Linru Wang
GSAPP 2020-2024

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The Field Paths

Slow Ablution

Inwood Arc

The Porch

Constructed Grounds

Thermal Layering

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Planetary Hermitage

The Field Paths

A Natural Extension

Advanced VI, Spring 2024
Instructors: Sandro Marpillero, Sonal Beri
Site: Godhavi, Ahmedabad, India

The Field Paths is created in relationship with the existing landscape. By connecting key ecological points across the canal and between the watershed, working with the existing conditions and adapting the design to the locale, the presence of the paths upholds the patterns of the farming fields. With a seasonal wetland habitat surrounding the trees, the visible conditions of the landscape form a natural force that resists rigidity and the linear.

immersing.
walking.
the field paths.

Monsoon, the soul of India, has been vital for thousands of years, it gives life to India's ecology and culture. With the geographic surface drained by rivers, seasonal rainfall has been nurturing the land and its people.

Narmada River supplies water to the Sarbamati River that runs through the city of Ahmedabad, and supplies water to hundreds of communities with the expanded canal system. Life cycles in these countries depend greatly on the rain.

Video in collaboration with Wei Xiao

Currently confronted with overriding infrastructural expansion, pollution and farmland losses. What does harmonious ecology mean in the context of Godhavi, for whom it is intended, at what scale is it achievable, and through what means can it be realized?

Marble Rocks, Alongside Narmada River
815.2 mi

Saharmati Riverfront

Narmada CanalConstruction

Railway Bridge on river Narmada at Bharuch, Gujarat

GODHAVI
AHMEDABAD

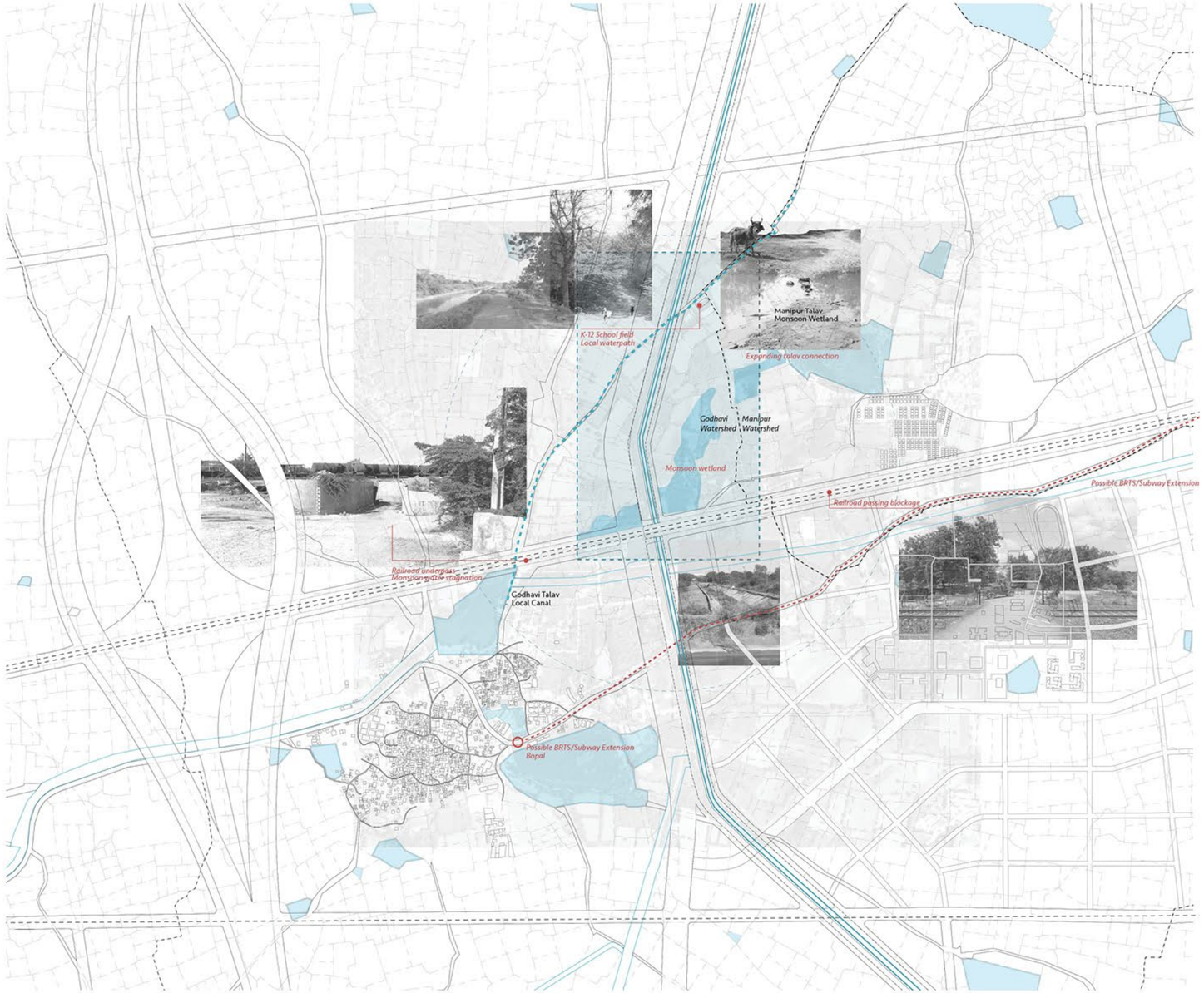
The Narmada originates in the forests of Amarkantak in the Maikala Range. Downstream, worshippers set prayer lamps afloat on this, the holiest of Indian rivers.

Narmada Kund, origin at Amarkantak

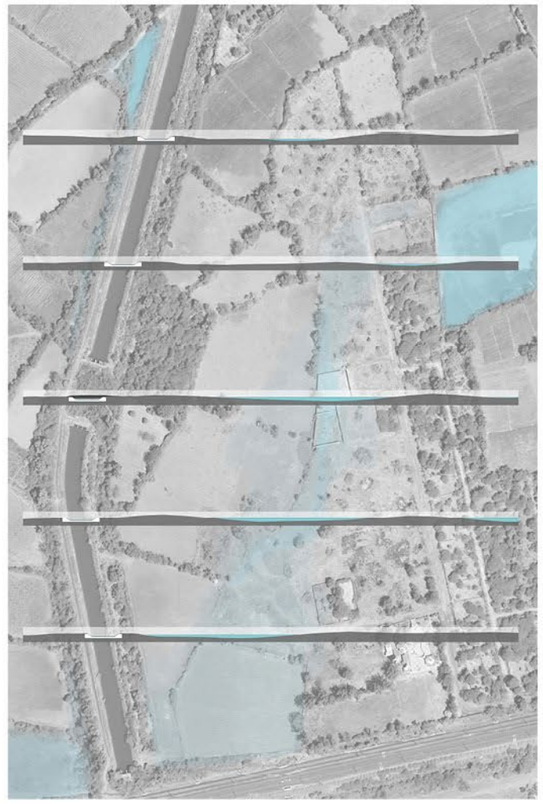
Narmada River at full flow during monsoon in Bhedaghat.

The Sardar Sarovar Dam on Narmada river

Rivers, Narmada and Sabamarti
Narmada Canals network.
500 mi



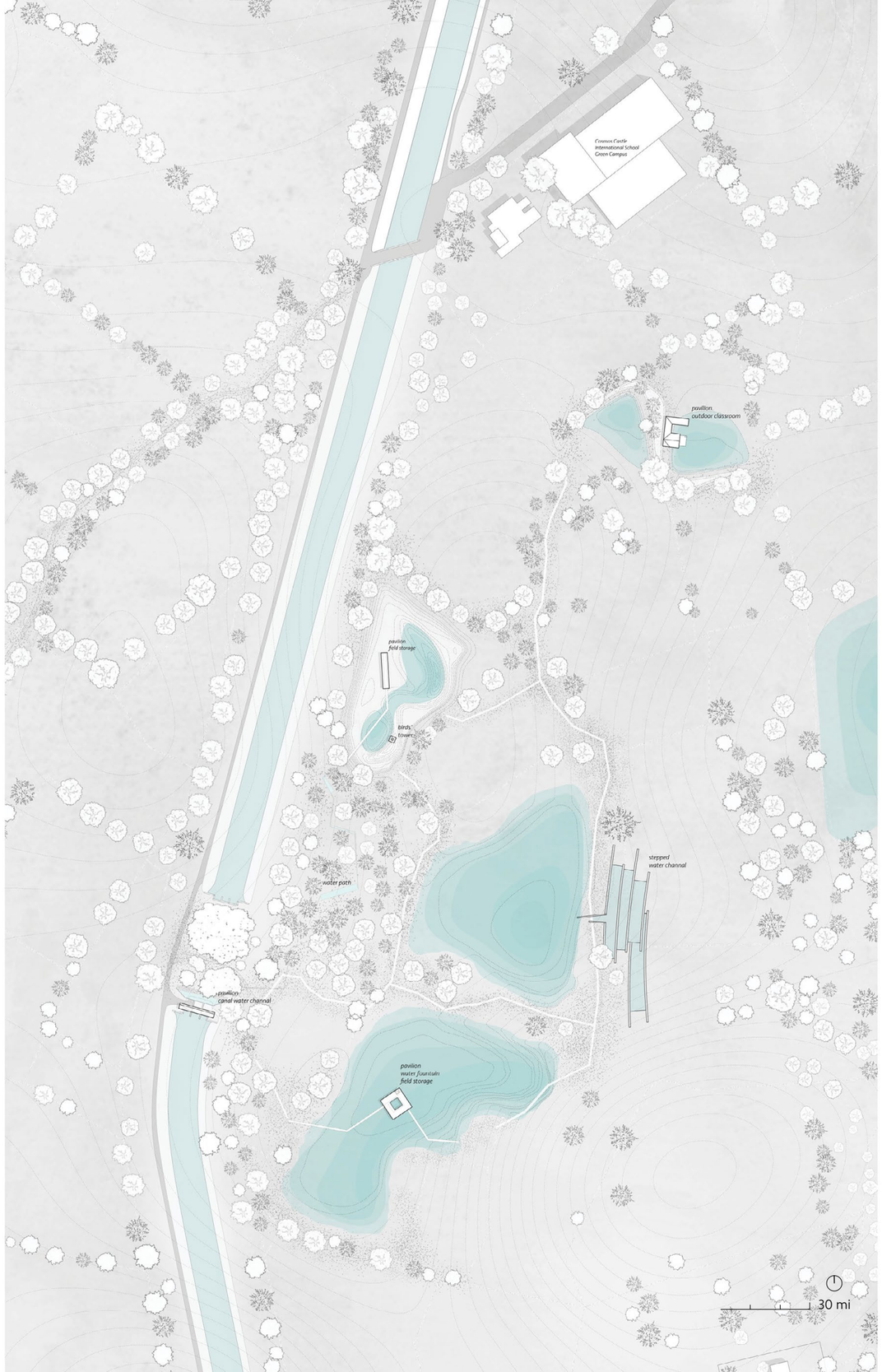
Godhavi Site Conditions, Infrastructure

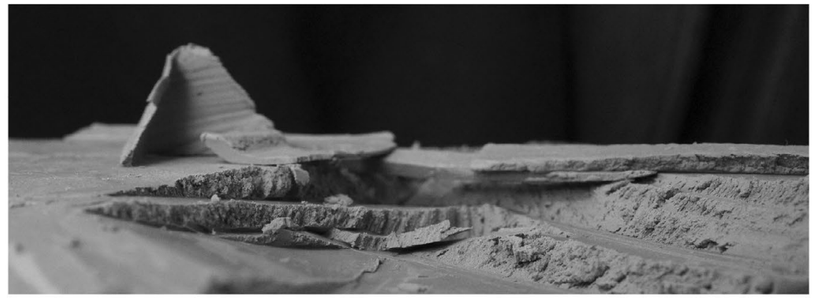


Site Monsoon Conditions, Section

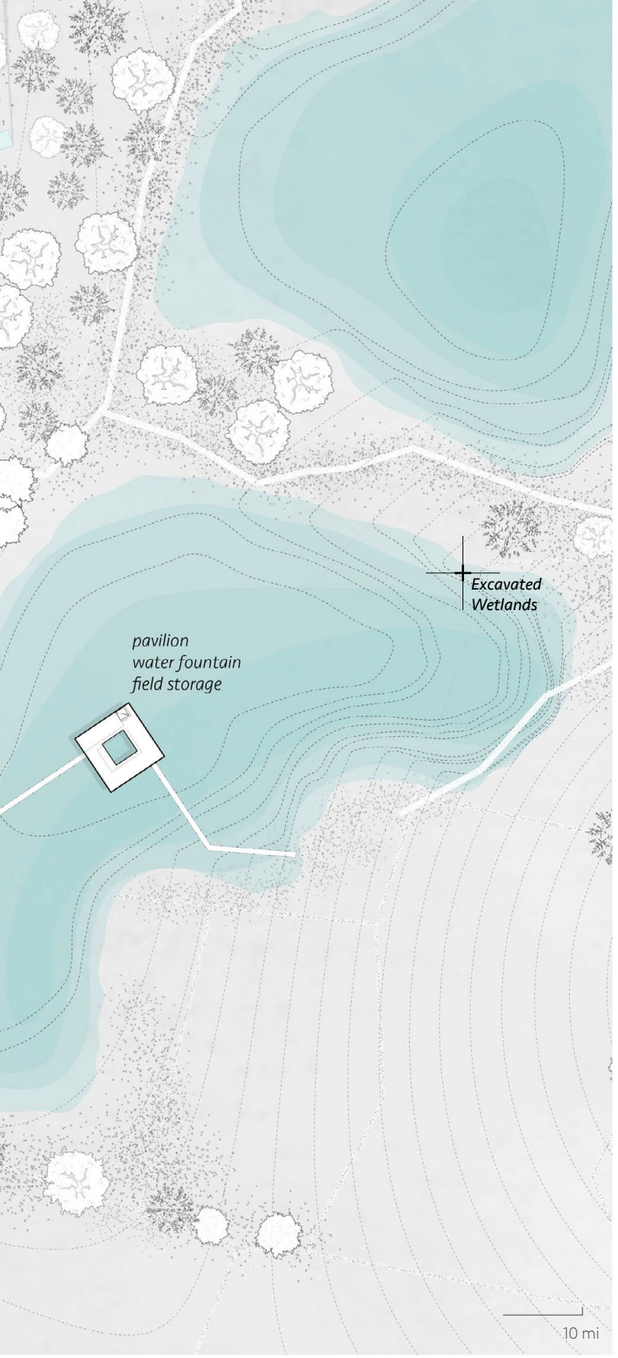
Visible Conditions

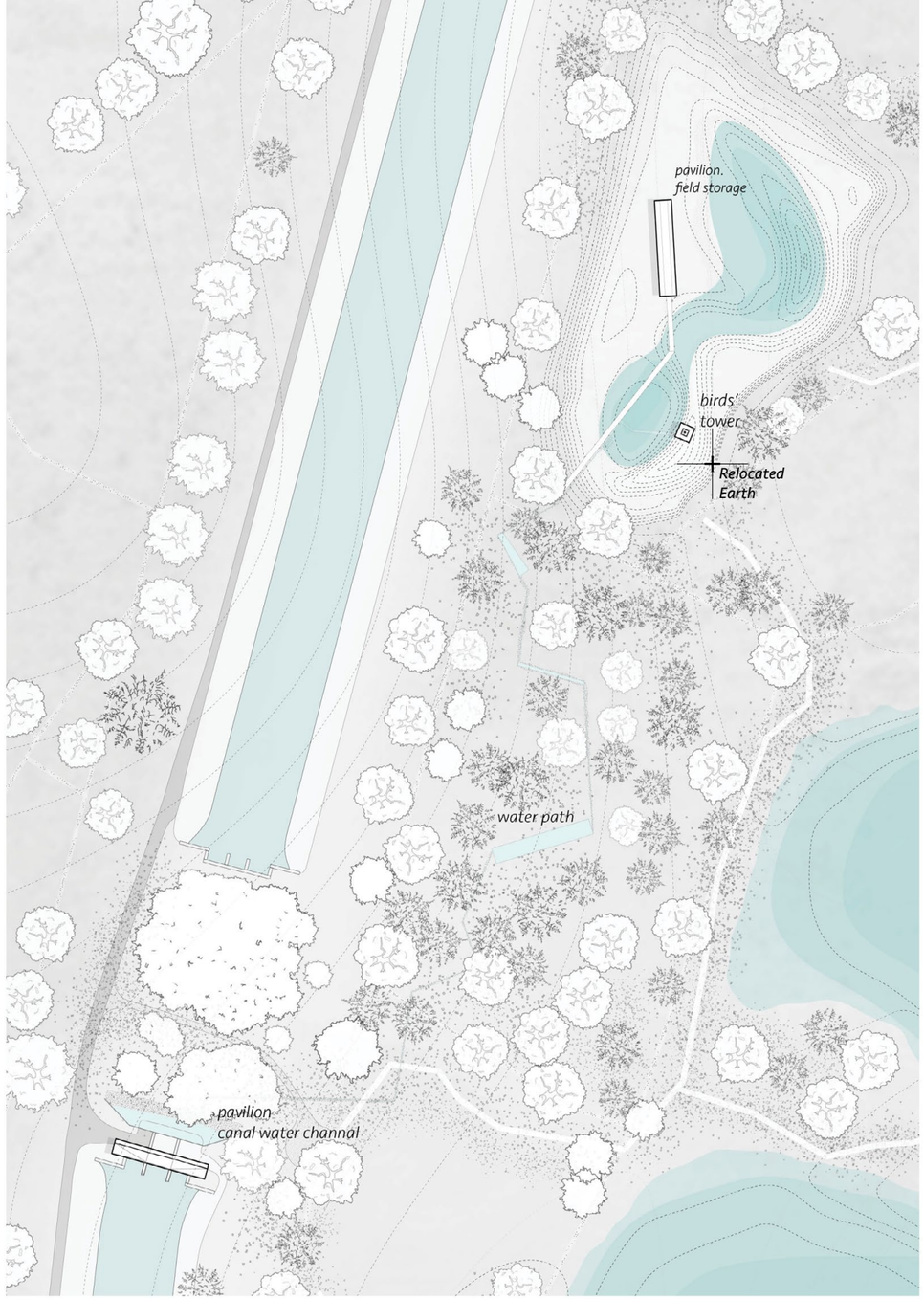
The area between Godhavi and Manipur has been consistently transforming at a micro scale; temporality reshapes navigation patterns between seasons. Recent developments in the peri-urban area has refigured the ways in which local communities engage with water, as infrastructures rearrange connectivity. This practice challenges the encroaching Town Planning Scheme's grids with a low-impact system of paths to access wetlands and sustain the ground.

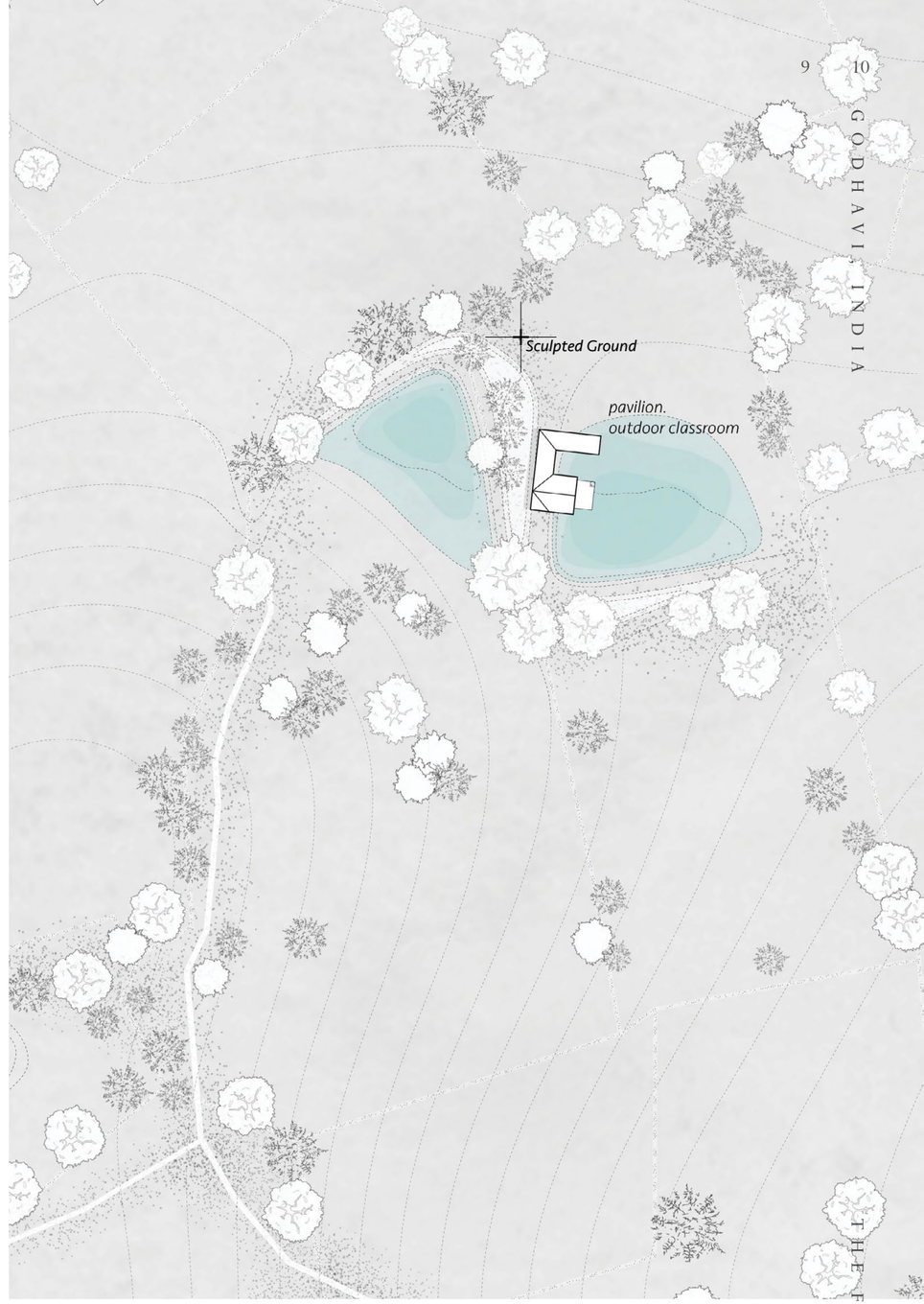


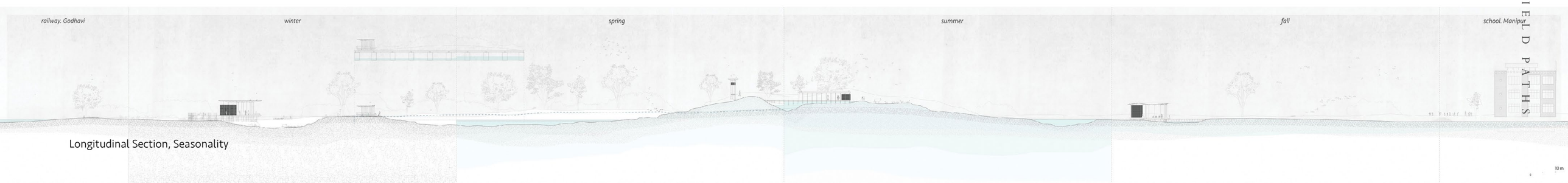


Left Site Master Plan
RIght Progress clay model, Design clay mode



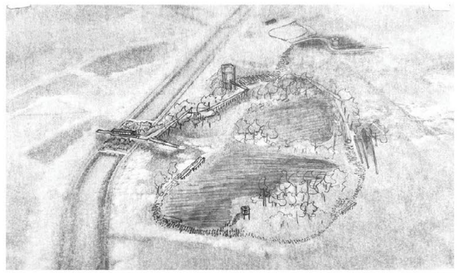






Longitudinal Section, Seasonality

THE FIELD PATHS

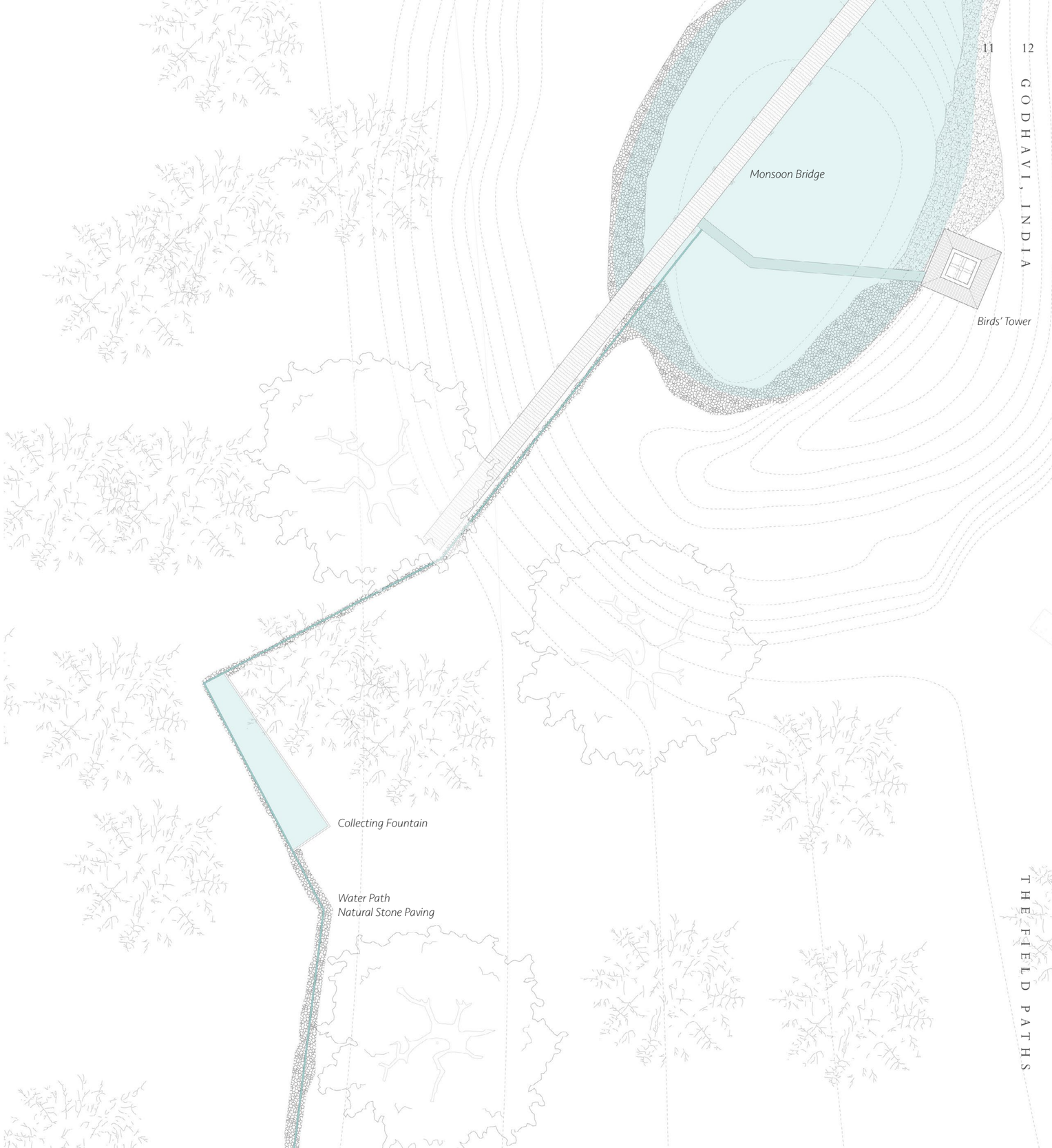


Progress sketch

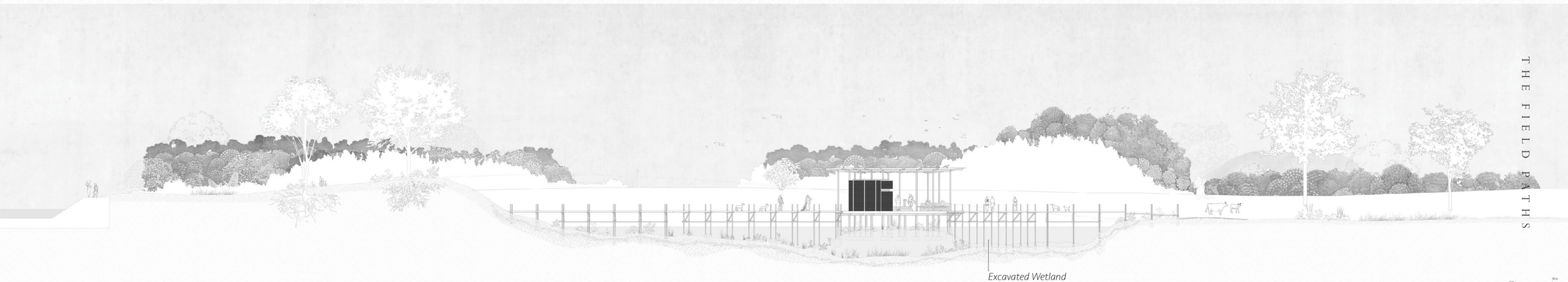
Pavilion at Canal

Natural Extension

As versatility defines conditions of water, seasonality and gravity redefine its movement. The expanse of water in the summer farming fields becomes the initial moment for this sensible practice. Expanding the landscape of organic wetlands as a way of honoring the monsoon and extending water's presence into all seasons.




Relocated Earth Pile
Original Ground Surface

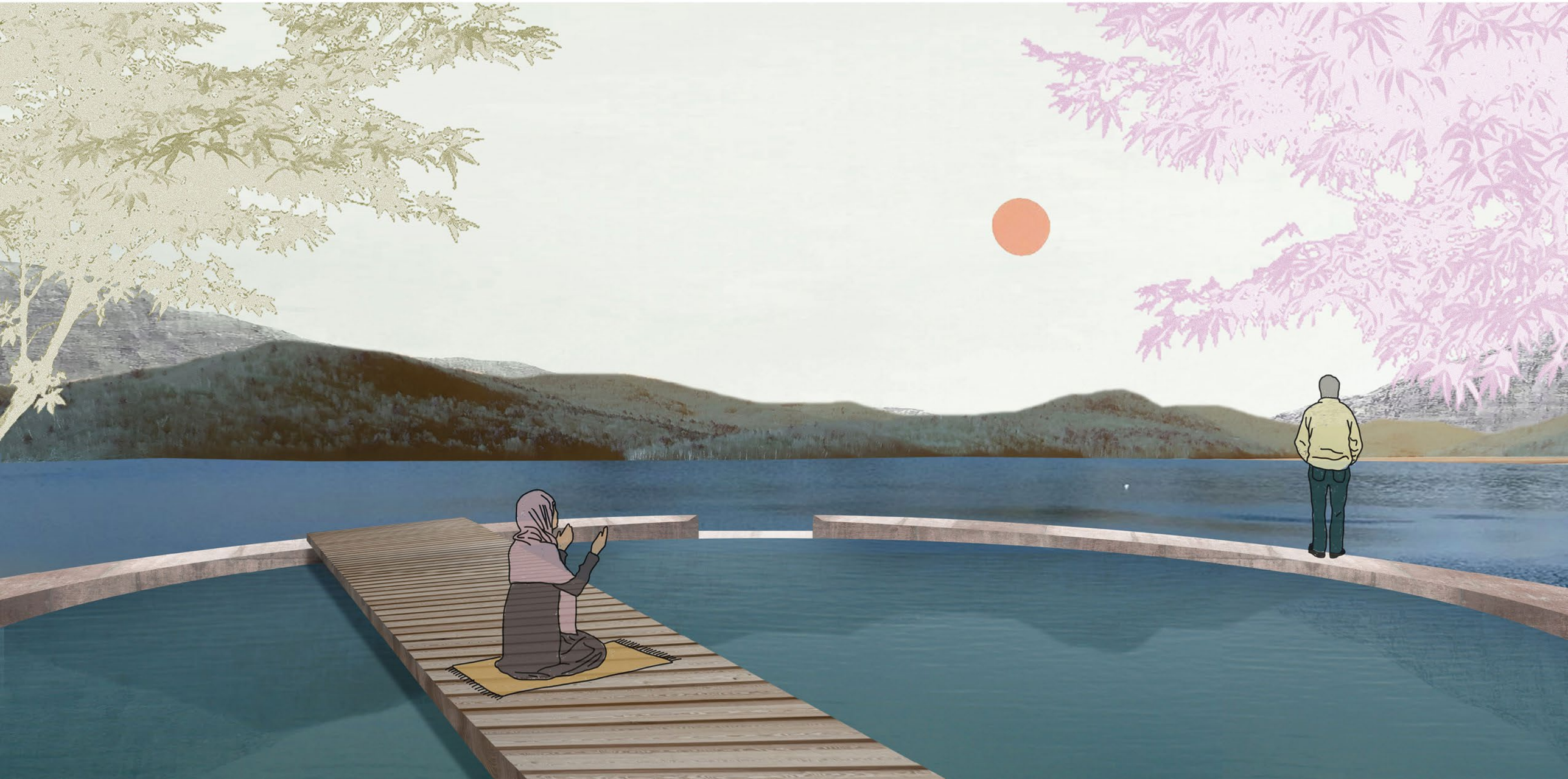

Excavated Wetland

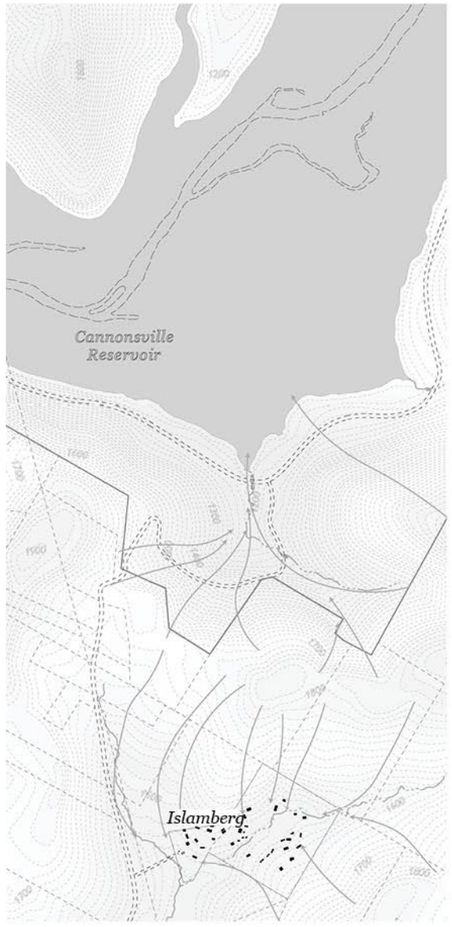
Slow Ablution

Ritual Water, Holy Water

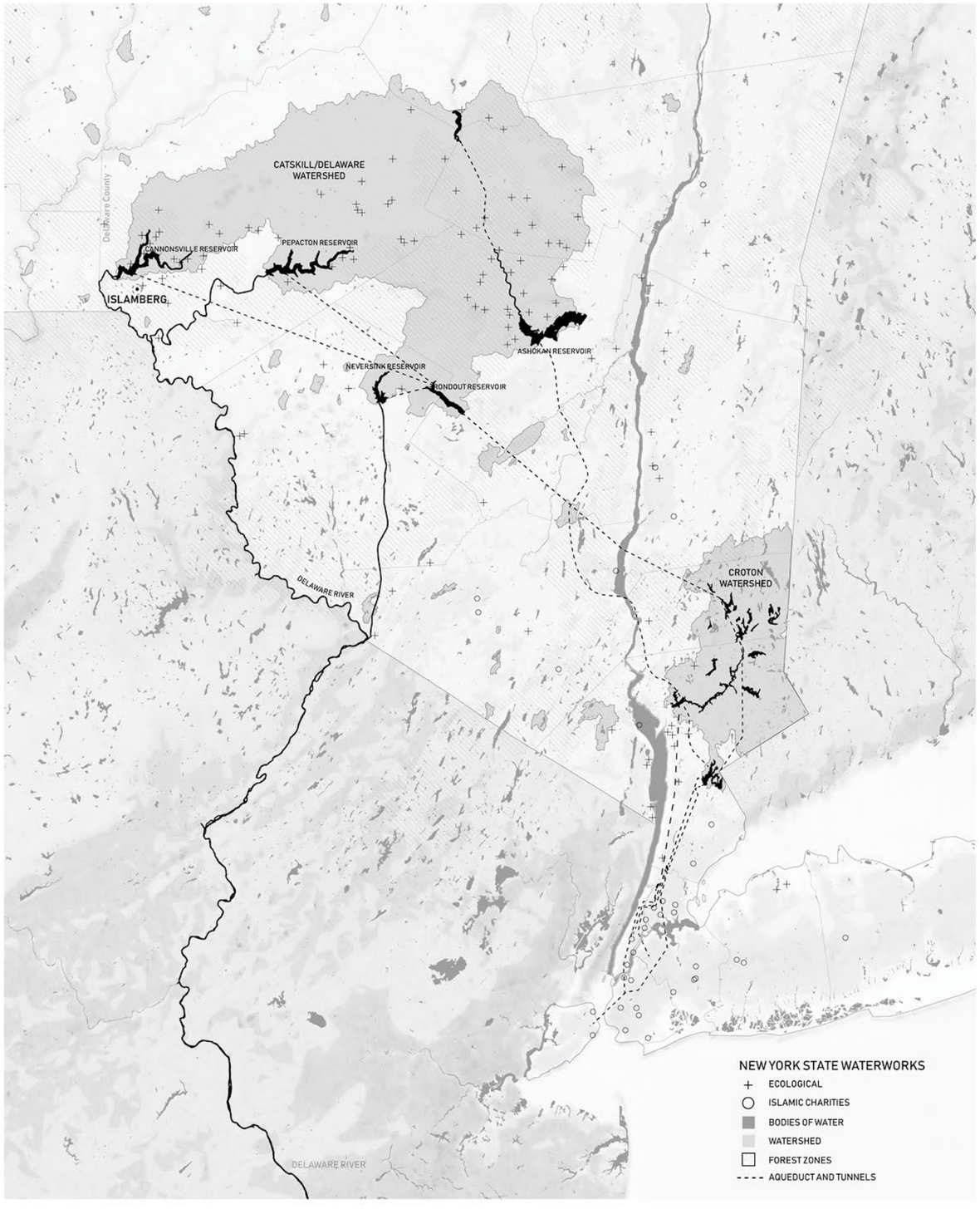
Advanced IV, Spring 2022
In collaboration with: Karen Tong Wang
Instructor: Ziad Jamaleddine
Site: Islamberg, NY, USA

Slow Ablution is the interface of water; it encompasses altered landscapes and built structures that direct, collect, and filter rainwater, run-off water and melted snow in the winter. The interface proposes a bridge-over-wetland typology and reintroduces water flows not as problems, but as opportunities to foster new relationships between watershed, rural community, and the city.



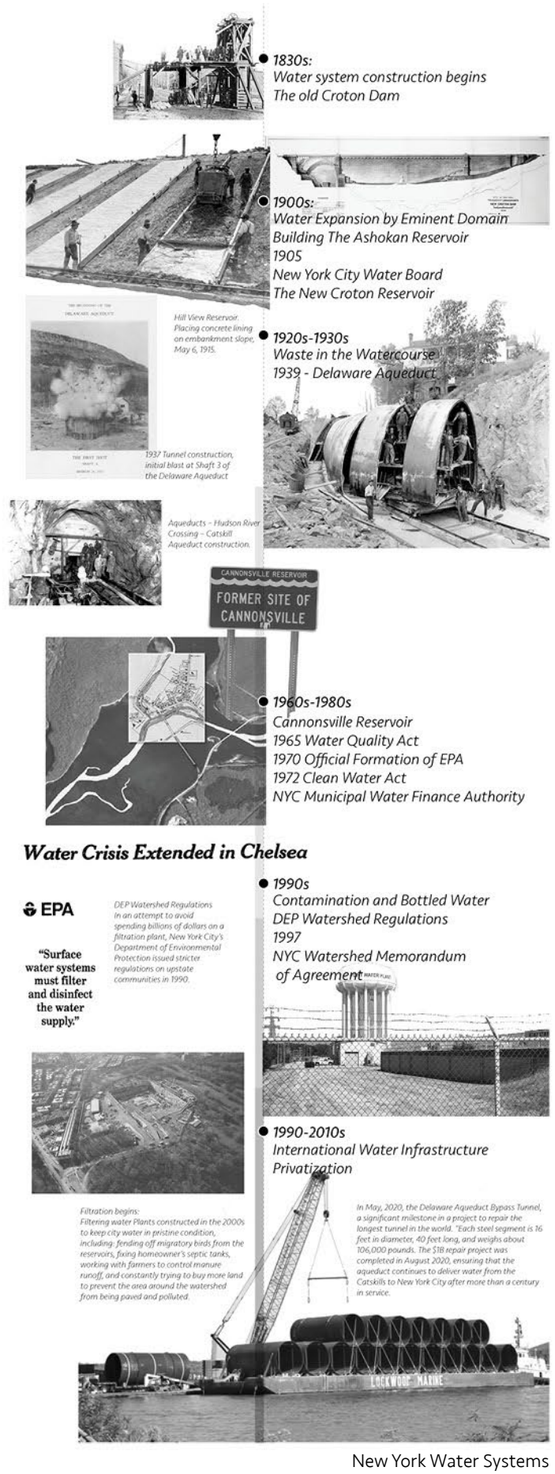


Islamberg in a Watershed



Watershed Community

The Cannonsville water reservoir is located less than 2 miles away from Islamberg and plays a crucial role in supplying New York City with approximately 50% of its drinking water, traveling 129 miles to join the Delaware Aqueduct. While the large reservoir primarily serves New York City residents, villages and hamlets rely on drilled wells for their water supply. Watershed communities, often unseen, serve as stewards responsible for protecting the city's water supply.



New York Water Systems

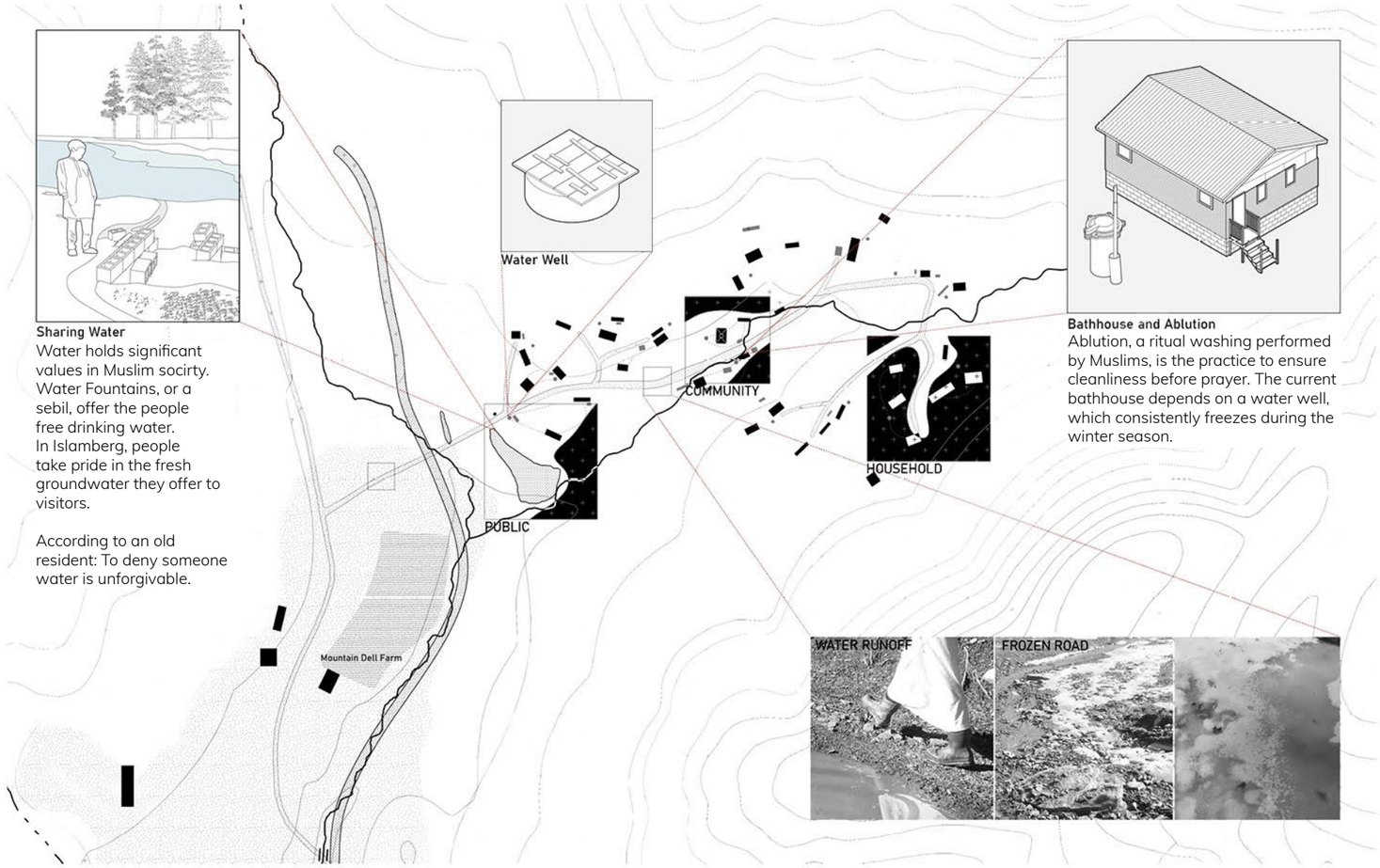
WAQF, ENDOWMENT

Waqf "object"
The Waqf is the interface of water; it's the altered landscape and built structures that directs, collects, filters rainwater, run-off water and melted snow in the winter.

Waqf Assets
The waqf will partner with New York department of environmental protection and financed by Zakat Foundation of America who distribute muslims zakat duty for charity projects.

Water is a central charity program of Zakat foundation of America, who has been building water wells around the world. However, the groundwater isn't an inexhaustible resource offered by nature.

At a time of climate crisis, this new type of charity is necessary to help repair the natural hydrologic cycle.

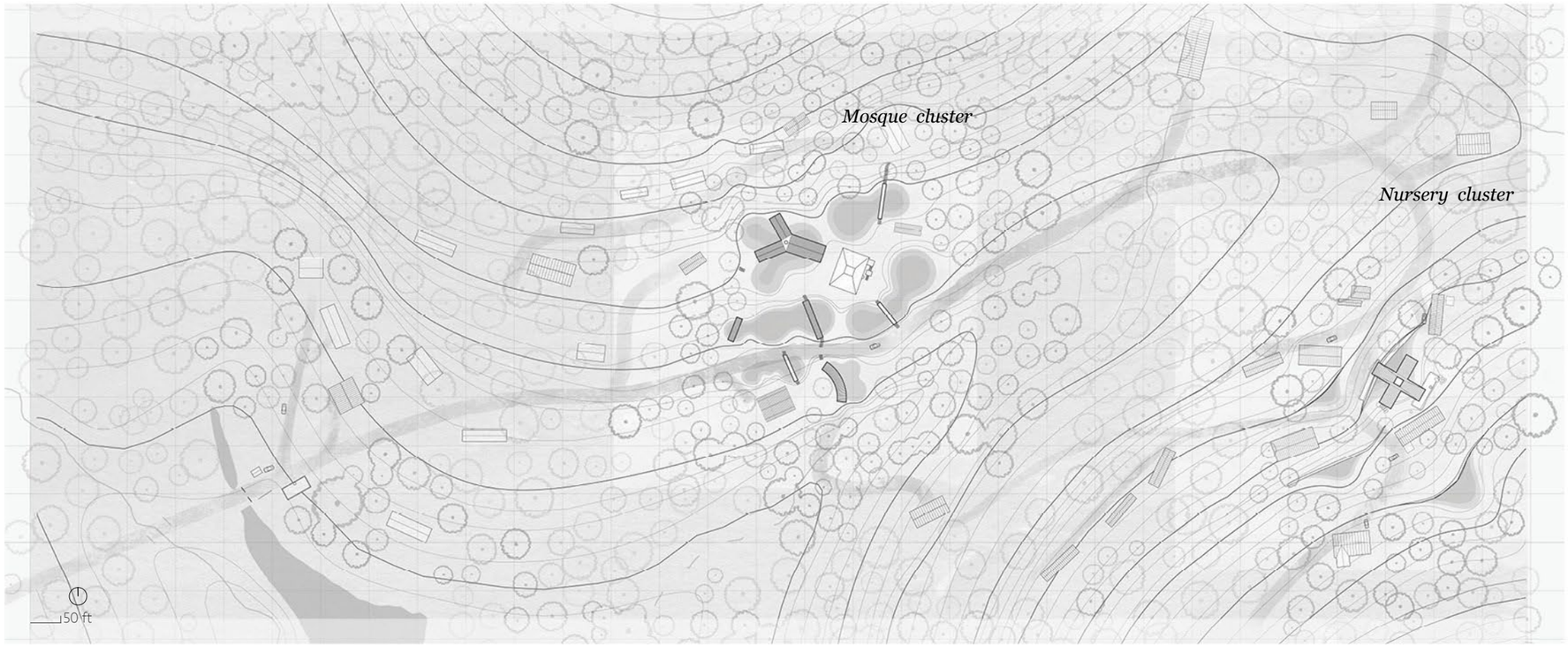


Water Conditions in Islamberg

The Waqf, Charitable endowment:

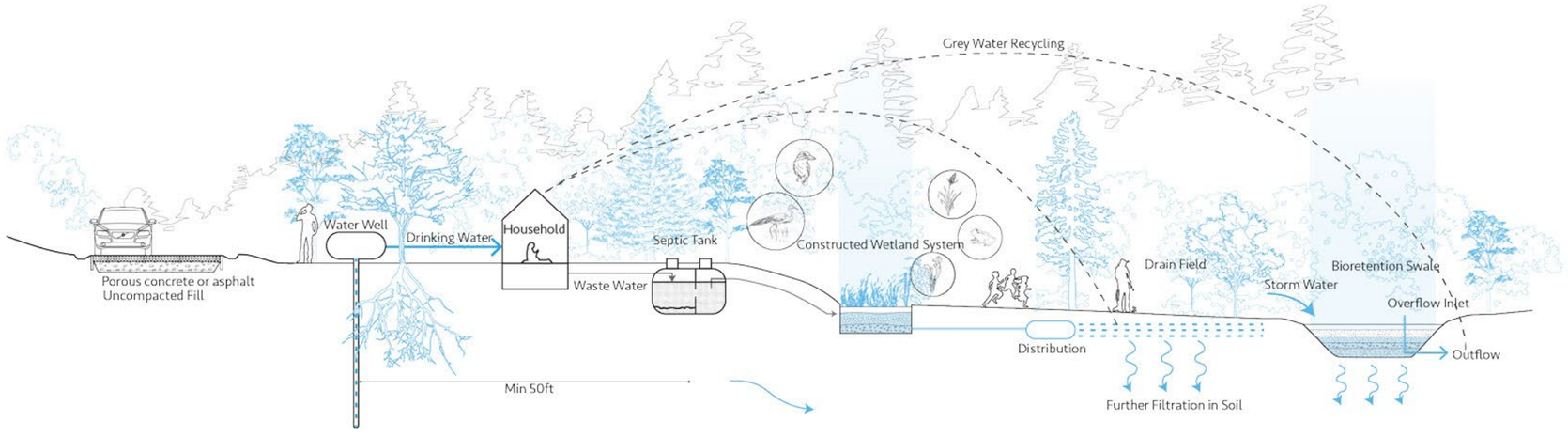
A general feature of Islamic social history, the Waqf produced and financially supported varied architectural typologies serving society's poor and those in need.

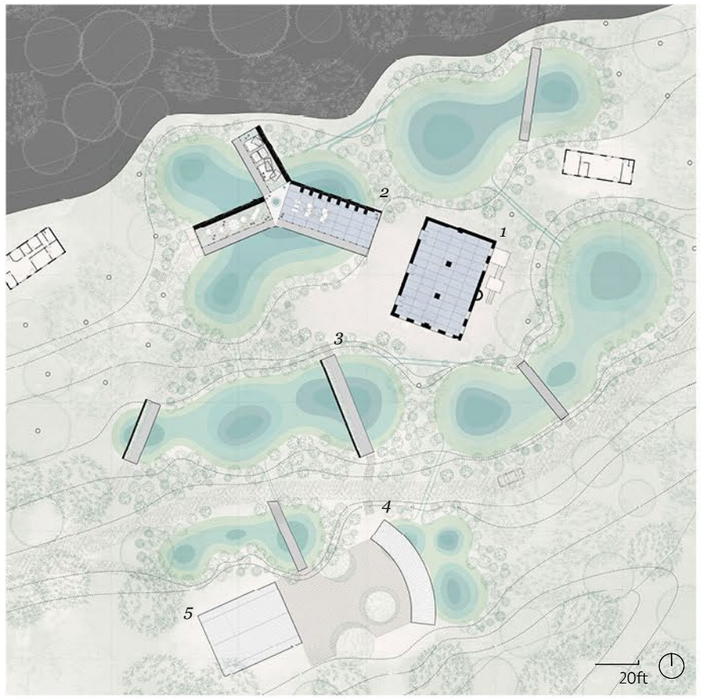
The waqf envisions a 15-year plan for Islamberg, beginning with the creation of mini-reservoirs and constructed wetlands. Phase 2 involves the construction of ablution bridges using filtered rainwater, while phase 3 expands into community programs incorporating rainwater harvesting and wastewater filtration systems. Throughout these phases, water wells will be gradually closed.



To make water visible in Islamberg, the approach involves redirecting water flow, retaining it in designated areas, and reusing it after filtration processes. Water captured by the wetlands will undergo filtration for daily use. This slowed process introduces an alternative approach to water use, moving away from reliance on wells.

The slowed typology can be adopted in other rural hamlets around the reservoir, with the local community serving as stewards and taking ownership of the reservoir as a shared resource in the future.

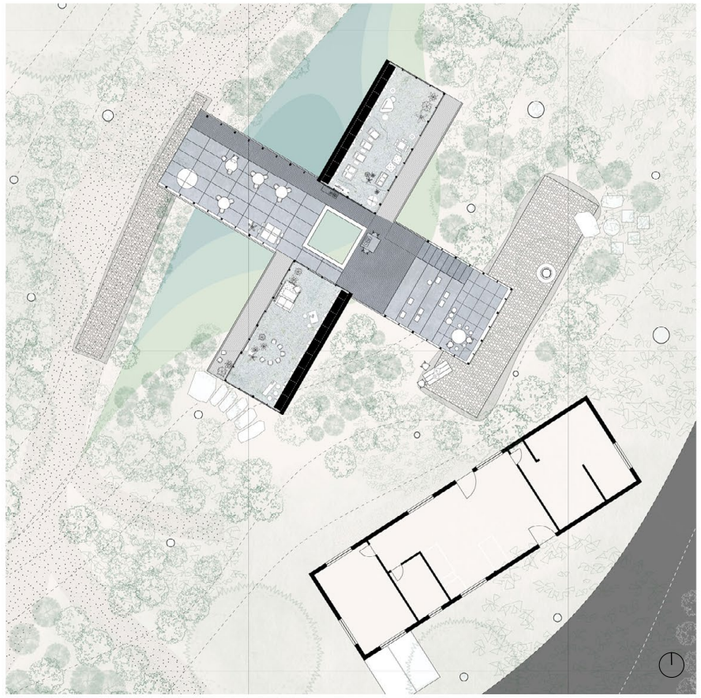




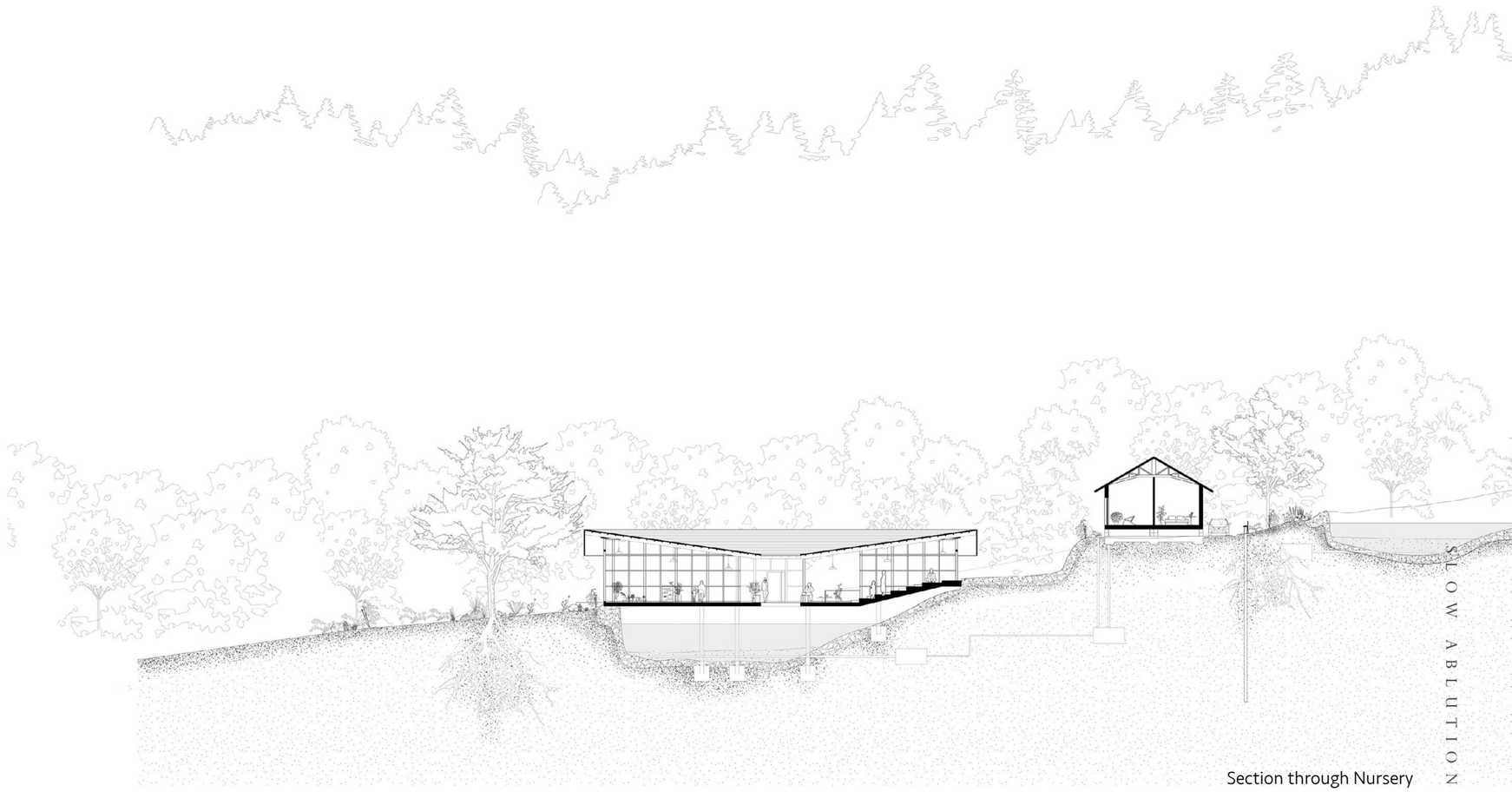

Ablution Bridge

Mosque Plan
1 Mosque
2 Library
3 Ablution Bridge
4 Kitchen
5 Pavilion

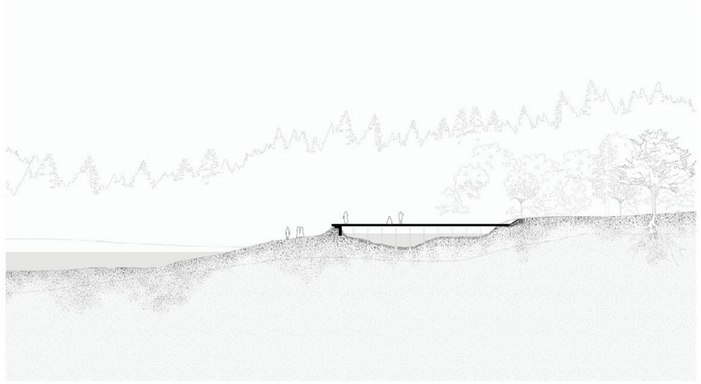
Axon over Library, Ablution Bridge and Kitchen

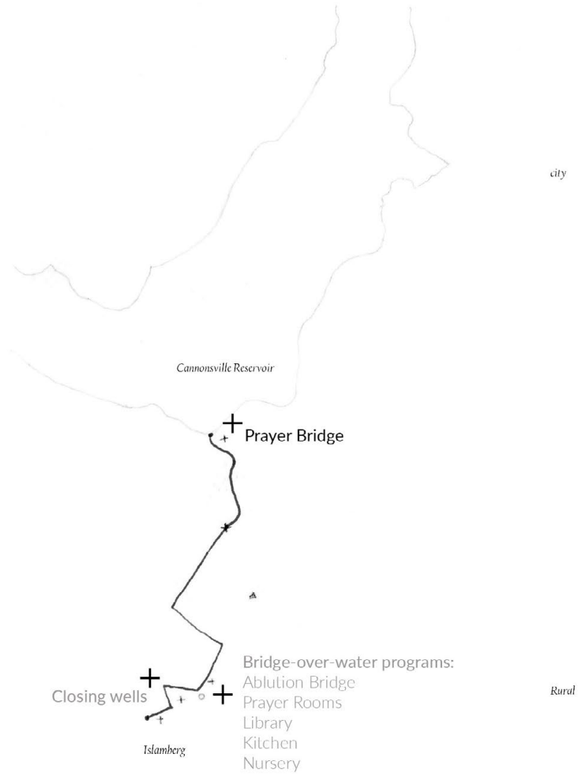


Axon Over Nursery



Section through Nursery




city
Cannonsville Reservoir
Prayer Bridge
Closing wells
Islamberg
Rural
Bridge-over-water programs:
Ablution Bridge
Prayer Rooms
Library
Kitchen
Nursery


ISLAMBERG, NY
SLOW ABLUTION
Prayer Bridge

Inwood Arc Works intends to create an urban theatre that emphasizes on daily commoning and knowledge sharing that would stitch together the people of Inwood through various performance spaces. The theatre borrows space from a void in-between the sloping terrain. With a system of arcs weaving together experiences of light and performance, it creates a network of spaces for social engagement, information exchange, and for people to celebrate their cultures.

Core I, Fall 2020
Instructor: Josh Uhl
Site: Inwood, NYC, USA

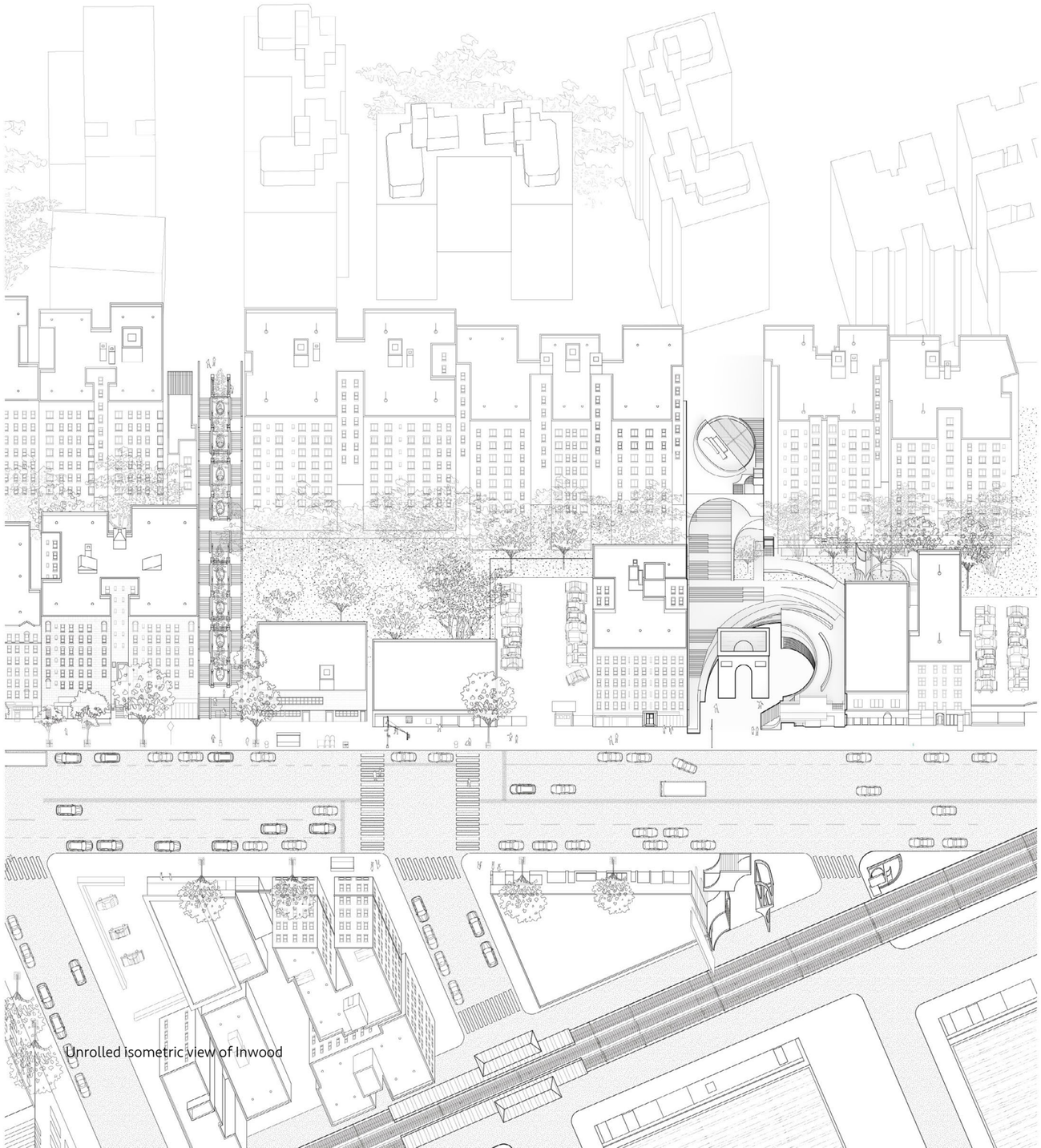
Inwood Arc
A Sharing Ground

Redefining the Abandoned Path

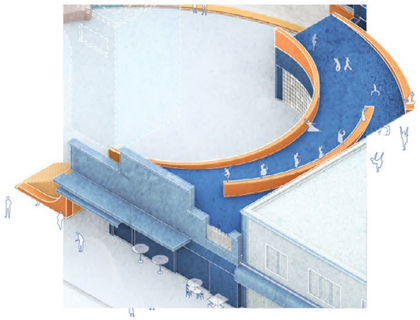
Western Inwood has a unique natural landscape. The topography, however, disrupts communal continuity. The segregation persists, with Broadway Street and elevated tramway dividing the neighborhood. The Seaman-Drake Arch, once the gate to the hilltop, now offers the opportunity to redefine this abandoned path.

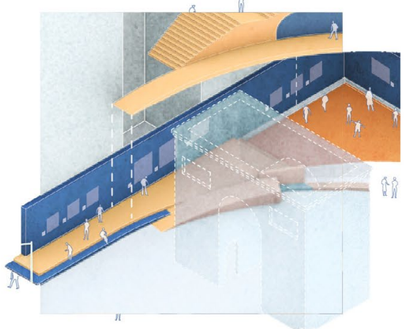
Stair and ramp typologies define and enhance the spaces of the theatre, with each arc serving as a threshold for performances, giving places to stay, and offering various levels of enclosure throughout the day.

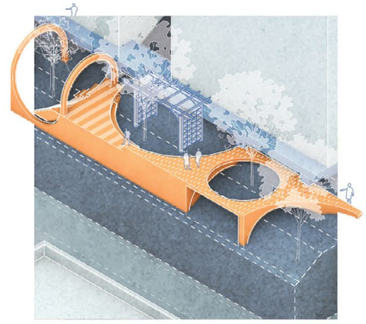
Left: Map of Inwood 19th-C arch, Northern Manhattan; sketch
Right: Diagrams top to bottom:
arcs + roof
steps + wall
arcs + landscape
arcs + steps + vacant lot

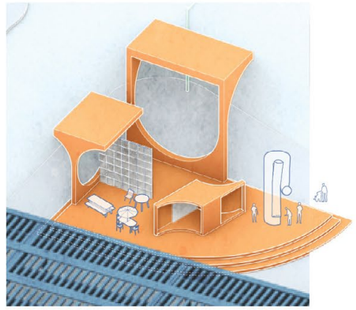


Unrolled isometric view of Inwood



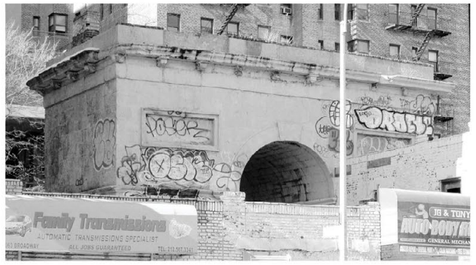


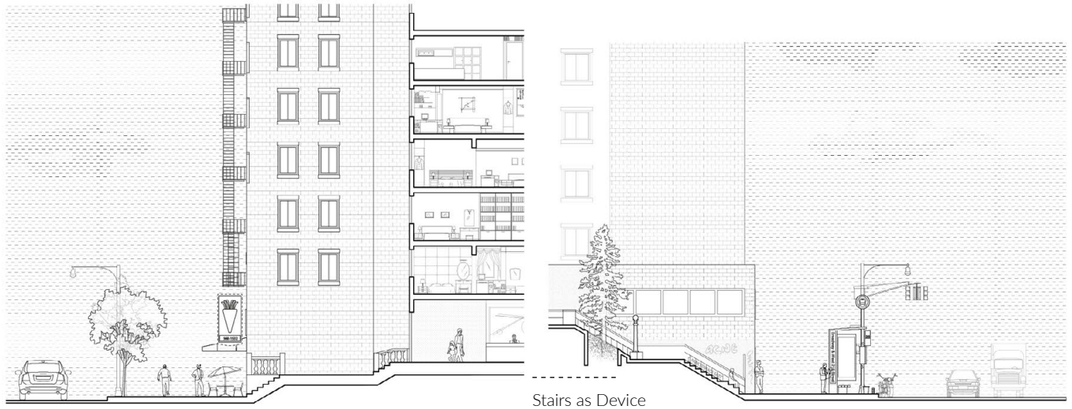




Left: Existing Inwood Arch
Inwood base sections, existing landscaping
apartment entrance, 215th St. Steps, inbetween
self-claimed yards and parking lots

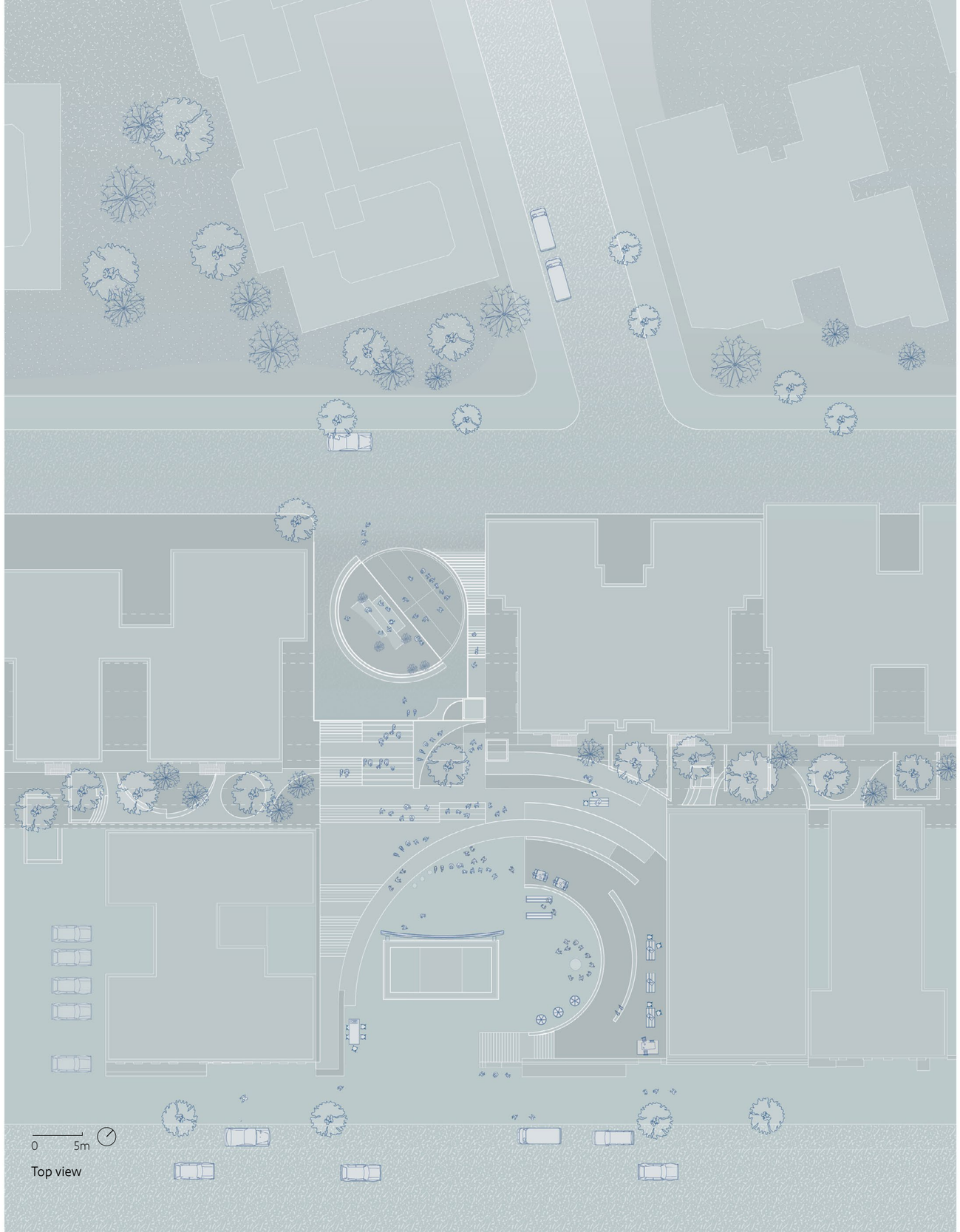
Right: Concept Models
theatre
outdoor dance floor
street level market extension





Stairs as Device

Privatized
Elevational
Detail



Top view

The tiny clusters reclaim the in-between corners, giving these spaces back to the community and opening up a corridor on each side, creating an extended network of platforms for local exhibition.

Top to Bottom: roof terrace, inwood overlook, lower gallery

A

A'

Composite drawing: Section A-A', ground level plan

The Porch

A Communal Threshold

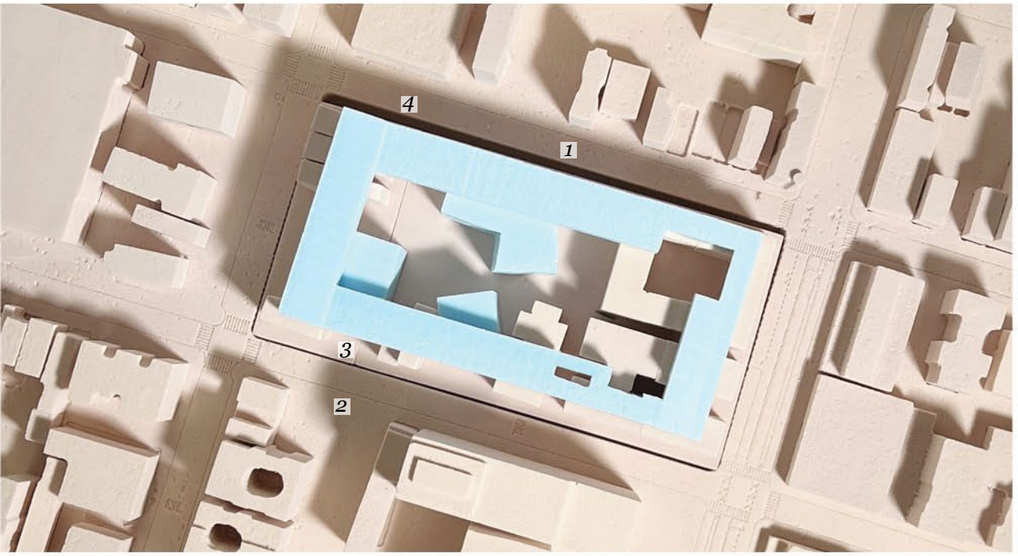
The Porch is a communal block consisting of a porch over apartment towers to search for new and inclusive frameworks for living in the contemporary city. This communal block fosters a seamless shared porch and a dynamic network of interconnected and potentially nuanced relationships. Within this block, various elements such as furniture, building components, rooms, units, shared amenities, and gardens intertwine to form the foundation for social connections.

Core III, Fall 2021
In collaboration with Priscilla Auyeung
Instructor: Eric Bunge
Site: Bronx, NY, US

The “porch”:
A place for gathering,
to connect with the outside,
To engage with the street,
Mediator of public & private,
A threshold.

4 

1 



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2 

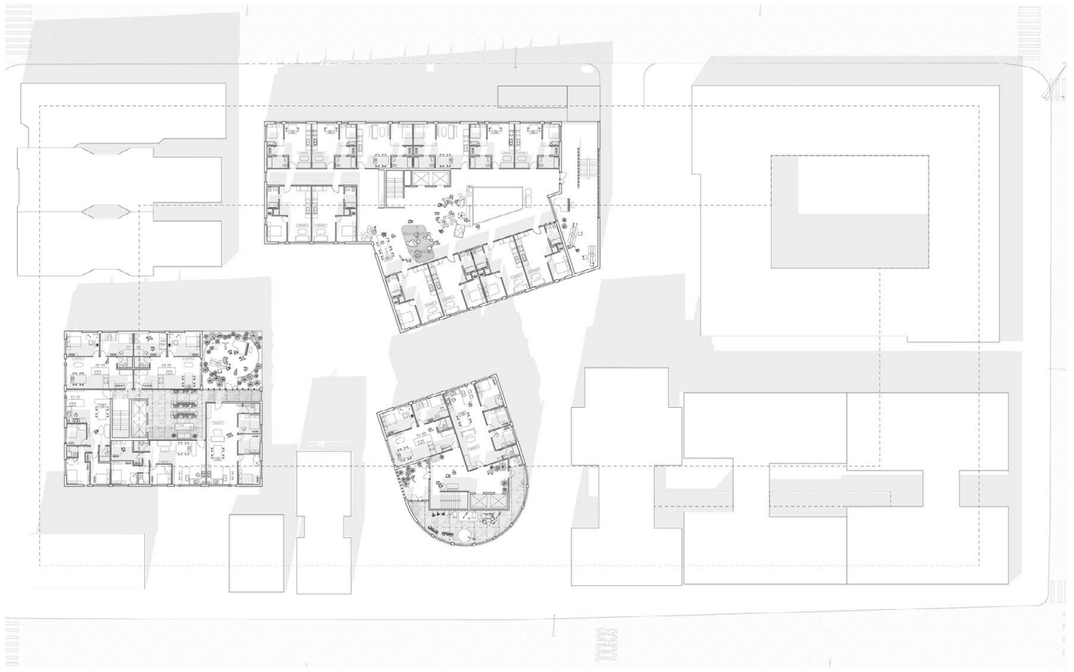
In the context of mixed environments and cultures, the neighborhoods of the Bronx have historically lacked public spaces. However, with community-owned programs, community gardens, the Bronx Documentary Center, and senior housing, the site presents existing potential for creating inclusive and shared spaces for current residents. It also offers an opportunity to extend the programs of the community space that people have been working on for decades.

Existing:
1 Site Residential Buildings
2 Bronx Documentary Center
3 Community Garden
4 Senior Housing Entrance

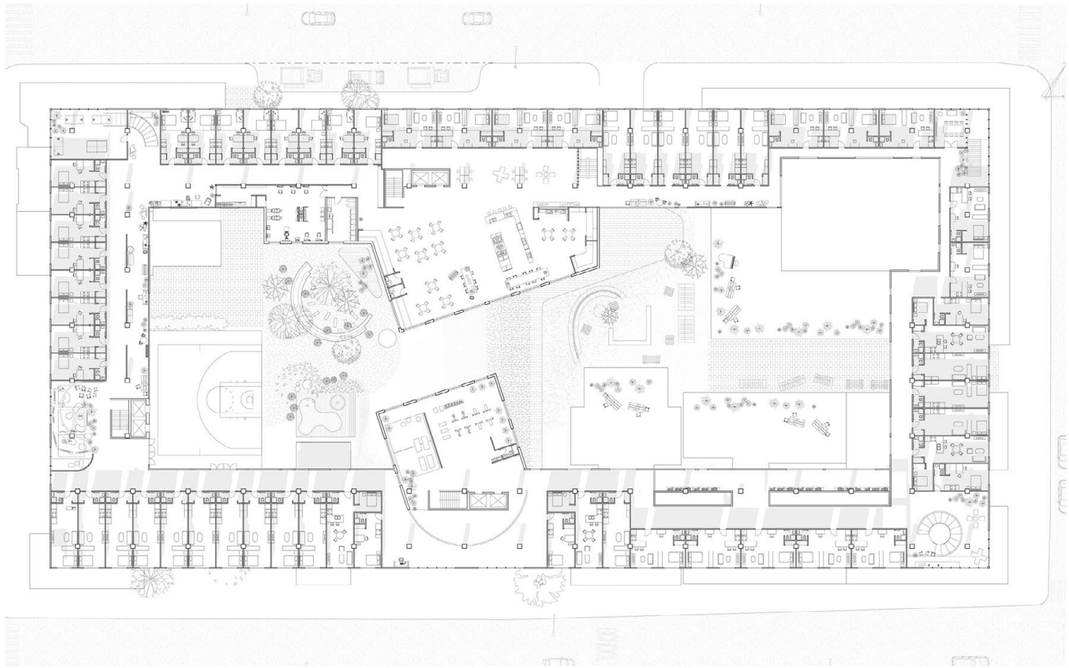
Proposed:
5 Lecture Hall
6 Lounge
7 Outdoor Porch
8 Day Care
9 Cafe
10 Woodshop
11 Bronx Documentary Extension
12 Exhibition Space

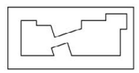
By connecting the green spaces surrounding the site, the ground floor of the housing blocks transforms into a permeable corridor. This design invites public use of the garden and allows people to walk through, enhancing accessibility and encouraging community engagement.

Ground Level Plan

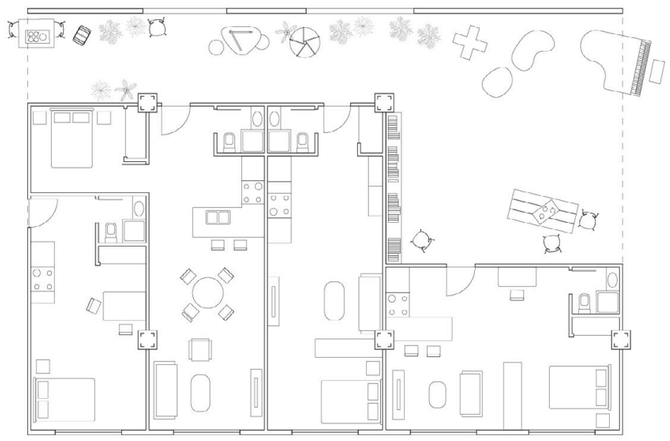


The Porch level is connected to the ground via three towers and existing buildings on the site. Residents share amenities, and community members are welcomed into the garden. The ground floor serves as a communal space for shared interests, family gatherings, and individual wanderings.





Porch Level Combination
300-530 sq. ft per unit

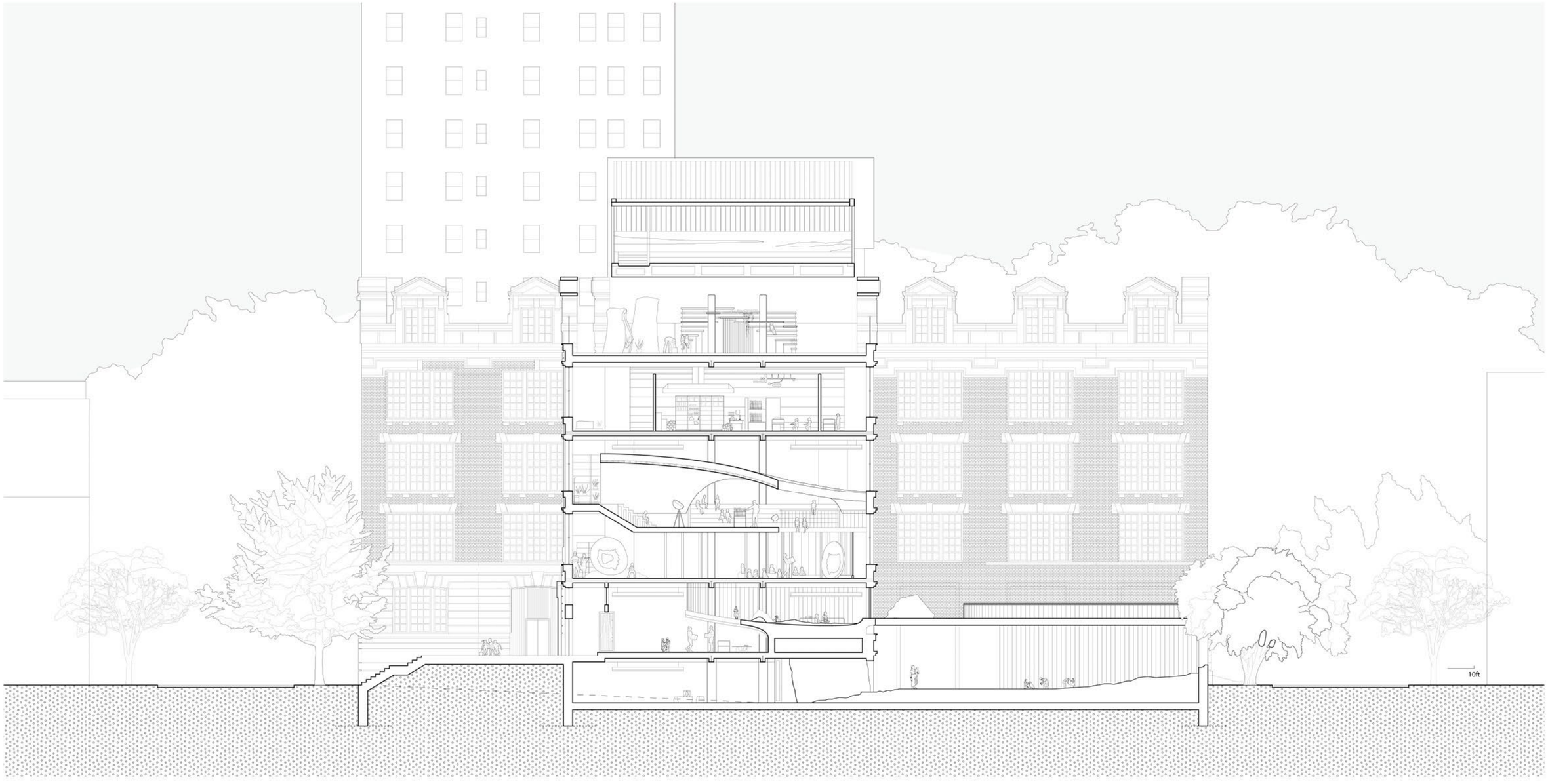


The proposed laboratory-school focuses on studying the city's natural environments, drawing inspiration from its existing geological conditions. It is based on the belief that children can actively interact with and learn through constructed topographical conditions. The design features overlapping playing and learning spaces with research-centric, subject-based programs. The interplay of introduced sloped structures with existing buildings allows for interchangeable programs, offering various modes of habitation.

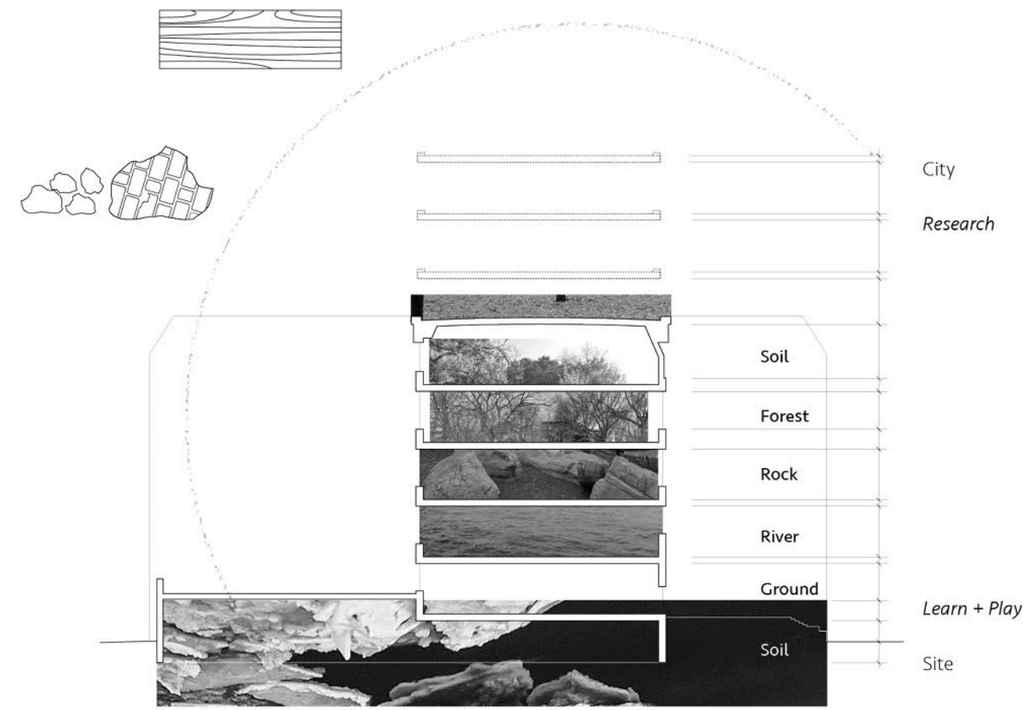
Core II, Spring 2021
Instructor: Miku Dixit
Site: New York, NY

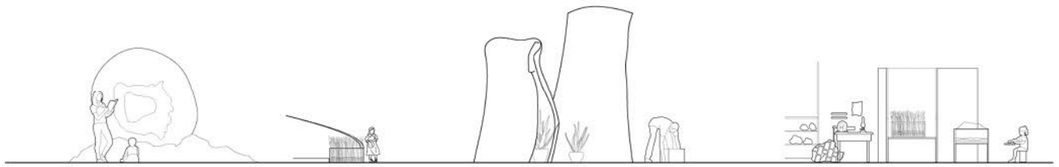
Constructed Grounds

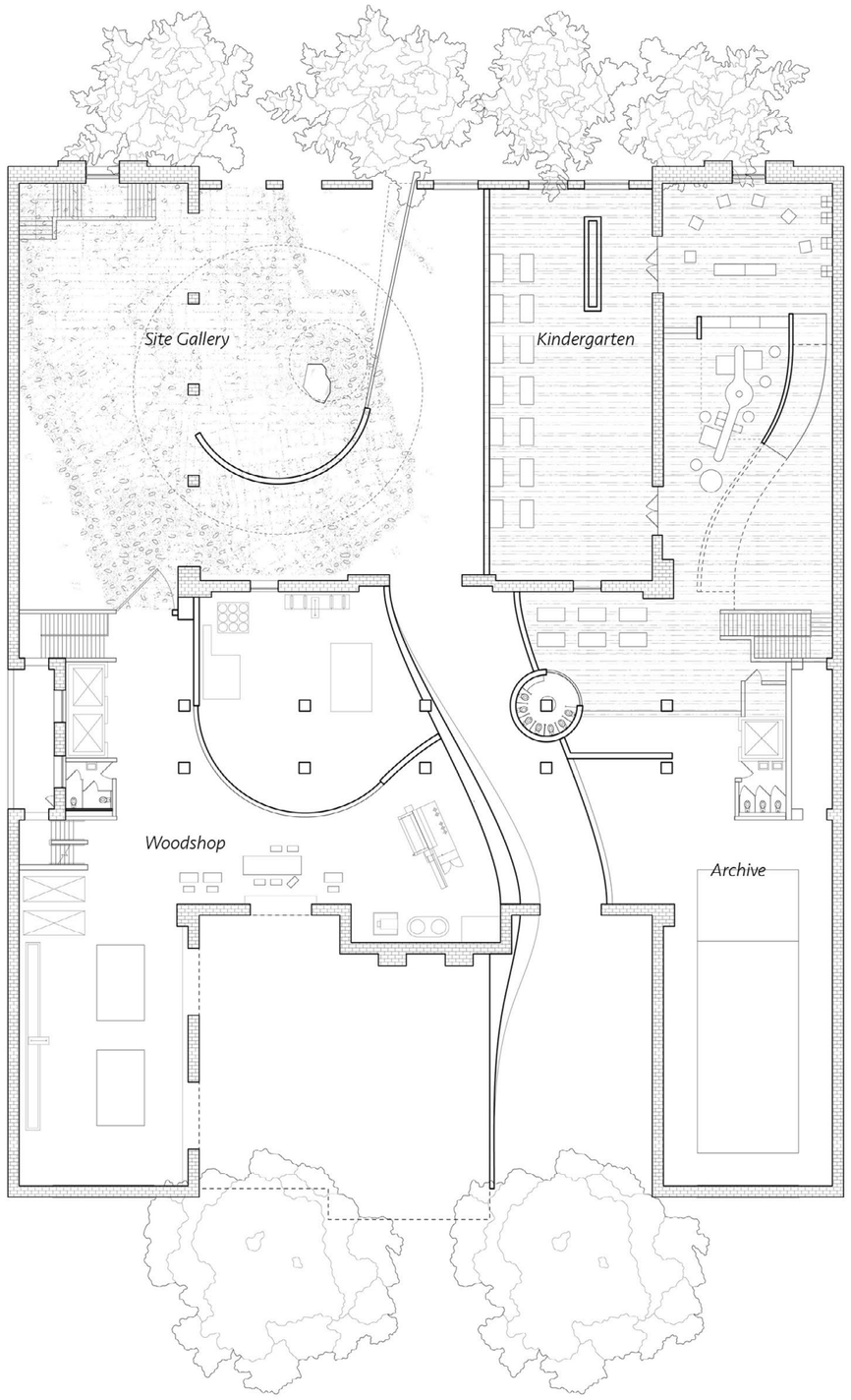
Experimental Laboratory-School



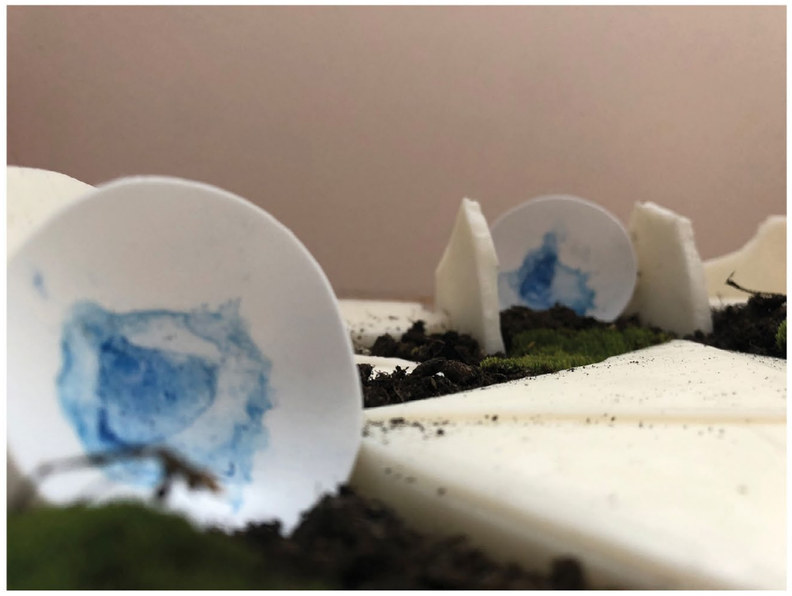
New York City, shaped by land formation and geo-processes, serves as a natural history museum in itself. Operating within the city's established network of research centers in earth science and climate studies, the post-carbon school becomes an integral part, functioning as a testing ground. It invites local professionals to contribute to experimentation and discovery.

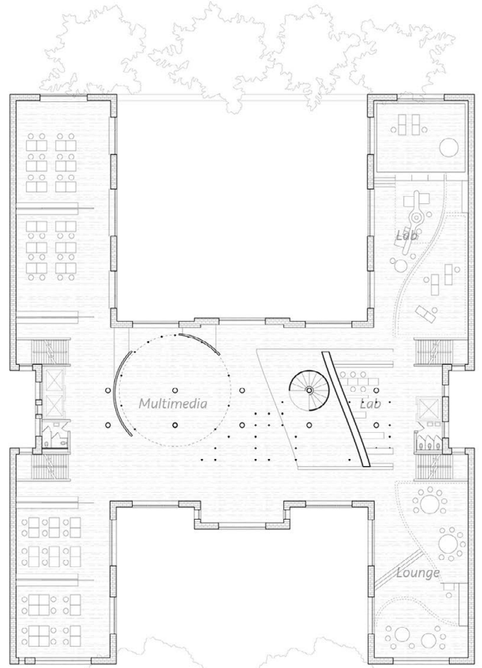


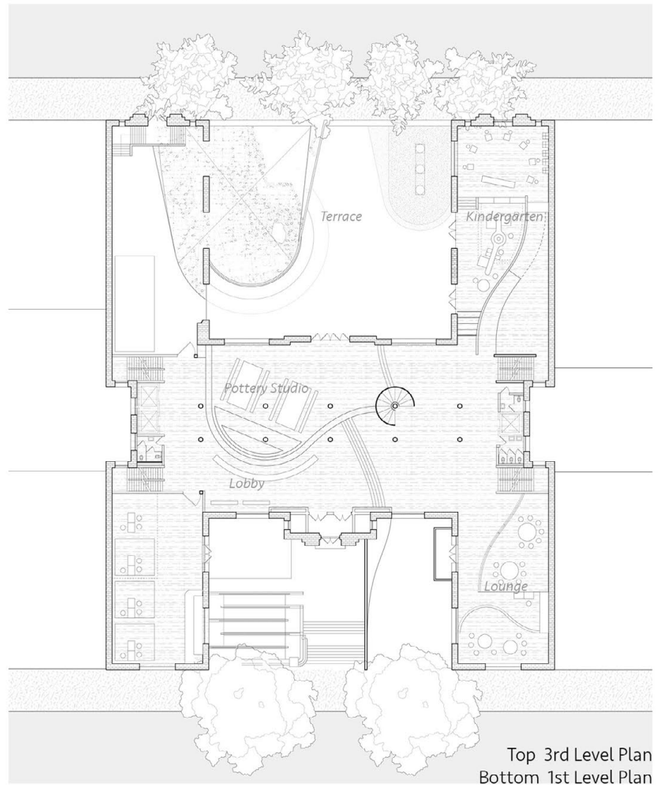




Ground Level







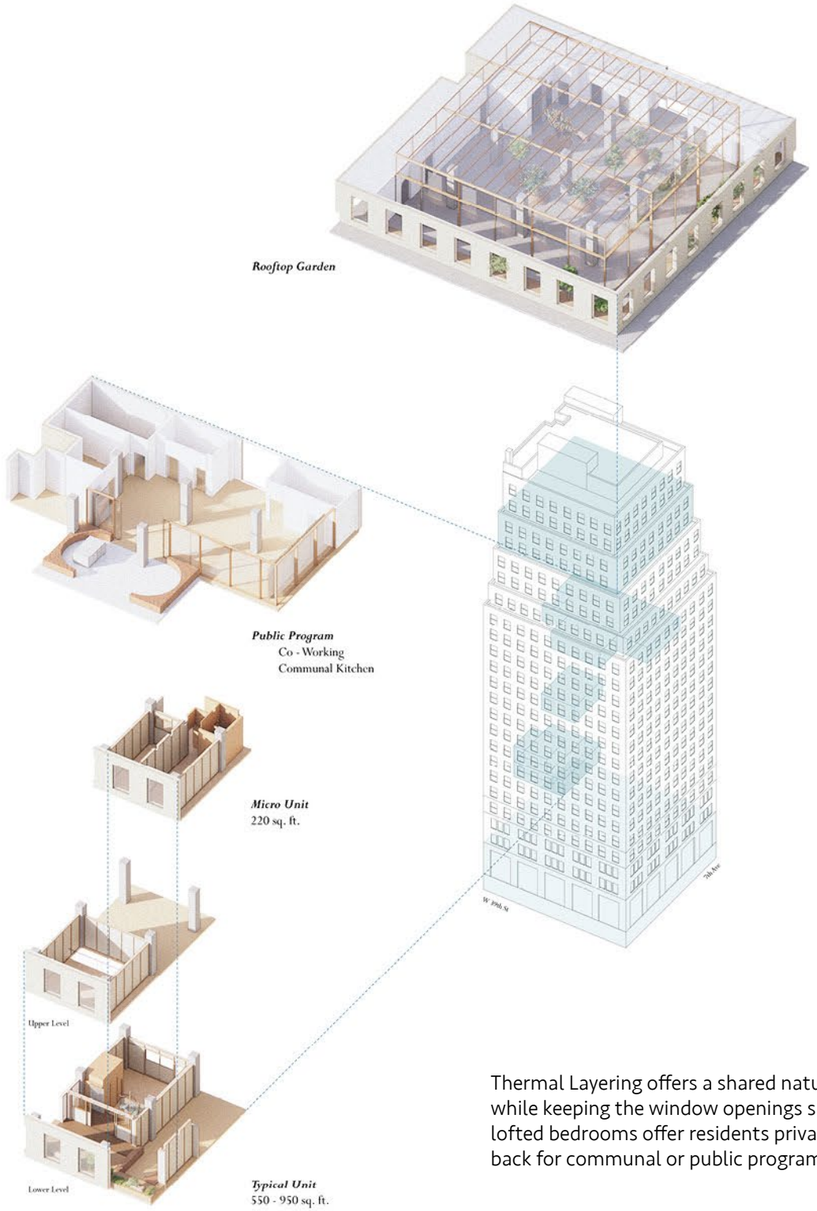
Top 3rd Level Plan
Bottom 1st Level Plan

Thermal Layering is about rethinking the layers of the interior, creating a spatial-prototype through re-configuration. Working with office-to-housing agendas, the design prioritizes the adaptability of privacy and openness in residential units to varying thermal conditions while minimizing the need for active thermal control. By creating a semi-exterior corridor, the design allows residents to live with the environment by embracing seasonality both indoors and outdoors.

Advanced V, Fall 2023
Instructor: Katie Shima
Site: NYC, USA

Thermal Layering

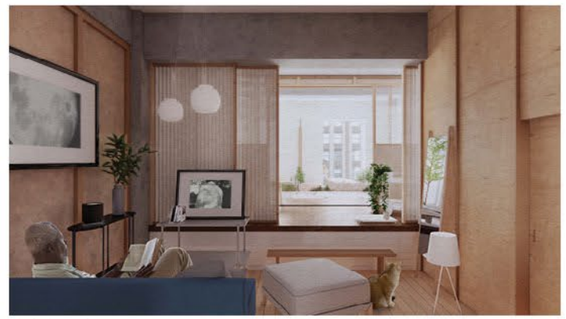
An Open Corridor



Thermal Layering offers a shared natural corridor to the residents, while keeping the window openings shared. Above the corridor-units, lofted bedrooms offer residents privacy while dividing spaces in the back for communal or public programs.

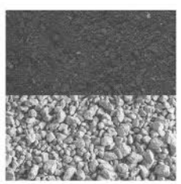

Communal Space


Corridor Corner

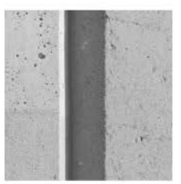

Unit Interior


Existing Office Building
550 7th Ave

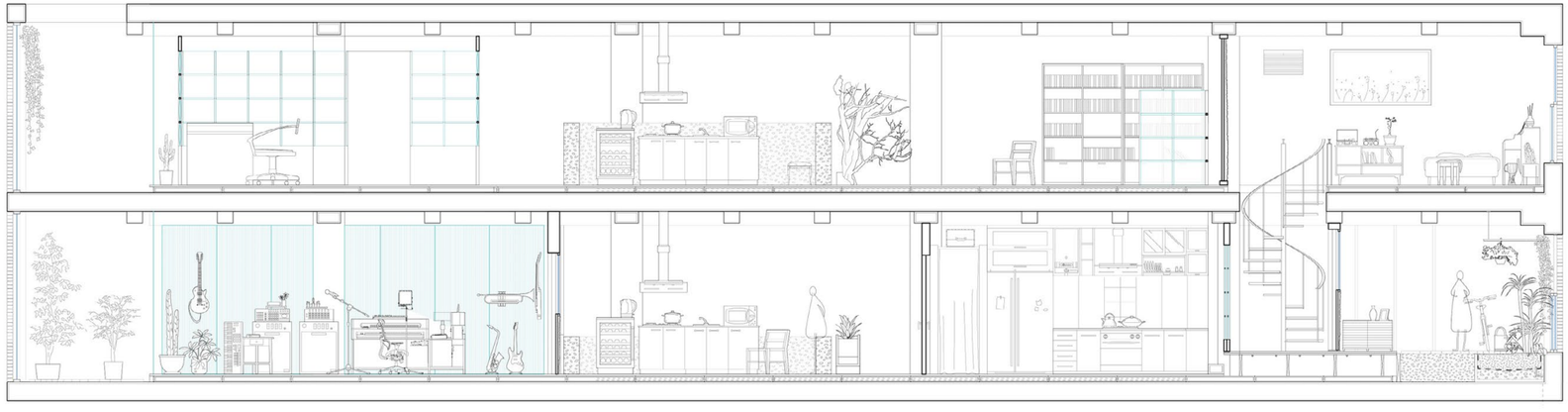

Planting

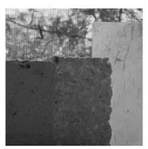

Substrate

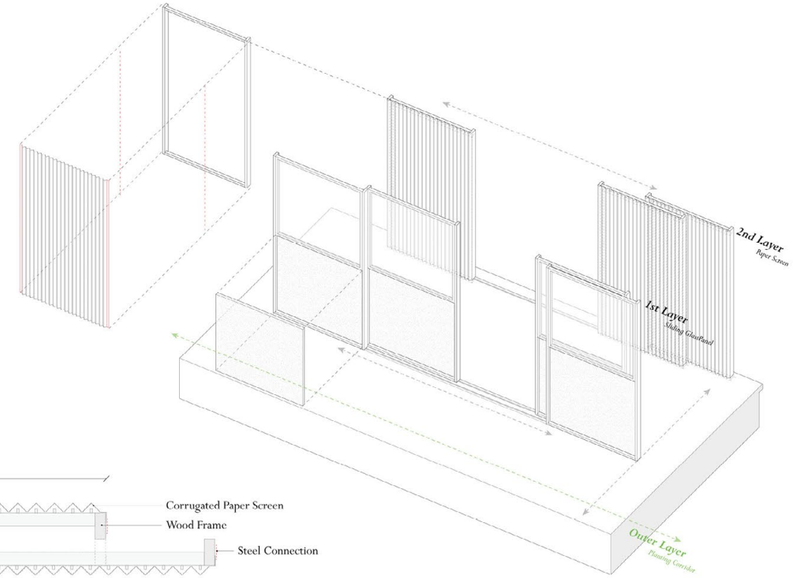

Recycled Concrete


Rammed Earth

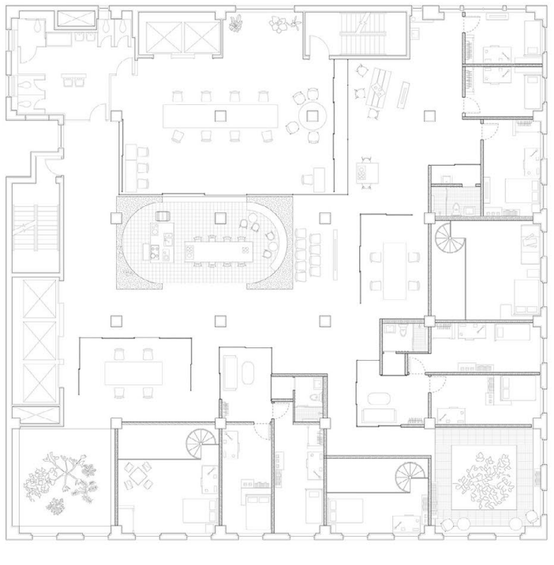

Hemp-crete

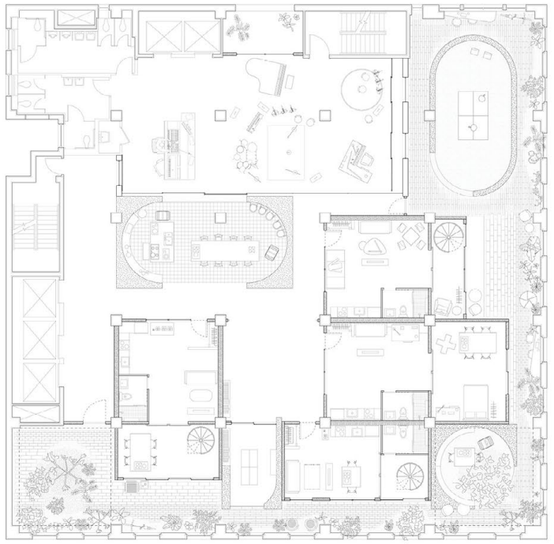




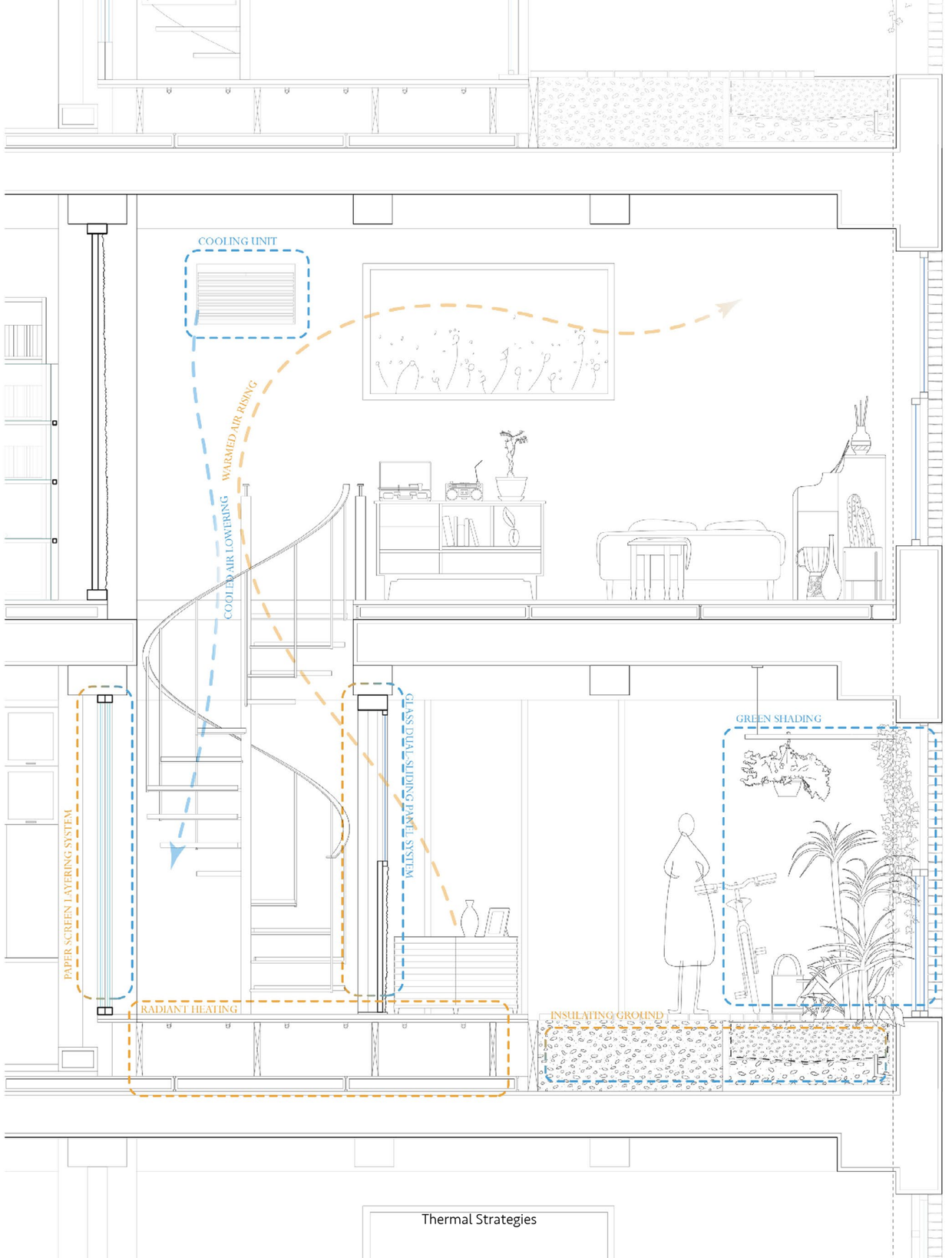


Thermal Layers
Windows being the first, operable layer, allowing natural ventilation.
Planting as the second, natural layer, creating indoor micro-climate.
The sliding glass doors and paper screen system form the third, also intermediate layer between the unit and the shared corridor, providing controlled privacy to the units.

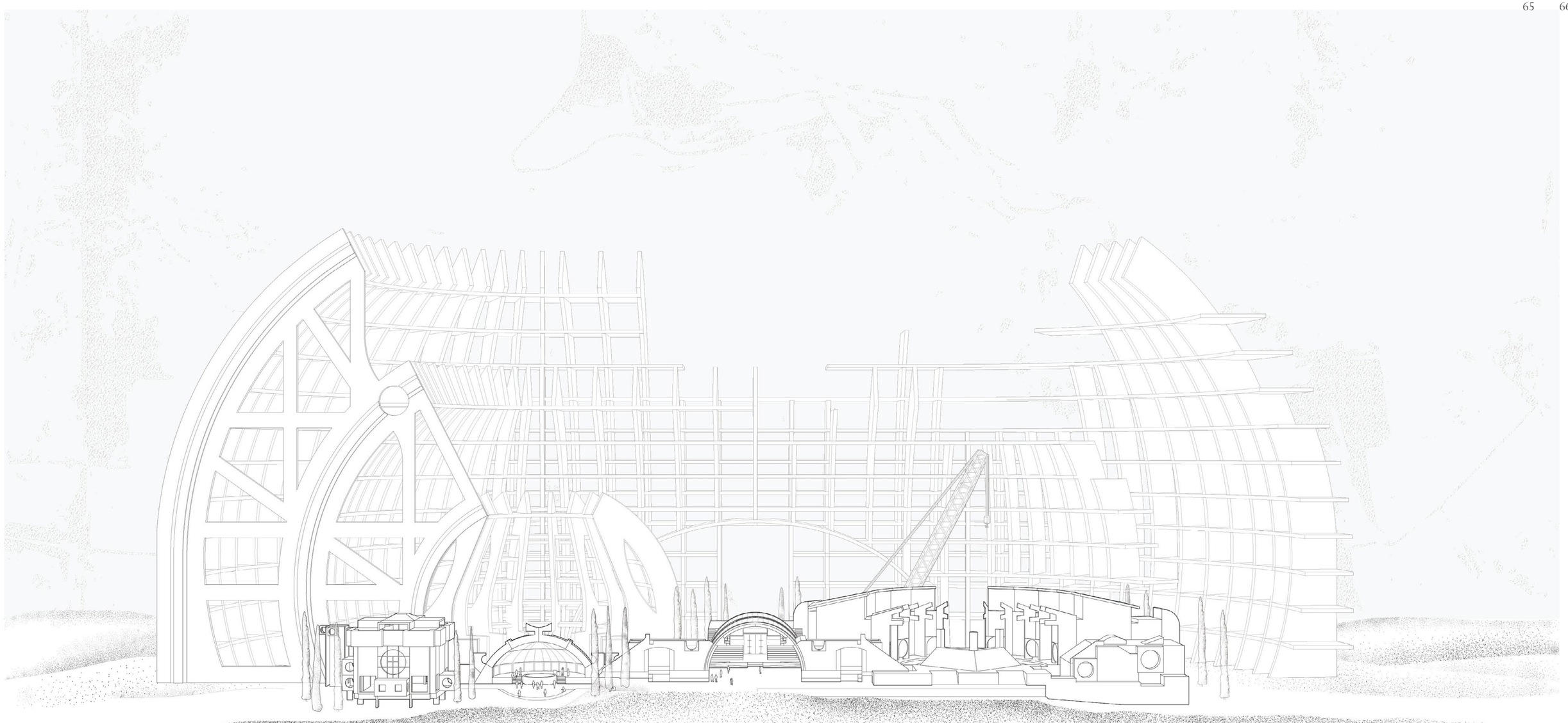




Upper Level with Micro-Units
Lower Level with Offset Corridor



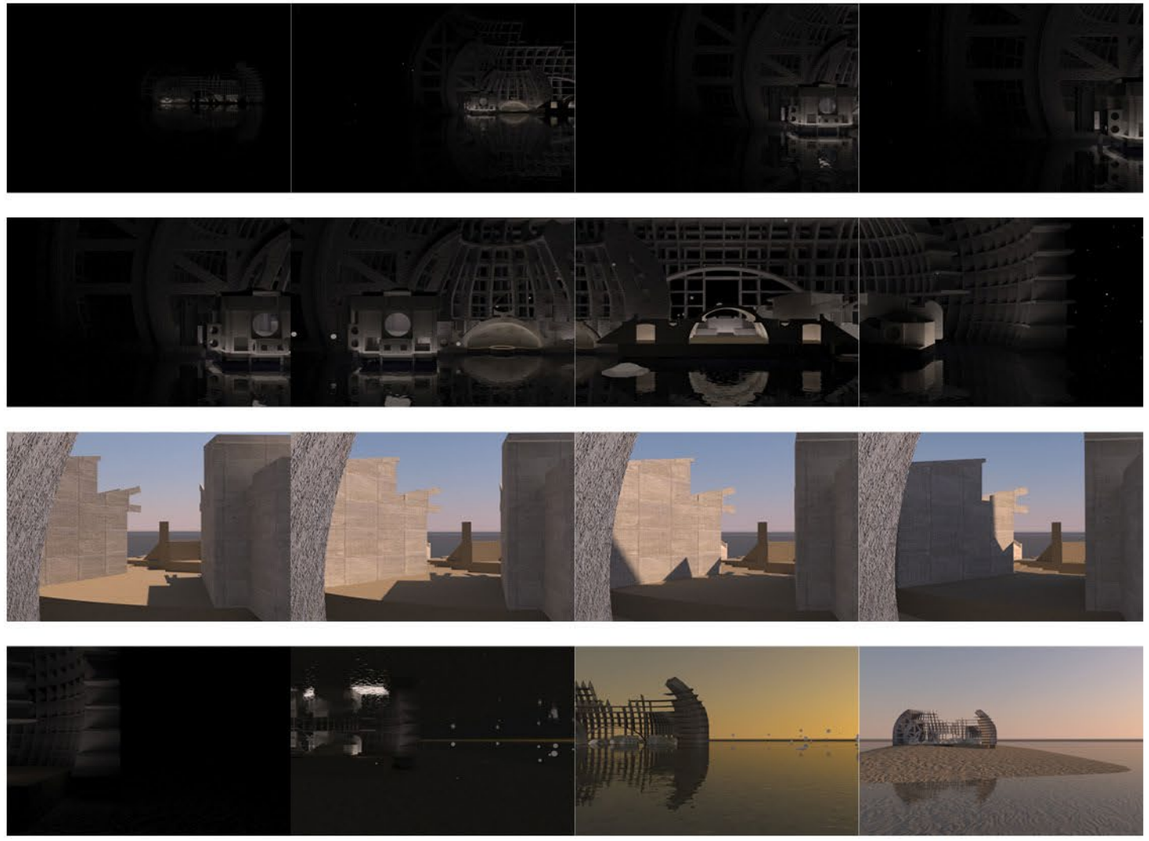
Thermal Strategies



Planetary Hermitage

Recontextualizing Acrosanti

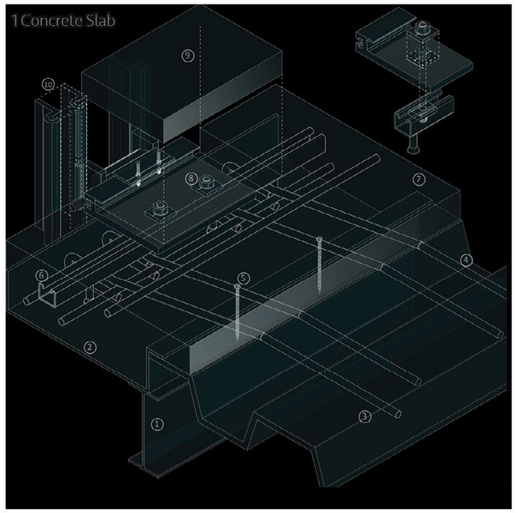
Architectural Drawing & Representation I, Fall 2020
Critic: Farzin Lotfi-Jam
Instructors: Josh Uhl, Lexi Tsien, and Zachary White

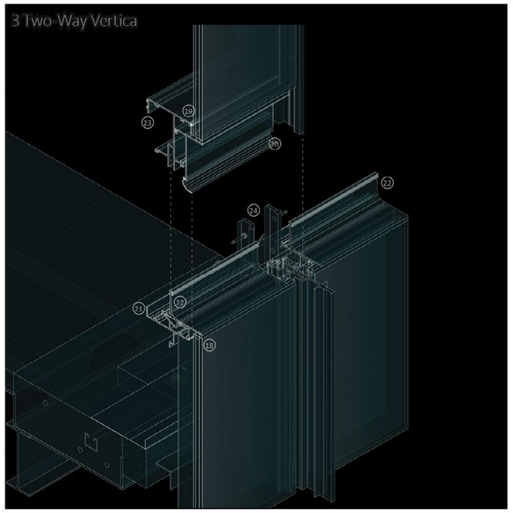


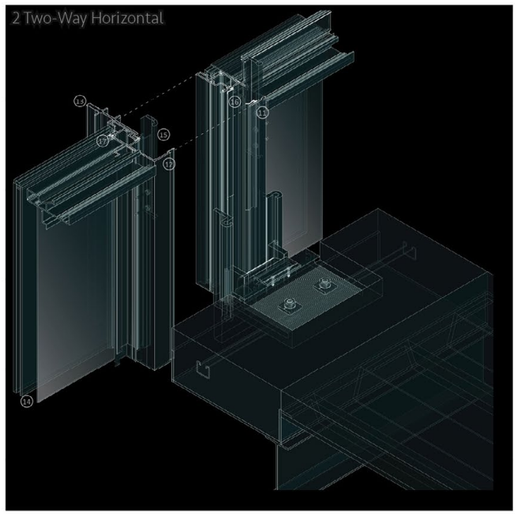
Journey, 1 minute animation made with 3Ds Max, image stills

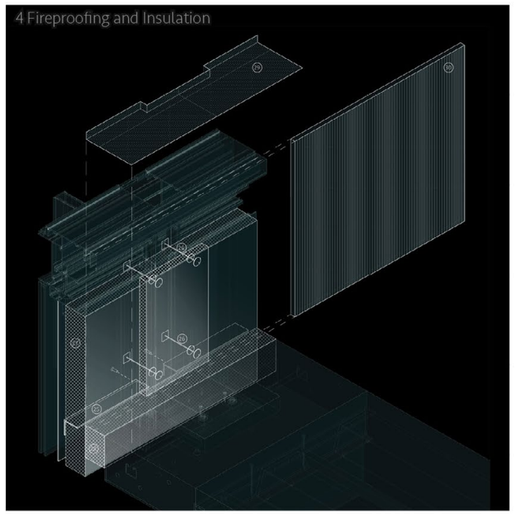
These drawings explore the visionary project, Arcosanti, by architect Paolo Soleri, who relentlessly pursued archology.

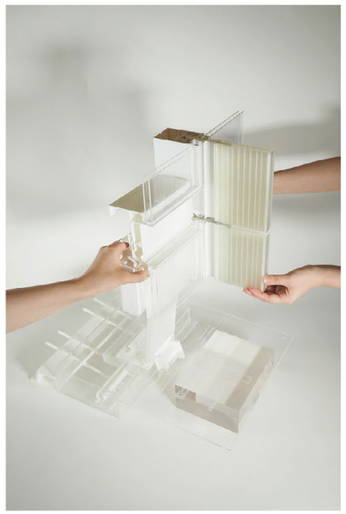
Arcosanti, Workshoup and Lanndscape
Pencil on paper, Sketch











1. Concrete Slab
01 I-Beam 02 Steel Pourstop 03 Metal Deck 04 Rebar 05 Deck Fasterer 06 Steel Plate 07 Pour Concrete 08 Base Plate 09 Pour Concrete 10 Curtain Wall Unit

2. Two-Way Horizontal
11 Typical Female Mullion 12 Typical Male Mullion 13 Vertical Fin Blade 14 Spandrel Glass 15 Lift/Alignment Lug 16 Anti-Buckling Clip 17 Structural Silicone

3. Two-Way Vertica
18 Silicone Weatherseal Shop Applied 19 Structural Silicone 20 Rainscreen Gasket Shop Attached 21 Head Horizontal at Stack Joint 22 Gutter Horizontal at Stack Joint 23 Sill Horizontal at Stack Joint 24 Lift/Alignment Lug

4. Fireproofing and Insulation
25 Cont. Angle for Firesafing Support 26 Impaling Pin and Self-Locking Clip Washers 27 3" Thermafiber FIrespan Foil Backed Insulation 28 Firesafing Insulation 29 Smoke Seal 30 Gypsum Board

Four-Way Commercial Curtain Wall Assembly

Architecture Technology V, Spring 2022
In Collaboration with Lucas Pereira, Elena Yu, Mingyue Zhang
Instructor: Nicole M. Dosso