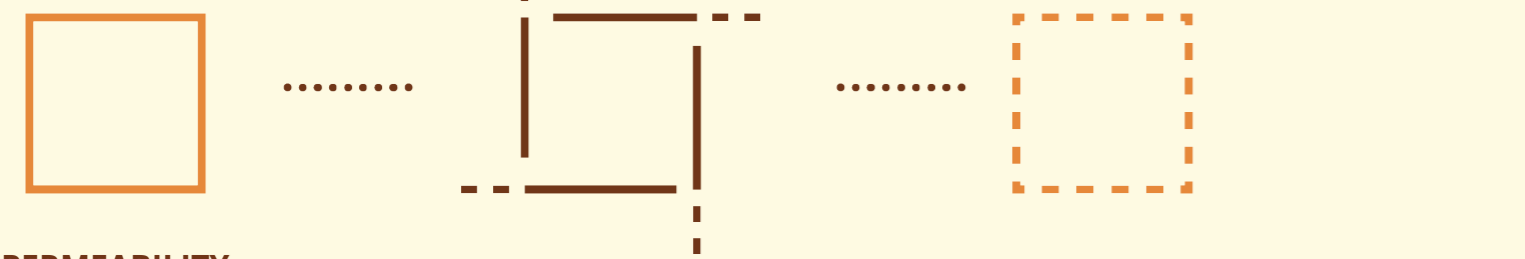
## Private Practices

- Office
- Waiting Room
- Storage
- Talkroom
- Bathroom

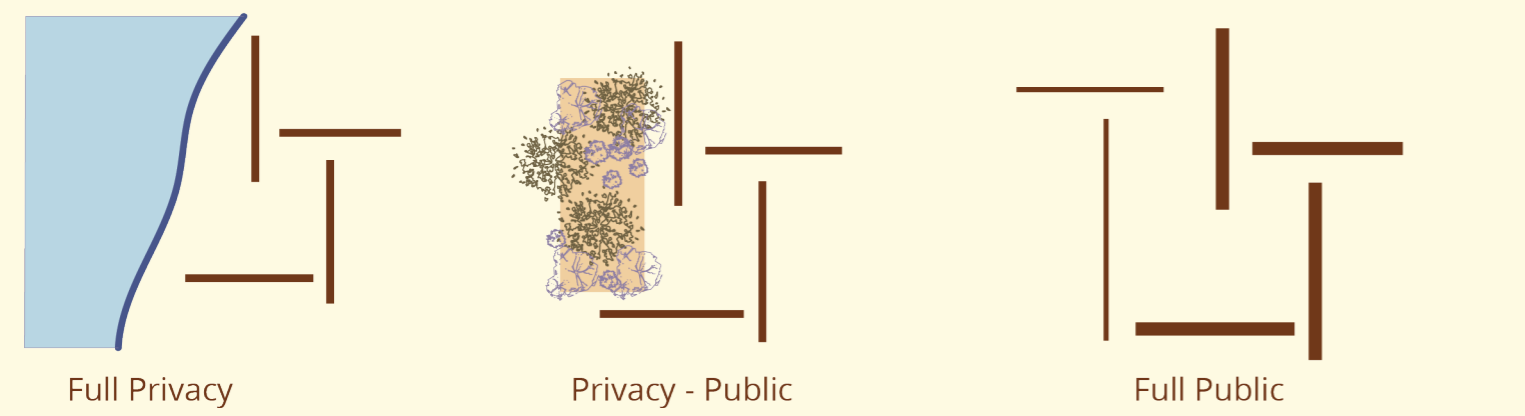
- Conference Room
- Training Room
- Group Therapy Room
- Gathering Room
- Education

## Hospitals

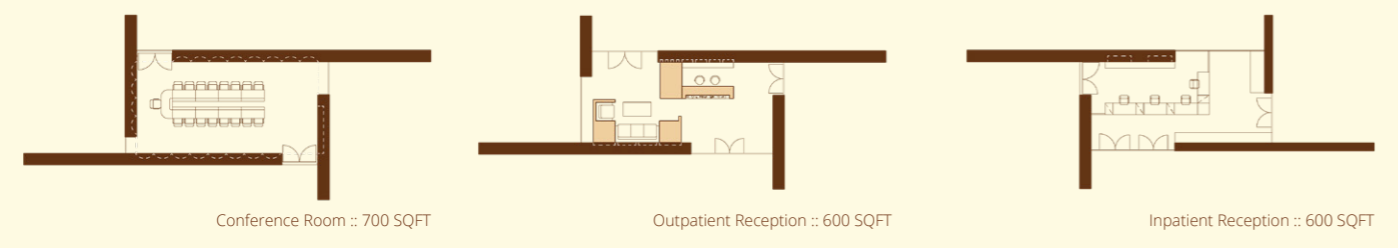
- Office
- Waiting Room
- Storage
- Bathroom
- Emergency Unit
- Research
- Equipment Room&Laboratory
- Hospitalized Inpatient Treatment
- Surgery



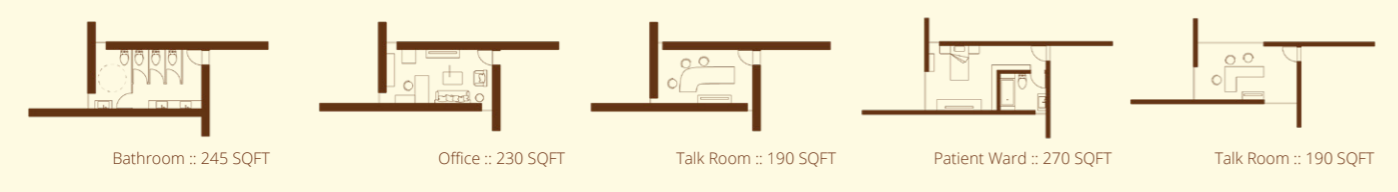
## PERMEABILITY



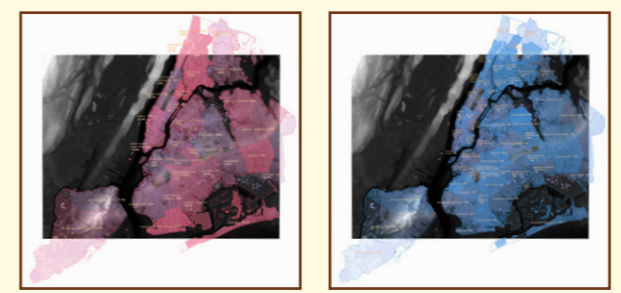
## LARGE PROGRAMS



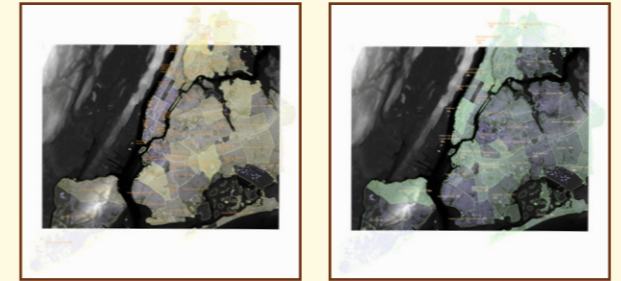
## MEDIUM PROGRAMS



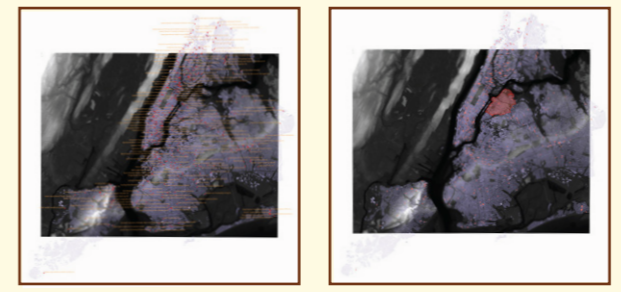
## SMALL PROGRAMS



Prevalence of New Yorks who have been diagnosed with Depression  
Precent of New Yorkers with no health insurance (2015)



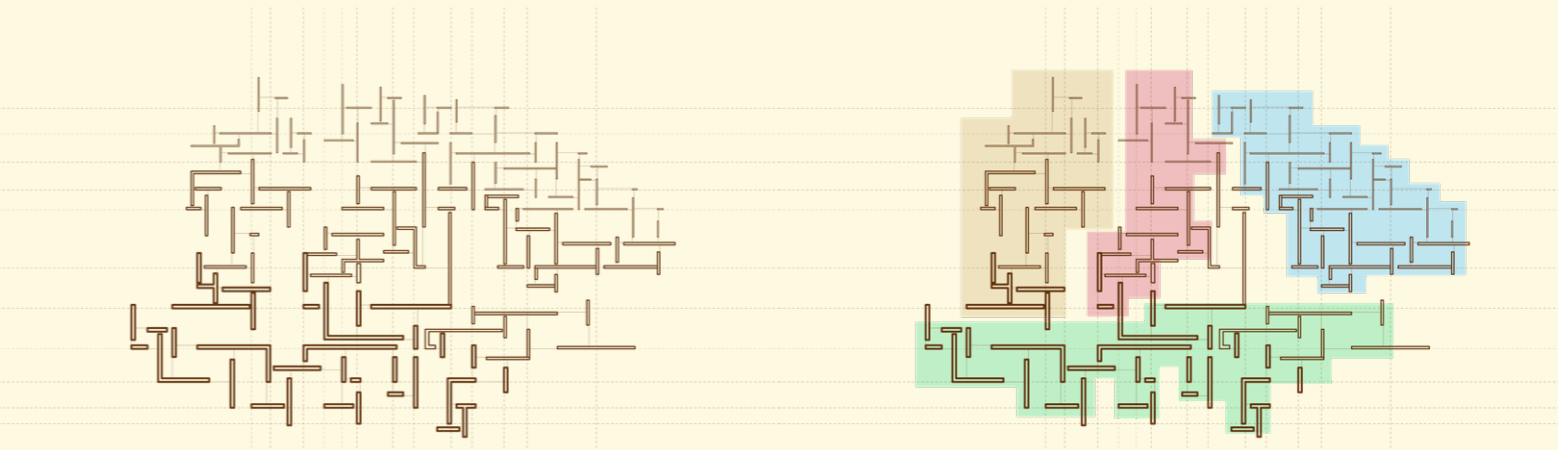
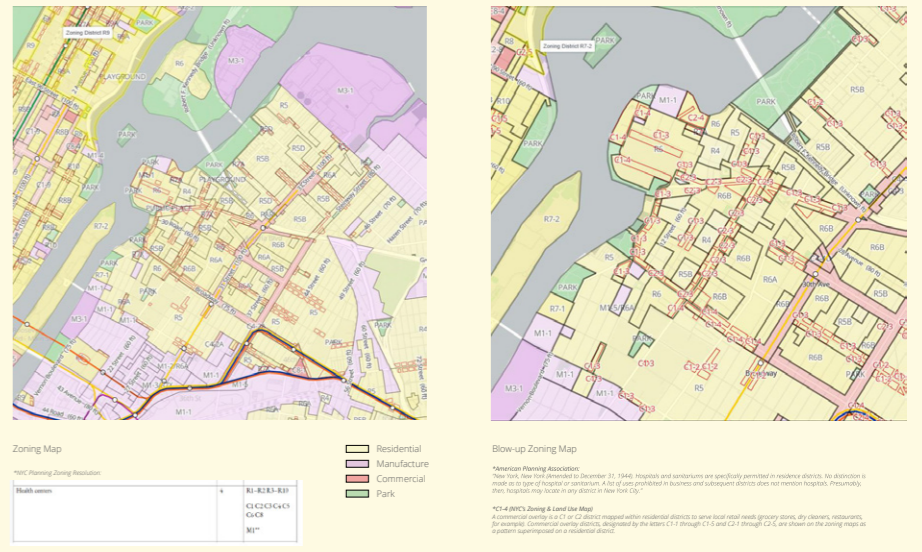
Precent of New Yorkers in poverty (2012-2016)  
Percent EMS dispatches that address mental health needs (2019)



Mental Health providers in New York City  
Site Boundary: Long Island City - Astoria



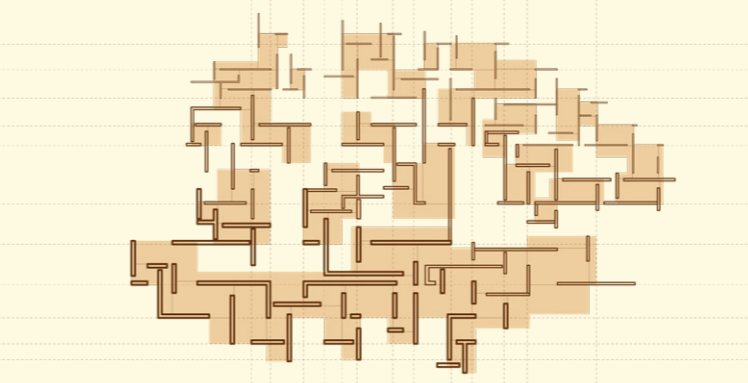
SITE: 26-02&26-40 1st Street, Astoria, NY 11102



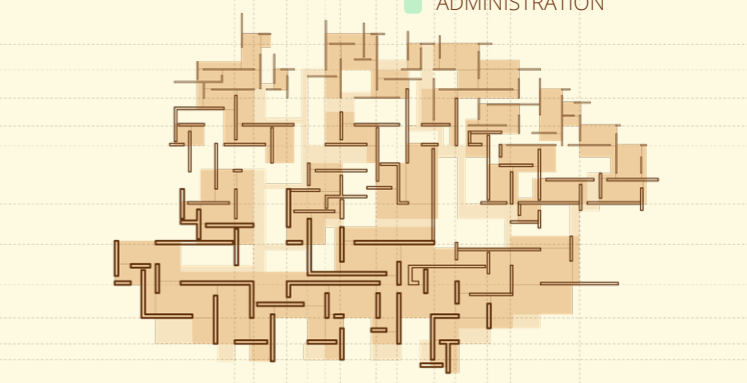
WALL THICKNESS AND SEPARATION DISTANCE ADJUSTMENTS FOR LIGHTS AND PROGRAM REQUIREMENTS

PROGRAM ZONES

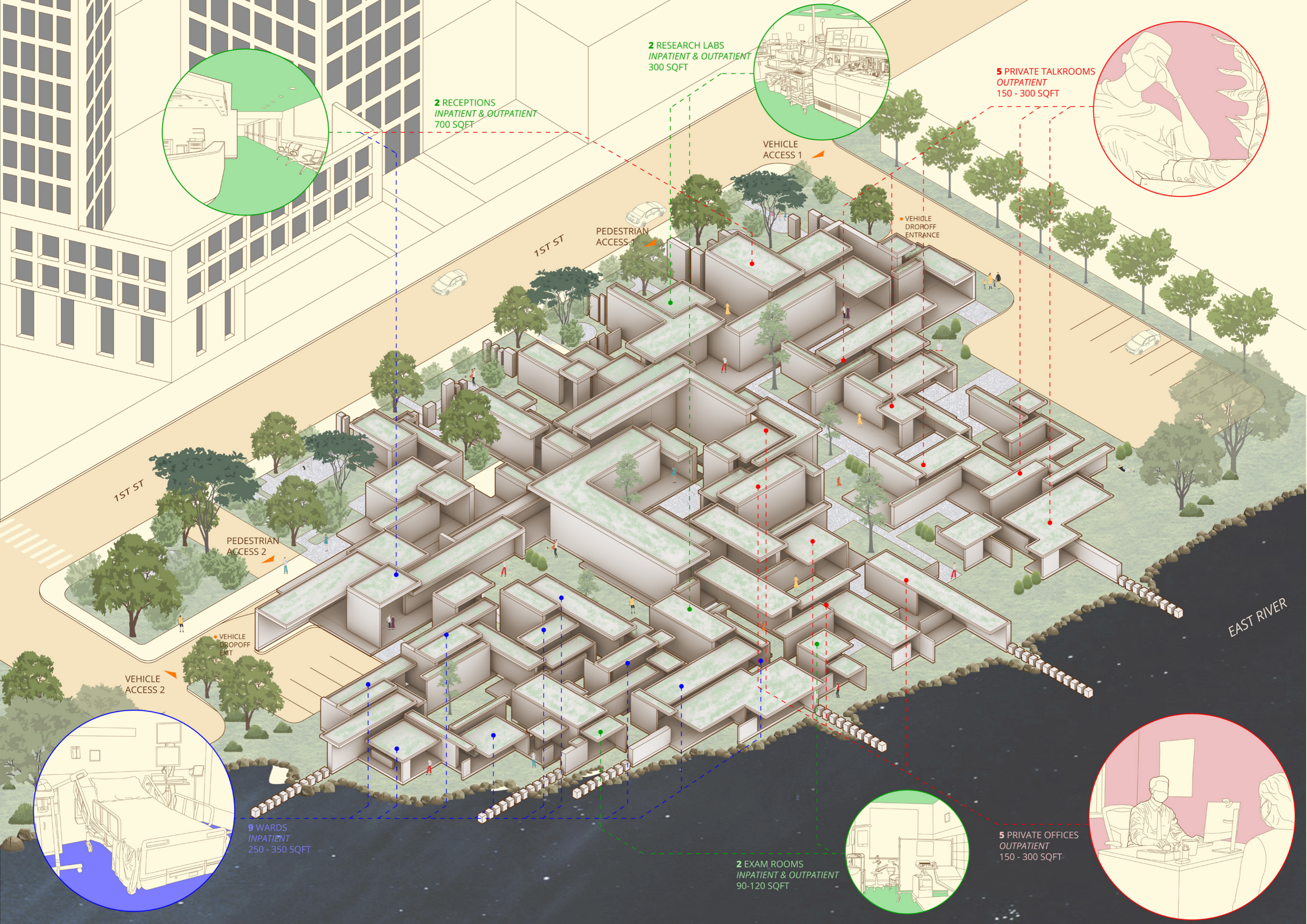
- OUTPATIENT TALK ROOMS
- OUTPATIENT PRIVATE OFFICES
- INPATIENT WARDS
- ADMINISTRATION



FLOOR SLABS ON A FULLY LAWNED (WITH NATIVE PLANTS) SITE



CIRCULATION



**2 RESEARCH LABS**  
INPATIENT & OUTPATIENT  
300 SQFT

**2 RECEPTIONS**  
INPATIENT & OUTPATIENT  
700 SQFT

**5 PRIVATE TALKROOMS**  
OUTPATIENT  
150 - 300 SQFT

VEHICLE ACCESS 1

PEDESTRIAN ACCESS 1

VEHICLE DROPOFF ENTRANCE

1ST ST

PEDESTRIAN ACCESS 2

VEHICLE DROPOFF EXIT

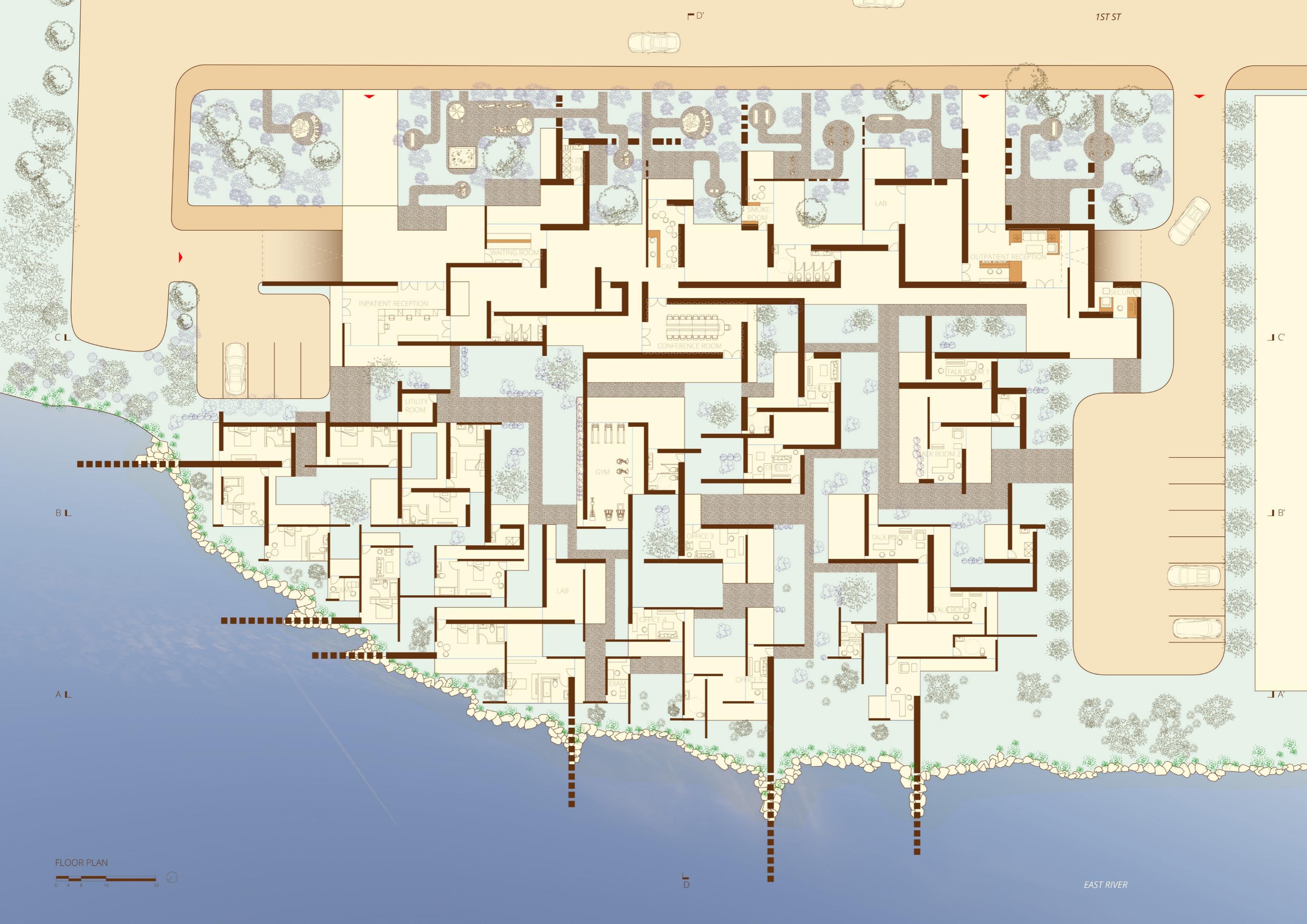
VEHICLE ACCESS 2

EAST RIVER

**9 WARDS**  
INPATIENT  
250 - 350 SQFT

**2 EXAM ROOMS**  
INPATIENT & OUTPATIENT  
90-120 SQFT

**5 PRIVATE OFFICES**  
OUTPATIENT  
150 - 300 SQFT

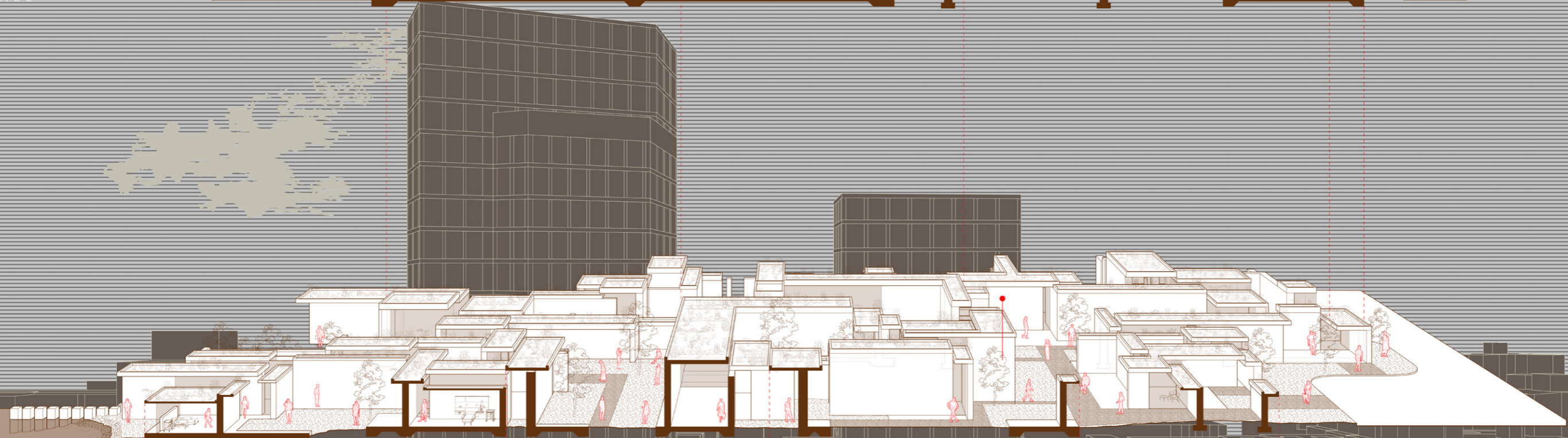


FLOOR PLAN  
 0 4 8 16 32

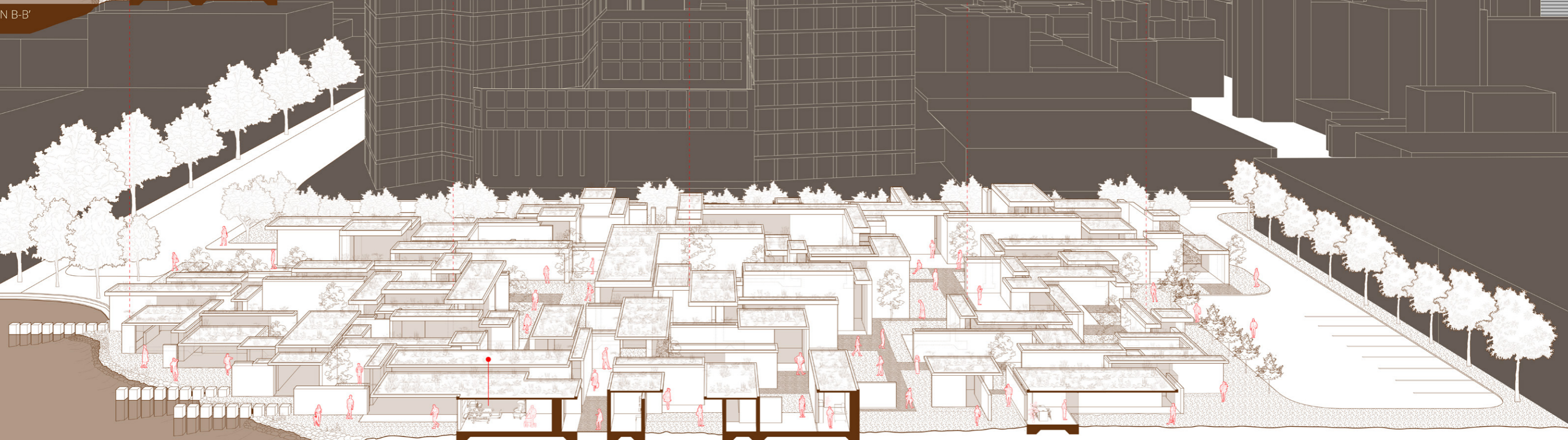
SECTION C-C

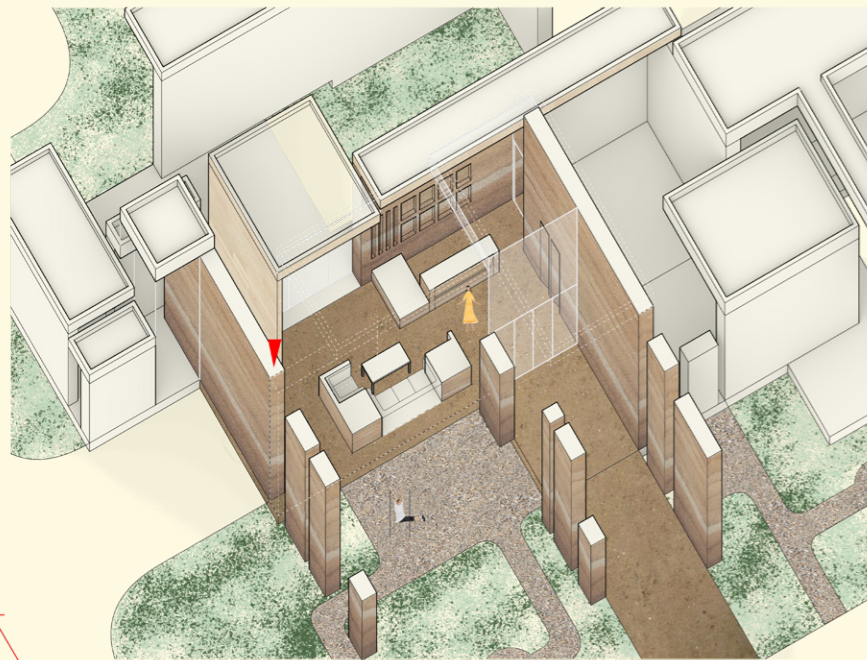


SECTION B-B'

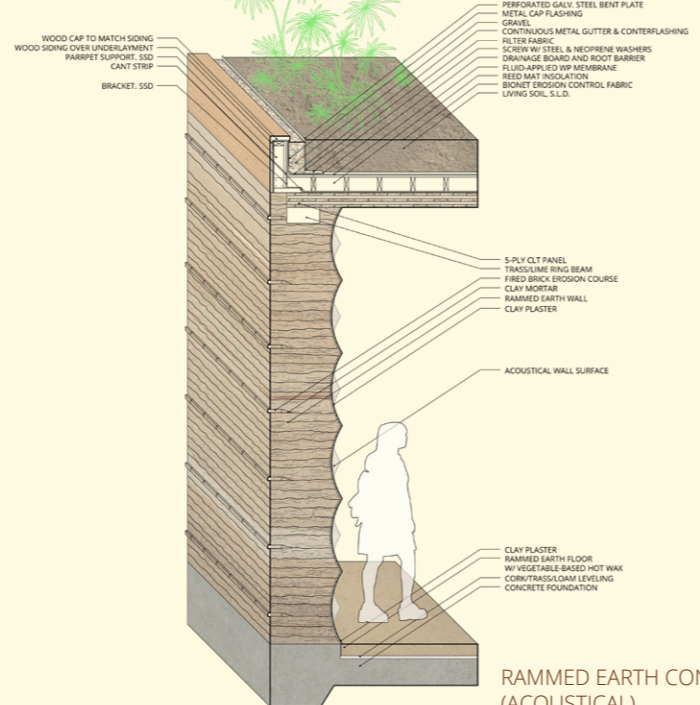


SECTION A-A'

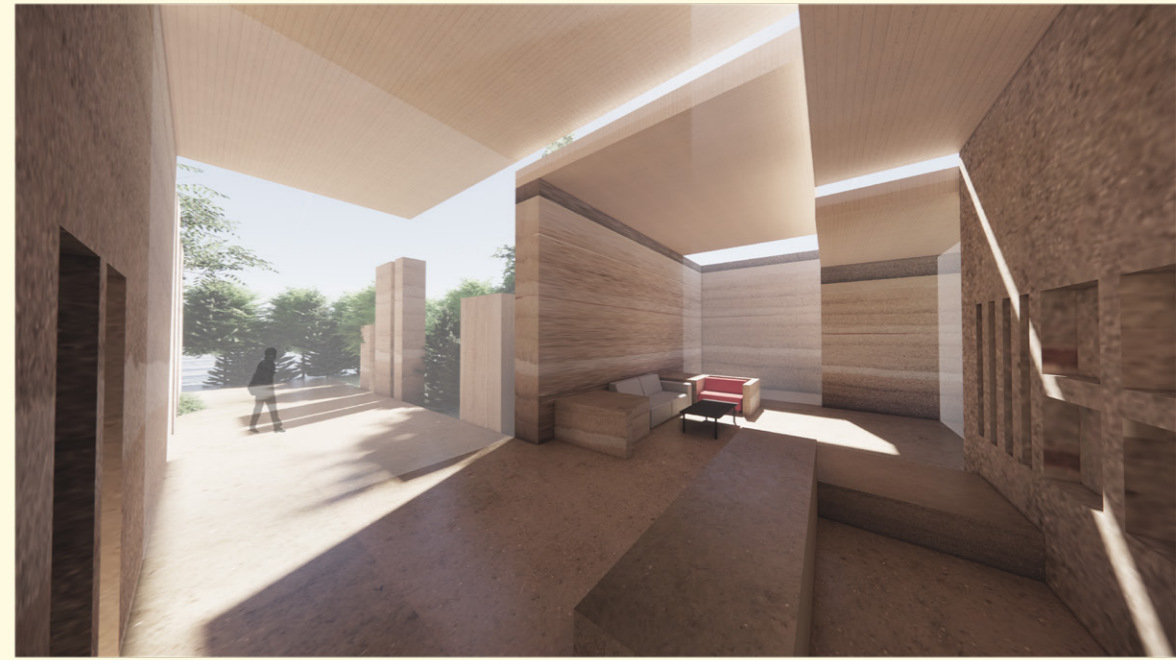




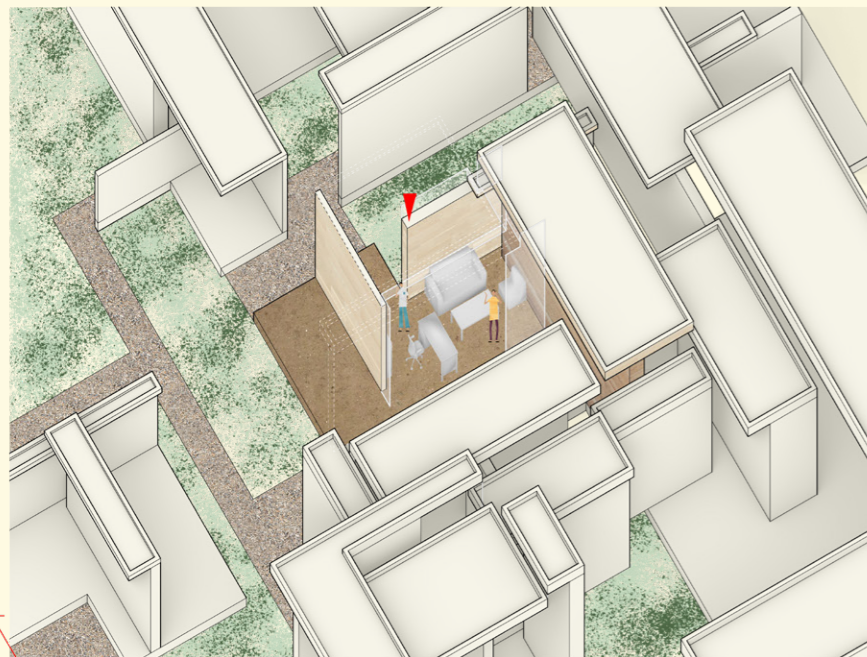
OUTPATIENT RECEPTION



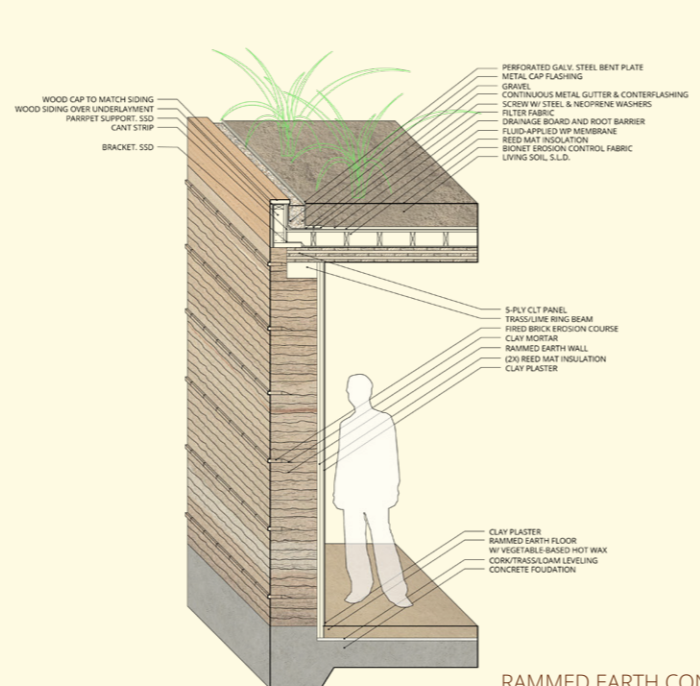
RAMMED EARTH CONSTRUCTION (ACOUSTICAL)



RENDER :: OUTPATIENT RECEPTION



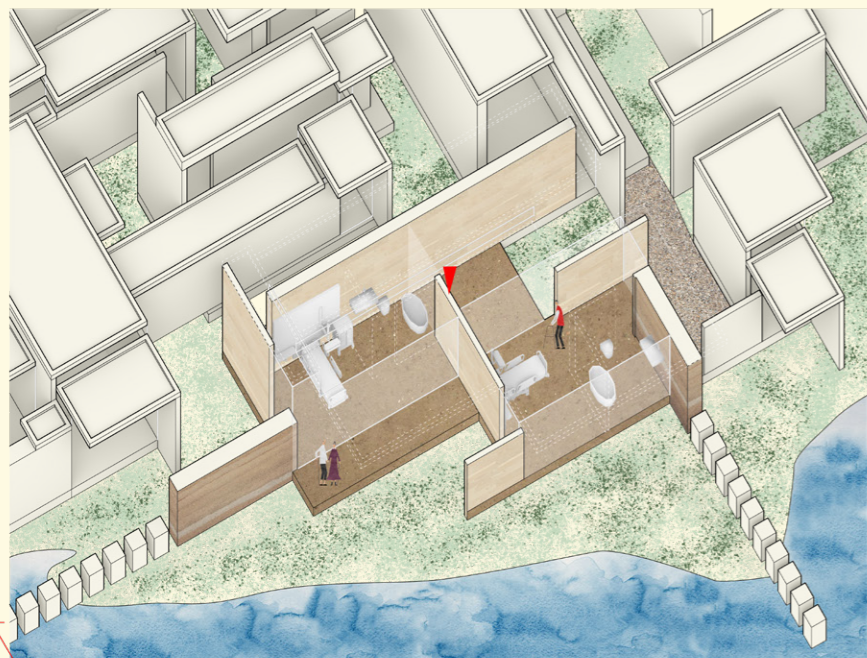
TYPICAL PRIVATE OFFICE



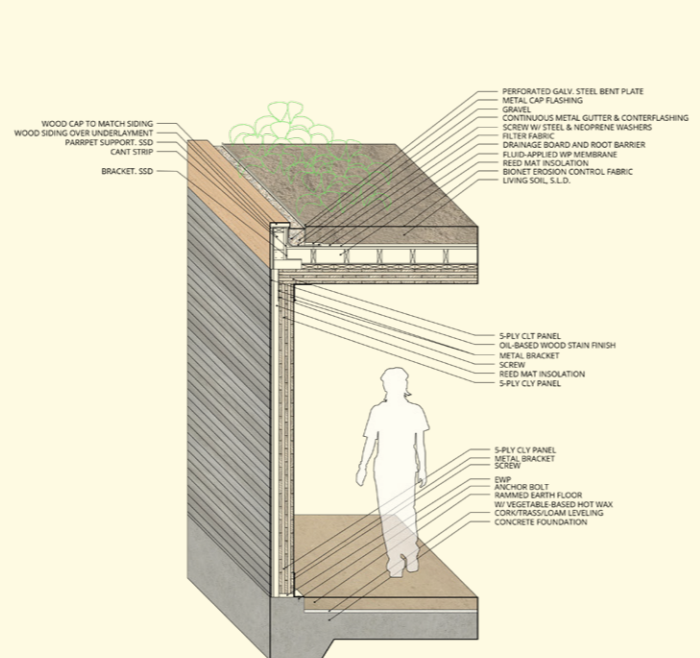
RAMMED EARTH CONSTRUCTION



RENDER :: OFFICE - TALKROOM COURTYARDS



TYPICAL INPATIENT WARD



CLT CONSTRUCTION



RENDER :: INPATIENT WARD



### III

## BRIMMED WITH MEMORIES

### Reinterpreting Archive for Elephants

*Surin, Thailand*

Directed Research: Non-Human Centered / Teamed with Junjie Fu

Instructor: Boonserm Premthada

Email: bangkokprojectstudio@gmail.com

January 2023 - May 2023

Located in Ta Klang Village, Surin, Thailand, the project centers on the strong bonding relationship between local people and the elephants that have grown up as part of their families. The villagers maintain a peaceful elephant graveyard with over 100 resting places for deceased elephants, where the tombs recognize and commemorate their bonds with humans. However, the current graveyard's significance is limited by its atomized structure and individual connections between each mahout and their elephants. Thus, the project aims to reinterpret the graveyard into an archive space for elephants, where the village's collective memory can be etched.

The design is inspired by the elephant footprint, where each elephant's death is honored by weaving its memory into the ground. The ground keeps track of the elephant footprints, which are collected to form an archive of the village's history. The formless and chaotic nature of elephant marks become a repository for memories and stories, and over time, the space leaves a trace of elephants that complete the design.

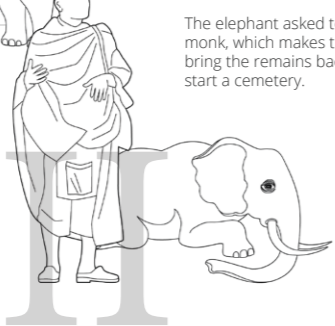
The space serves as an archive, a garden, a forest underground, and a place for elephants, humans, and other non-human animals, where the stages of grief are respected, and the place of remembrance is defined and fortified with the energies of life. The project transforms the elephant graveyard into a space of archive and commemoration for the elephants' bonds with humans and their collective memories.

The Graveyard Project combines local beliefs, cultures, and poetic beauty to tell a story and convey emotions of an ancient graveyard. The same holes dug out to bury elephants are where seeds are planted waiting to be reborn as trees. The elephant's footprints are reinterpreted as a large archive. This Graveyard is unique with a simple architecture, reflecting the simplicity of an elephant grave. As the community has to excavate many elephant graves for the burial rituals, the project takes into account the use of local materials such as laterite, as an effort to maximize resource efficiency. Most importantly, this project reminds humans to rethink their role in nature and to respect the environment, the indigenous heritage and history with humble architecture.

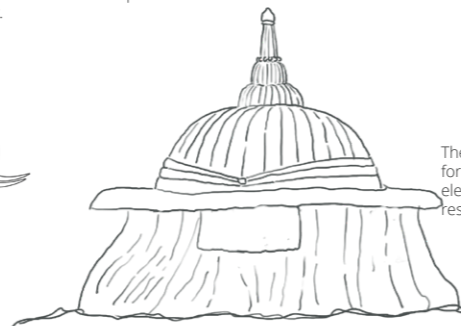


VICINITY MAP :: ELEPHANT WORLD PROJECT BY PROF. BOONSERM PREMTHADA

The temple's abbot had a dream one night about an elephant that he bonded with when he was young. The elephant had died after being hit by a car and had been buried in another province.



The elephant asked to be reunited with the monk, which makes the monk decided to bring the remains back to the temple and start a cemetery.



The elephant graveyard is cared for shows that the owners love the elephants and want an appropriate resting place for them.

ELEPHANT GRAVEYARD HISTORY



EXISTING ELEPHANT GRAVEYARD

1. ENTRANCE  
2. CULTURAL COURTYARD  
3. BRICK OBSERVATION TOWER  
4. ELEPHANT MUSEUM  
5. PA AJIANG TEMPLE  
6. FOREST

What's an elephant?  
he asks me  
so I tell him of the elephants  
and their jungles, the story  
of the elephant graveyard  
which he says has never found  
and how the silent  
animals of the rainforest  
go away to die somewhere  
in the limbo of distances  
and he smiles at me

tells me of his father's  
graveyard where his people have been  
buried for years. So far back  
no one remembers when it started  
and I ask him where the graveyard is  
and he tells me it is gone  
now where no one will ever find it  
buried under the grade of the new  
Highway.

- Patrick Lane

Do not stand at my grave and cry,  
I am not there. I did not die.

- Mary Elizabeth Frye

Do not go gentle into that good night,  
Rage, rage against the dying of the light!

- Dylan Thomas

In the old elephant graveyard  
over the ivory covering of ivy

- Saion Shriver

Round T'oung Taloung, like Indra's censers swung,  
Cycles of Buddha sweep in weird progression...  
Their incense breathes as lays an Meriam sung  
Of melodies chimed in rhythmic retrocession.

- Henry O'Meara

for my own blowing hair, chapped face, and unbuttoned coat that I'm speechless:  
I am living. I remember you.

- Mero Howe

We elephants are images of humility, as when we  
undertake our melancholy migrations to die

- Dan Chiasson

For me, this is where  
the conflict lies.  
For me, this is where  
the ritual begins.

- Kate Flarty

Look at the stars...  
the Great Kings of the Past look down on us from those stars.

- The Lion King

for how we trace the web life spine  
partly swept away and cooling pins  
still conscious, our future prints  
will never match the elephants.

- Kathleen Radigan

We traced the life trajectory of an elephant, from its first step on earth to its last breath. As its remains become nutrients for plants and other animals, its spirit shines down from above like the stars, guiding the way for life and praising the bonded relationships between humans and elephants on this peaceful land. Understanding the history and culture behind the shrine-like graves of elephants, we look back further into the material world of the existing graveyard. We studied trees, soil, and everything on site that can leave marks for all the stories (of the village/between humans and elephants) remembered and to be told.



ELEPHANT SKIN

ELEPHANT TURNK

ELEPHANT FOOT

ELEPHANT DUNG

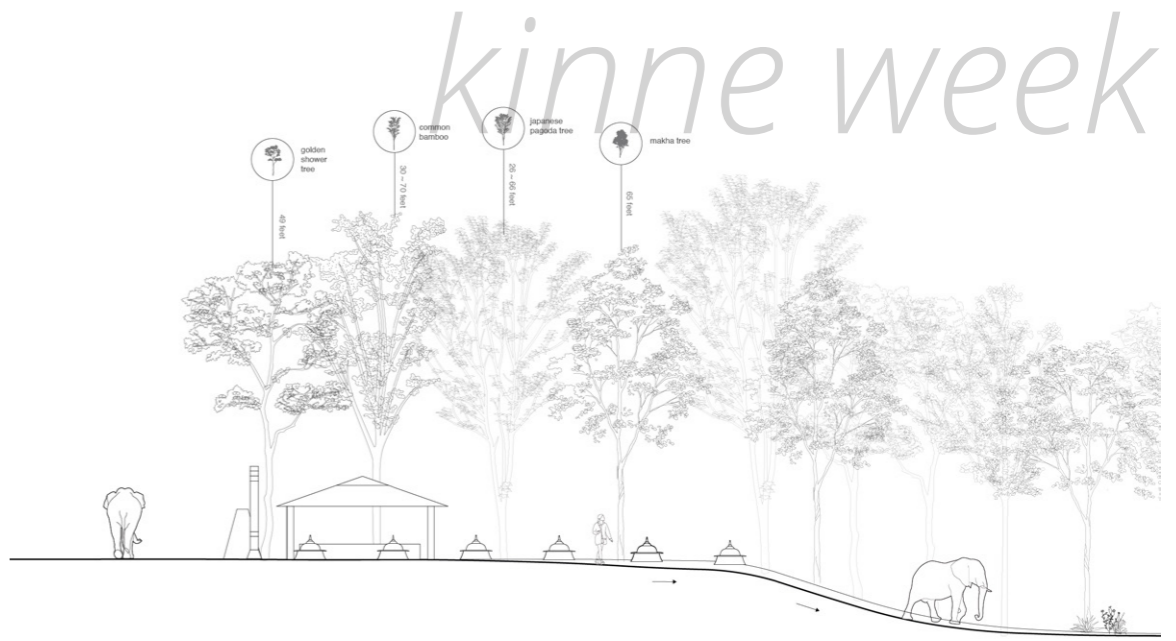
PHYSICAL AND CULTURAL MARKS MADE BY ELEPHANT

For the elephants in the Ta Klang Village in Thailand, they have a strong bonding relationship with local people since birth. Each elephant here is part of a family that grows up together with the people. At the elephant village, they maintain a tranquil elephant graveyard. It provides over a 100 resting places for the elephant that has passed away. This site is specifically intriguing to us, in which the death of elephants and their bonds with humans are recognized and memorialized with these tombs. However, the existing graveyard is so humble that it conceals itself into the surrounding environment and its significance is limited by its atomized physical structure and the individual connection between each mahout and their elephants.

We traveled to Ta Klang Village in Thailand from March 6<sup>th</sup> to March 9<sup>th</sup>, where humans live with elephants, shows that humans do not always have to be the center. The coexistence between us and other beings is worth studying.

On site, we learned about empathy, humanity, awareness, attitude, responsibility, common sense, intuition, feelings, and to understand humanity through feelings, and our six senses.

We probed into construction methodologies that arise from limitations and our surroundings, such as the poor people technique, the animal technique, and the natural technique.



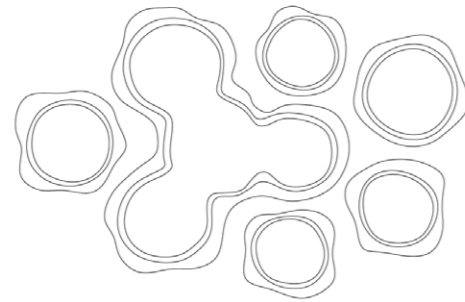




ON-SITE MADE ELEPHANT FOOTPRINT MOLD SHIPPED BACK TO COLUMBIA UNIVERSITY, NEW YORK



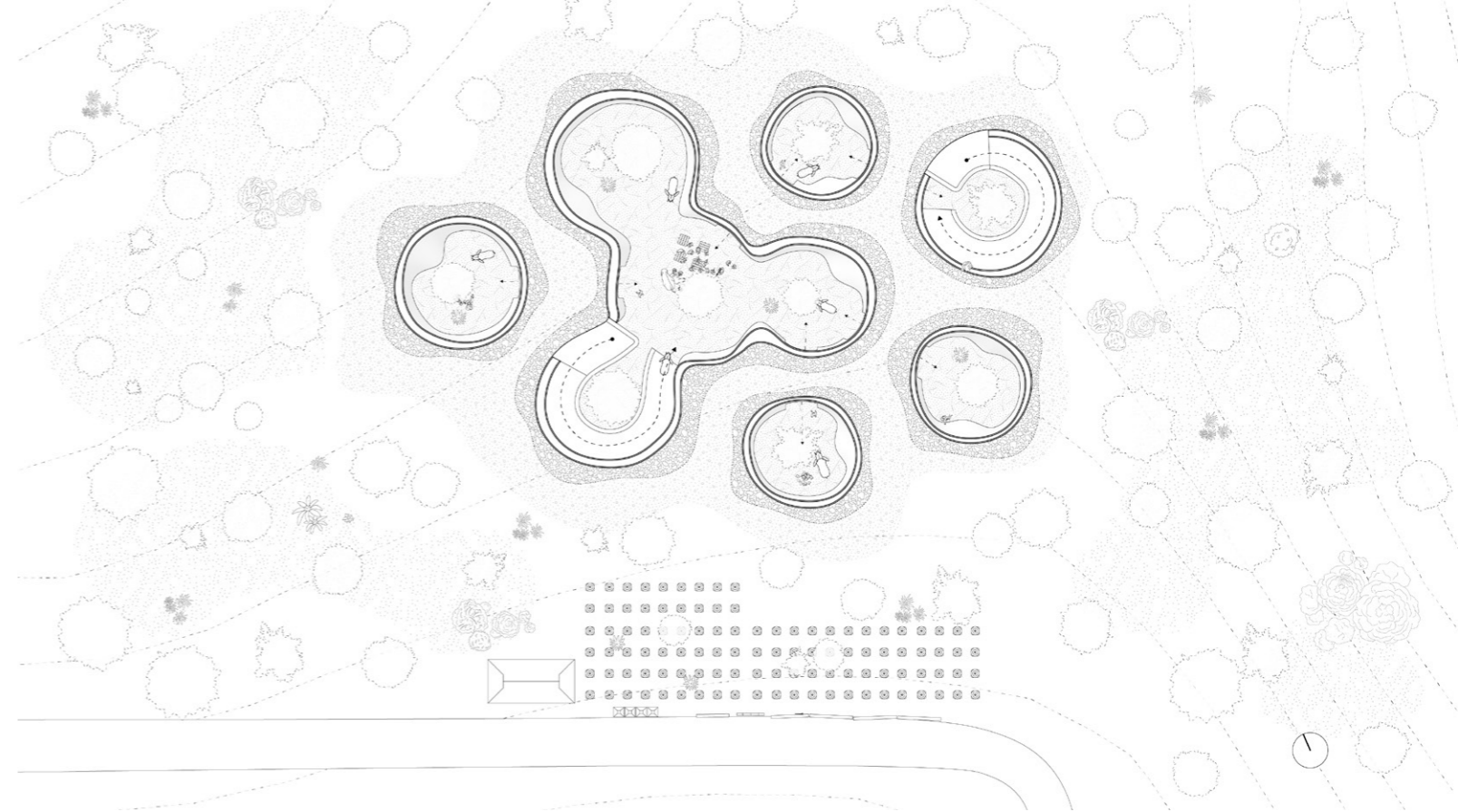
ELEPHANT FOOTPRINT



ELEPHANT ARCHIVE

The initial concept of our design is driven from the elephant mark itself, which is the footprint.

The ground keeps track of the elephant footprints, we collect them as our archive to keep track of the history itself.



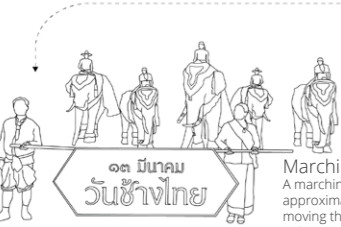
FLOOR PLAN

**ELEPHANT FESTIVAL**

March 13<sup>th</sup> - March 14<sup>th</sup>



**Preparation**  
Before the events, locals will gather to prepare decorations for the event.



**Marching**  
A marching procession of approximately 300 elephants starts moving through Surin city from the railway station towards the elephant roundabout.



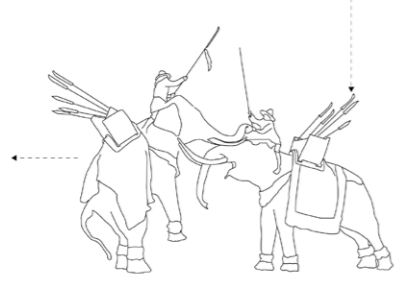
**Morning Ritual**  
A morning ceremony as part of Thailand's National Elephant Day. Activities include spiritual ceremonies with elaborate offerings, giving alms to Buddhist monks, and making merit to ancestors.



**Banquet for Elephants**  
A grand buffet that is beautifully arranged with fruits will be served to the elephants.



**Buddhist Ceremony**  
A Buddhist ceremony making merits to those who have passed away (human and elephants.)



**Performance**  
Locals will perform traditional performance to welcome senior minister, government officials and other guests to the day packed full of celebration.

**DAILY PROGRAMS**



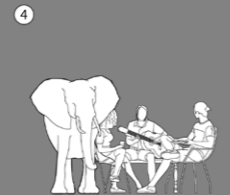
1 ELEPHANT TREATING



2 MEDITATION



3 MOURNING



4 DAILY GATHERING

**CEREMONIAL PROGRAMS**



1 EVENT PREPERATION

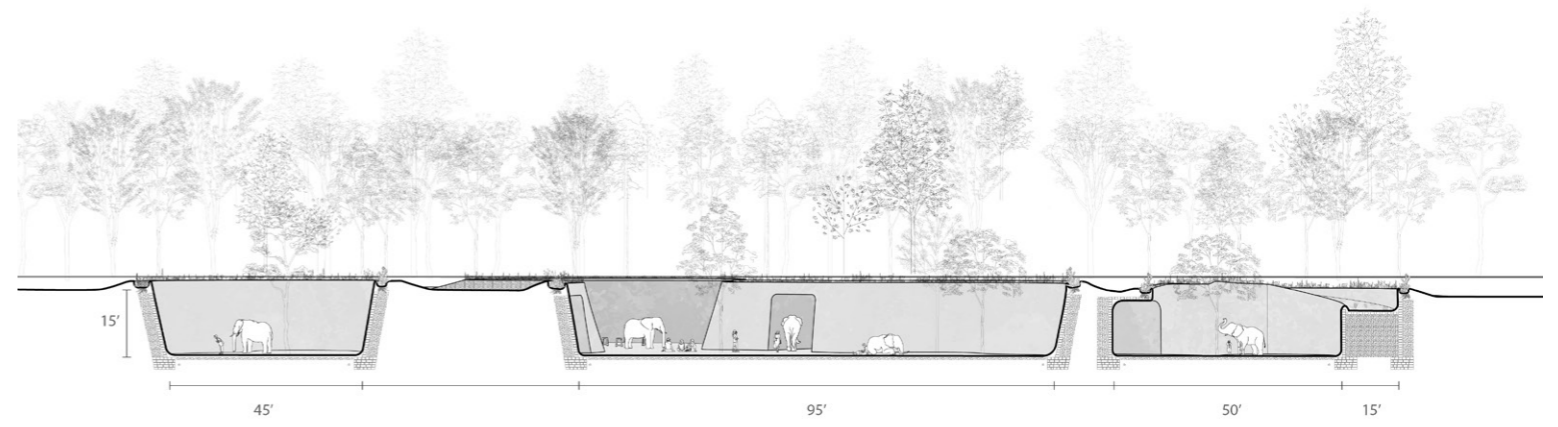


2 ELEPHANT MARK MAKING RITUAL

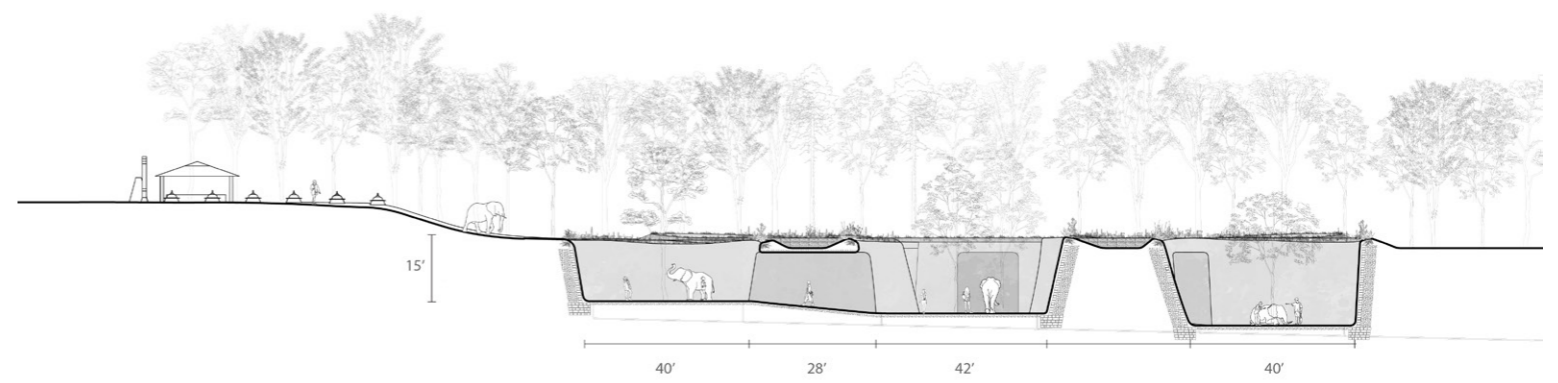


3 CELEBRATION OF LIFE & DEATH





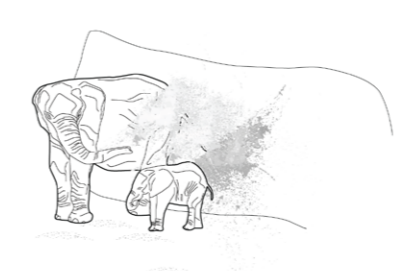
LONGITUDINAL SECTION



TRANSVERSE SECTION



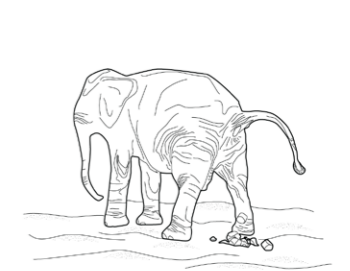
BODY SCRATCHES



WATER MARKS



TRUNK DIGGINGS



DUNG LEAVING

**Material**

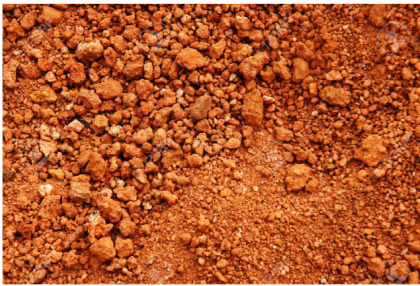
Locally abundant soil and rock type called laterite were chosen to be used for both structural and finishing components. Laterite is both a soil and rock type rich in iron and aluminum; it is of rusty-red coloration because of high iron oxide content. The raw laterite blocks and gravels will be first used to build the retaining walls along the perimeter of the pits as structure, in the meanwhile, mortar made from laterite soil will be used for the laterite masonry construction. Then, the masonry wall will be coated with laterite plaster also made from laterite soil, providing opportunities for humans and elephants to leave their customized marks while constructing.



LATERITE SOIL 1



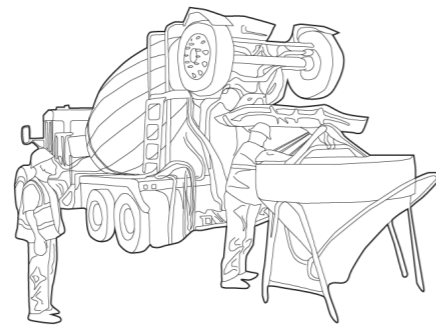
LATERITE SOIL 2



LATERITE GRAVEL



LATERITE MINE



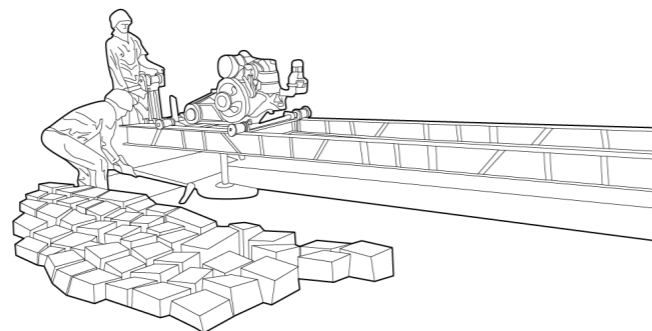
LATERITE MORTAR



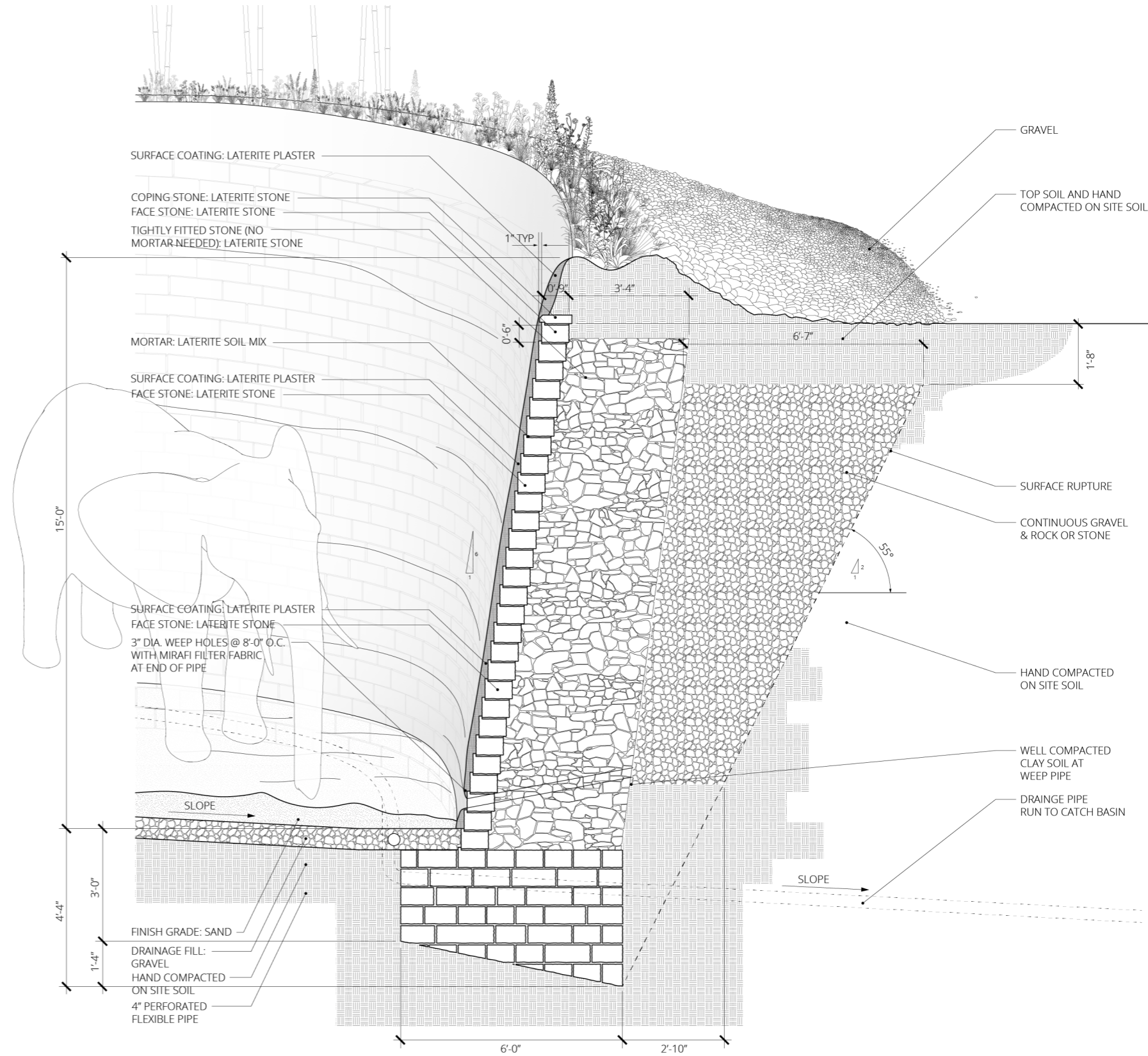
LATERITE PLASTER



LATERITE GRAVEL GRADING



LATERITE STONE BLOCK





Because of the instability of the loose laterite plaster and sand, the laterite wall and sand floor will undergo daily weathering from human and elephant activities as a way to record history and memory.

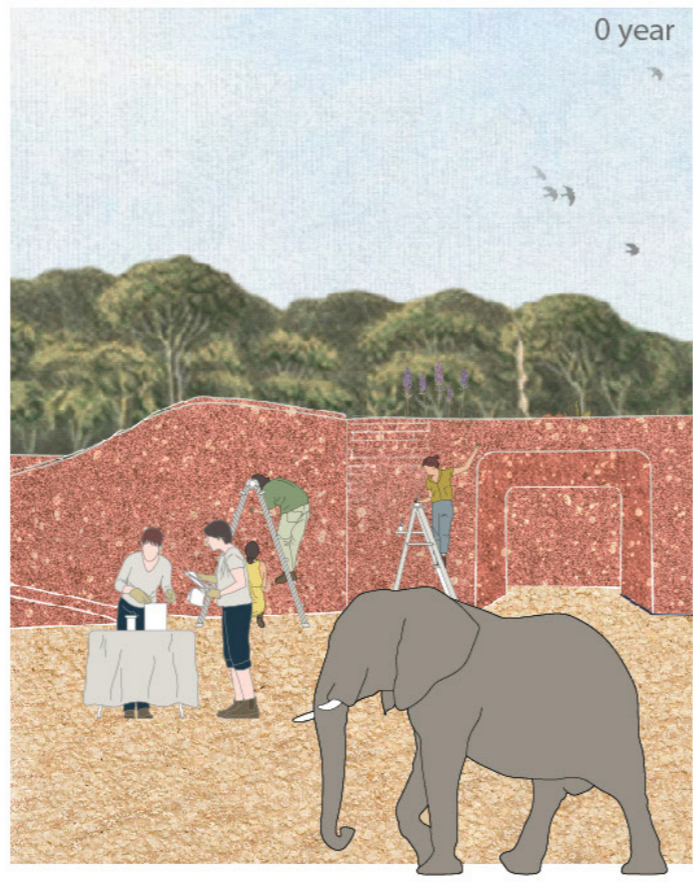
This proposal will rethink how elephants interact with the physical environment and emphasize their existence by leaving marks. They are not for elephants alone, but all relationships and stories between the villagers and their beloved animals.

Death is but a transition, from one form to another. It's a natural ebb and flow. The formless and chaotic nature of elephant marks then become a repository for the memories and stories. Over time, the space leaves the trace of elephants, permanent or temporary, that all together, complete the design.

In this space of an archive, a garden, a forest underground, and a place for elephants, humans, other non-human animals, the stages of grief are respected, but not cloistered, this place of remembrance is defined by, and continually fortified with the energies of life.



construction



0 year



5 years



10 years