

HAYDEN ST JOHN

Master's of Architecture Collection of Selected Works

Prologue

Language is the true work of architecture. Line, light, shadow, texture, material, and form is the vocabulary we deploy rhetorically to convince the world to be what we hope it could be.

The following collection of work is an act of communication. Each line is an argument, each image intends to challenge a norm. This portfolio does not purpose to answer any questions or even ways we should build, but seeks only to question the world as we see it and speculate how architecture can change the ways we as humans connect with others and ourselves.

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*Note: Only 5 semesters of work are shown. Spring 2025 was replaced with RPBW Internship awarded by GSAPP.

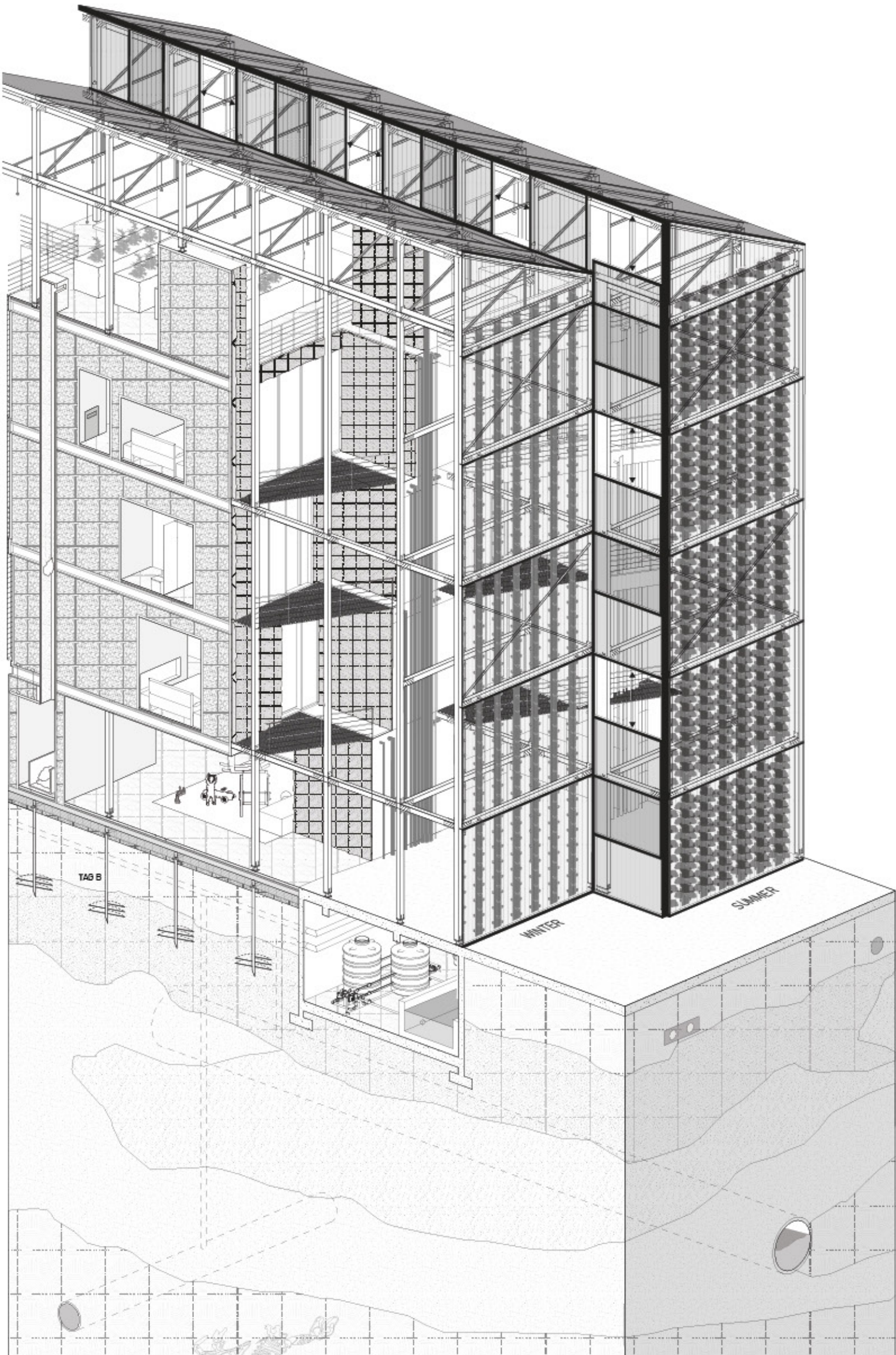
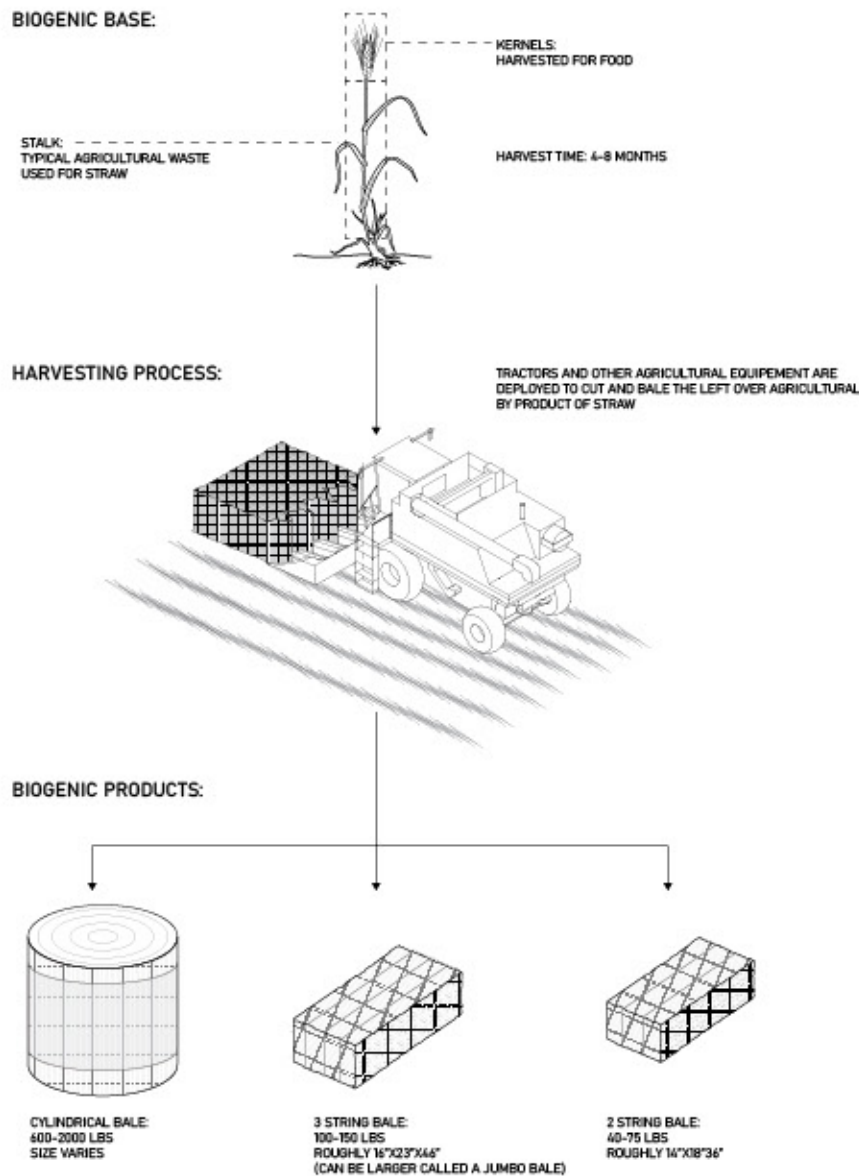
Biogenic Urbanism:

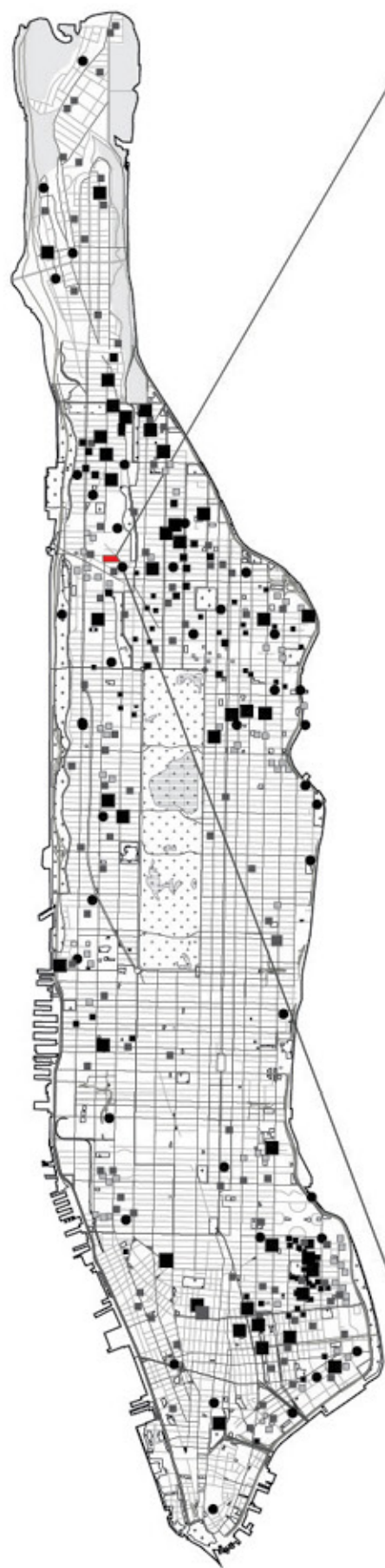
Novel Materials in a New Urban Housing Proposal

Fall 2024
Marc Tsurumaki
Partner: Virginia Italia

Located in central Harlem, this project aims to propose a new way of the urban metropolis at confronting the realities of it's existence and positions within the cycles of use, waste, and reuse. Speculating on a new urban condition where waste is no longer shoved out of the city and ignored, but seen as an opportunity for habitation and construction. Utilizing massive straw bales, the walls become solid masses of straw at the base tapering up to more tradition wall sizes at the top. The thickness of the walls is seen as an opportunity for occupation. Thickness becomes excavation of domestic spaces and programming forcing the confrontation of the inhabitants with the perceived material qualities of this novel approach. The building is situated formally and programmatically in a way to question systems of efficiency and logics of use and waste.

A speculation on a new urban condition where waste is no longer shoved out of the city and ignored, but seen as an opportunity for habitation and construction.

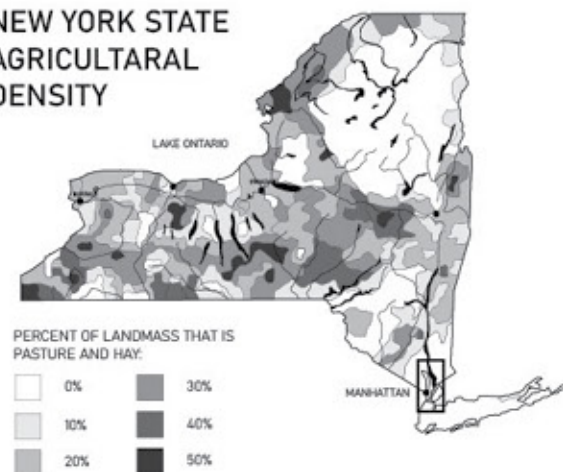




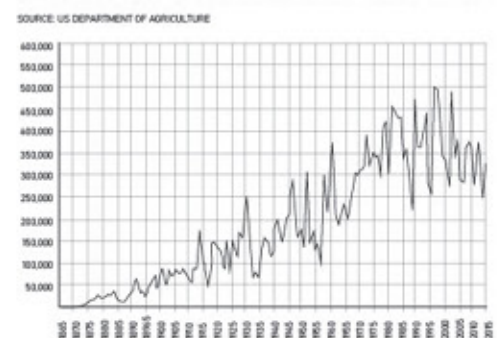
MANHATTAN AGRICULTURE

- NON-COMMERCIAL GARDEN
- SCHOOL GARDEN
- NYCHA GARDEN
- FARMERS MARKET

NEW YORK STATE AGRICULTURAL DENSITY



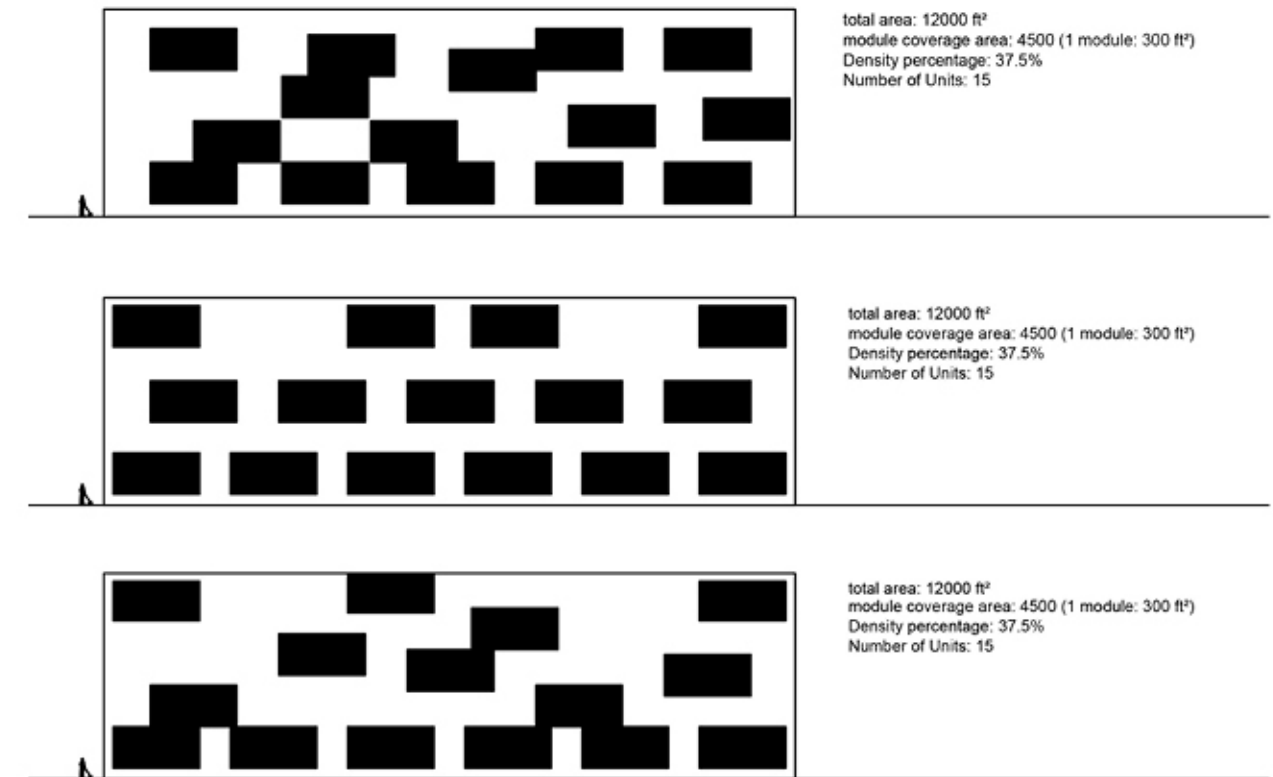
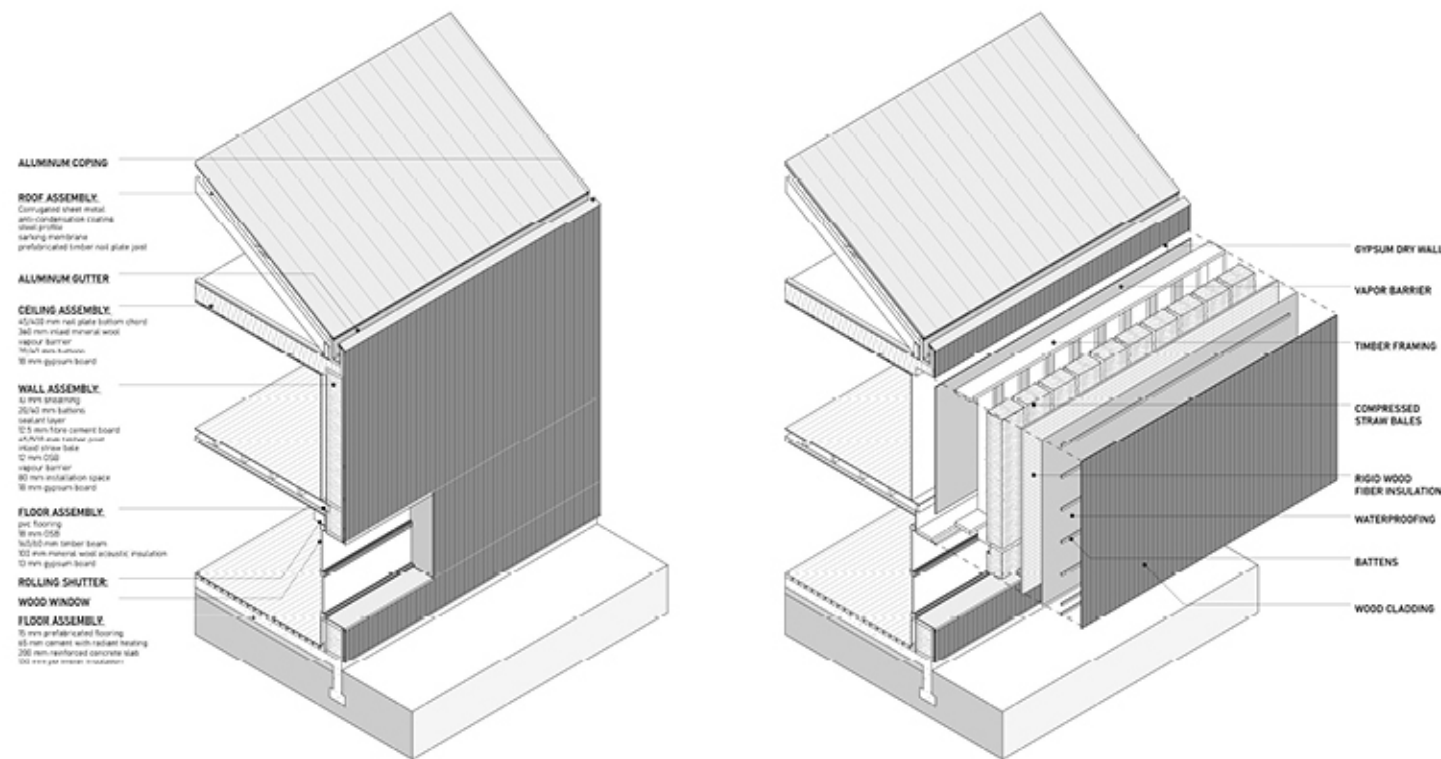
US WHEAT PRODUCTION 1866-2016



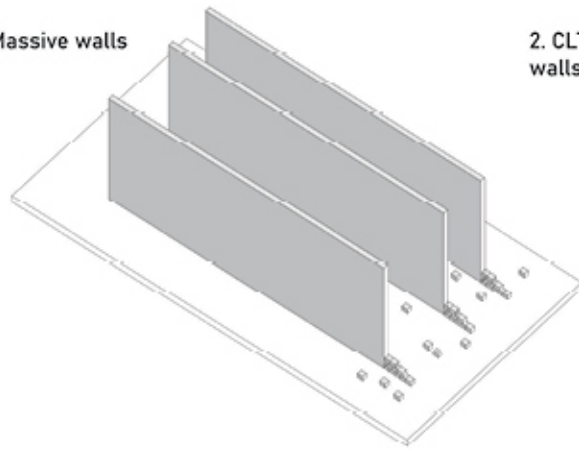
LEGEND

- 1. 125TH STREET 1 TRAIN SUBWAY STOP
- 2. GRANT HOUSES
- 3. MANHATTANVILLE HOUSES
- 4. TAYSEE LIFE SCIENCE BUILDING
- 5. ST NICHOLAS PARK
- 6. ST NICHOLAS HOUSES
- 7. HARRIET TUBMAN LEARNING CENTER
- 8. THE CITY COLLEGE OF NEW YORK
- 9. COLUMBIA UNIVERSITY

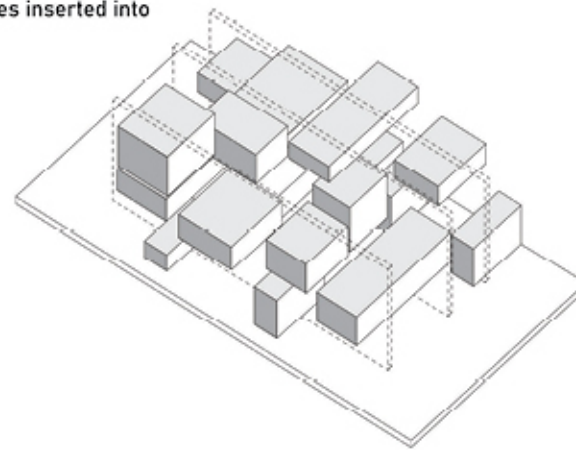
Understood as a node in a larger system of the agricultural and urban network that New York exists in, the project interrogates and spatializes the relationship of the material byproducts of New York's agricultural systems with the urban condition that it serves. This material relationship was translated into a formal exploration relating to modular agricultural straw bales as waste.



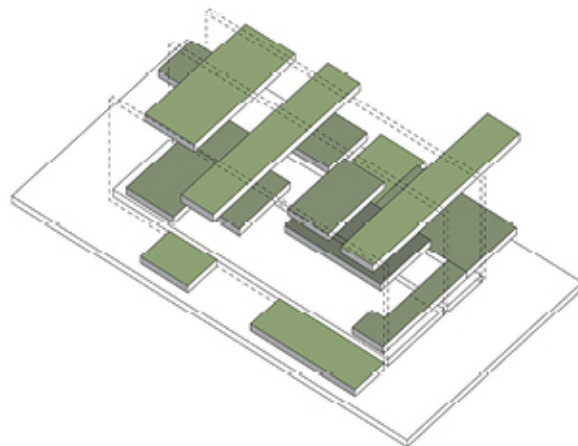
1. Massive walls



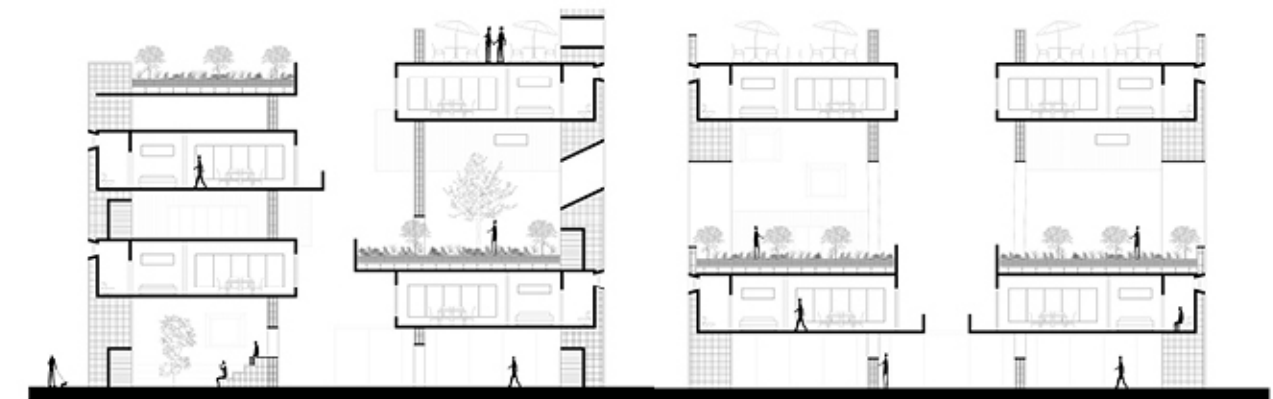
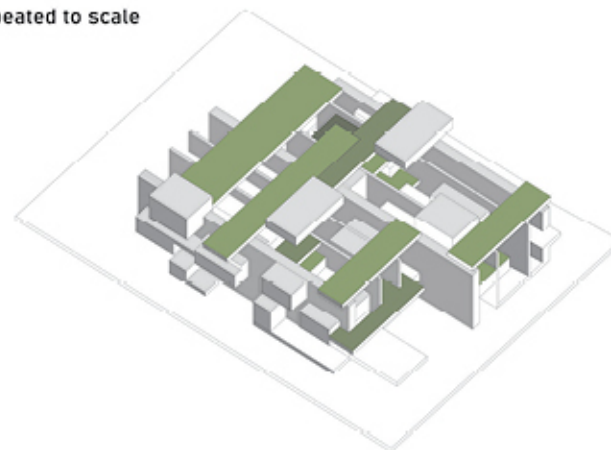
2. CLT modules inserted into walls



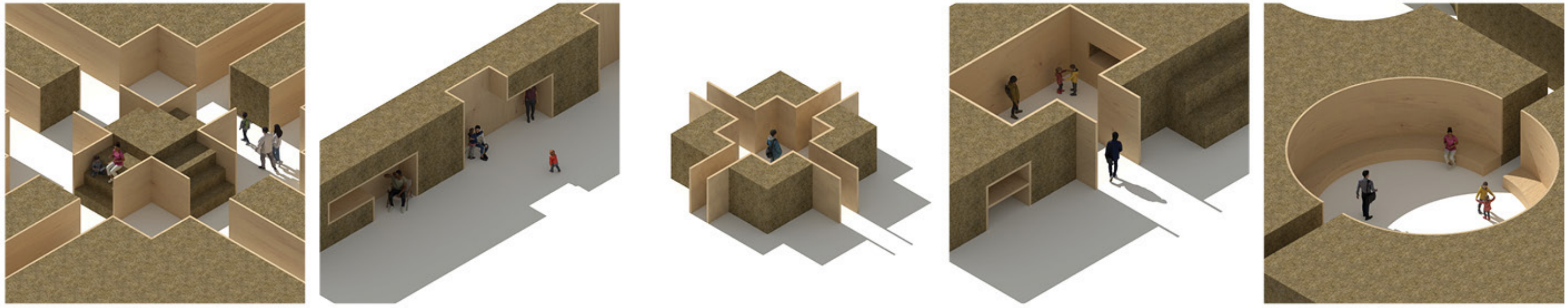
3. Green space inserted into mass



4. System repeated to scale

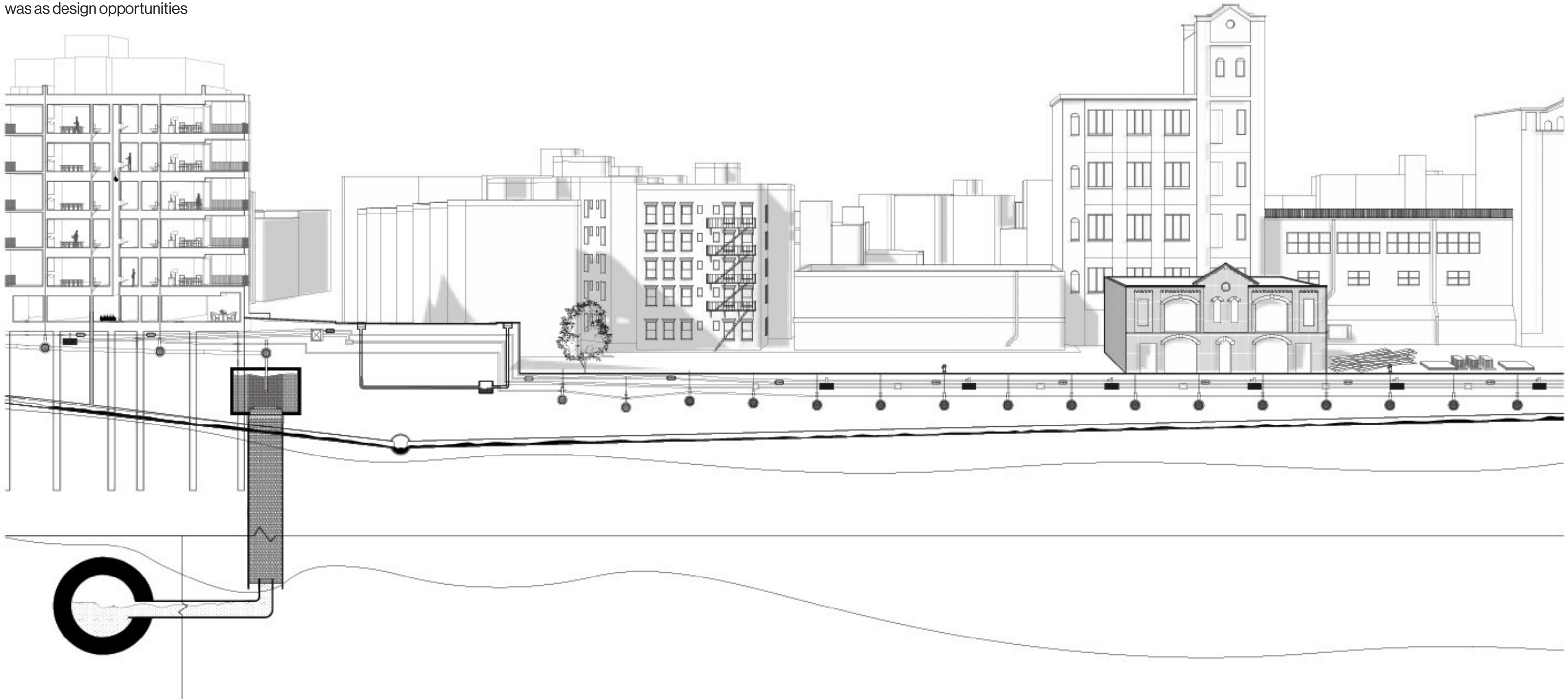


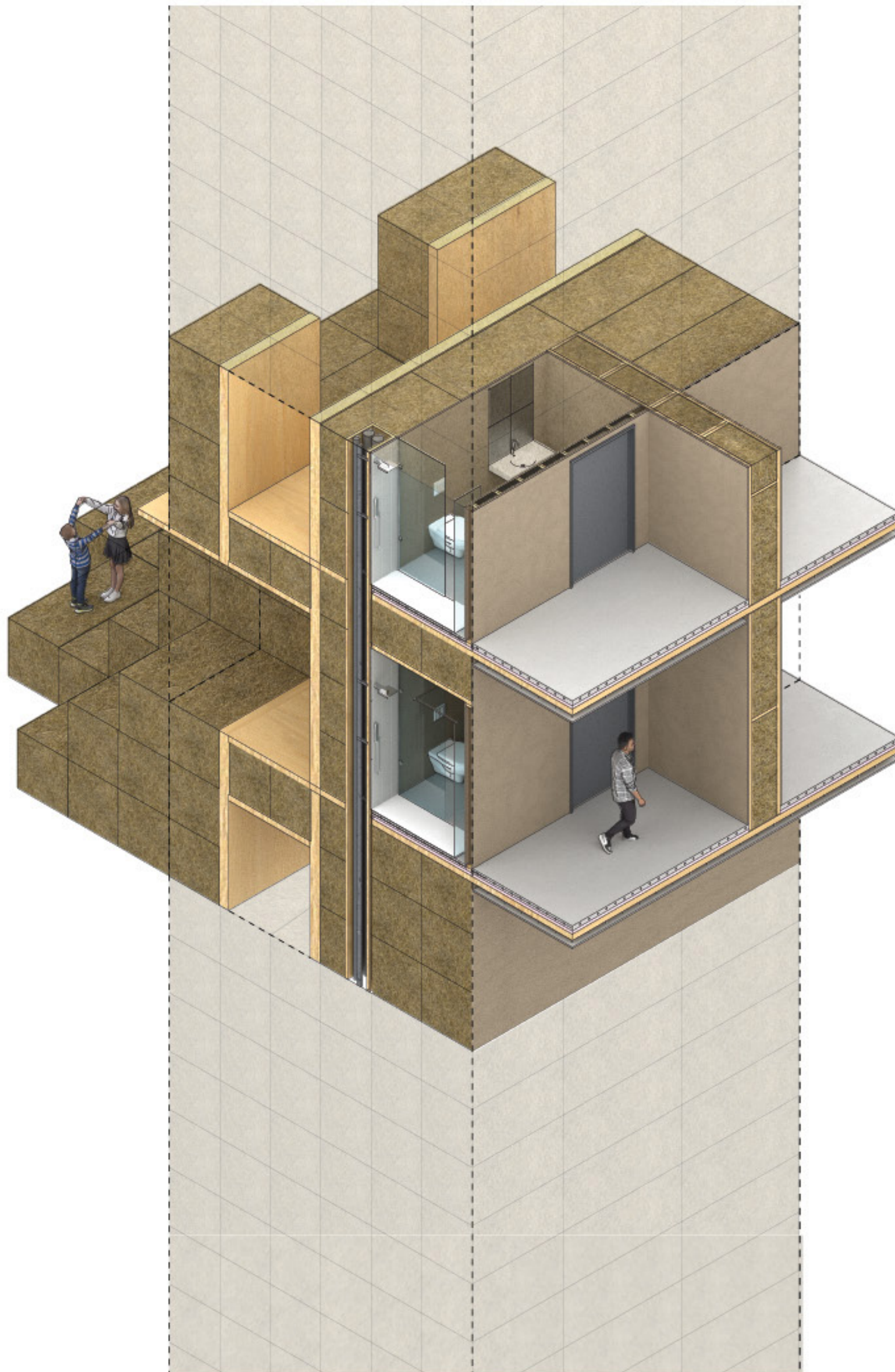
Early material explorations and design exercises served as the foundational underpinning of the formal and material expression of our housing intervention. A housing wall assembly in France made from straw bales served as the foundation for understanding the real limitations of straw bale construction. The logics of this house were then rethought in the diagram above considering what construction would mean if straw were taken as a material to be expressed spatially in section.



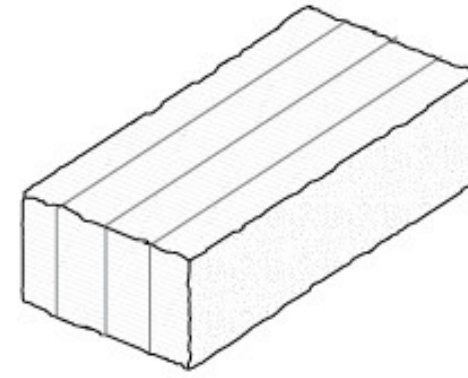
Studies of mass and excess as design
Opportunity for space making

Site section analysis: Water's and systems of
was as design opportunities

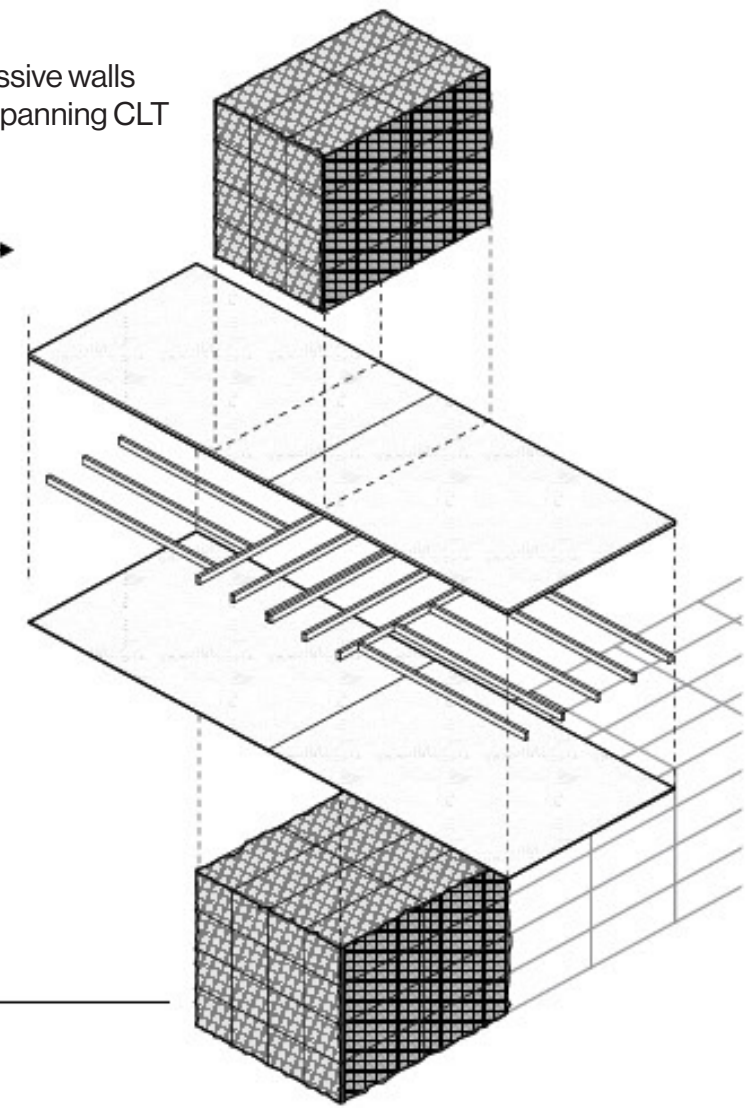




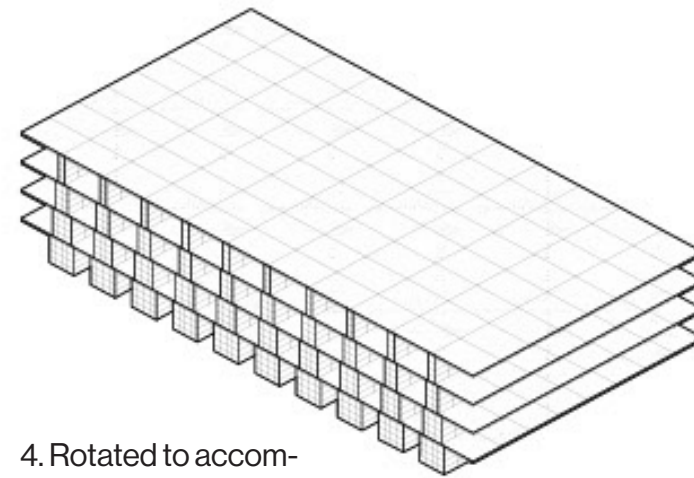
1. Straw bale



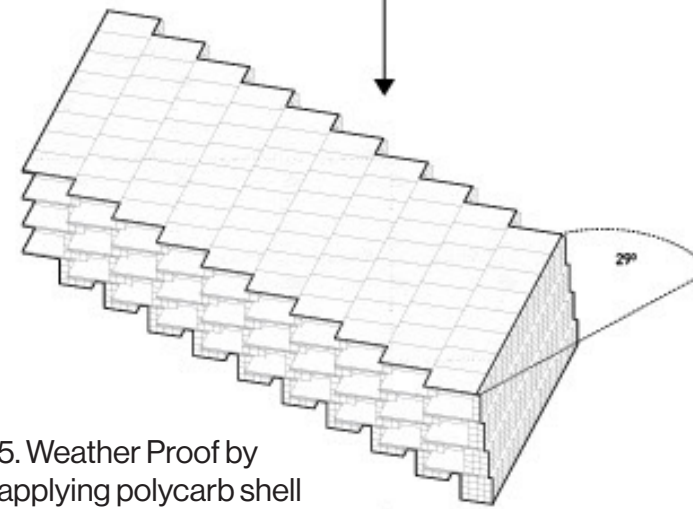
2. Massive walls with spanning CLT



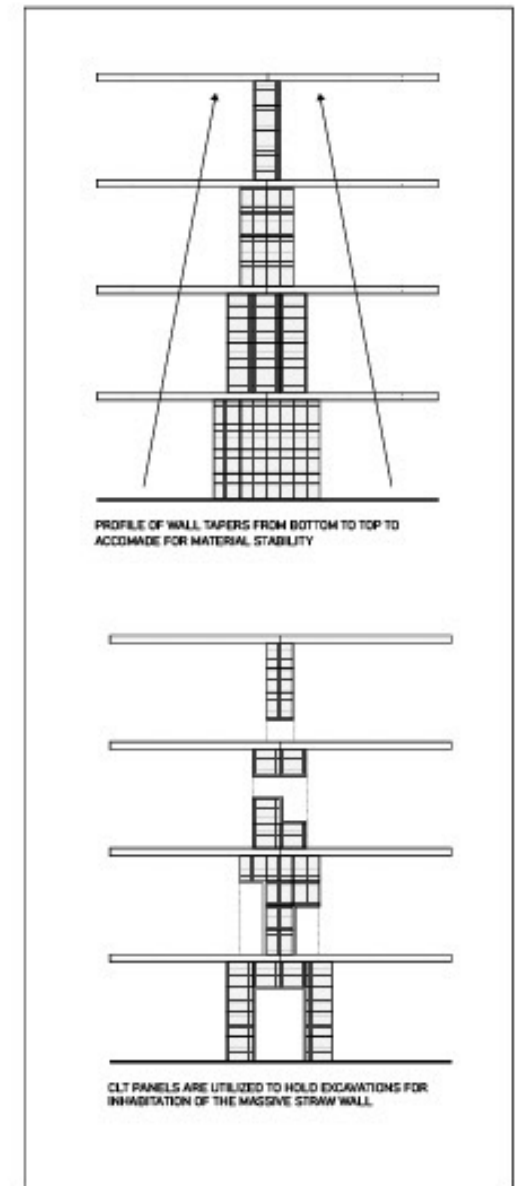
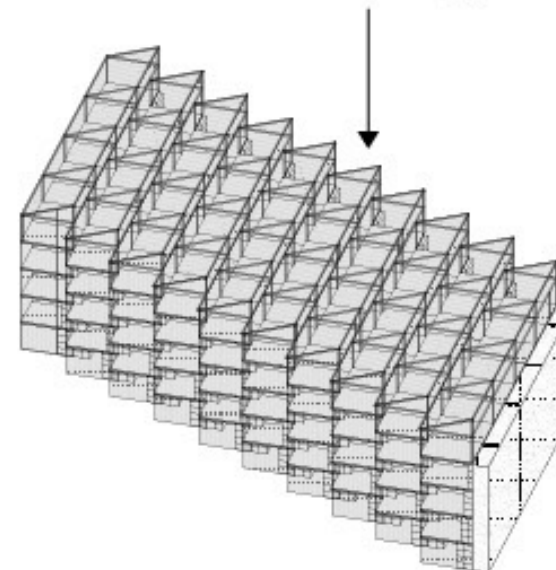
3. Scaled up

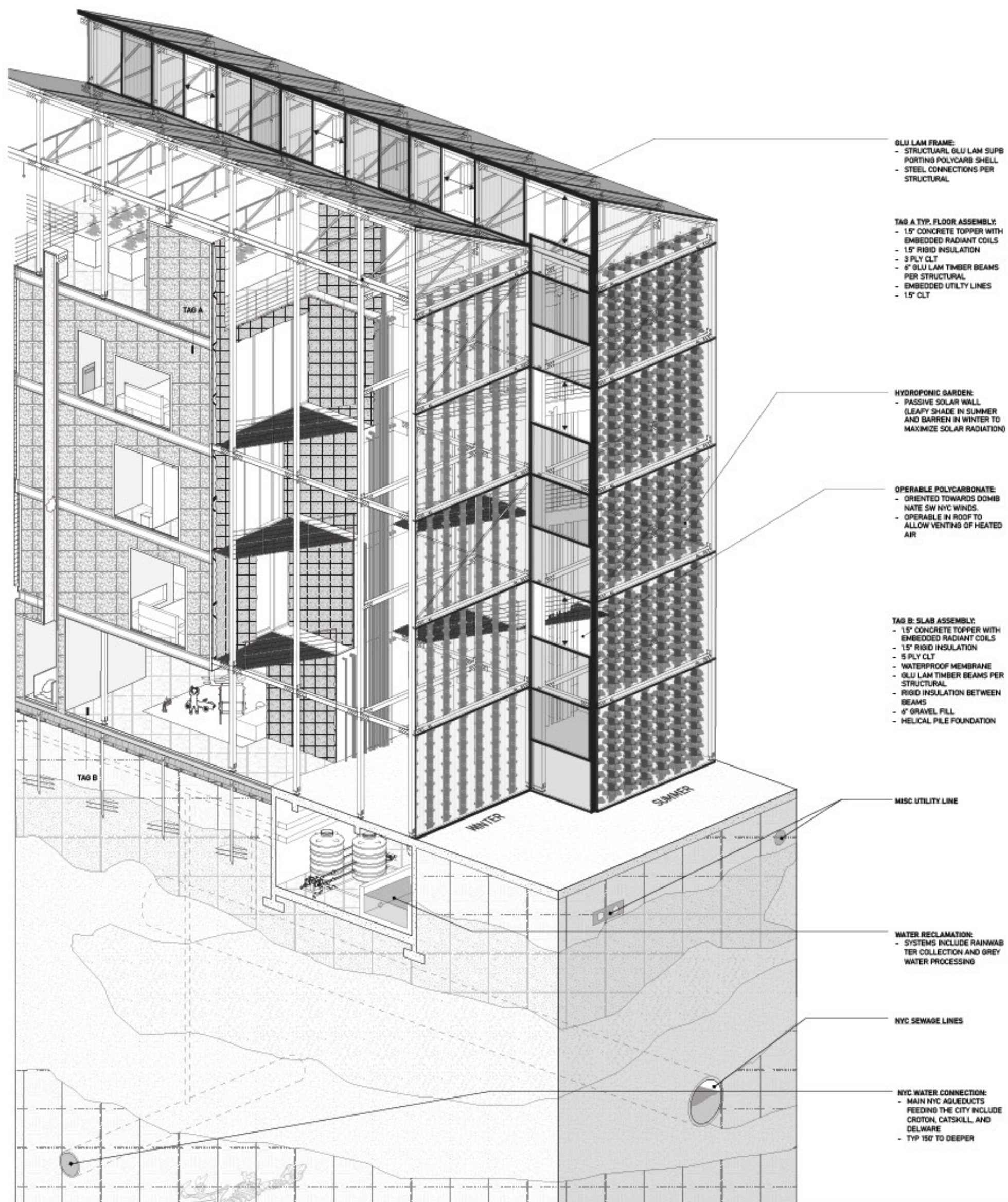


4. Rotated to accommodate sun/ road

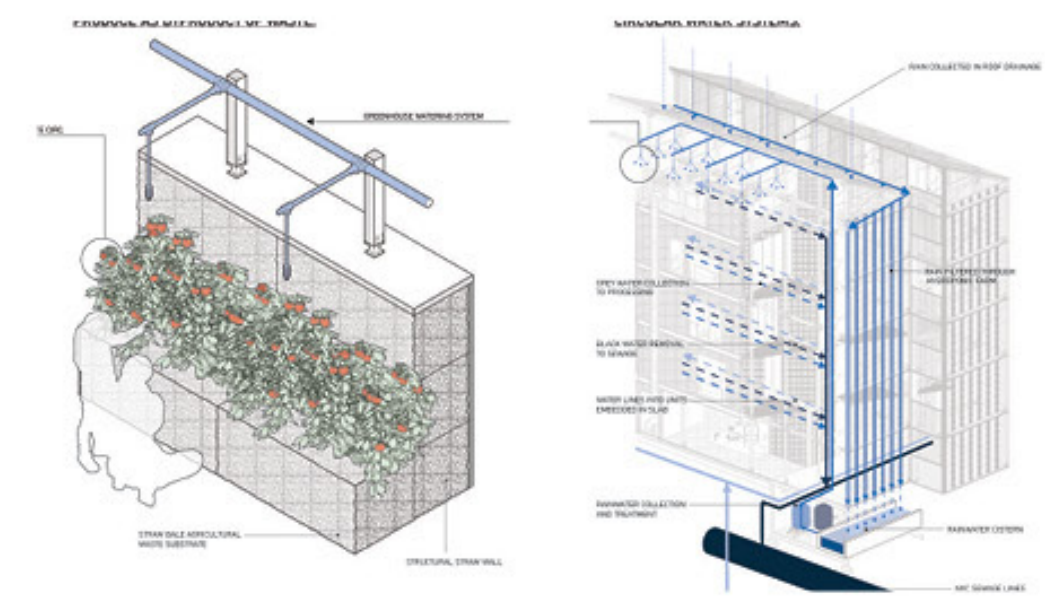
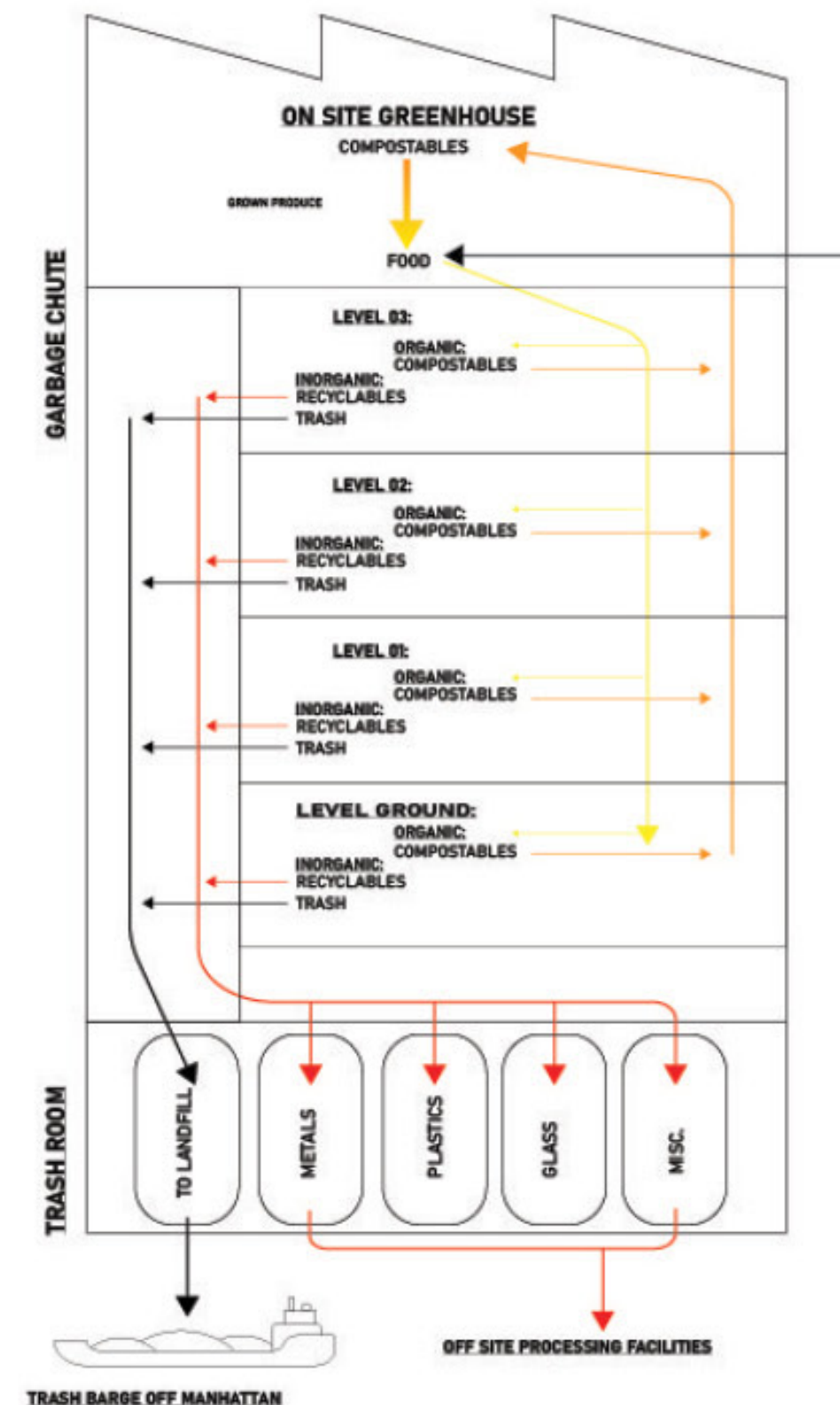


5. Weather Proof by applying polycarb shell



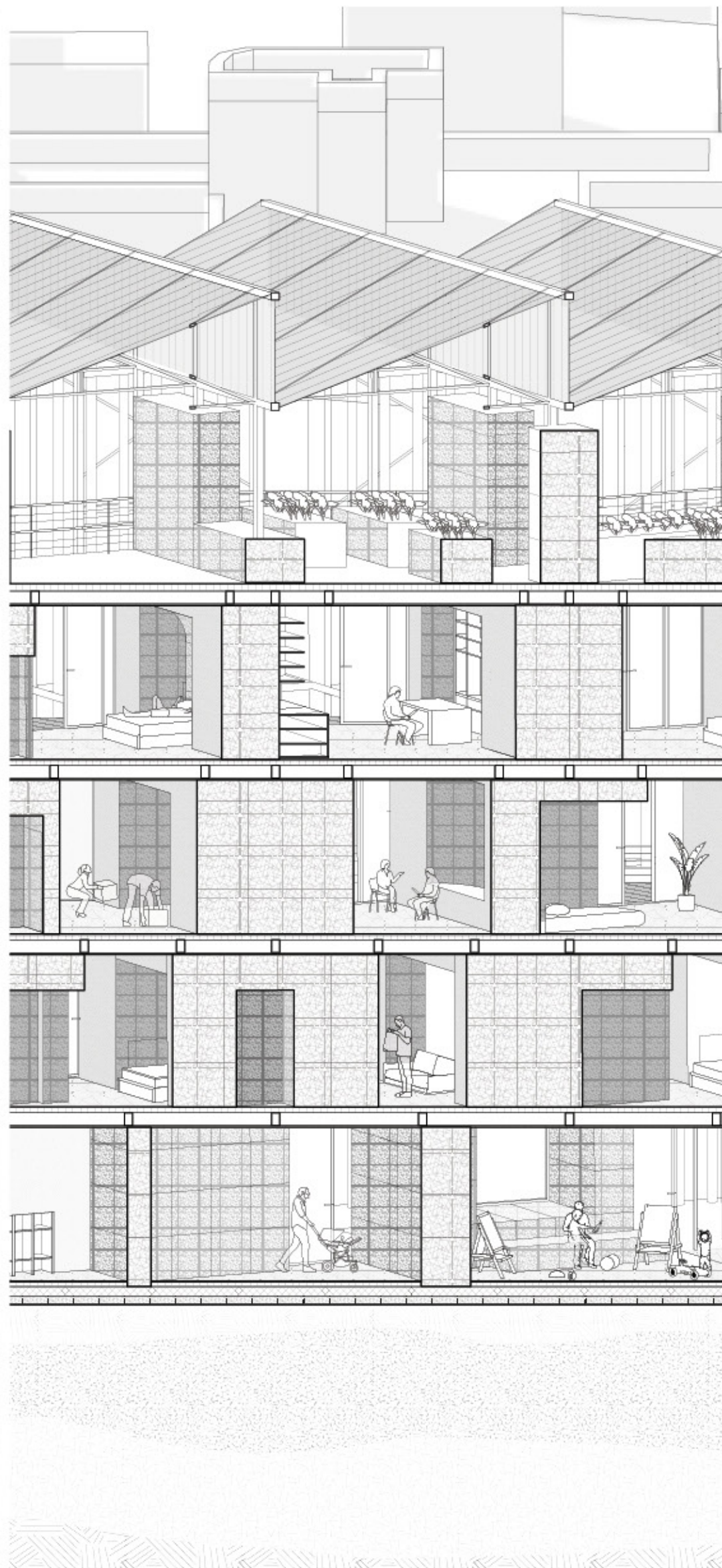
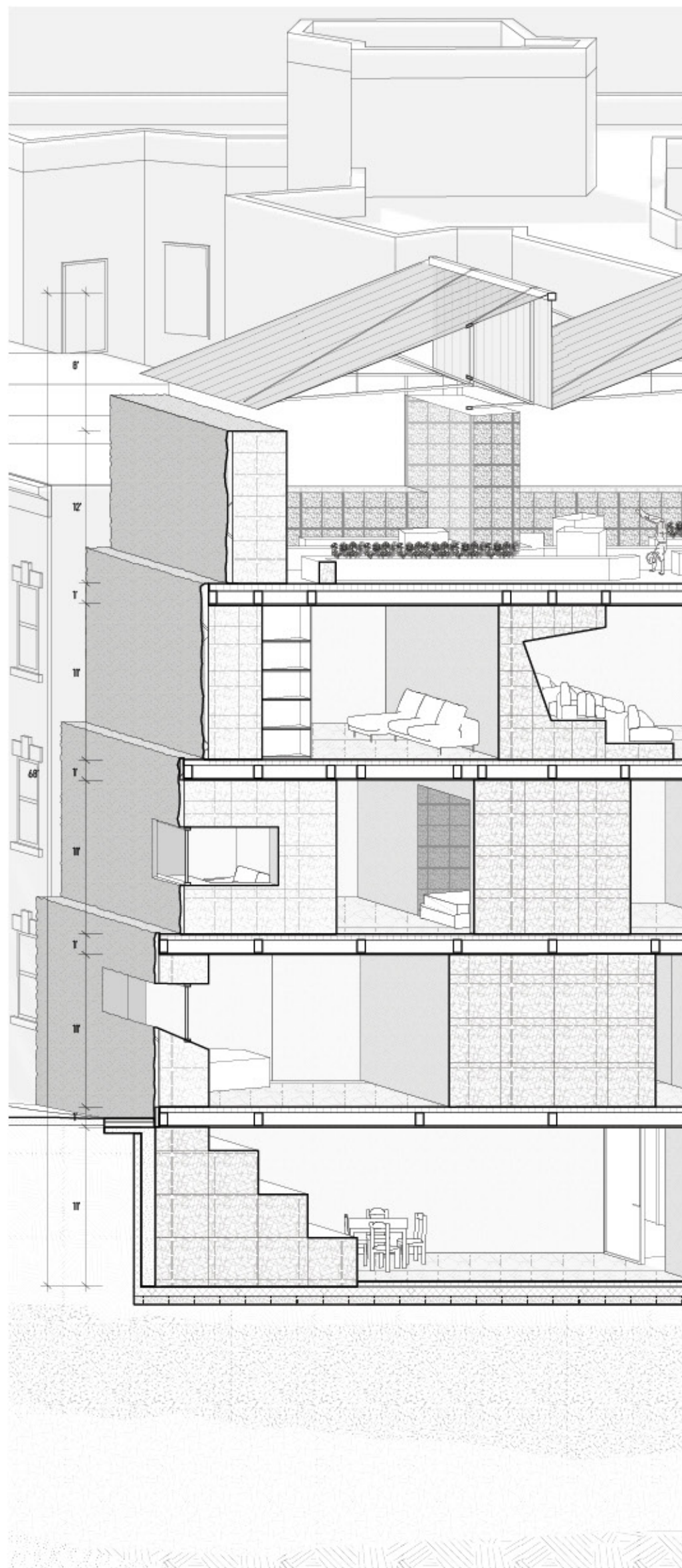


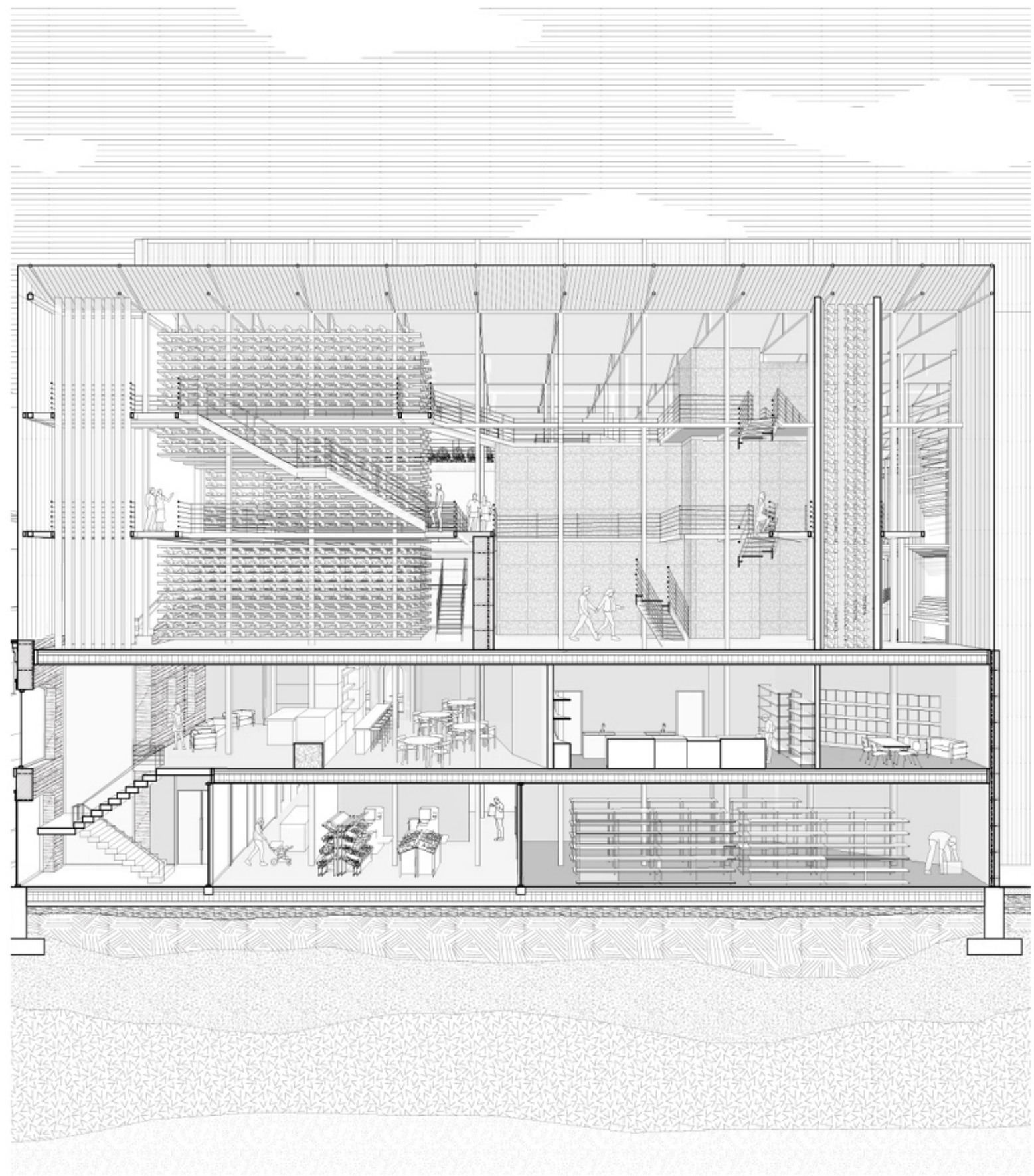
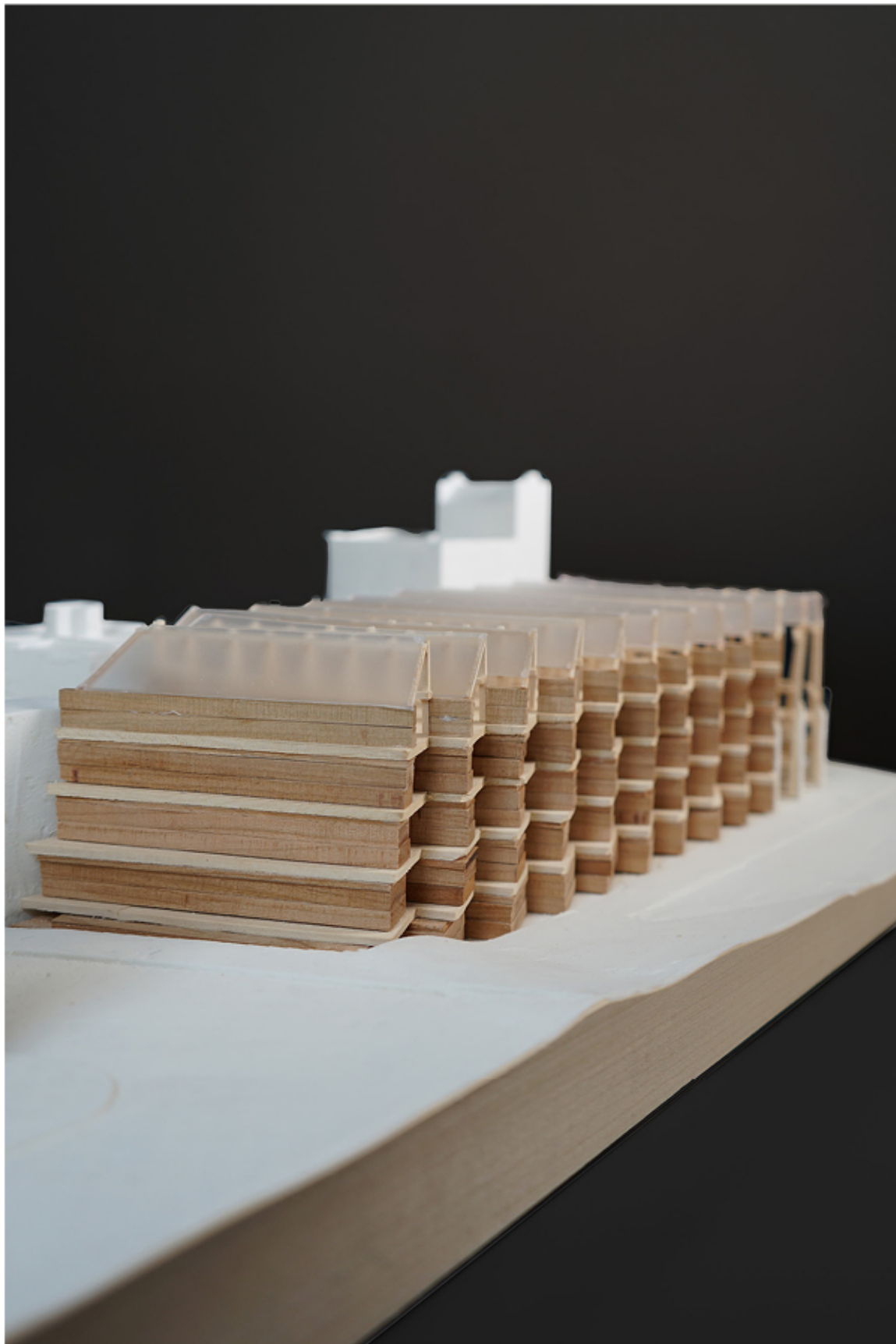
INTERNAL WASTE CYCLES:





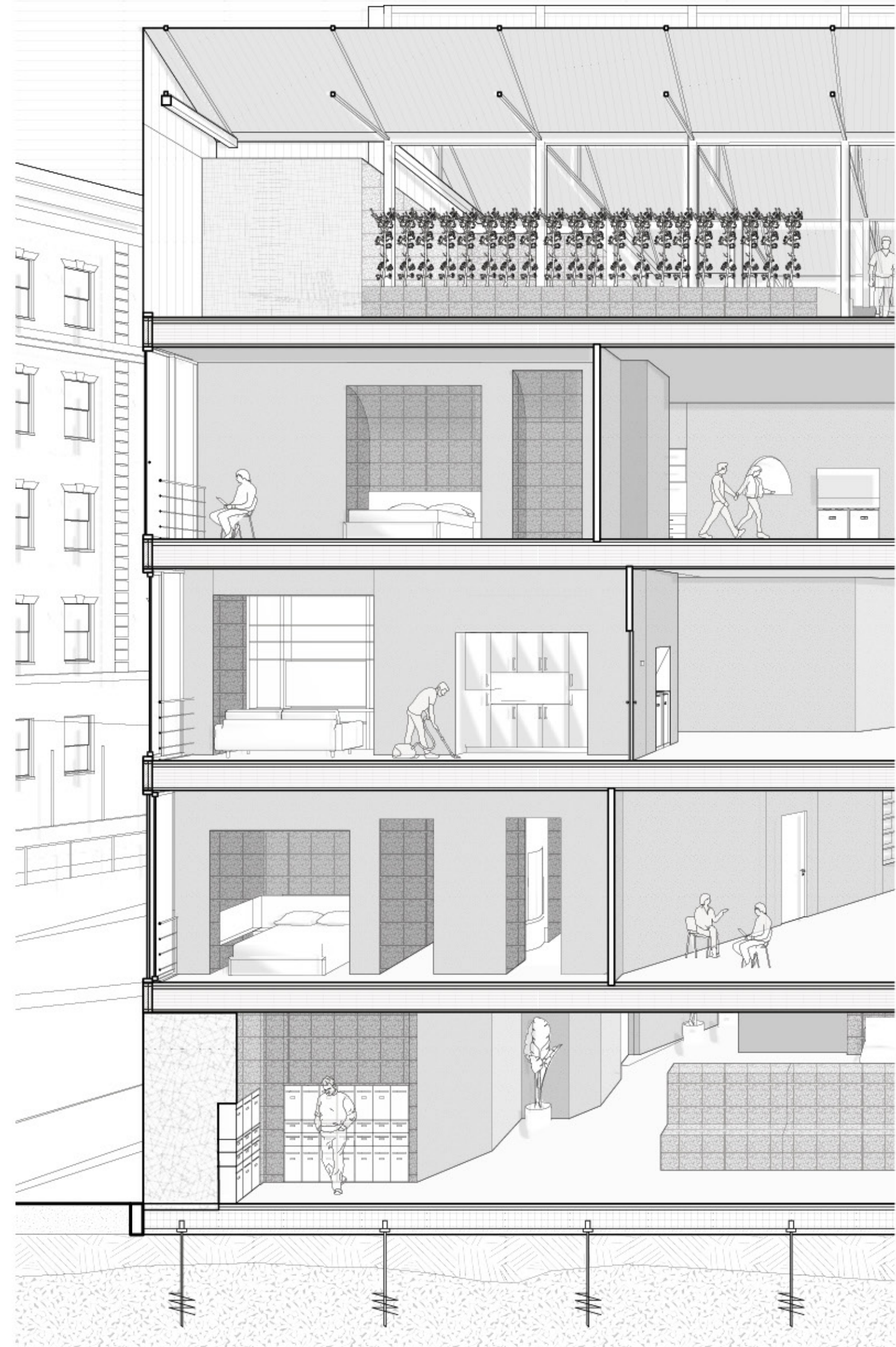
Large straw bales serve as the modular building blocks for the construction logic. Starting as full coverage at the ground floor, less straw is needed as you go up the building allowing for the bales to recede. The massive walls are an opportunity for space. When walls are massive, space is carved from the mass. As you ascend the building, space is held between walls. Inhabitation transitions from bottom to top following the logics of mass straw bale construction.

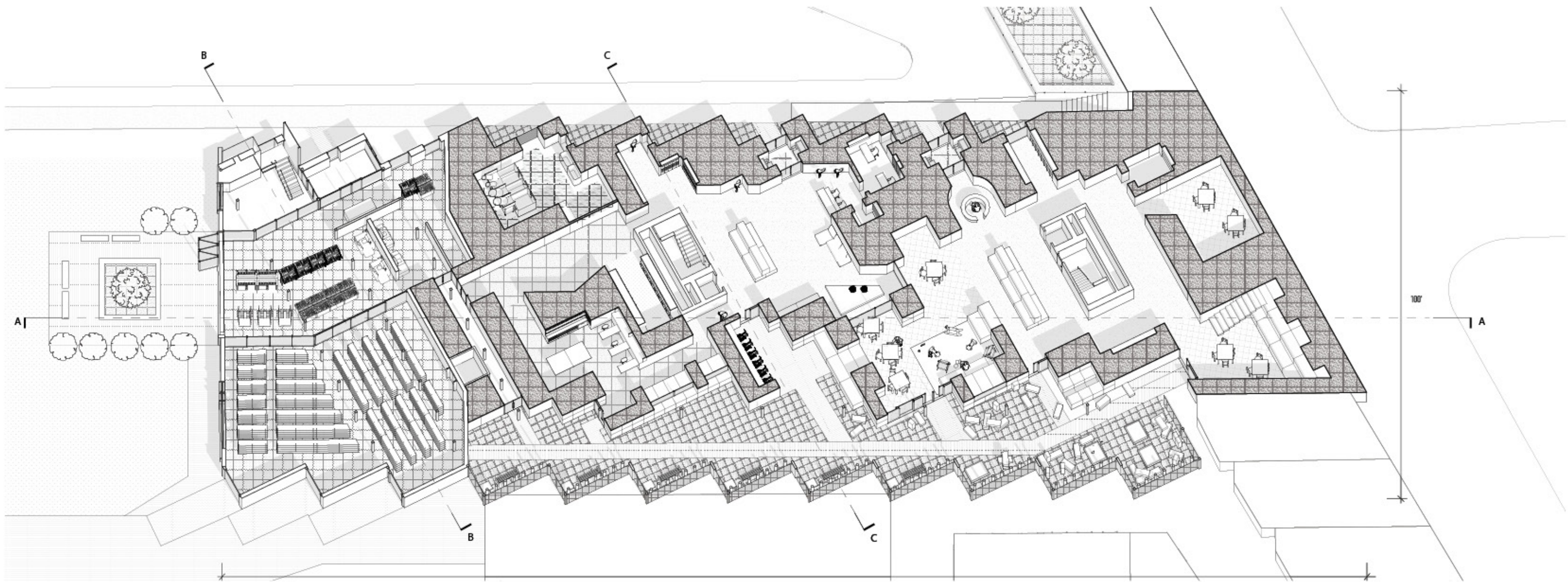






Domesticity occurs within massive walls of straw bales, re framing what it means to live within streams of waste. Thickness becomes opportunity and logics of material usage are reversed. Confrontation with agricultural byproduct creates potentials for new forms of domesticity.



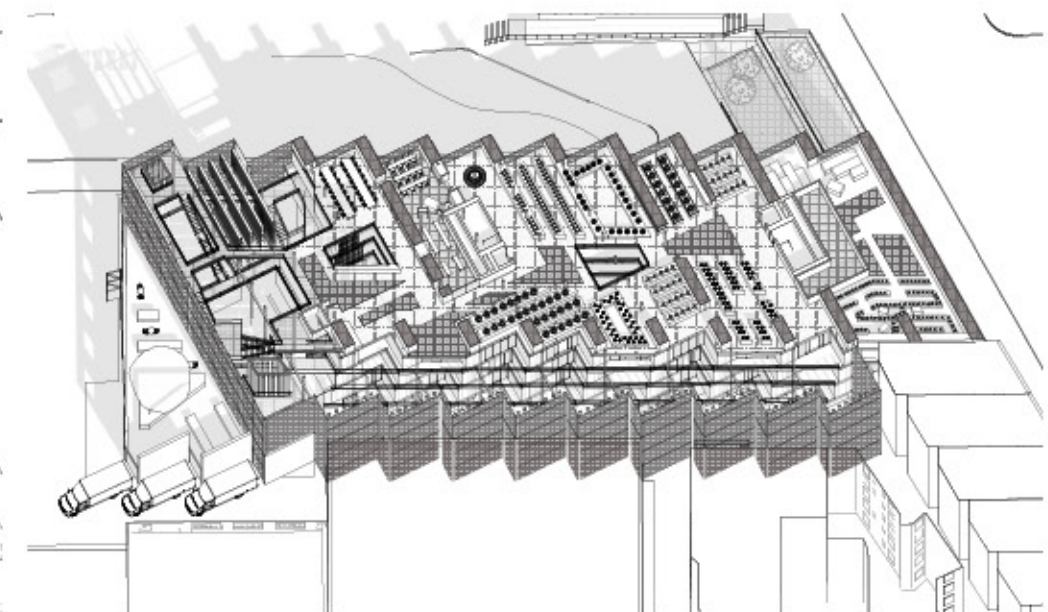
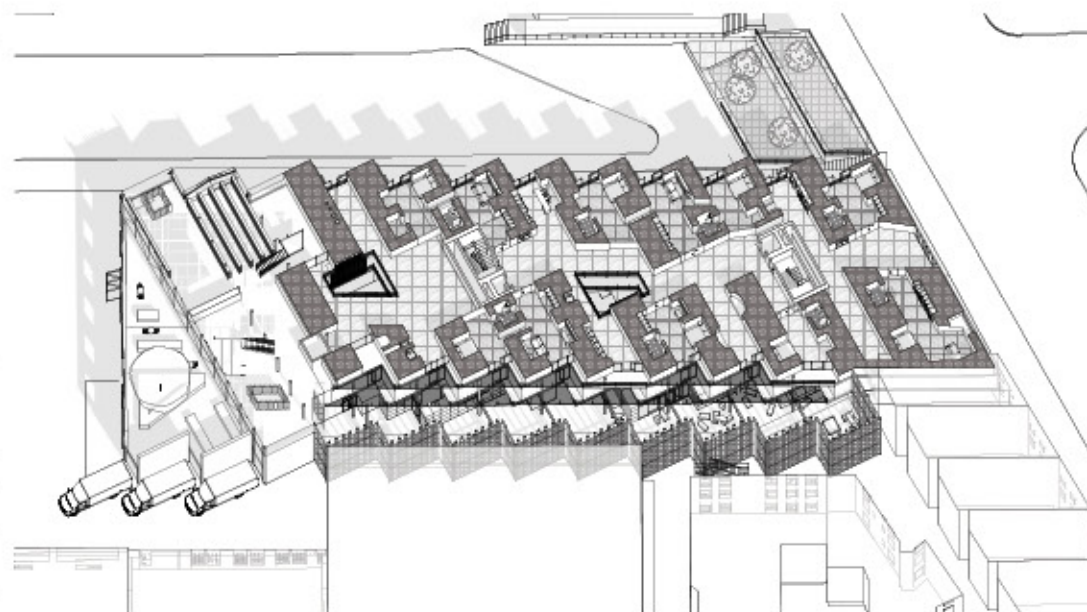
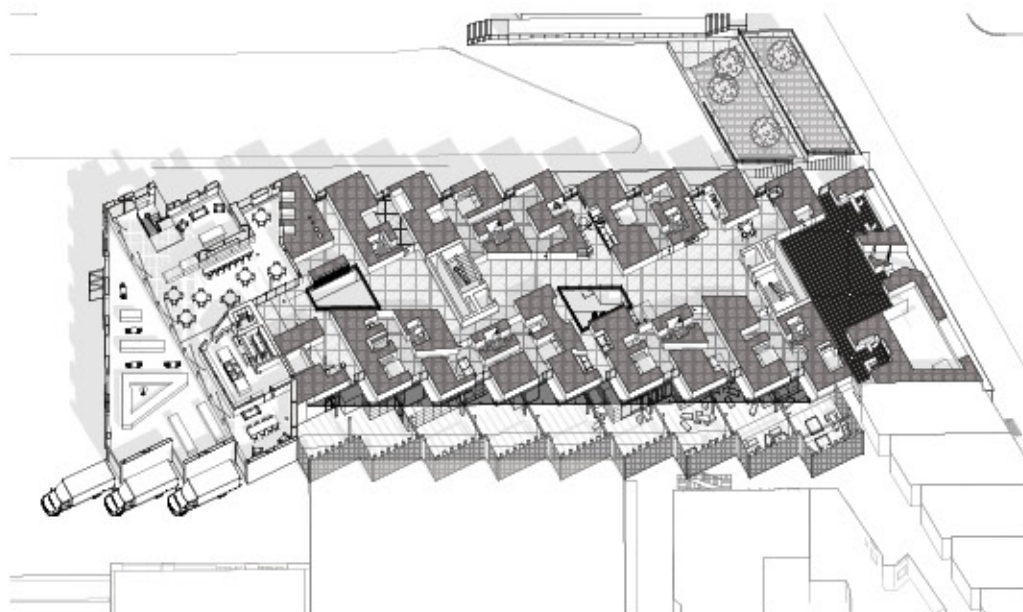


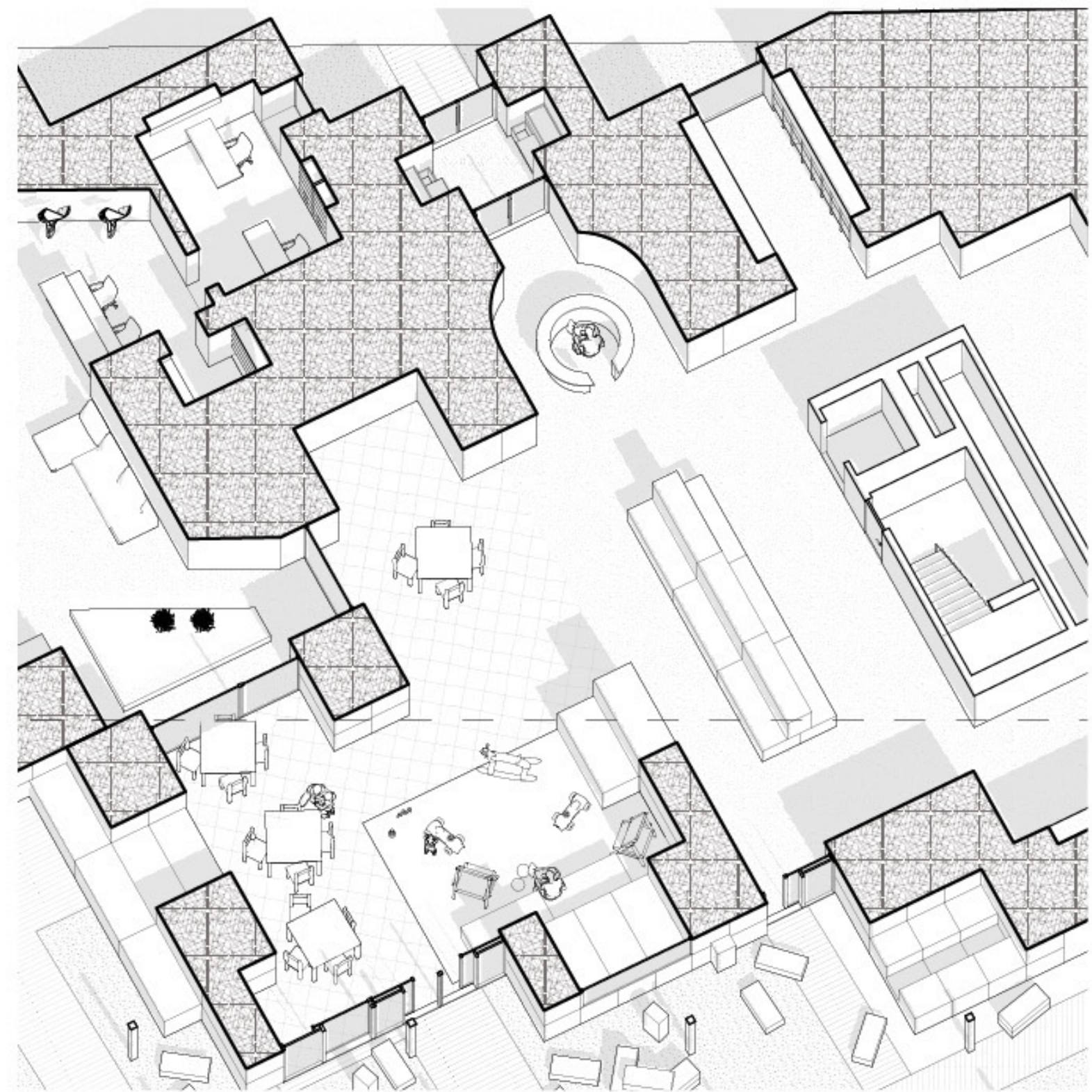
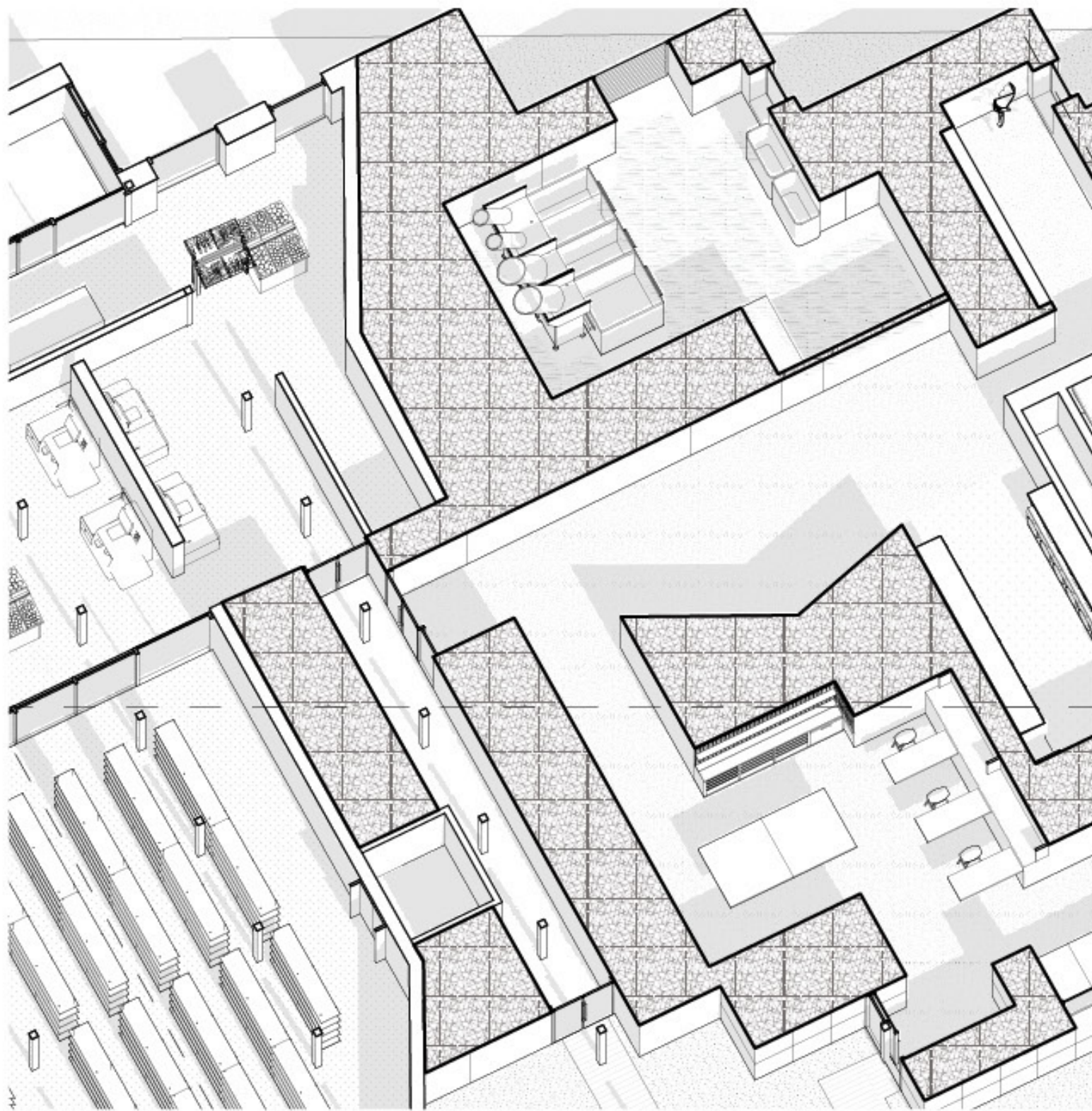
Ground Floor

Floor 01

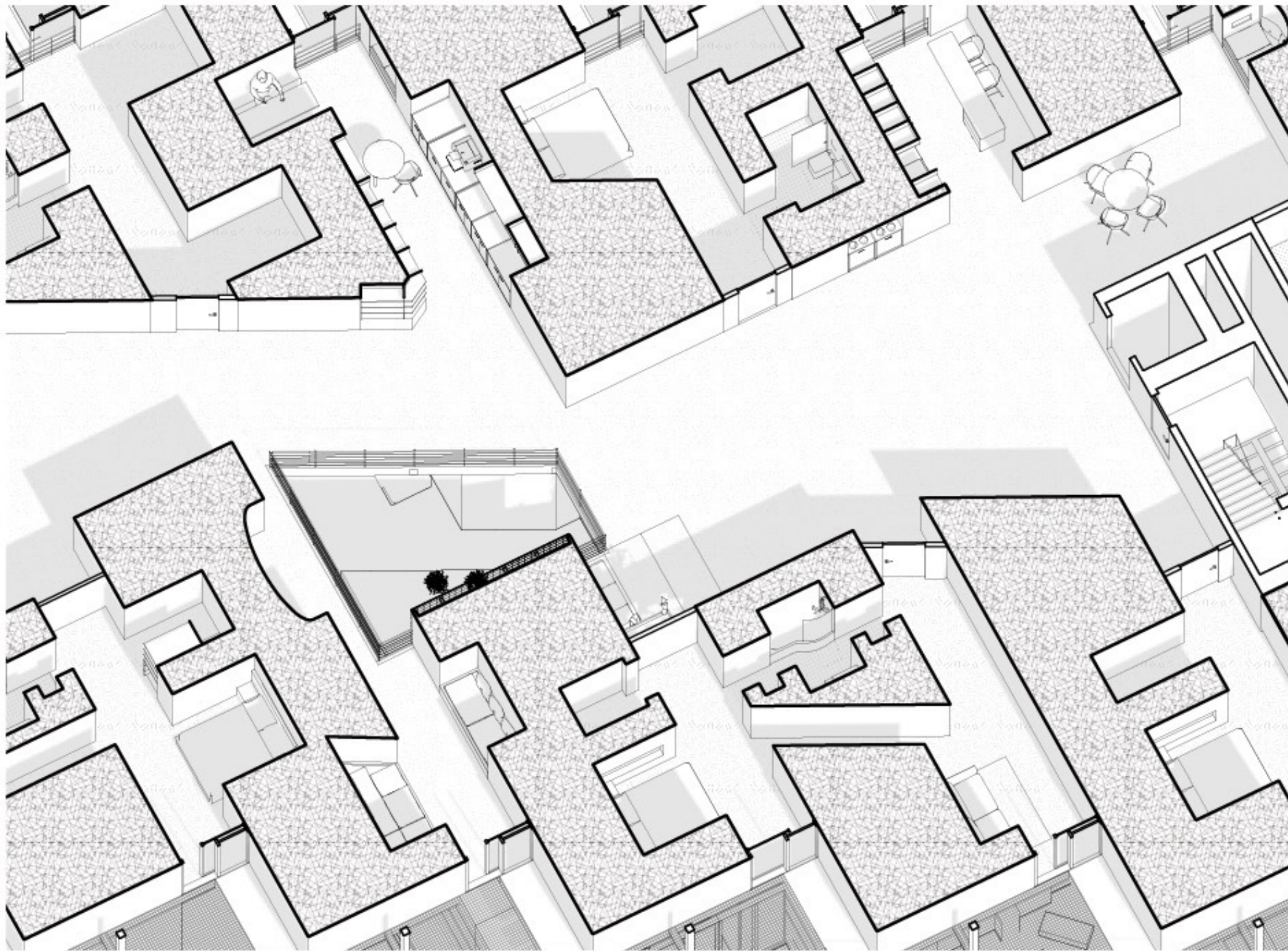
Floor 02

Roof



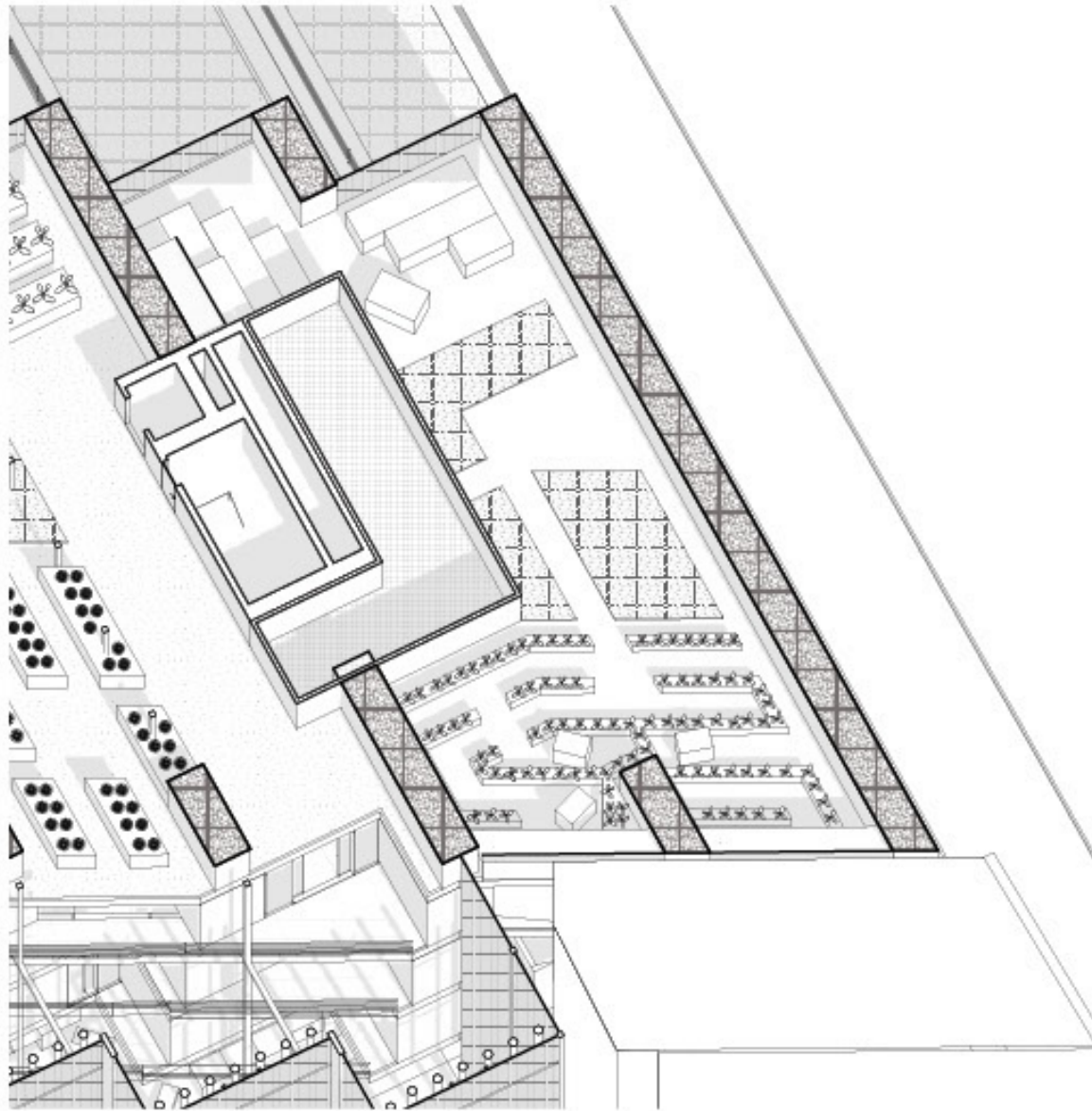


Ground floor access to the building is the public's first confrontation to massive straw bale construction. With all of the public programming on the ground floor including spaces like daycare and grocery, the public is invited to navigate a labyrinth of excavated spaces from massive walls. At ground floor, the logic of the straw bale is at its extreme. Conceptually beginning as completely covered in

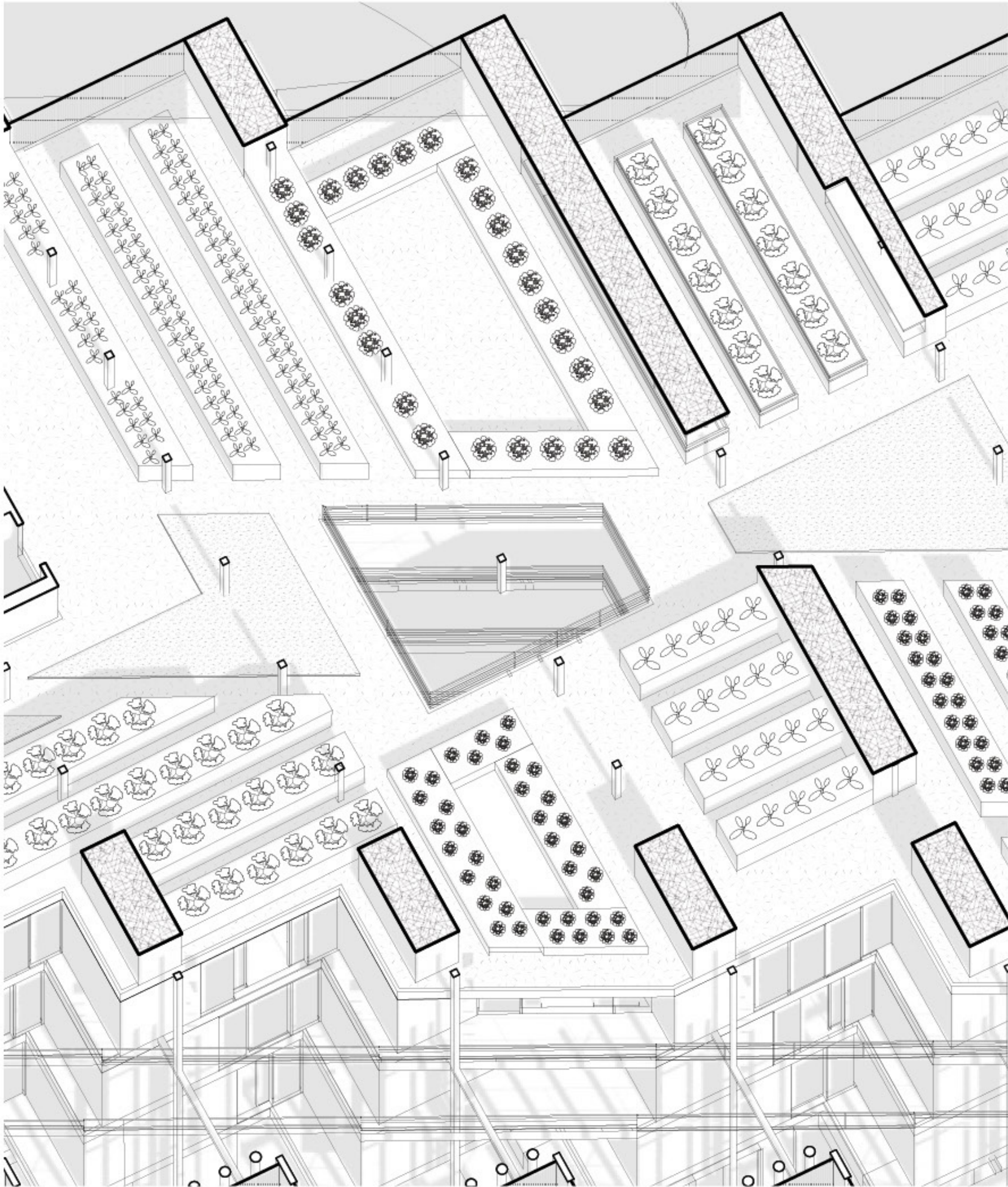


Domestic and living spaces occupy the upper floors. On the edges of the building, individual units are carved from the walls and the space between the massive straw bale walls. In the center of the building, common programming challenges what is traditionally seen in apartment buildings. Contemporary modes of efficiency become questioned, larger kitchens are public allowing for smaller and denser units on the periphery.





In the enclosed greenhouse roof, the tenants of the building are invited to participate in the active creation of the same material that constitutes the building. Plants and green spaces become public. This is complimented by an extension to the daycare to provide child education



Queer Sky:

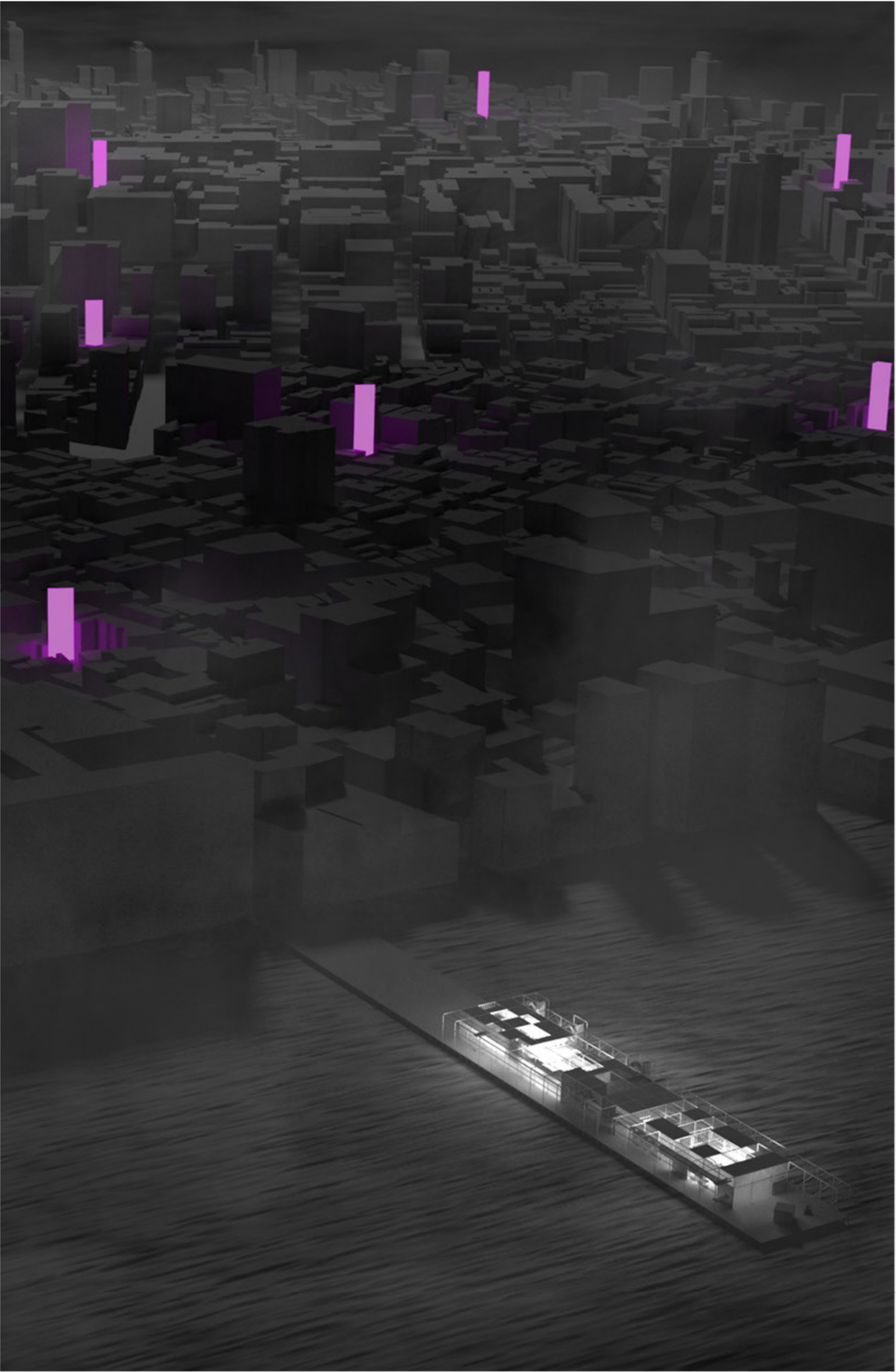
Speculative Futures for Queer Urbanism

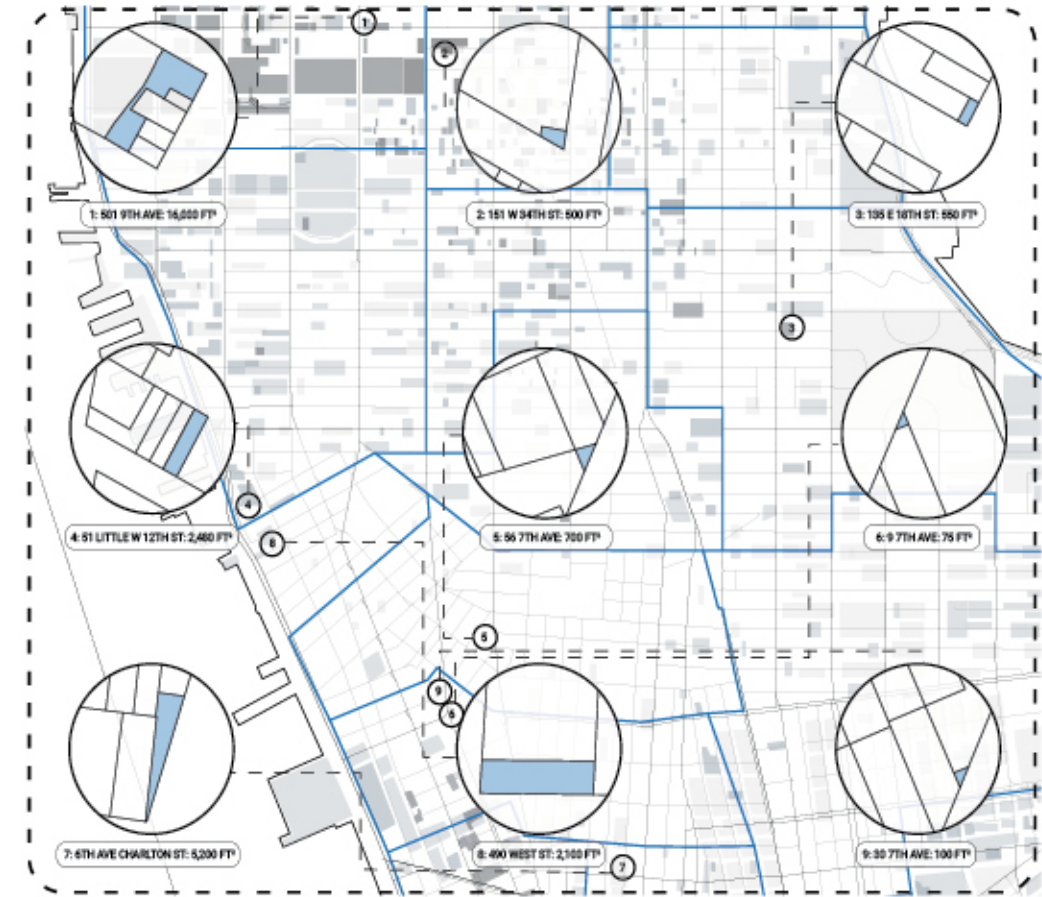
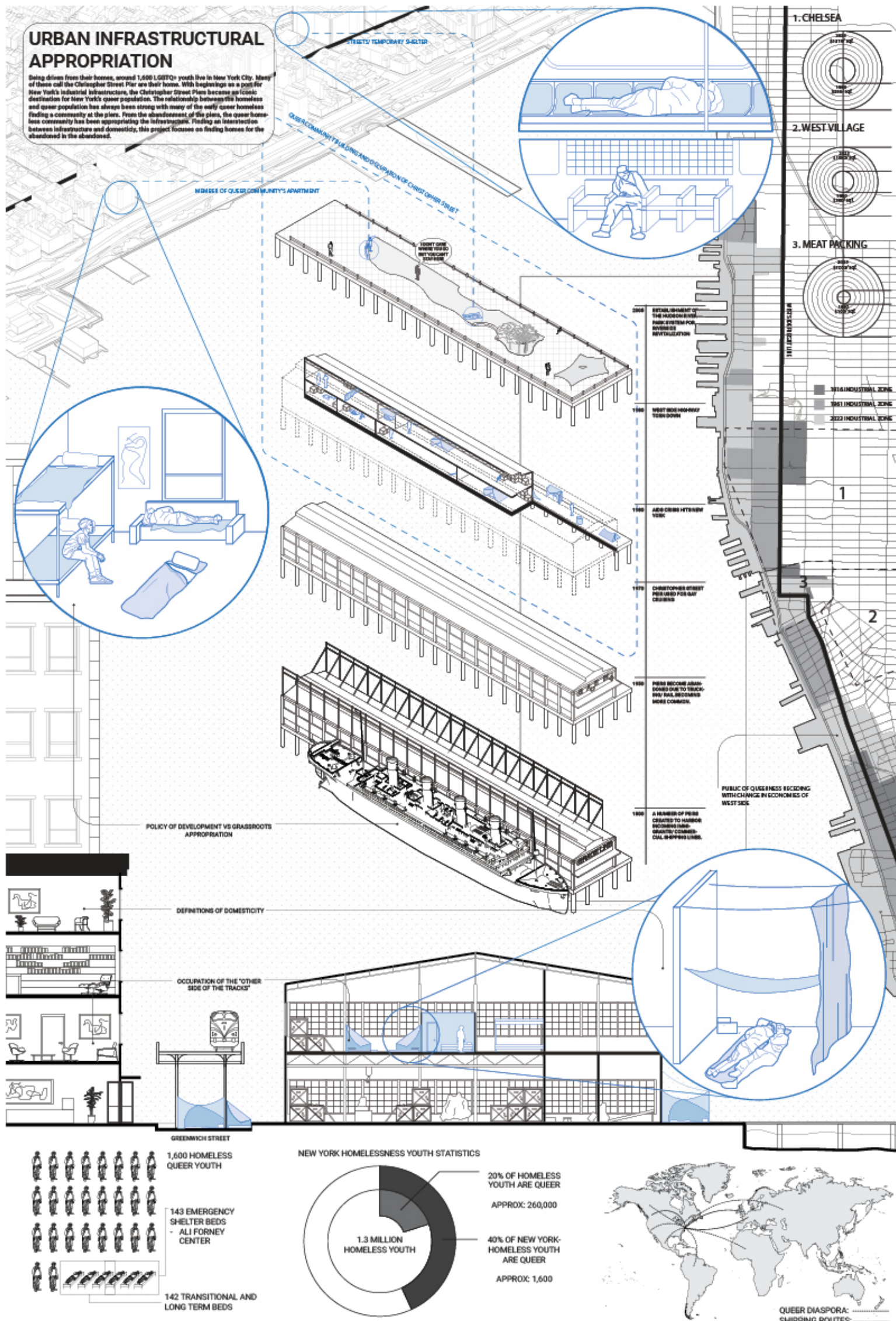
Fall 2023
Kevin Hai Pham

Over the last 45 years, the lower west side's shoreline has gone through major change. This change began with the appropriation of abandoned industrial infrastructure at the Christopher Street piers. The piers became home and hub for the fringe and exiled communities of the queer population in New York City in the late 20th century. This site quickly became a site of revolution for gay rights and a beacon of hope for queer people across the country and world. This changed as the AIDS epidemic was weaponized against the community that called this place home and led to its' destruction.

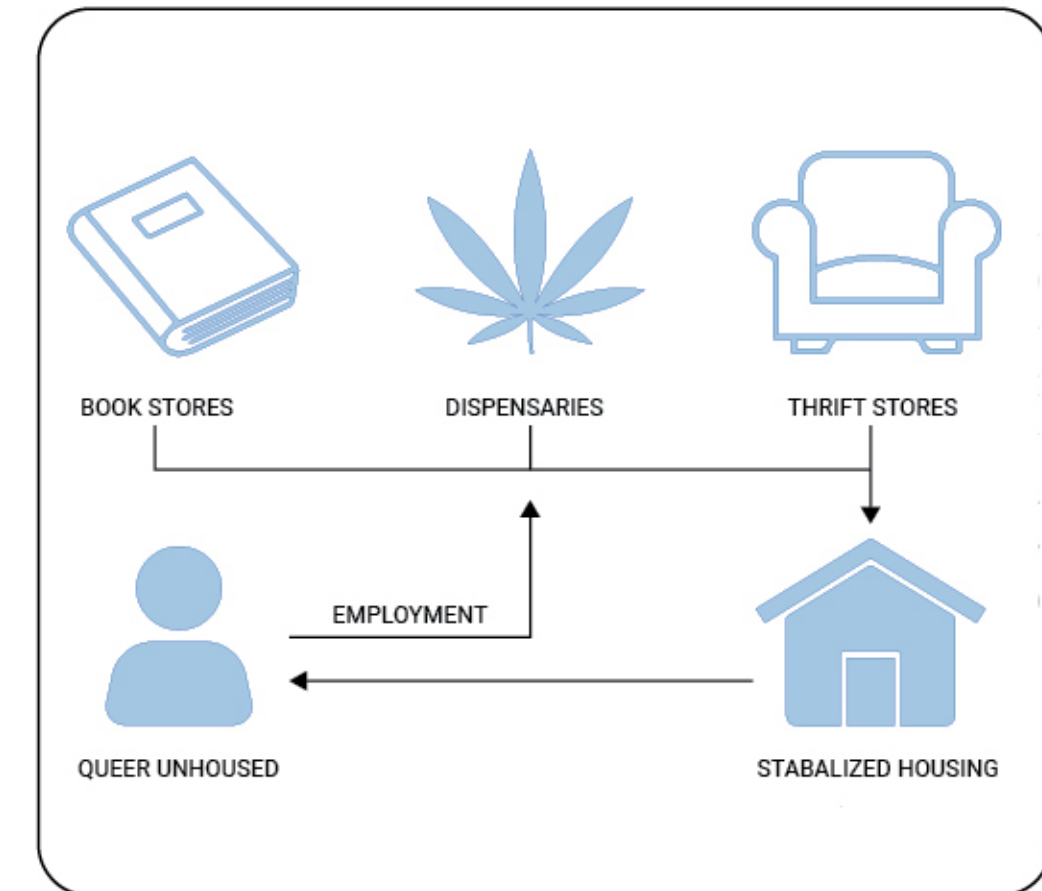
With this history in mind, this project aims to re-envision a new urbanism in Manhattan to house the displaced population of homeless queer in New York. This is accomplished by proposing two different interventions and institutional partnerships. By proposing housing, one is required to think of the mechanisms by which this housing will be funded. Utilizing New York's small and irregular lots, new areas of production are envisioned to subsidize the housing system proposed.

Queer sky aims to re-envision a new urbanism in New York to house the displaced population of homeless queer youth in New York.

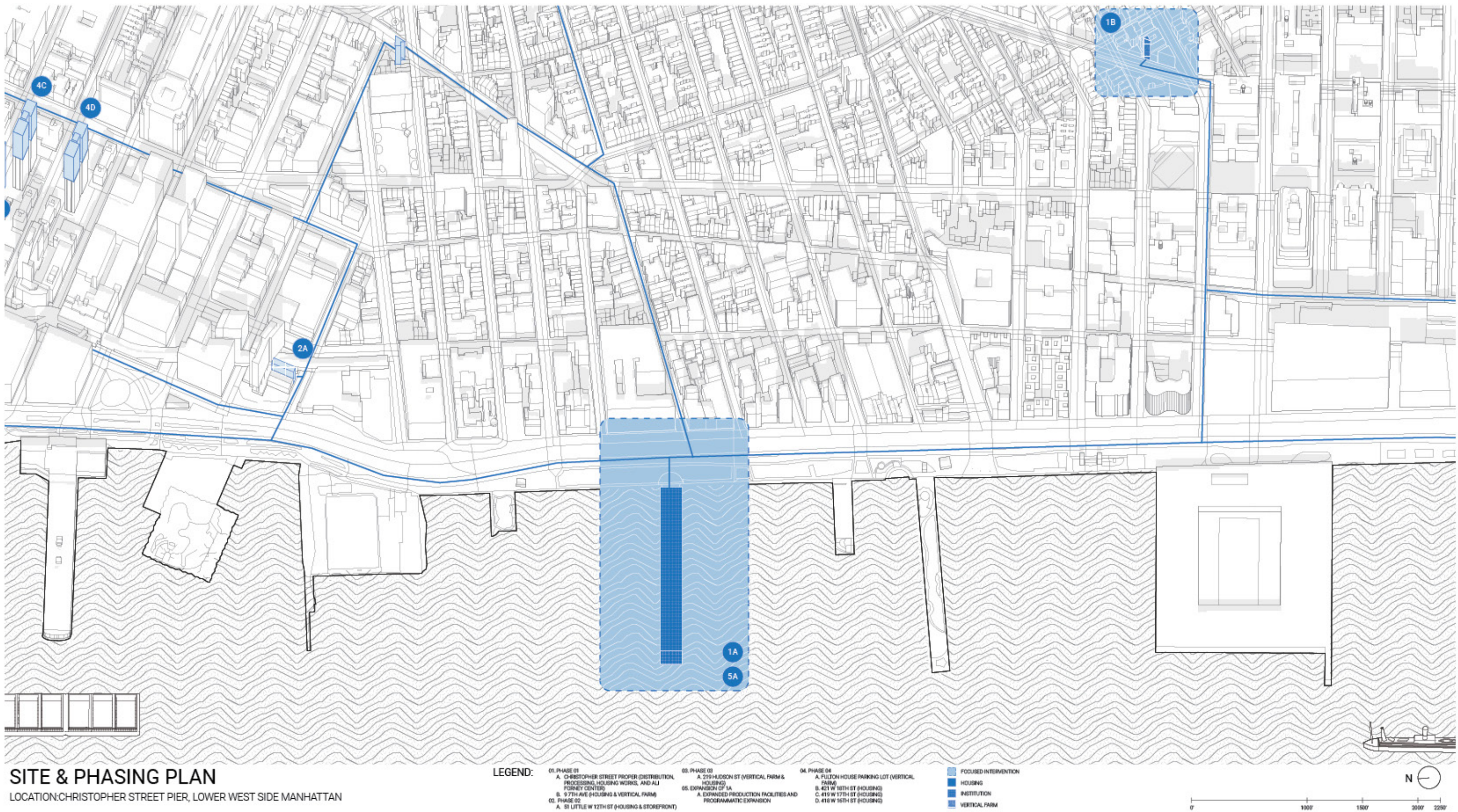




Junk lots in New York City



Housing Works institutional model



Designed utilizing two major programmatic strategies the institutional housing borrows from the business and institutional housings of the Alley Forney Center and Housing Works. Their models for housing queer homeless youth in New York become crucial for spatial, organizational, and operation logics in the housing. The second part of the design utilized junk lots and appropriated air rights to imagine new public housing possibilities.

A. Institutional Housing

Proposed as the initial phase of this project, the institutional housing expands and provides more sufficient space for two primary institutional partnerships; Housing works, and the Ali Forney Center. Comprised of warehouse and distribution space as well as emergency housing, public facing programming, and office expansions, this proposal creates a dignified use in dialogue with the site it exists on, the abandoned structural piers on the lower Manhattan's west side.

DISTRIBUTION CENTER:

PRIMARY PROGRAMMING:

- WAREHOUSE AND DISTRIBUTION FOR HOUSING WORKS
- PROCESSING AND PACKAGING OF CANNABIS PRODUCT GROWN IN SATELLITE HOUSING LOCATIONS
- CONSTRUCTION OF MODULAR UNITS

ALI FORNEY CENTER:

PRIMARY PROGRAMMING:

- TRUE CARE FOR QUEER HOMELESS YOUTH
- EMPLOYMENT SERVICES
- MENTAL HEALTH SERVICES
- TEMPORARY HOUSING (30 UNITS)
- ADMINISTRATIVE EXPANSION

INTEGRATION CENTER:

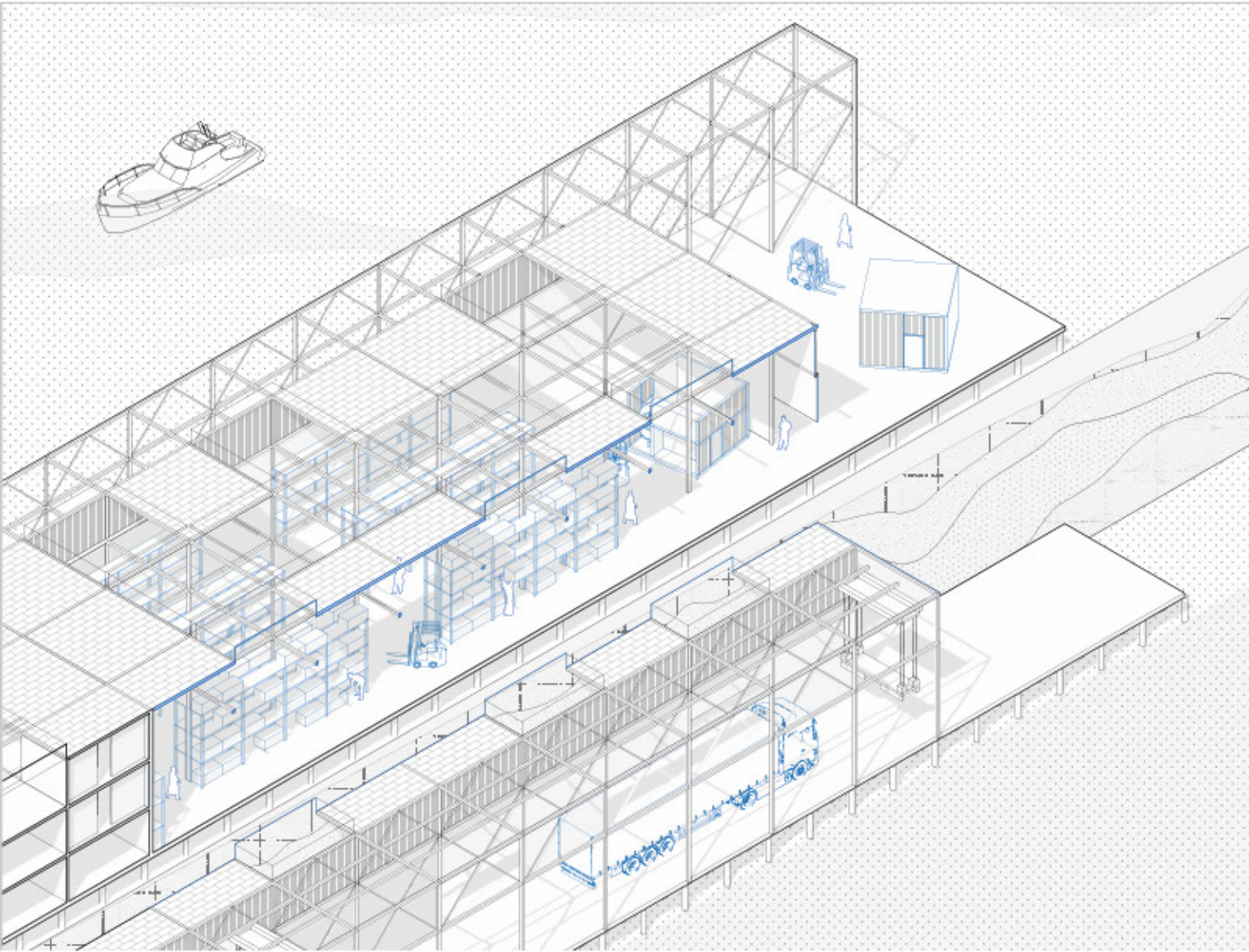
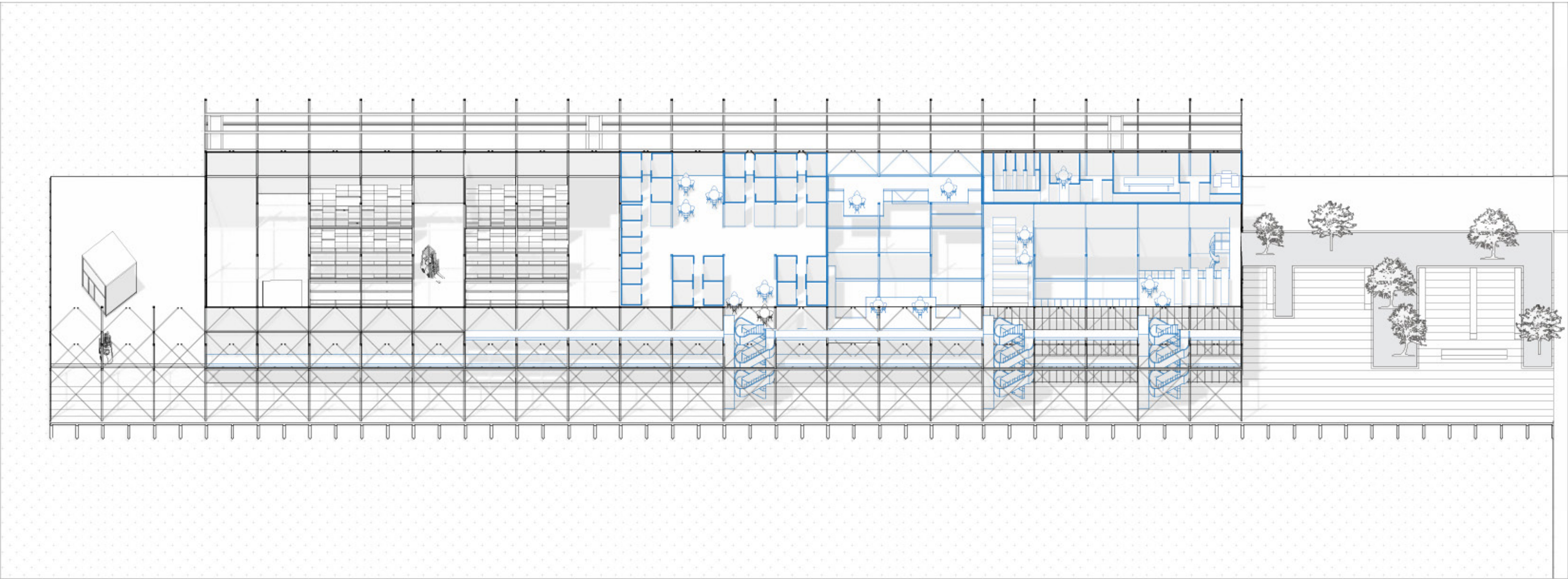
PRIMARY PROGRAMMING:

- BRIDGE BETWEEN PUBLIC FACING PROGRAM AND PROGRAM FOR QUEER HOMELESS YOUTH
- CLASSROOMS AND OUTDOOR LECTURE SPACE
- PUBLIC GARDEN

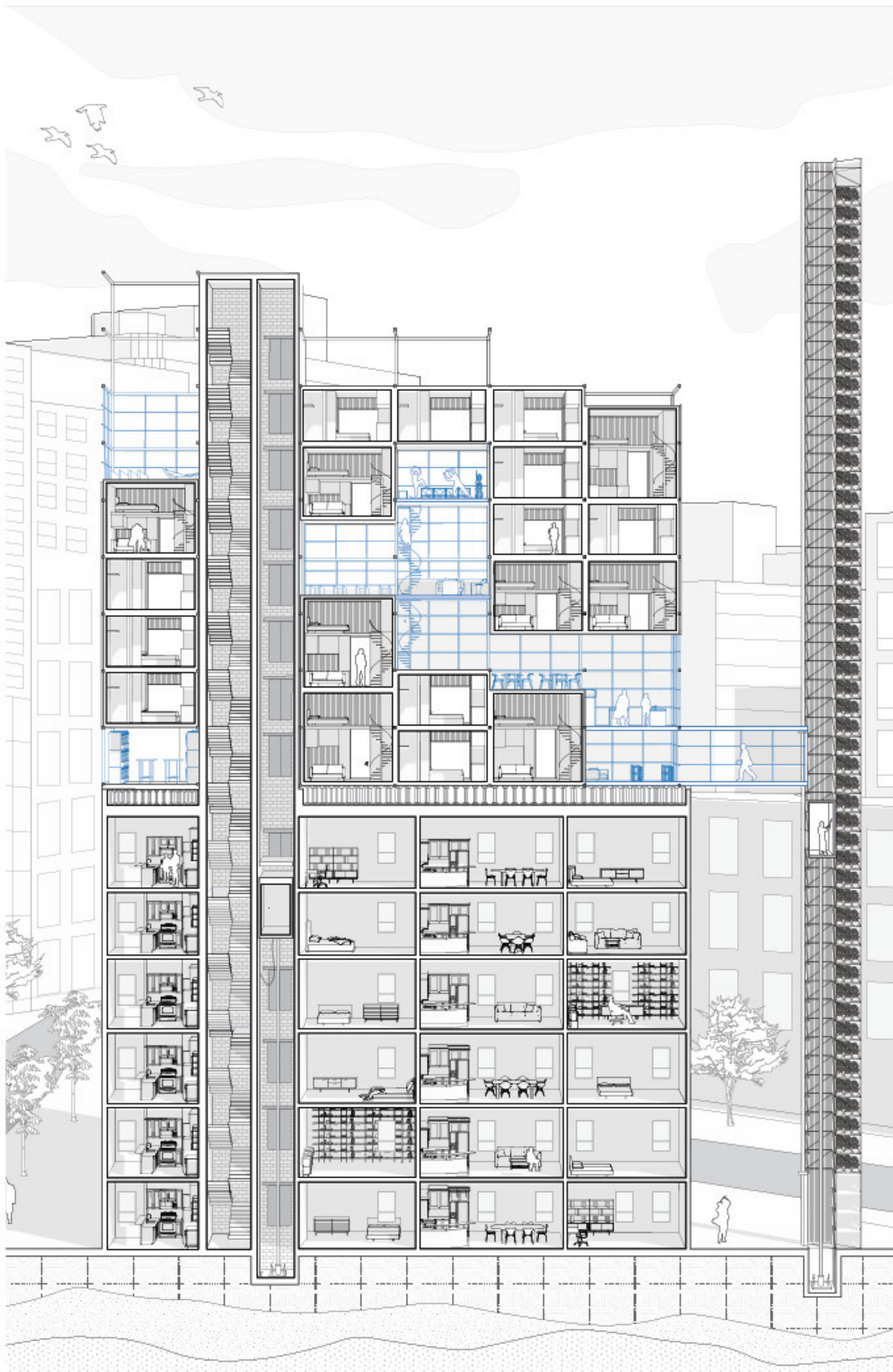
HOUSING WORKS CENTER:

PRIMARY PROGRAMMING:

- BOOKSTORE
- CAFE
- PUBLIC INTERFACE FOR QUEER HOMELESS YOUTH PROGRAMMING AND SUPPORT SYSTEMS
- CLASSROOMS AND PUBLIC OUTREACH

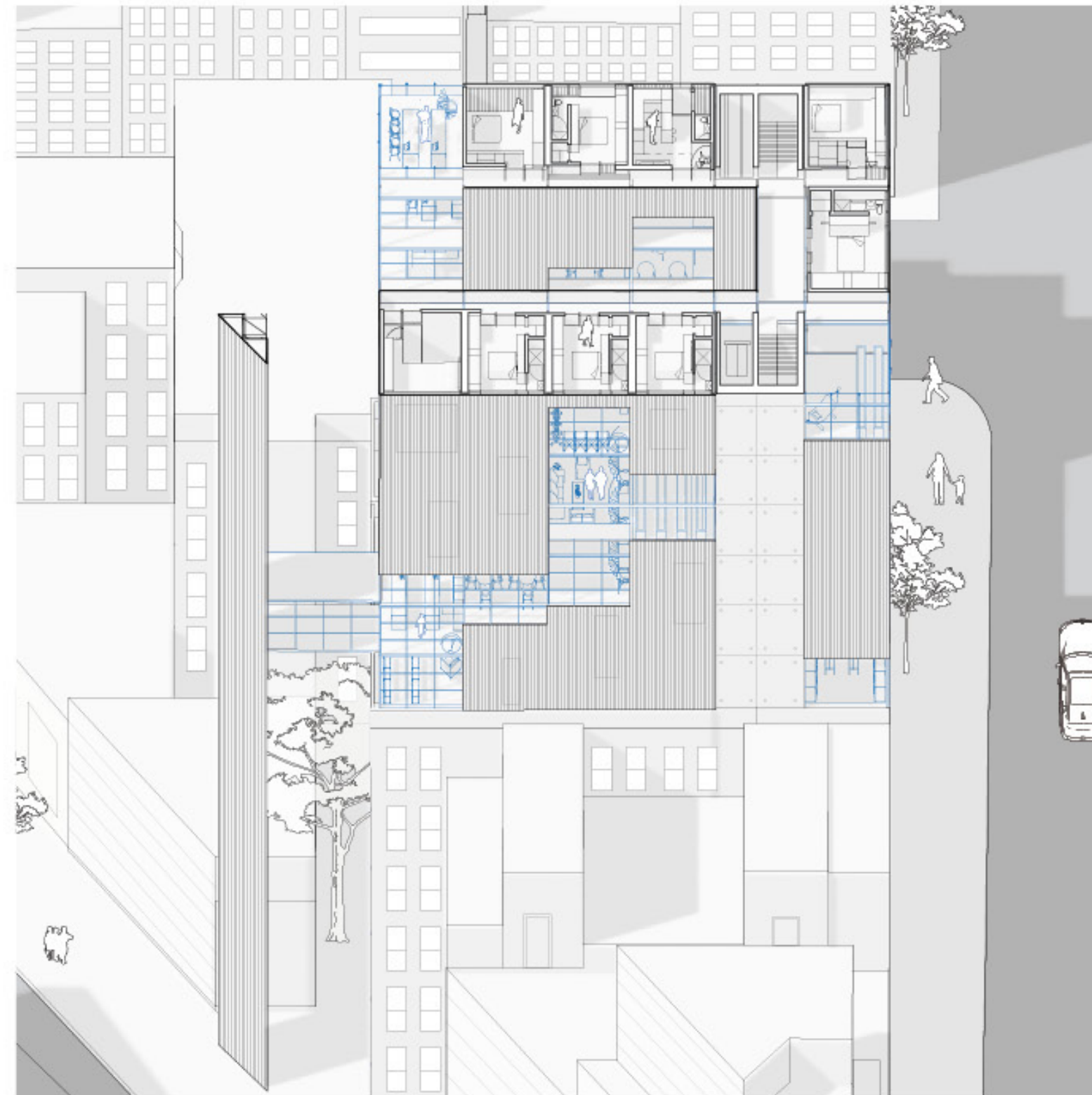


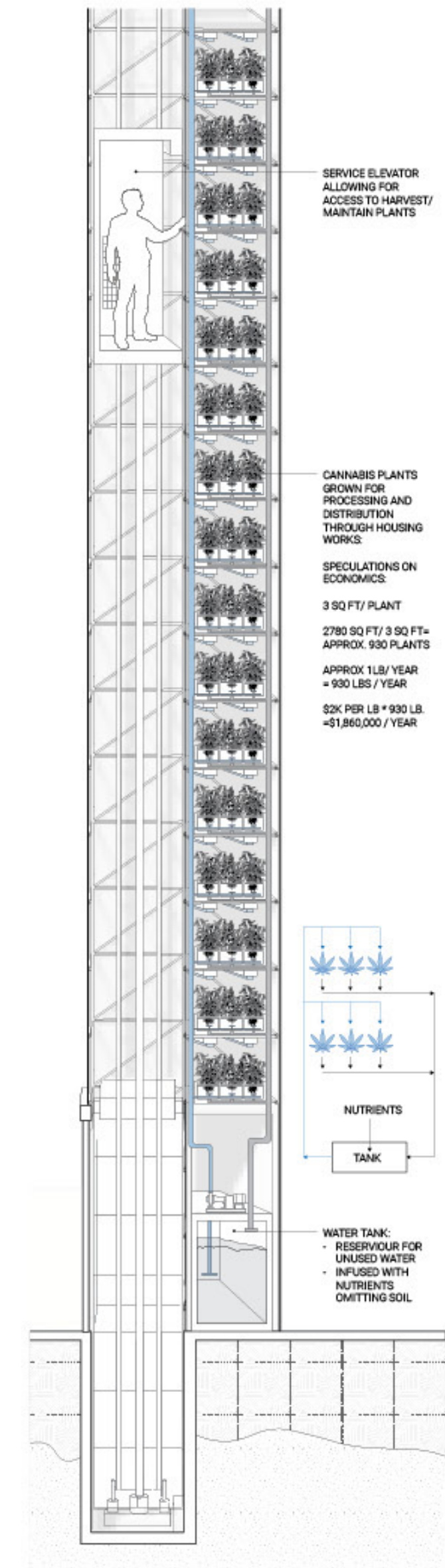
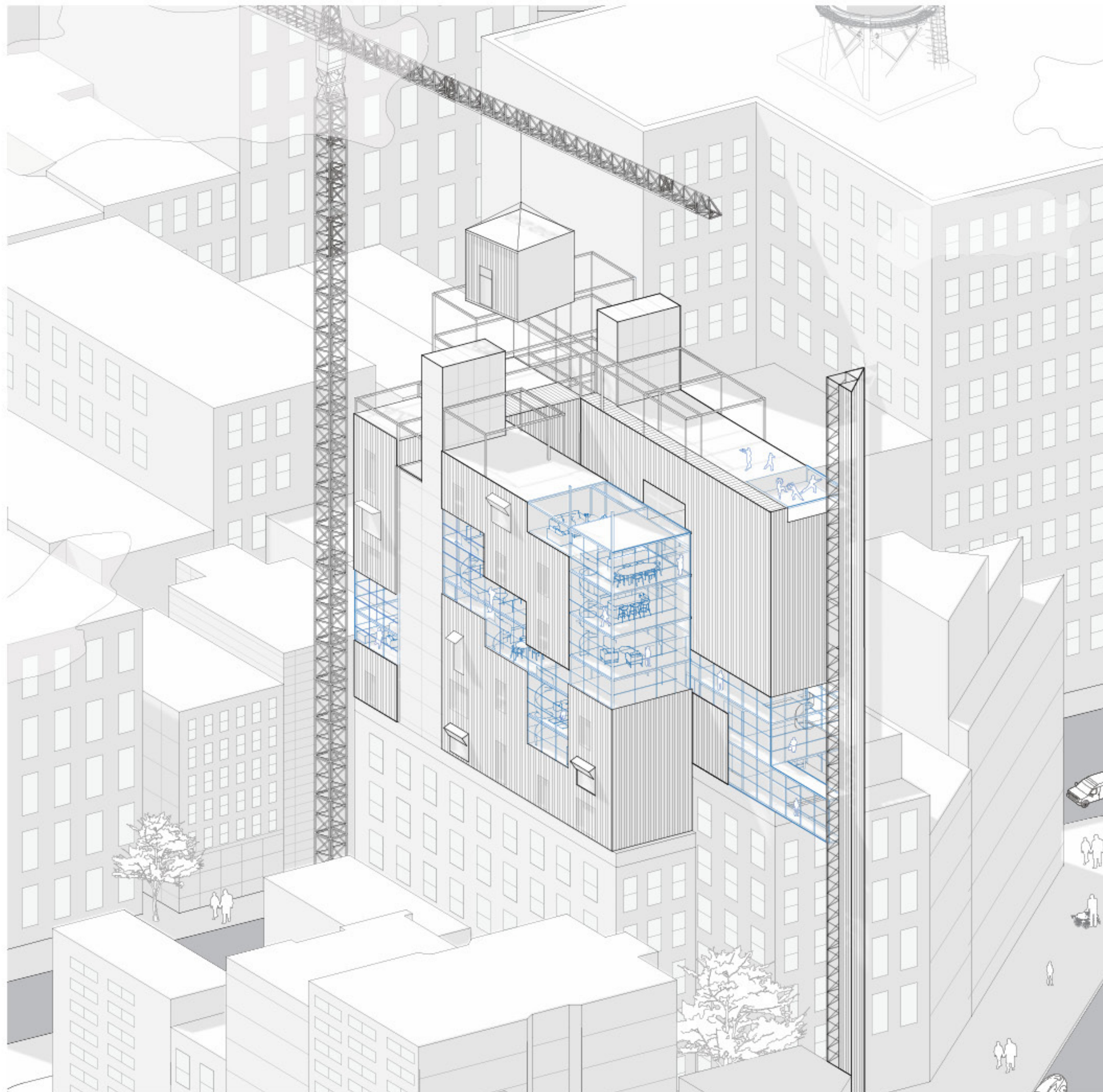
Located on the currently existing ghost piles near Christopher street, the new building exists as an extension of Housing Works and the Alley Forney center's institutional housing. This provides both a historical and practical connection to the history and contemporary density of queer homeless youth in the area.



B. Housing and Vertical Farm

Pulling from the institutional framework with Housing Works, a vertical hydroponic cannabis farm is proposed as a site for generating capital to subsidize the affordable housing. These towers serve as a beacon in which the housing grows around. Utilizing New York City's 3 million unused air rights as an opportunity for occupation, the building serves as a symbiote to the existing infrastructure it occupies providing updated circulation, more amenities, and structural repairs. Proposed as a modular system, the housing expands as the cannabis farm grows and the relationship becomes more feasible. This intervention is proposed as a growing and living system to be introduced as a new urban frontier and condition. Providing things typically lacking in current models of affordable housing, this project strives to provide dignity, beauty, and an elevated life for those who have traditionally been deprived.





Granite Mountain:

The Epistemology of a Forgery

Spring 2024
Jarrett Ley

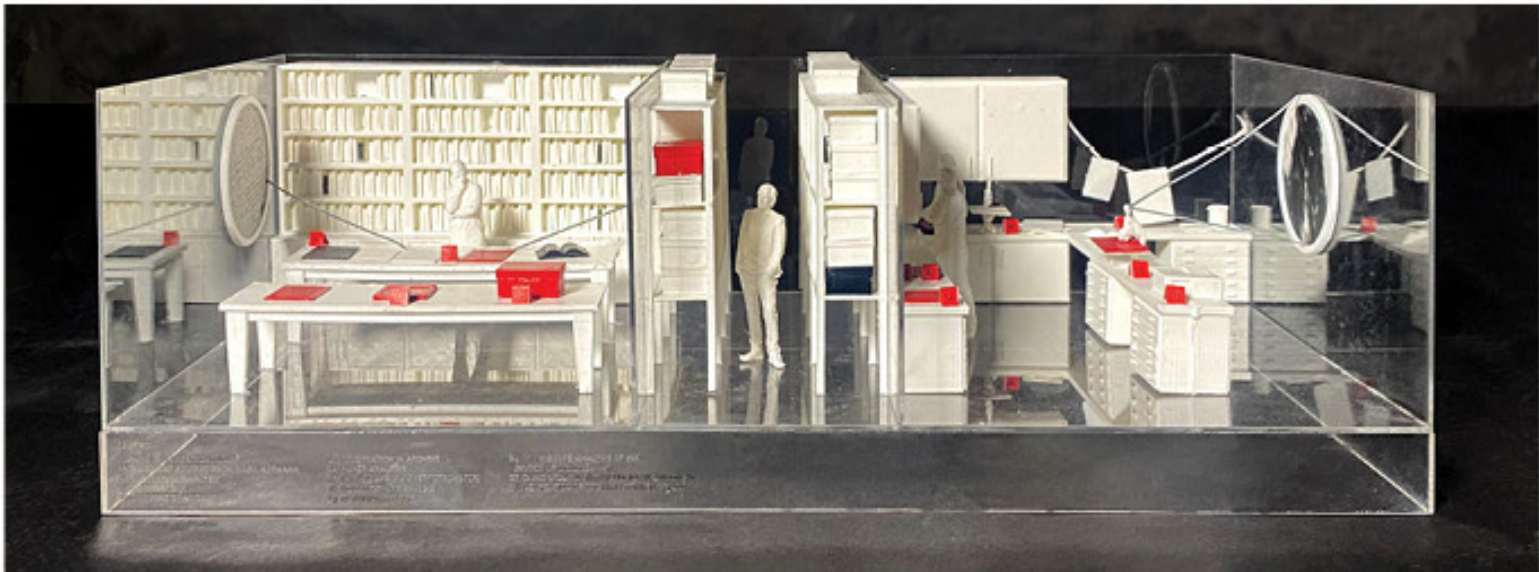
Utilizing the tools and methods of architectural forensics, the events of the 1980's Mark Hoffman forgeries were looked at through the lens of the architecture. This proposal critiques the Mormon church's control over epistemological authority by using a moment of damage that occurred in the Mor-

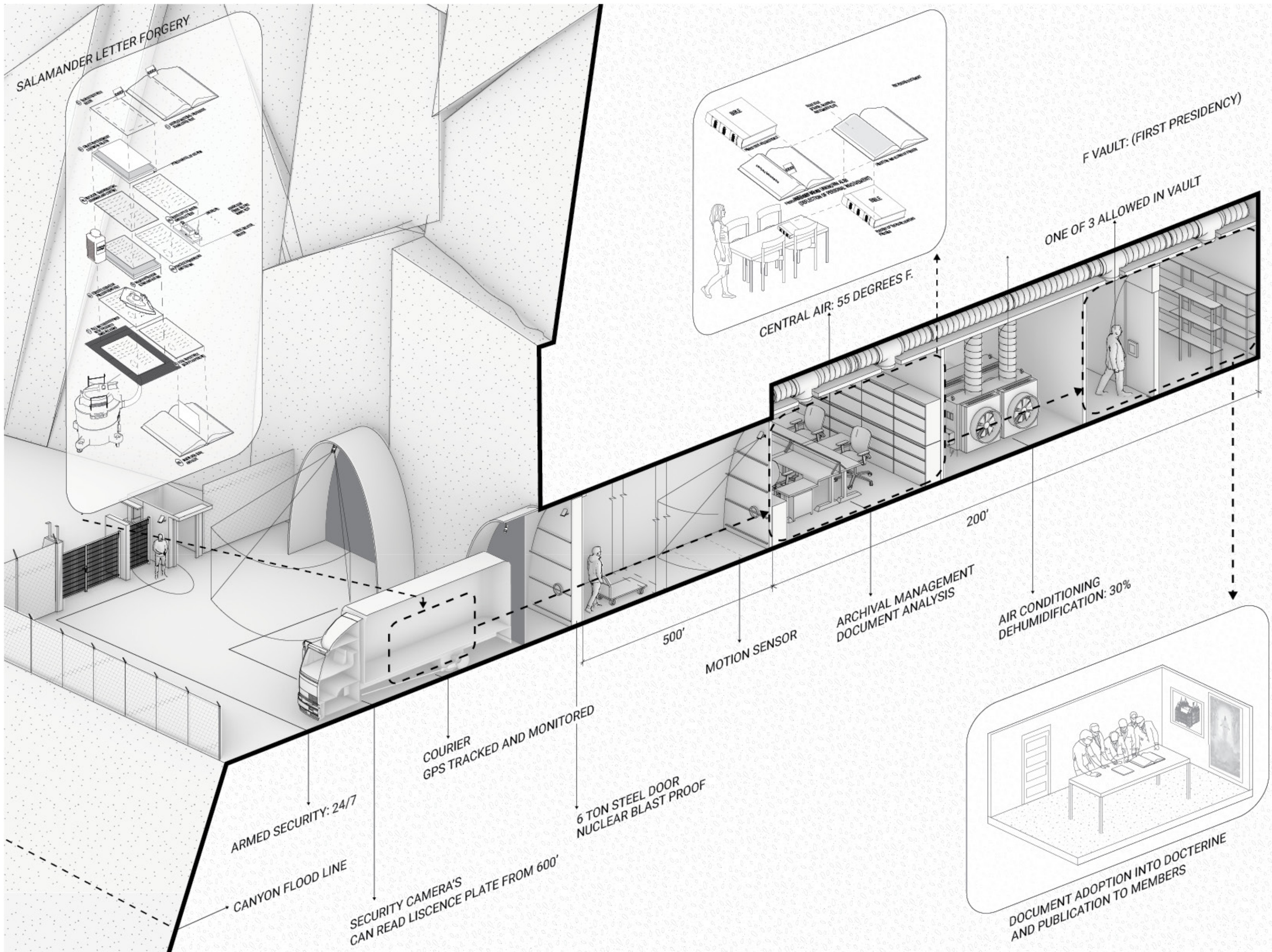
Positioned as a redesign of the church's archives to address this insecurity, this critique is posited using the logic, technologies, and architectural forms of detection, forgery, and ecclesiastic structures surrounding the archival and historical document practices of sacrosanct epistemology.

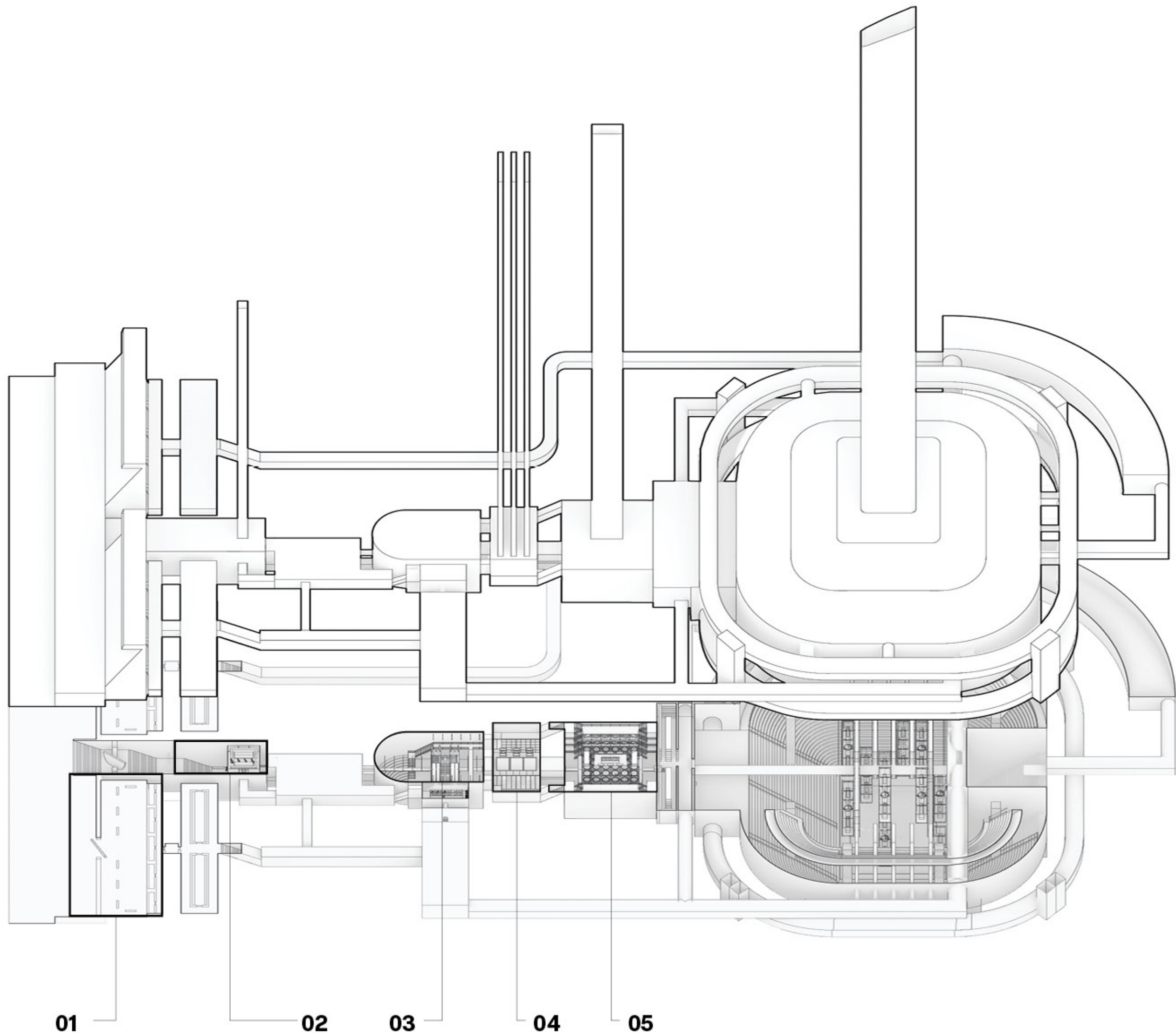
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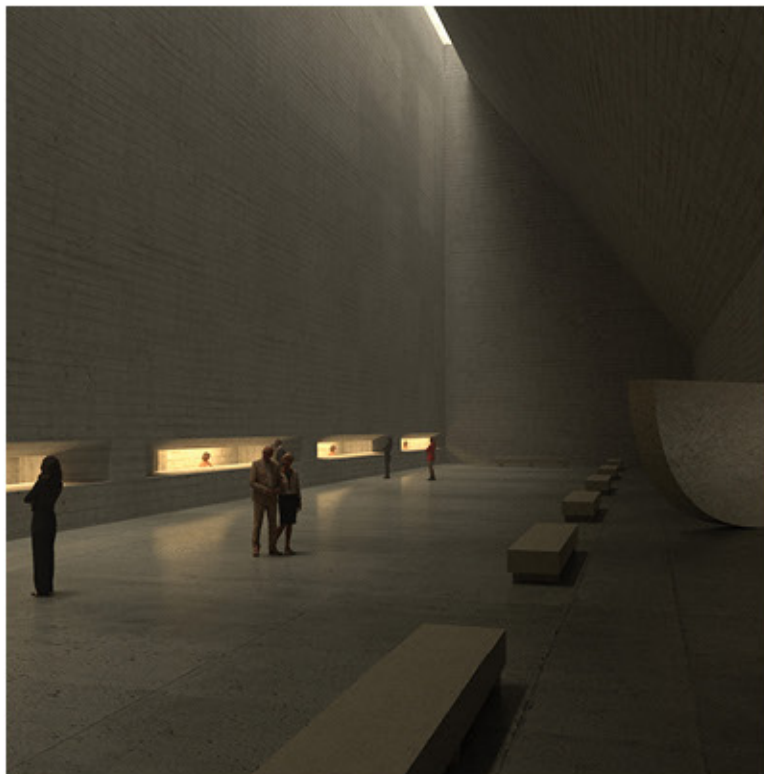
mon church's archives, existing as one of the most secure vaults in the world located in Salt Lake City Utah. In the 1960s, a man named Mark Hoffman forged a series of "historical" documents that challenged the church's historical founding.

Upon discovery of the forgery, the church faced a public relations and credibility crisis. The archive becomes open to the public, becoming a space of pageant in which the church's damage control becomes performed on the face of the existing archive.

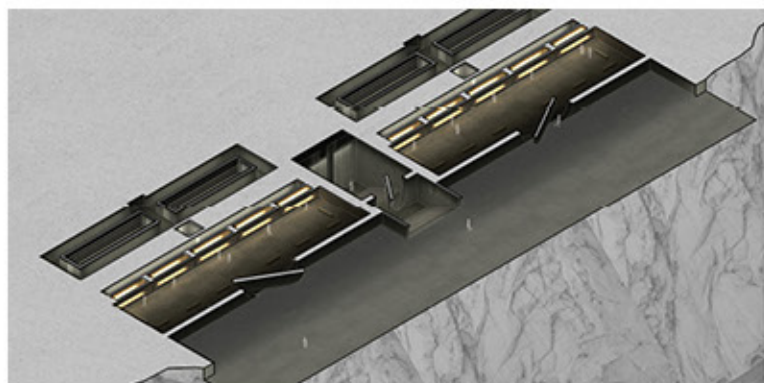








01. Entry



01. Entry

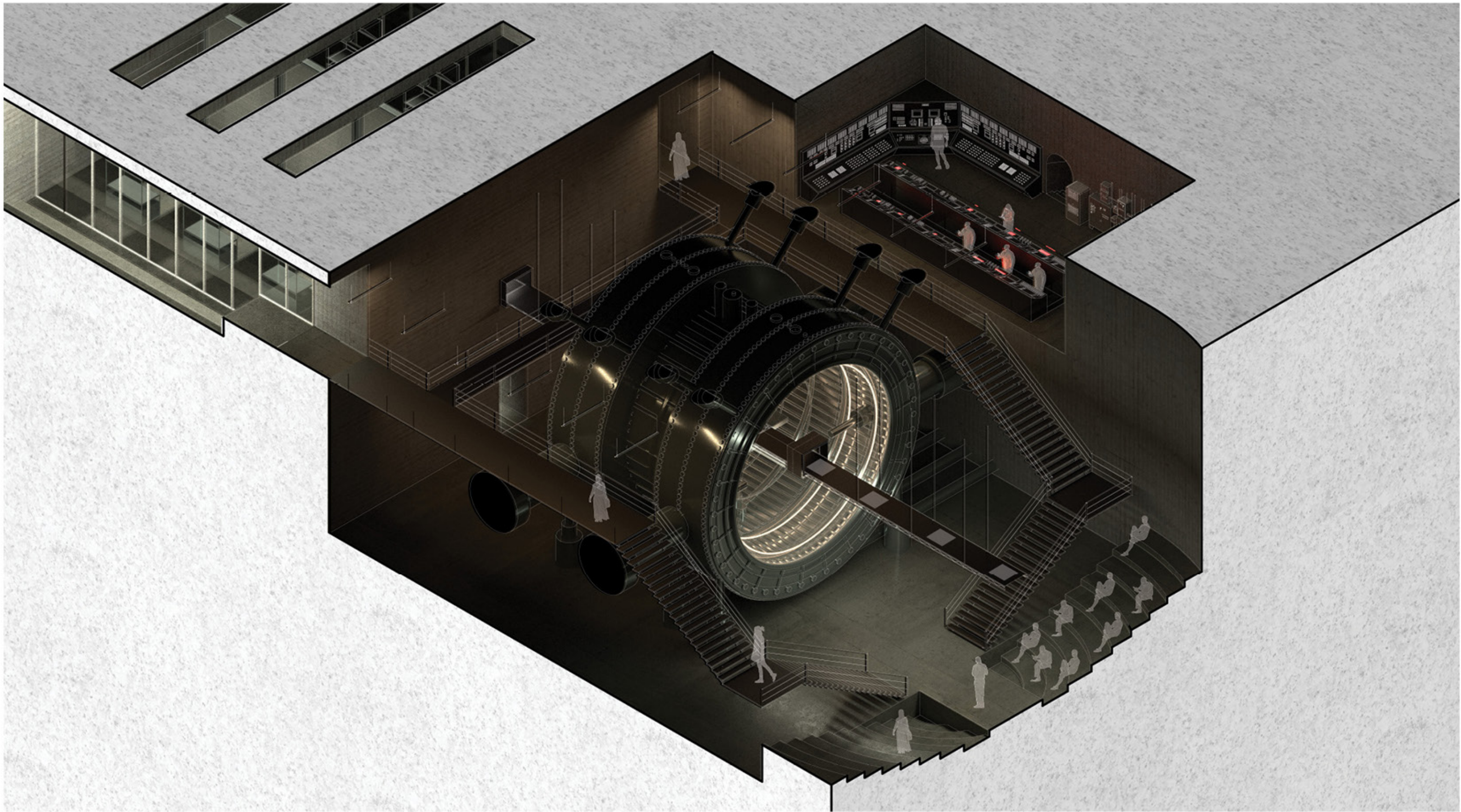
Upon entering the site, patrons are confronted with the material reality of the vault. Hundreds of feet under stone, the archive's material weight alludes to and expresses the feeling of security in the treatment of the documents. Beyond the main entrance the library sits, performing the research and analytical first step of document authentication.



02. Library



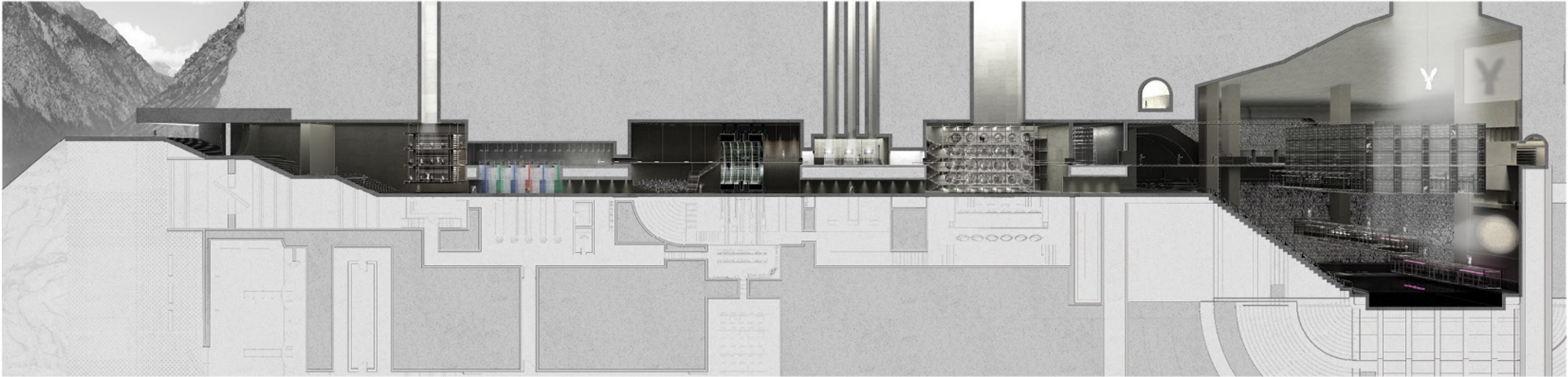
02. Library

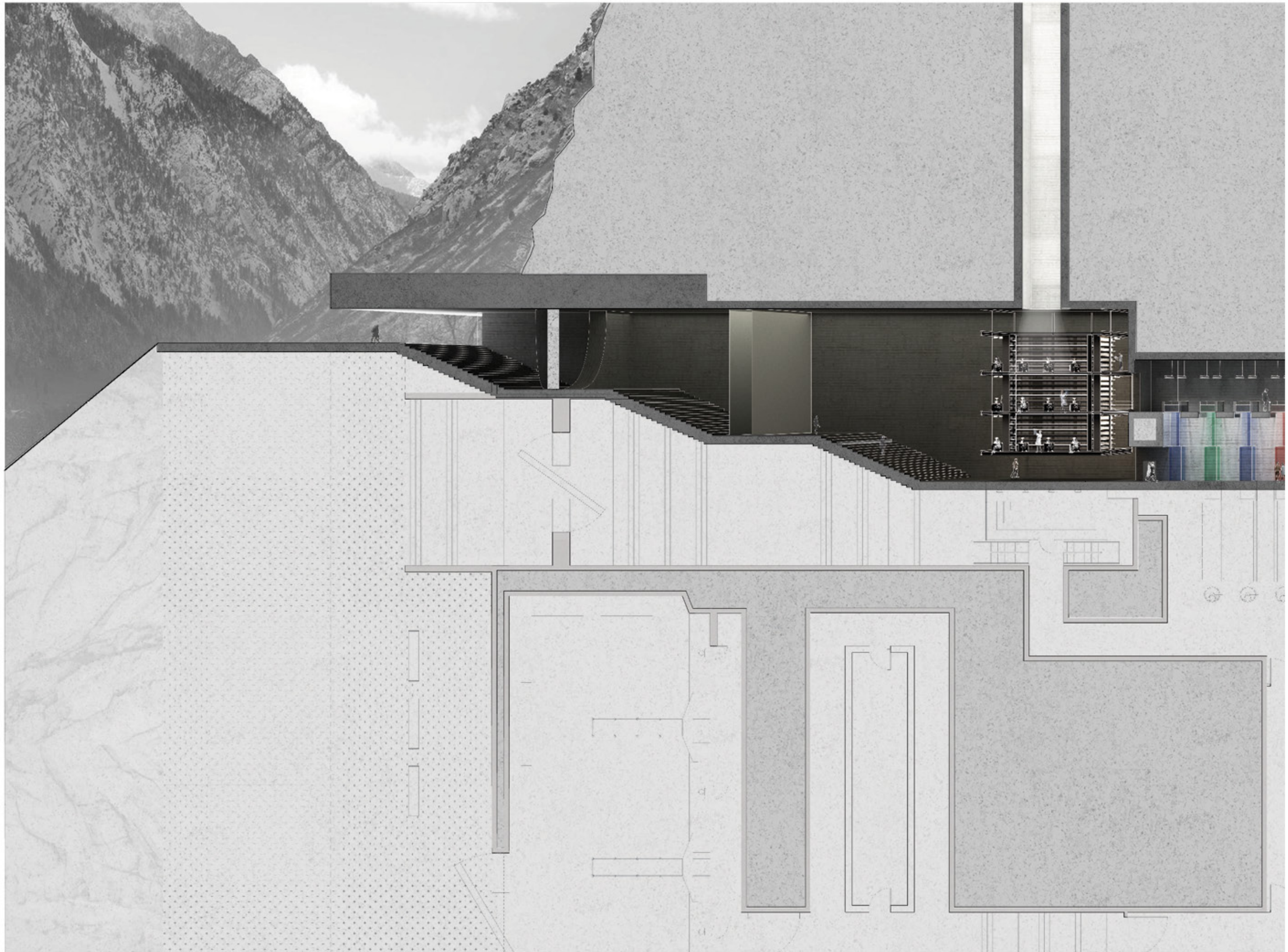


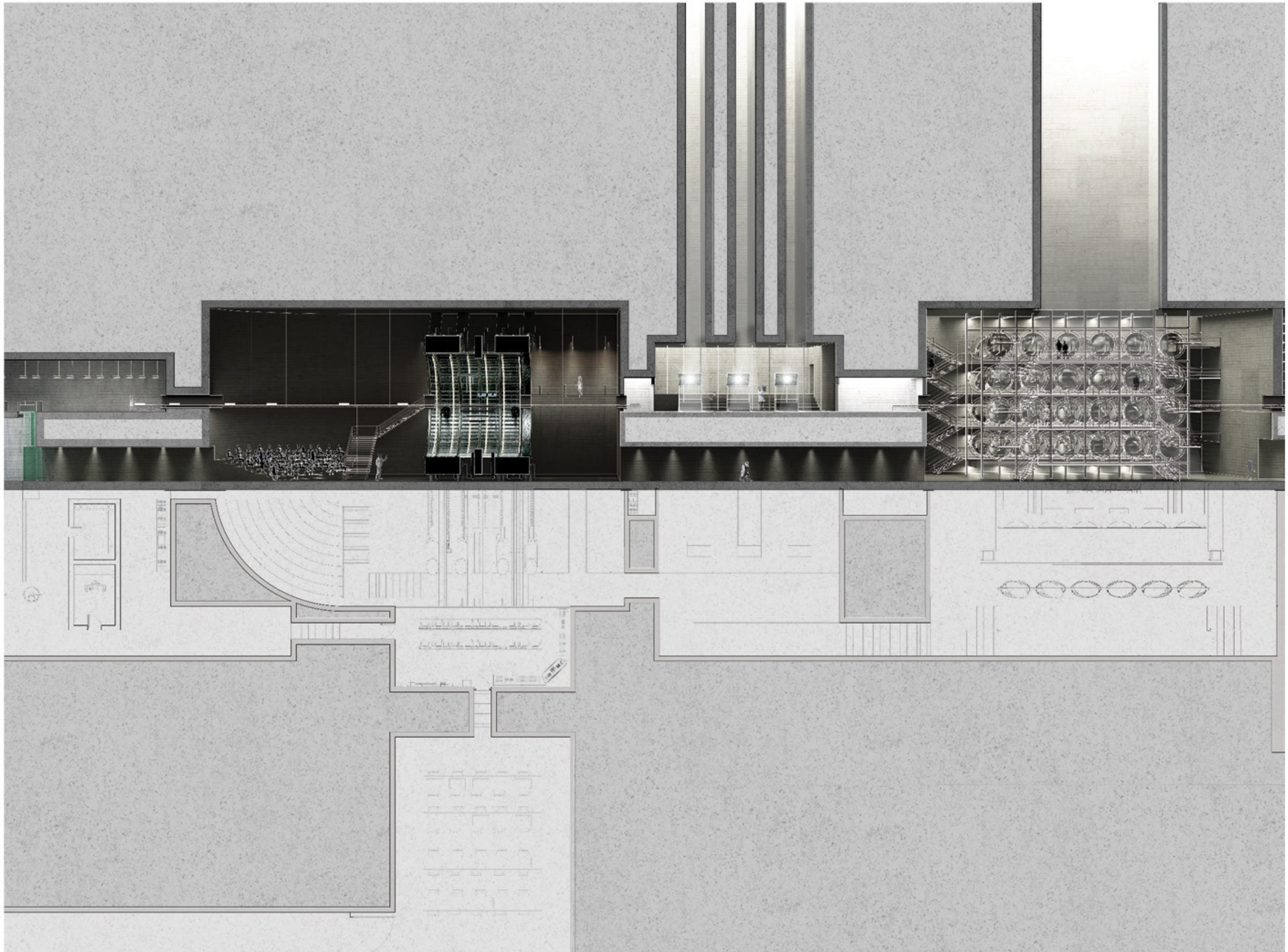
03. Mass Spectrometry

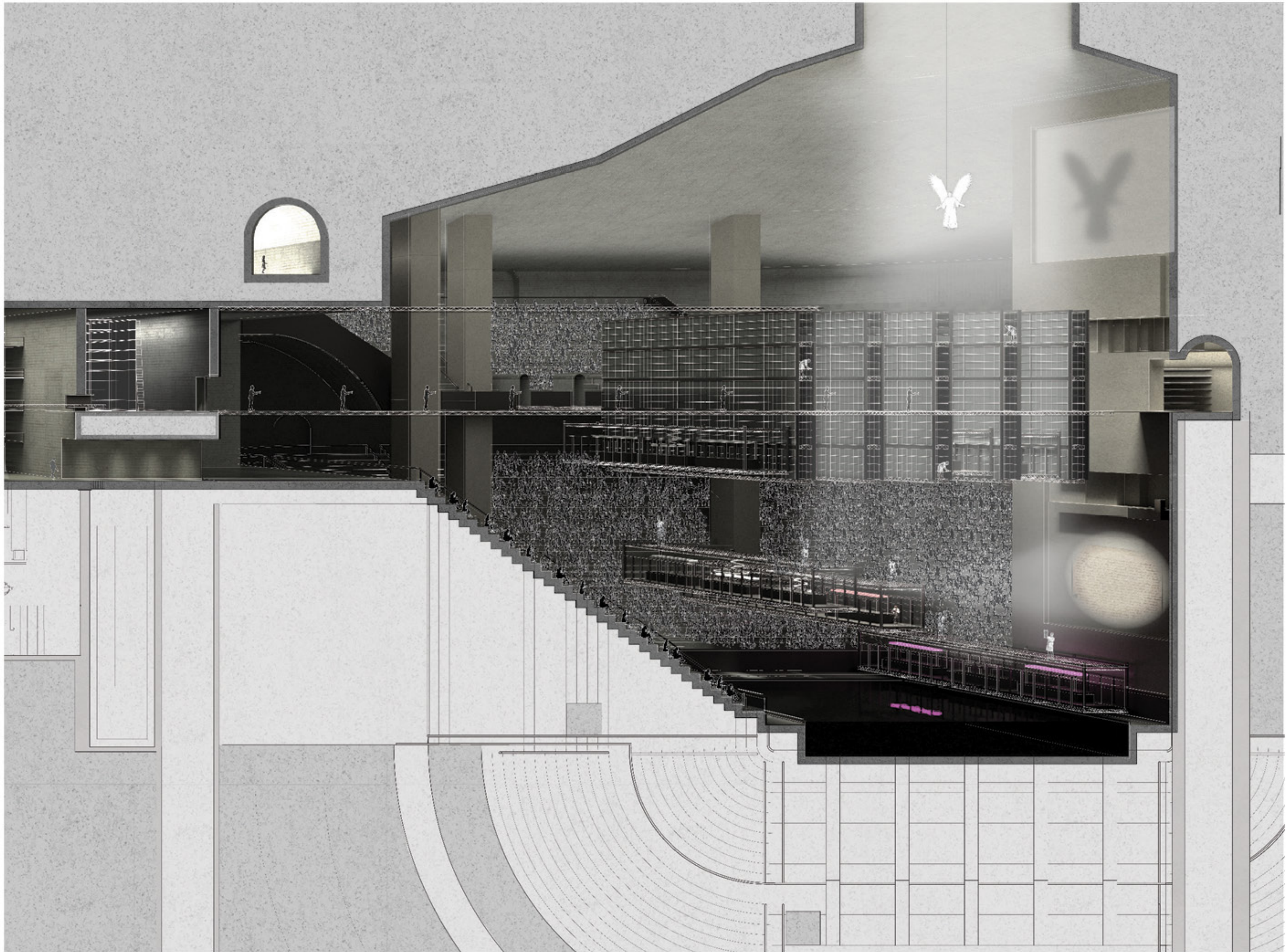
Machinery and the tools of detection serves as the architectural stage for the performance and authoritative ownership over the means and choreographies of document authentication and forgery detection.

In section, the building is read as a procession. Light wells stem from the surface acting spotlights, illumination of processes of certification, and drawing from religious language and affiliation to the light of God as ceremonial and spiritual phenomenology. Patrons of the archive start in the canyon and work their way in, following the chronological processions of document authentication and terminating, as does the document, in the archive. Both people and documents follow the same steps of detection and testing increasing ownership over epistemological control.









Deep Atmosphere:

Greenlandic Deep Ice Core Mining and Archive

Fall 2025
Leslie Gill and Khoi Nguyen

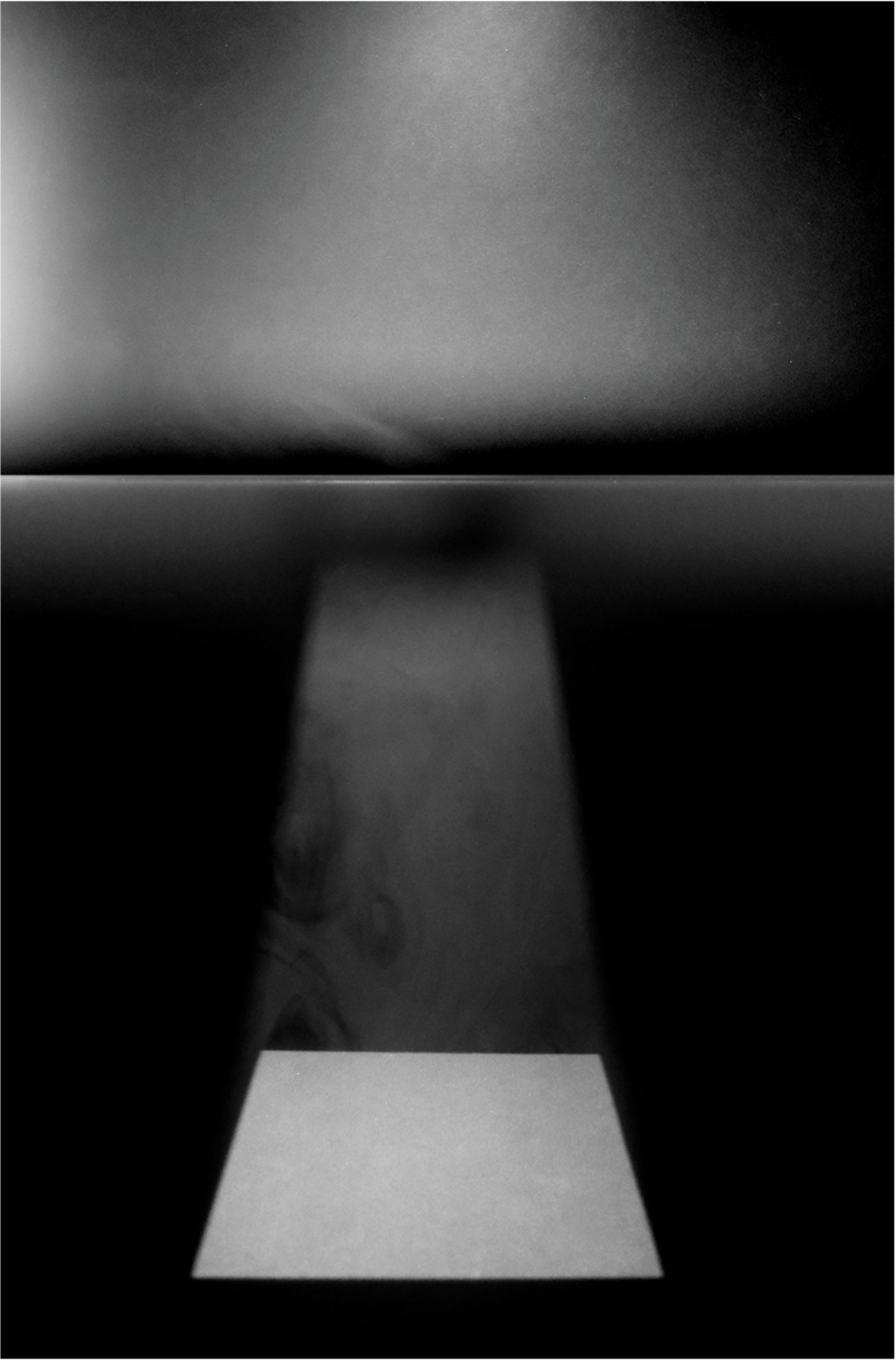
Greenland houses the second largest ice sheet in the world. Covering over 660,000 sq miles and at over 2.2 miles deep at its' thickest, the ice sheet contains hundreds of thousands to millions of years of trapped atmosphere. Existing as an archive of the historic world's climate, the ice sheet has become a hub of 21st century scientific research. Focusing on the relationship of light through atmosphere, the outpost exists as a re framing of the most important current institutions of this scientific research. The Greenlandic Ice Core Project (GRIP) hosts about 40 scientists each summer to conduct a collection of deep ice cores extending to the bottom of the Greenlandic ice sheet. The existence of the ice core itself explicates a broader global interest in the arctic. With many international and conflicting interest surrounding the arctic and scientific research being funded by potentially conflicting interest with some countries wanting the ice sheets to melt to open global shipping lanes or valuable mineral deposits, while others are more interested in preserving global climate health.

The arctic exists, now more than ever, as a highly contested geopolitical actor on the world stage. Constant attempts for acquisition, mineral rights, and access to Greenland currently dominate news. Consisting of two parts, the outpost and the archive, these designs begin to speculate on what exposing the underpinnings of the global power struggles surrounding the arctic could mean for the future of design.

“ A science of the archive must include the theory of this institutionalization, that is to say, the theory both of the law which begins by inscribing itself there and of the right which authorizes it.”

- Jacques Derrida

Light and shadow started as the fundamental understanding and distillation of the arctic. Atmosphere and light were captured and given form.





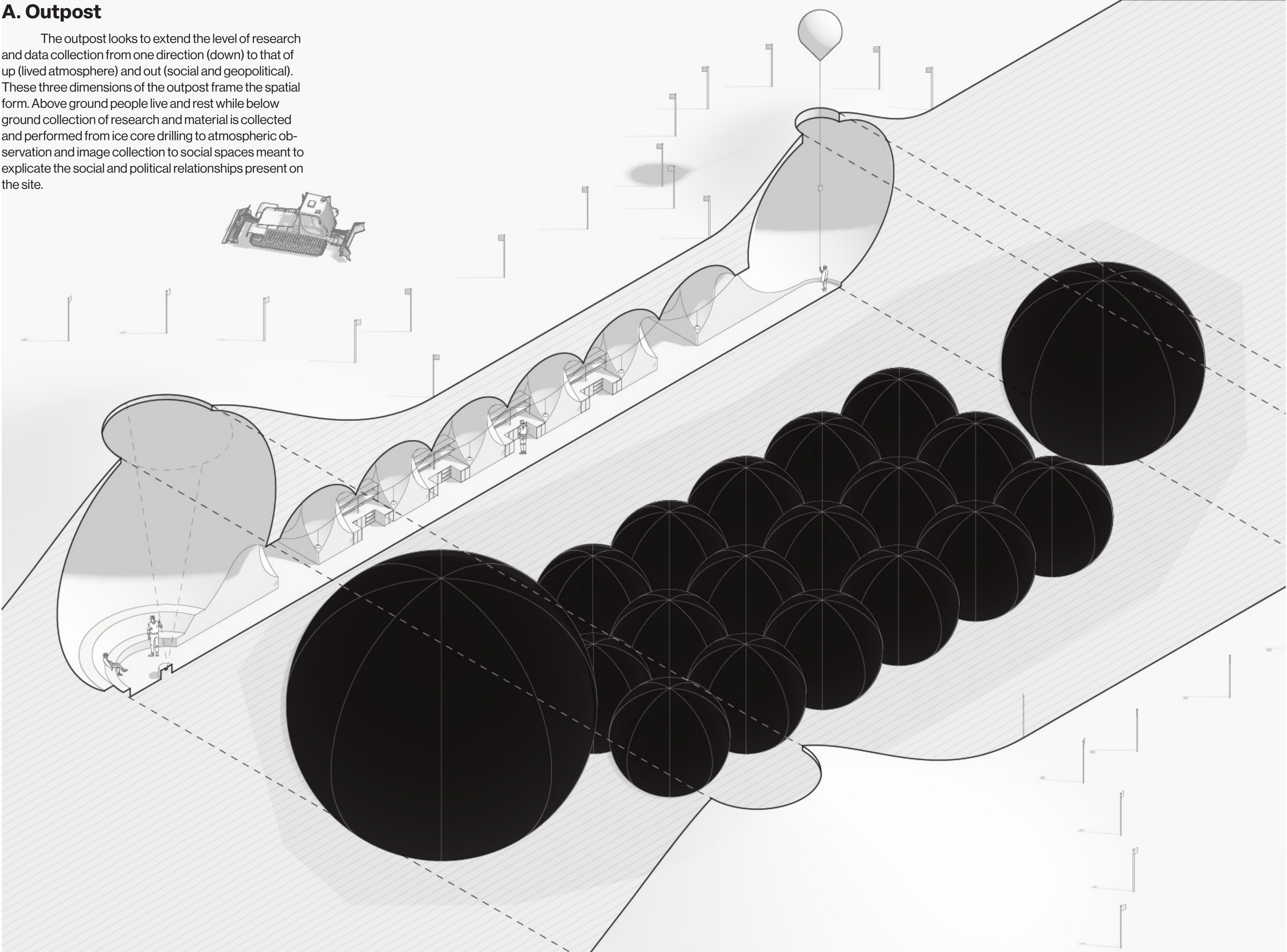
Casting around inflatable structure test

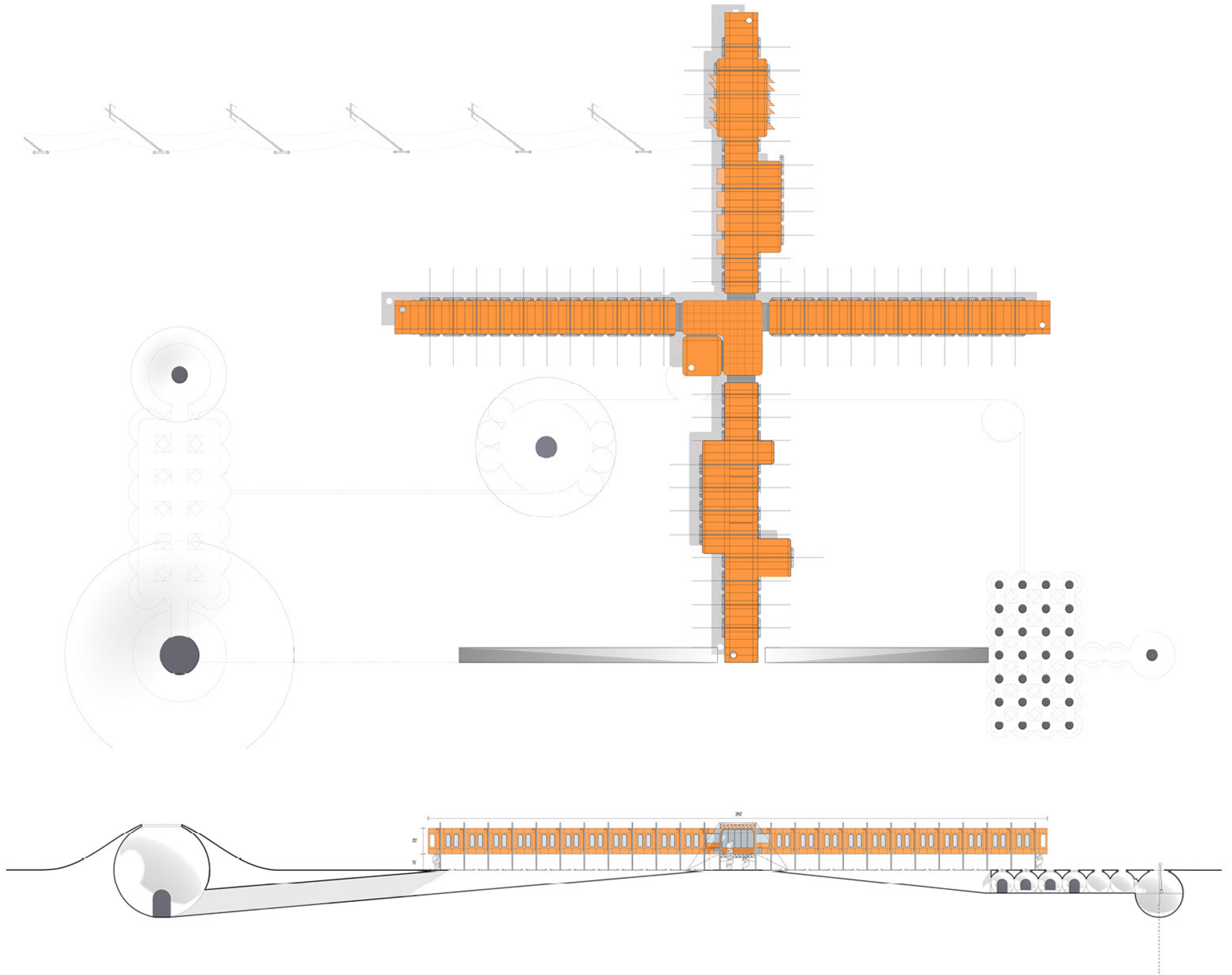


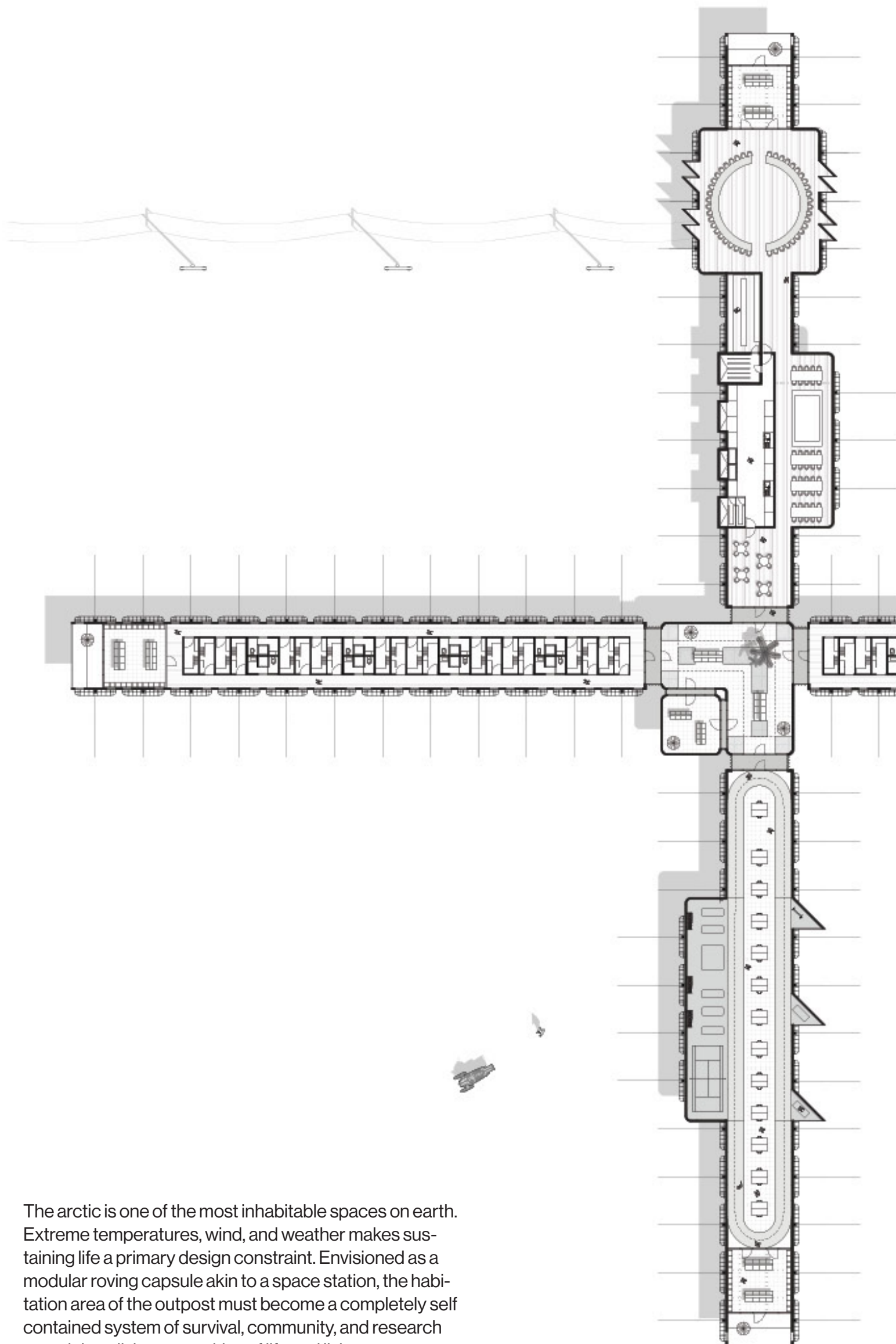
Current deployment of inflatables at EAST GRIP courtesy of eastgrip.org

A. Outpost

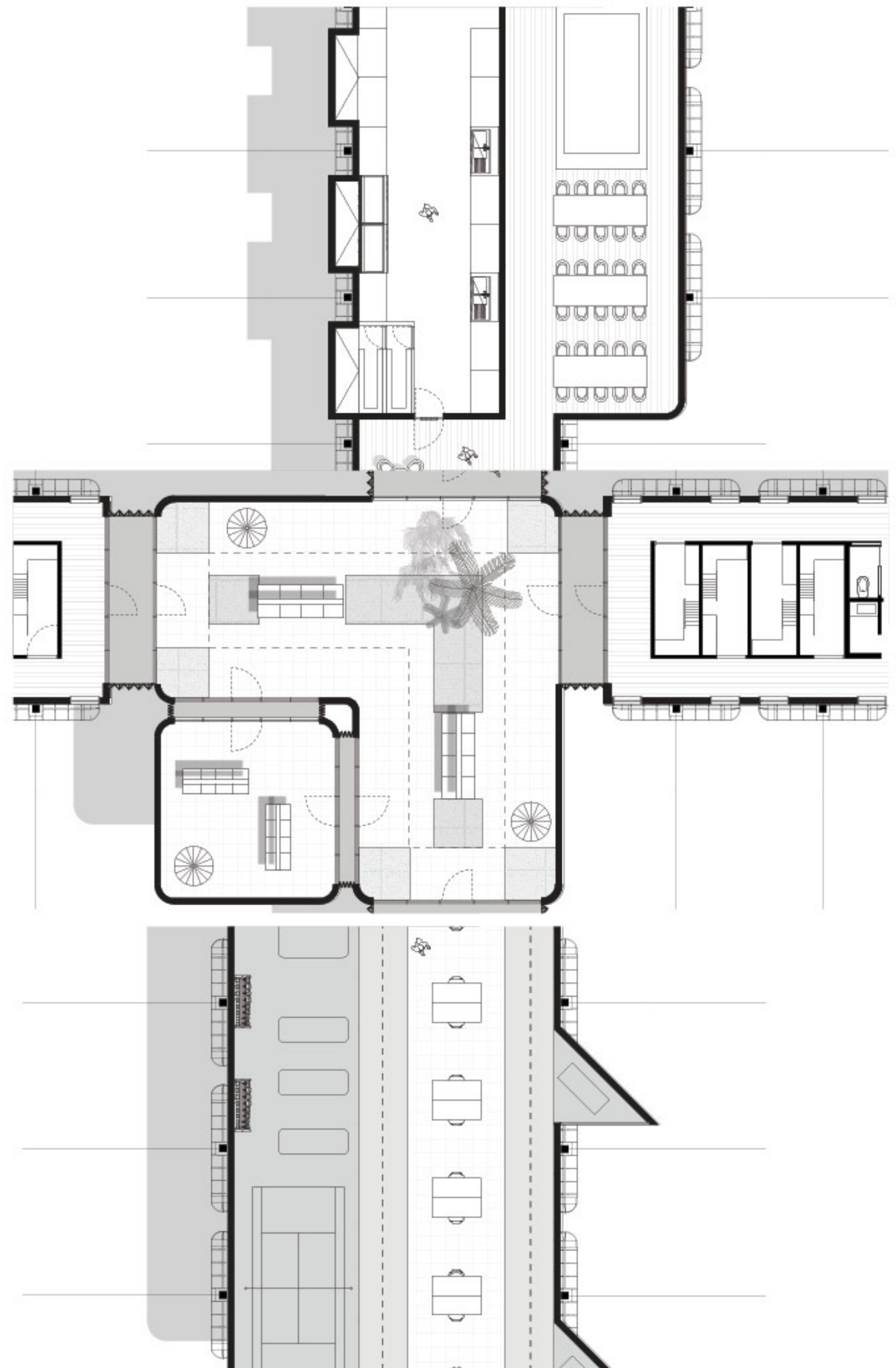
The outpost looks to extend the level of research and data collection from one direction (down) to that of up (lived atmosphere) and out (social and geopolitical). These three dimensions of the outpost frame the spatial form. Above ground people live and rest while below ground collection of research and material is collected and performed from ice core drilling to atmospheric observation and image collection to social spaces meant to explicate the social and political relationships present on the site.





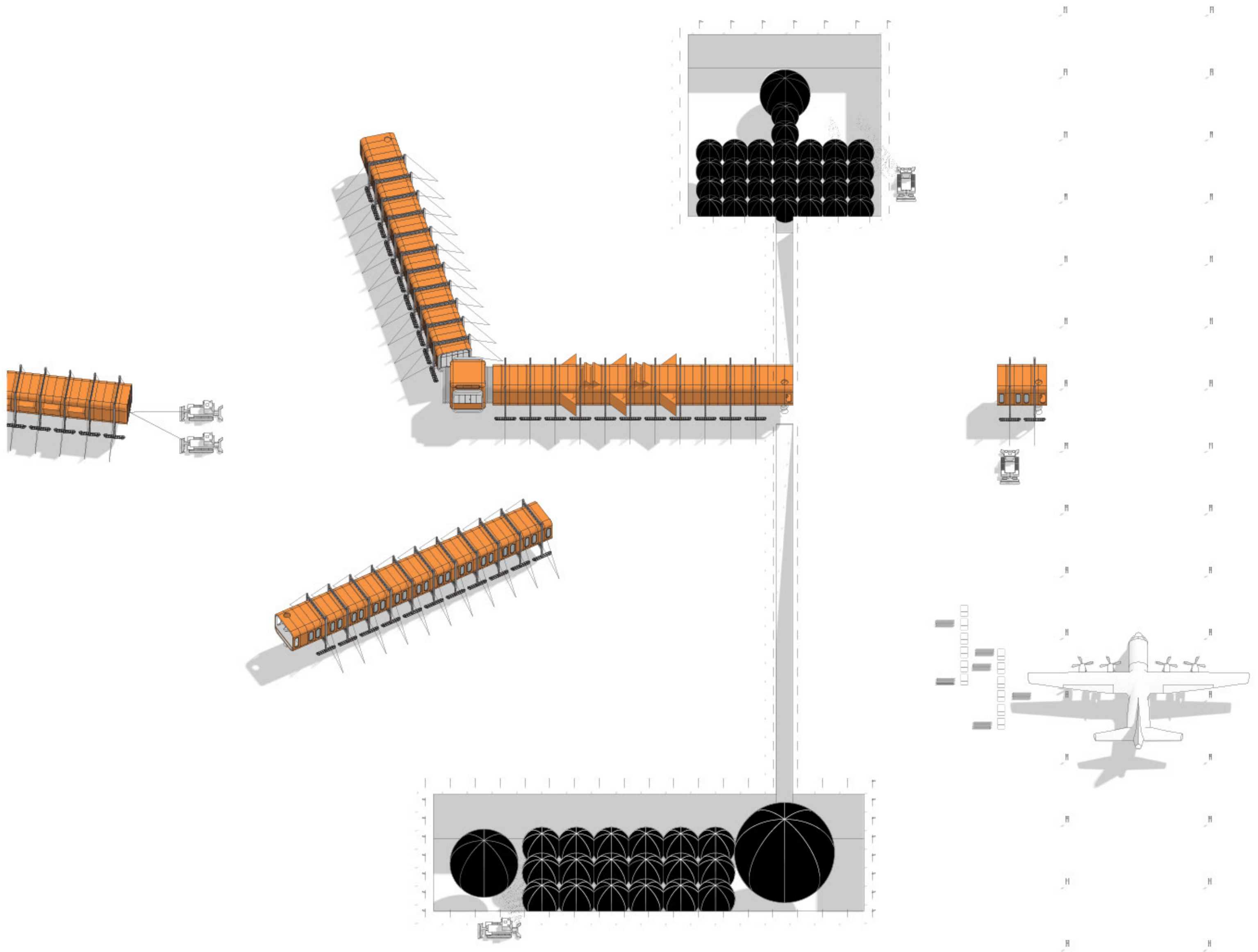


The arctic is one of the most inhabitable spaces on earth. Extreme temperatures, wind, and weather makes sustaining life a primary design constraint. Envisioned as a modular roving capsule akin to a space station, the habitation area of the outpost must become a completely self contained system of survival, community, and research containing all the necessities of life and living.



With around 40 people living seasonally here, all aspects of life must be concealed. The space must serve all the functions of life and living. Social and physical conditions become architectural expressions and opportunities for form. The envelope is bright orange to provide visibility and exists on stilts for easy transportation to a new drill site.

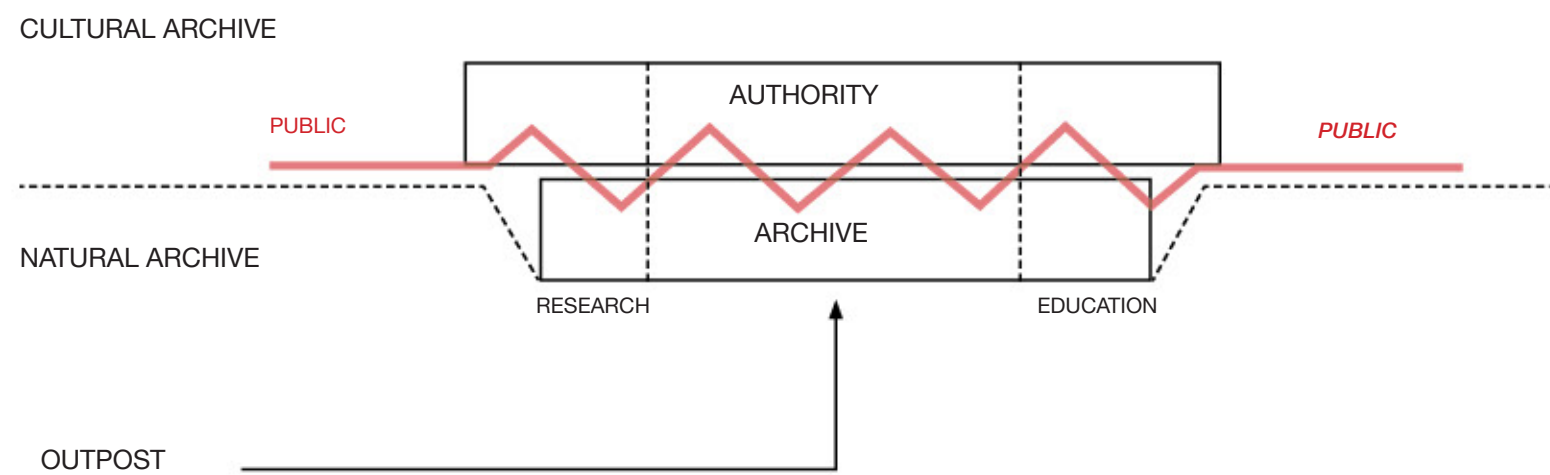


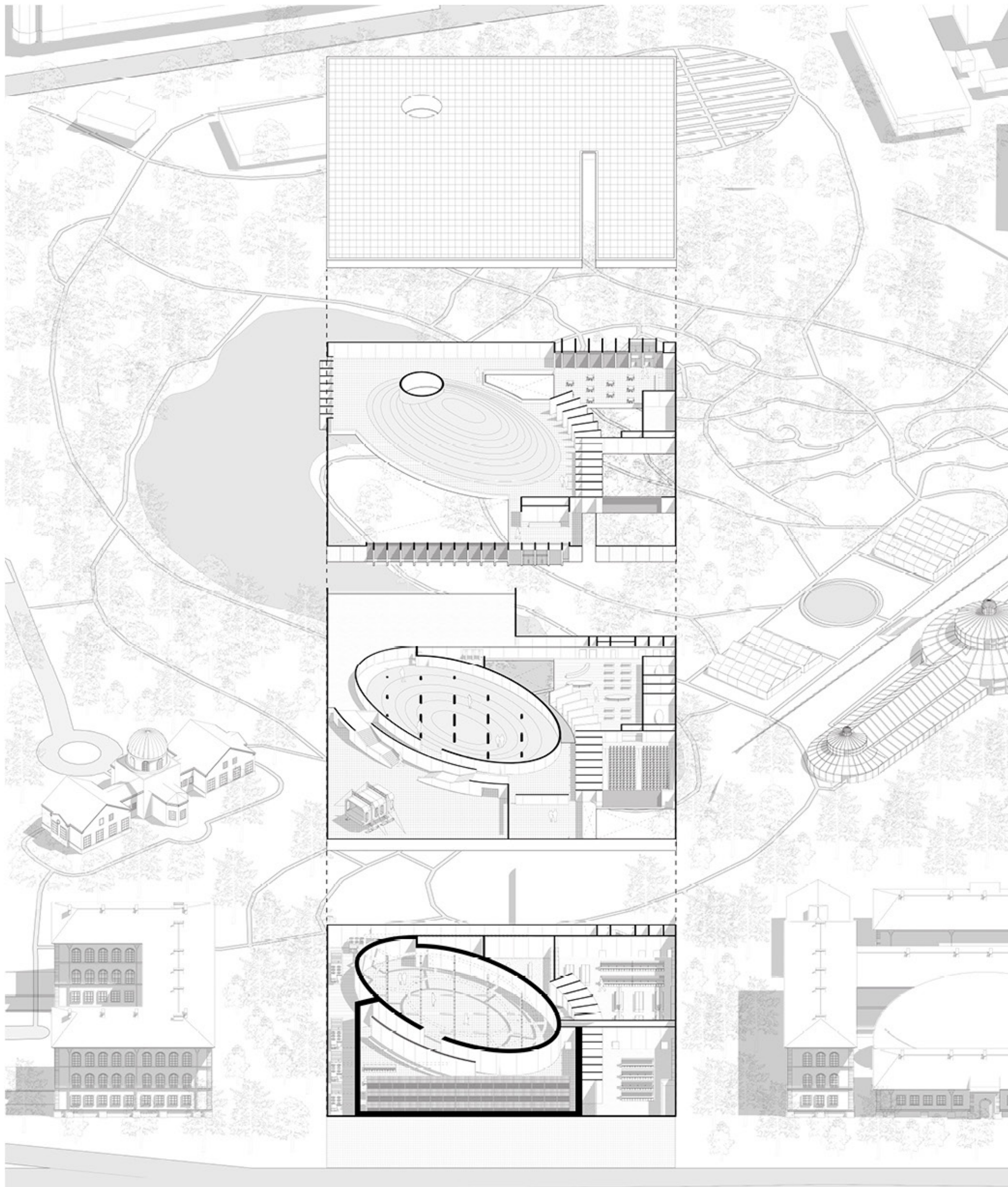




B. Archive

Denmark houses the largest collection of Greenlandic deep ice cores. The archive is positioned as an addition to the campus of natural history museums of Denmark. The university houses the Niel's Bohr institute, the institute that funds and organizes all of the research conducted on the Greenlandic ice sheet. The archive then is situated as an extension of Denmark's natural history. Building off of the foundations of the work of Derrida, the archive becomes an expression of the translation of the natural archive to that of the cultural archive. In other words, the building houses the languages and models of the archive in one housing. From the object of the ice core to the organizations that determine the future of climate policy, the public serves as the stitching between a natural and cultural archive.





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-Jacques Derrida



Beyond Capacity:

Proposed Futures for New York’s Municipal Cemetery

Spring 2026
Karla Rothstein
Partner: Maya Yildirim

Beyond Capacity manages living and dying in states of crisis: inter sectionally quotidian, extraordinary, collective, generational, and discriminatory. Our intervention exists as a public commons, a site for burial, land tending, grave tending, decomposition, agricultural production, bio diverse exchange, aiding the sick, and living together. The intertwining of burial mounds and agricultural fields confronts death as a process in living and returns matter to the earth to sustain life. As the fields fill with bodies, agriculture and green space are cultivated for the community.

Saturation necessitates exchange and negotiation. It is during times of saturation, where resources and demands are unevenly distributed and cause pressure on existing systems, that space, connections, and valves are created.

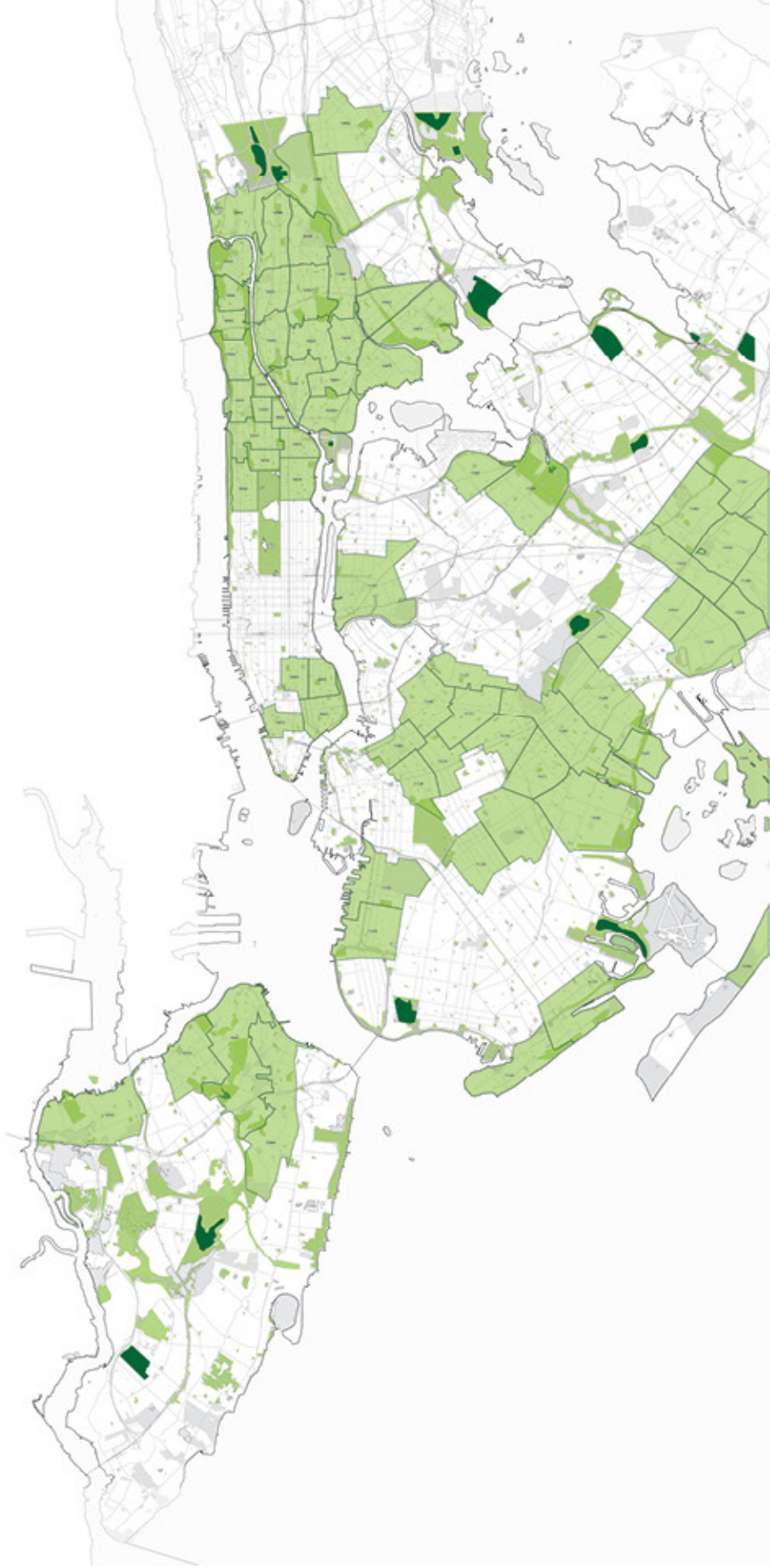
The capacity of existing systems to respond to crises is revealed at full saturation. New York City has revealed its capacity to manage healing and dying across its varying agencies. Most recently, New York City’s response to the COVID-19 pandemic ushered in spaces to extend the capacity of the healthcare network, from refrigerated morgue trucks parked in South Brooklyn Terminal to the adaptation of Javits Convention Center into a field hospital managed by federal employees. The population growth of the city has also increased the demand on public hospitals, with the physical expansion of Bellevue Hospital as a necessary response to saturation. The city’s current capacity to manage death is revealing its boundaries; Hart Island - the only public burial site for New York City - is projected to reach capacity as early as 2030, with current planning to extend that as far as 2090. This urgency calls into question what will be next for New York’s municipal burial infrastructures.

Saturation necessitates exchange and negotiation. It is during times of saturation, where resources and demands are unevenly distributed and cause pressure on existing systems, that space, connections, and valves are created. The inevitability of a future state of saturation provides the speculative grounds for design.

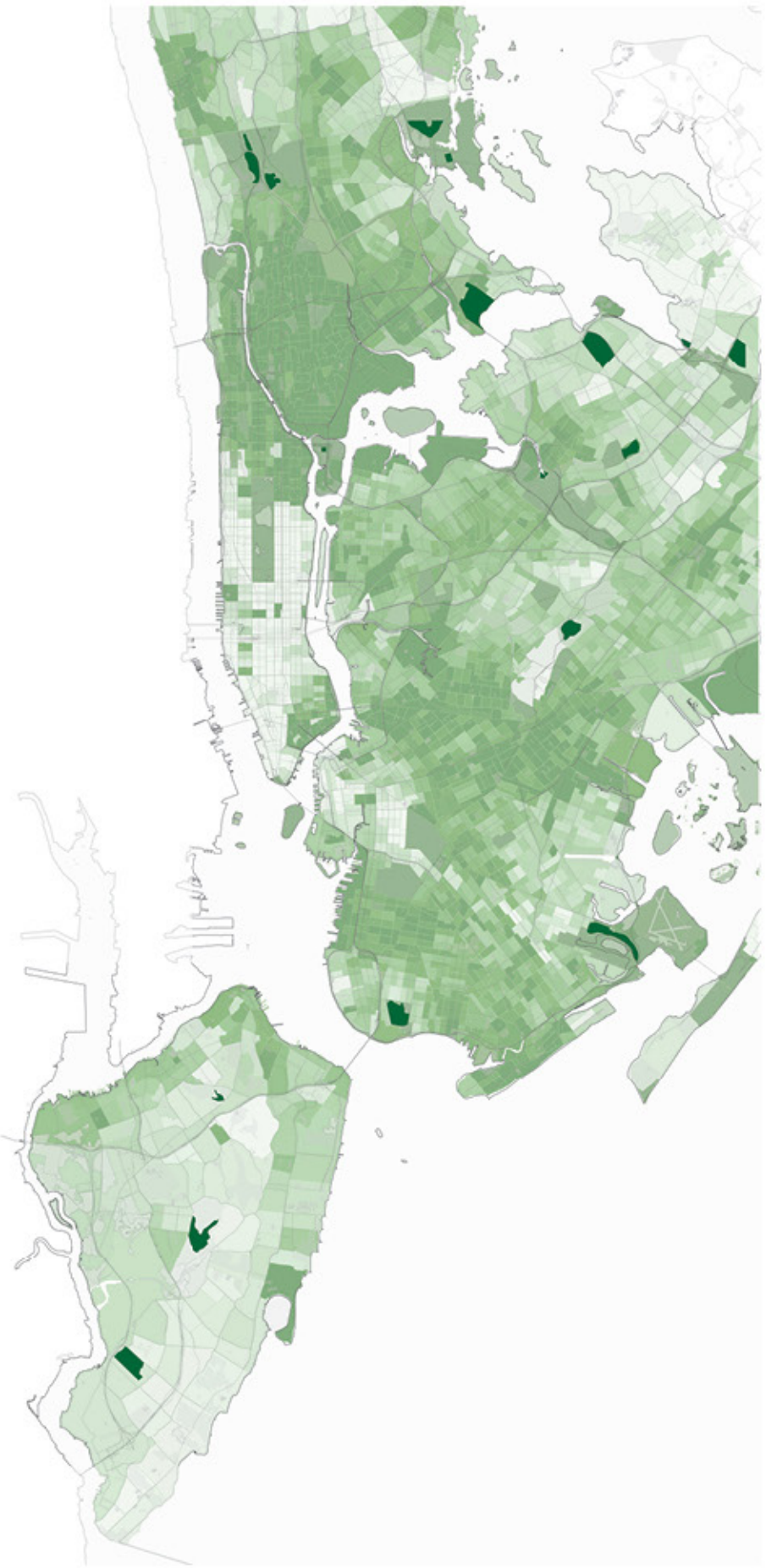
The public intervention exists on municipally owned golf courses to seize unproductive land that drains city resources and pollutes surrounding communities. Our proposal is specific to Van Cortlandt, but is prototypical of a system of interventions across the city’s fifteen golf courses. New York City’s public golf courses are not a public good and are situated in economically disadvantaged communities that do not use them. These are the same communities that suffer the most during public health crises because of a discriminatory and polluting built environment. These conditions are seen as the new grounds for the city’s municipal cemetery that collapse the infrastructures of prevention, response, and reflection. Beyond Capacity is both a pragmatic infrastructure and a landscape of collective living, healing, and dying.

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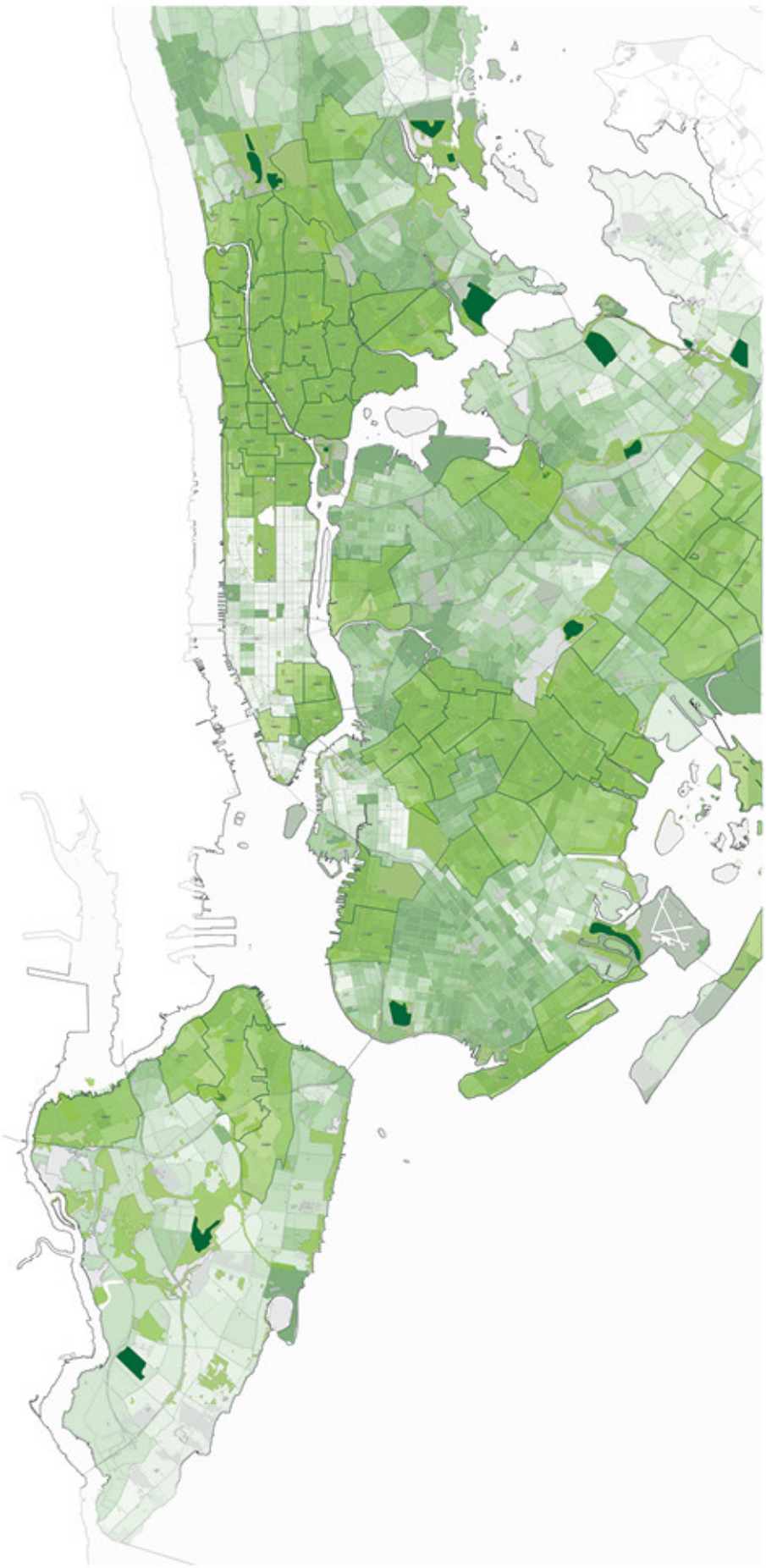




Zip Codes most affected by COVID-19



Income map of NYC

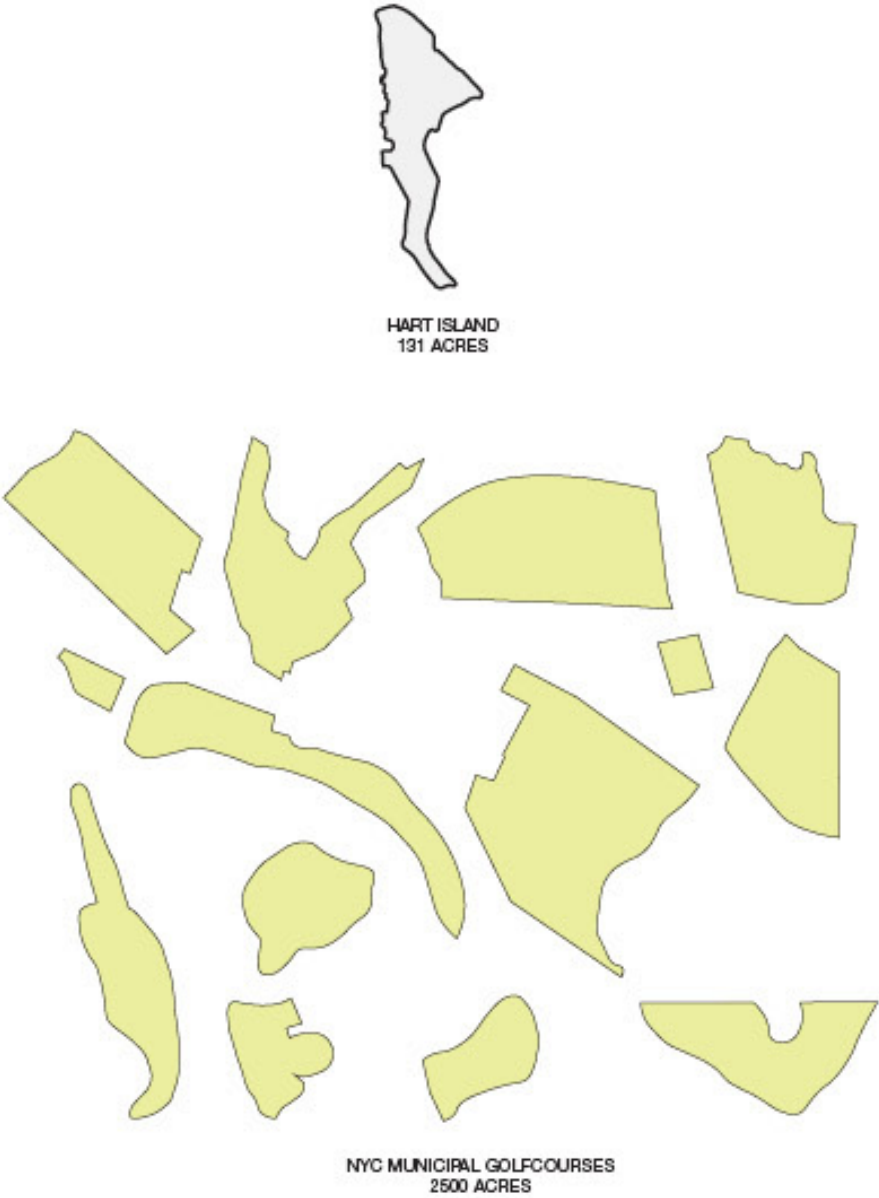


Layered income map with NYC Publicly owned golf courses



Collaging exercises allowed us to isolate and illustrate the golf course as grounds for intervention and imagination. Mono cultures of grass under serve the publics and becomes the grounds for speculation.

Van Cortlandt park resides in the heart of the Bronx. Highlighted, we can see the scars the golf course leaves in the canopy of the park. Illustrating not only a vegetative gap, but a rift in public access, wildlife, corridors, and ecological health.



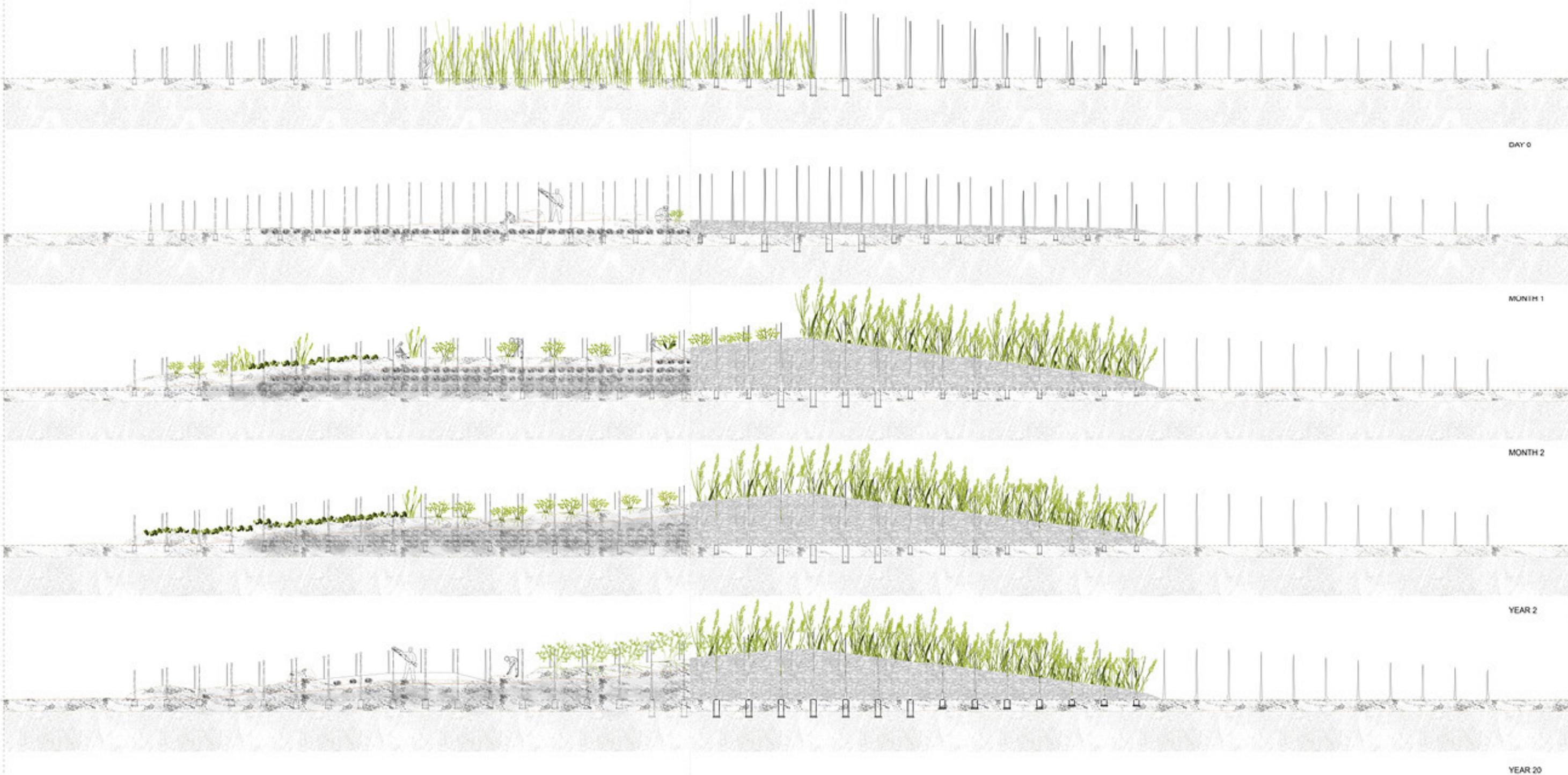


Collaging was again utilized on our site relief model. Relief shows the situation of our intervention. Nestled between the existing canopy, the mounds suture the entrance to the north with access to the subway and the entrance to the south with pedestrian access to the local community. Programmatically, the morgue and other transitory programs are in the north while a market, clinic, and public information booth are situated in the south for those who live closer to use.

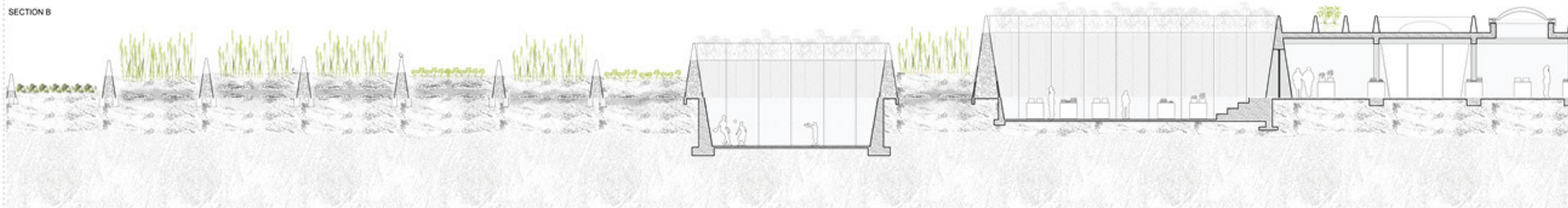
Image from current Van Cortlandt Park



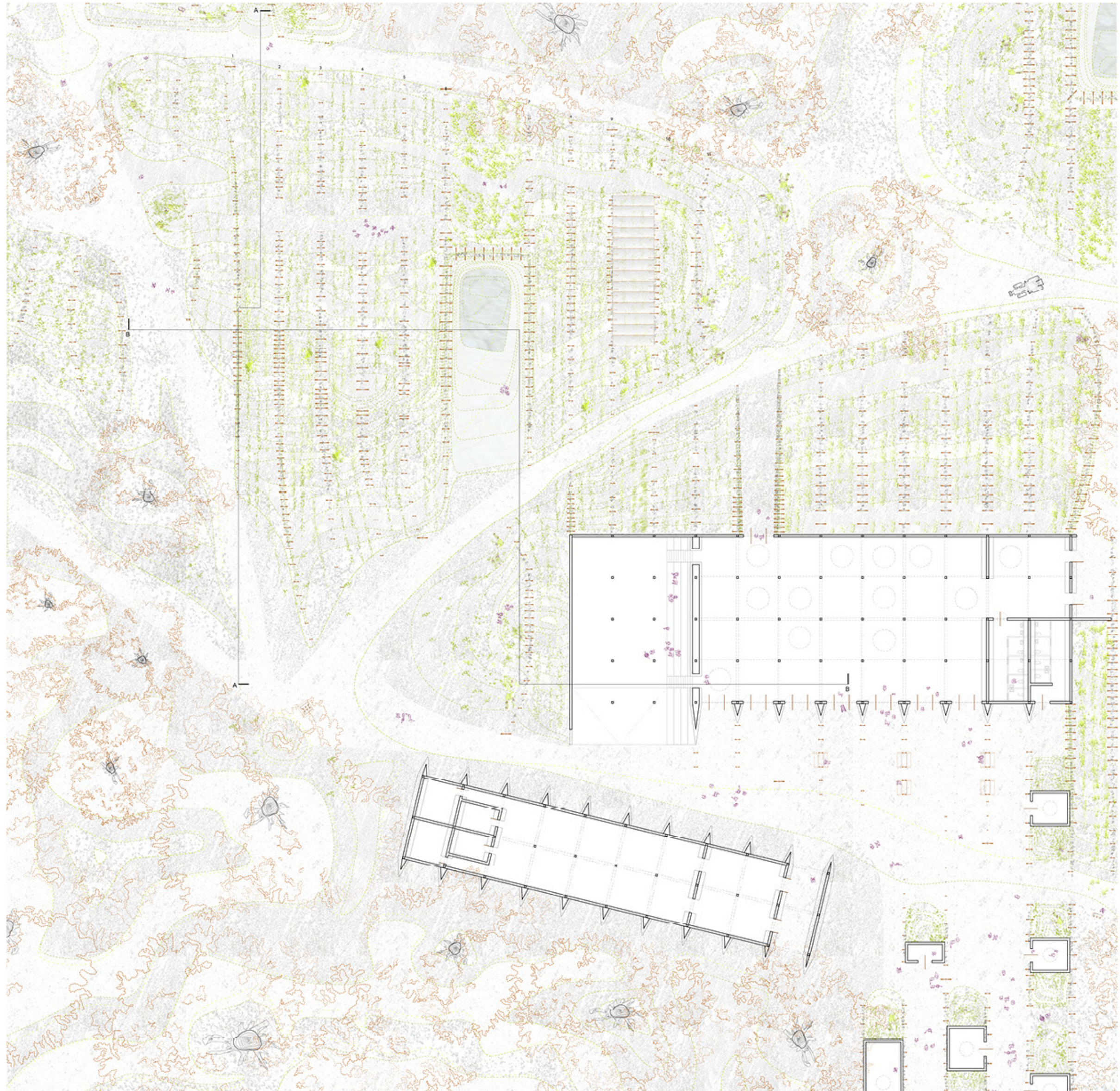
SECTION A

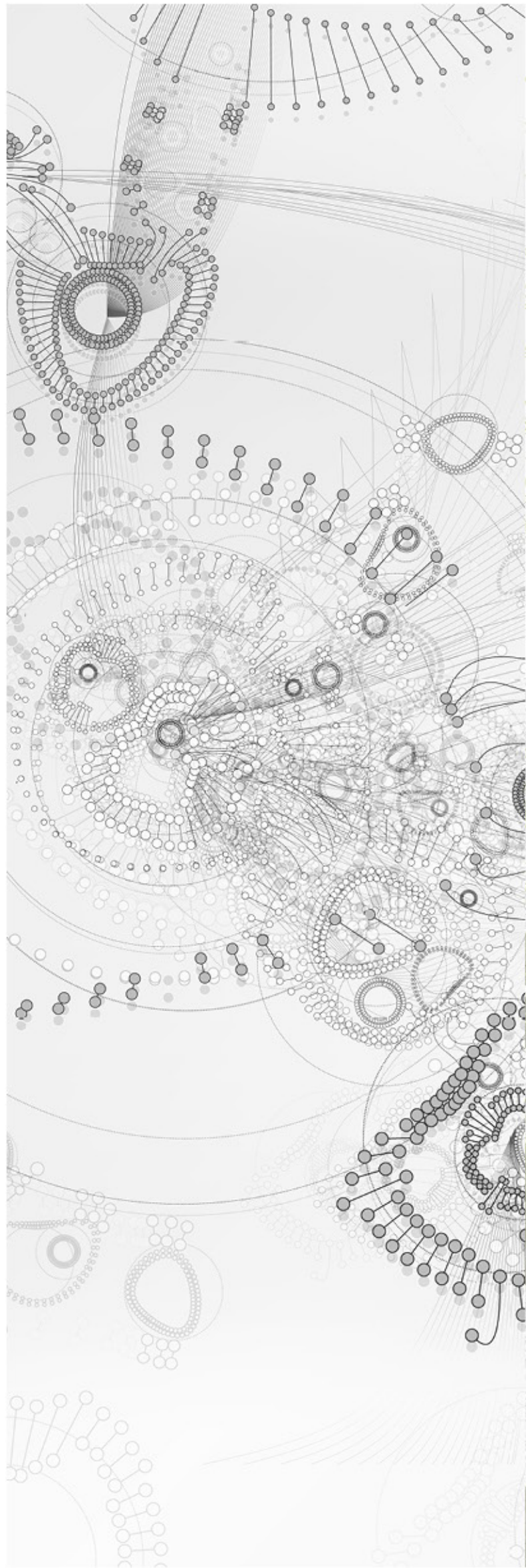


SECTION B

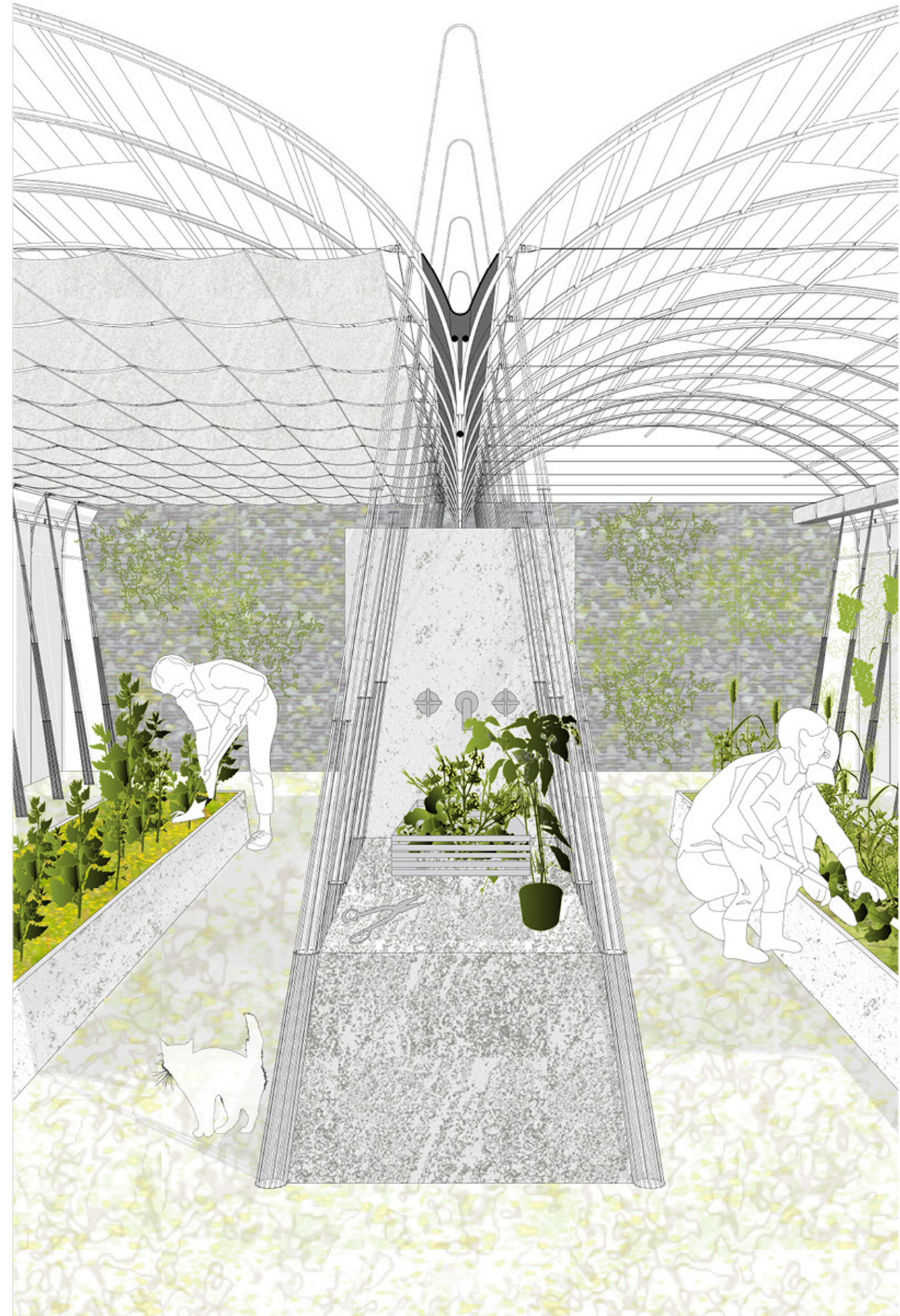
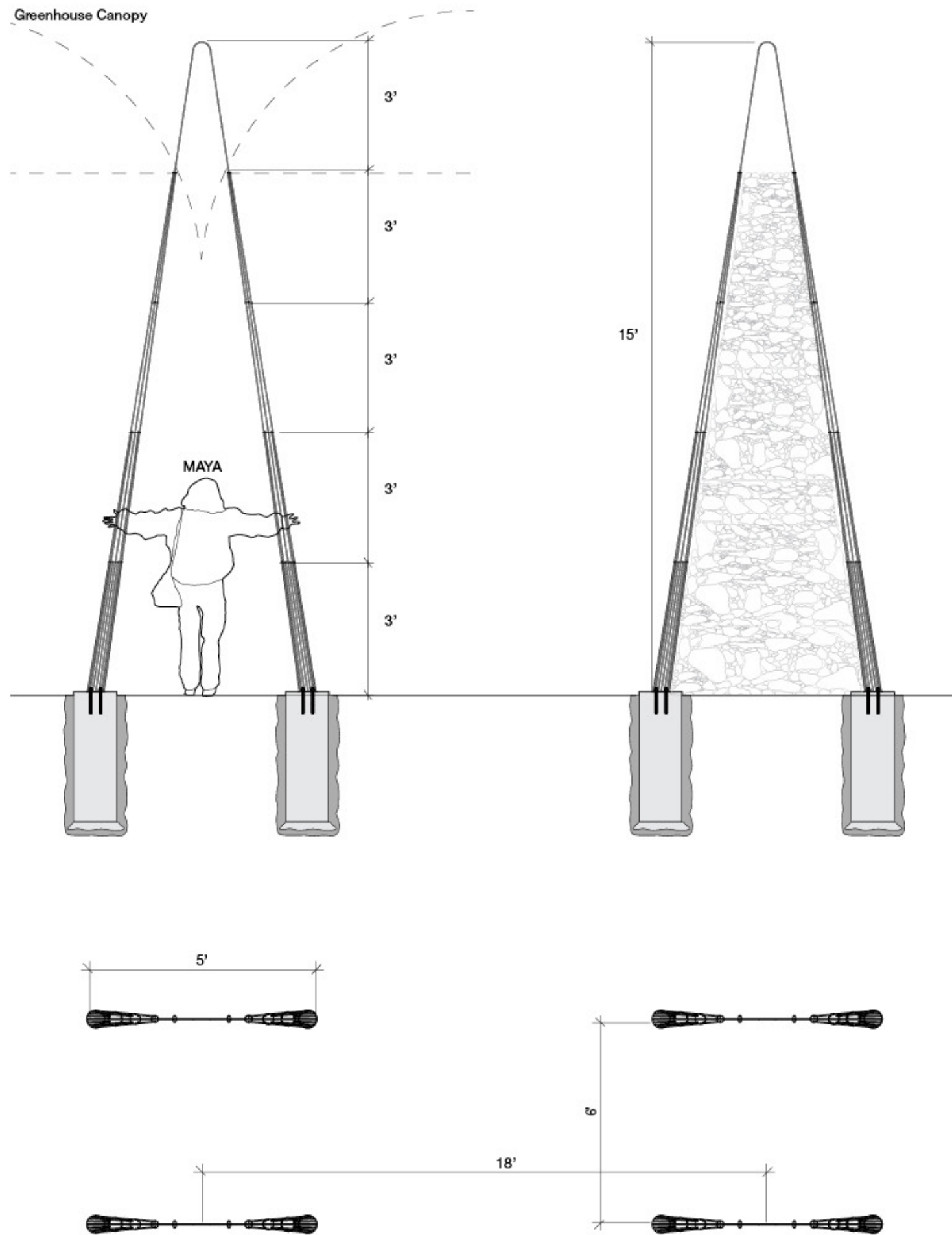


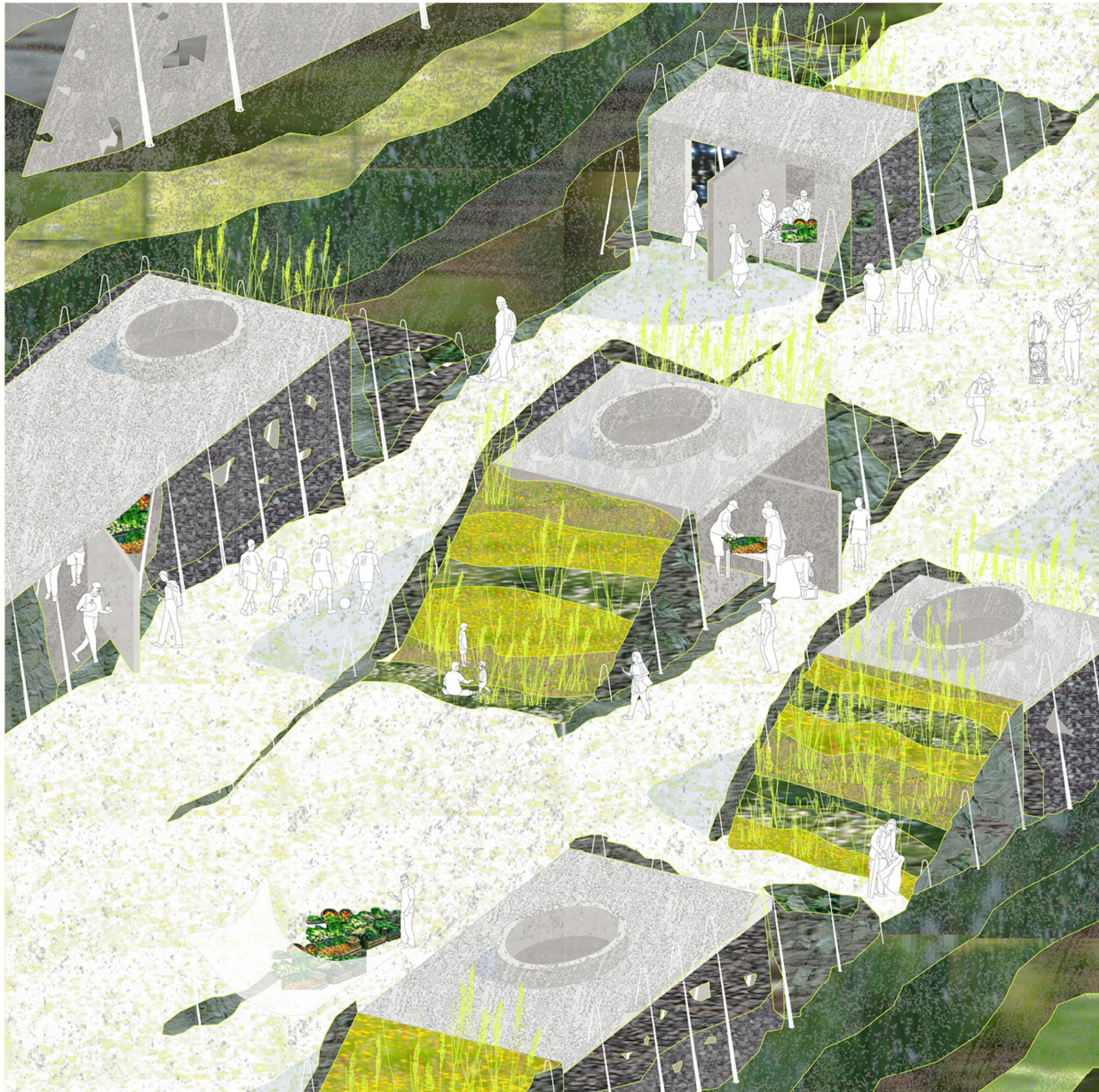
Time is just as much considered a designed element as the built form. Topography and vegetation transform the space. Years go by and more and more mounds are filled permanently changing the occupation of the site.

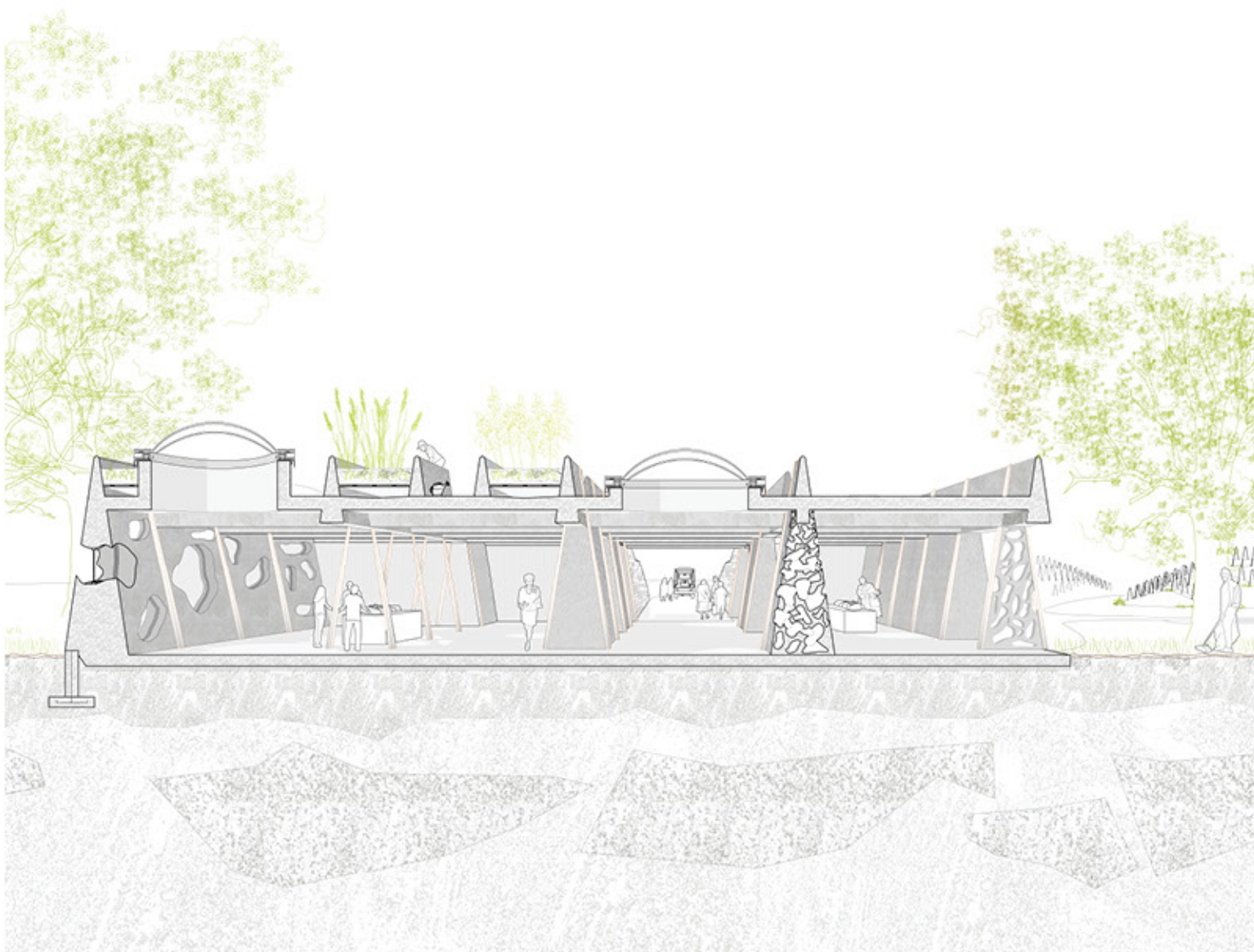




The trellis exists as a condition across the site. In its unoccupied state, it holds the potential for many programs. Before being filled with mounds it exists as agricultural row, seating, or greenhouse as illustrated to the right.







The morgue provides opportunities to think of other forms of occupation of the trellis. Requiring more thermal and light control, the walls invert the logic of the stone gabion. Light passes through variably porous walls defining space and experience through light and ephemerality.





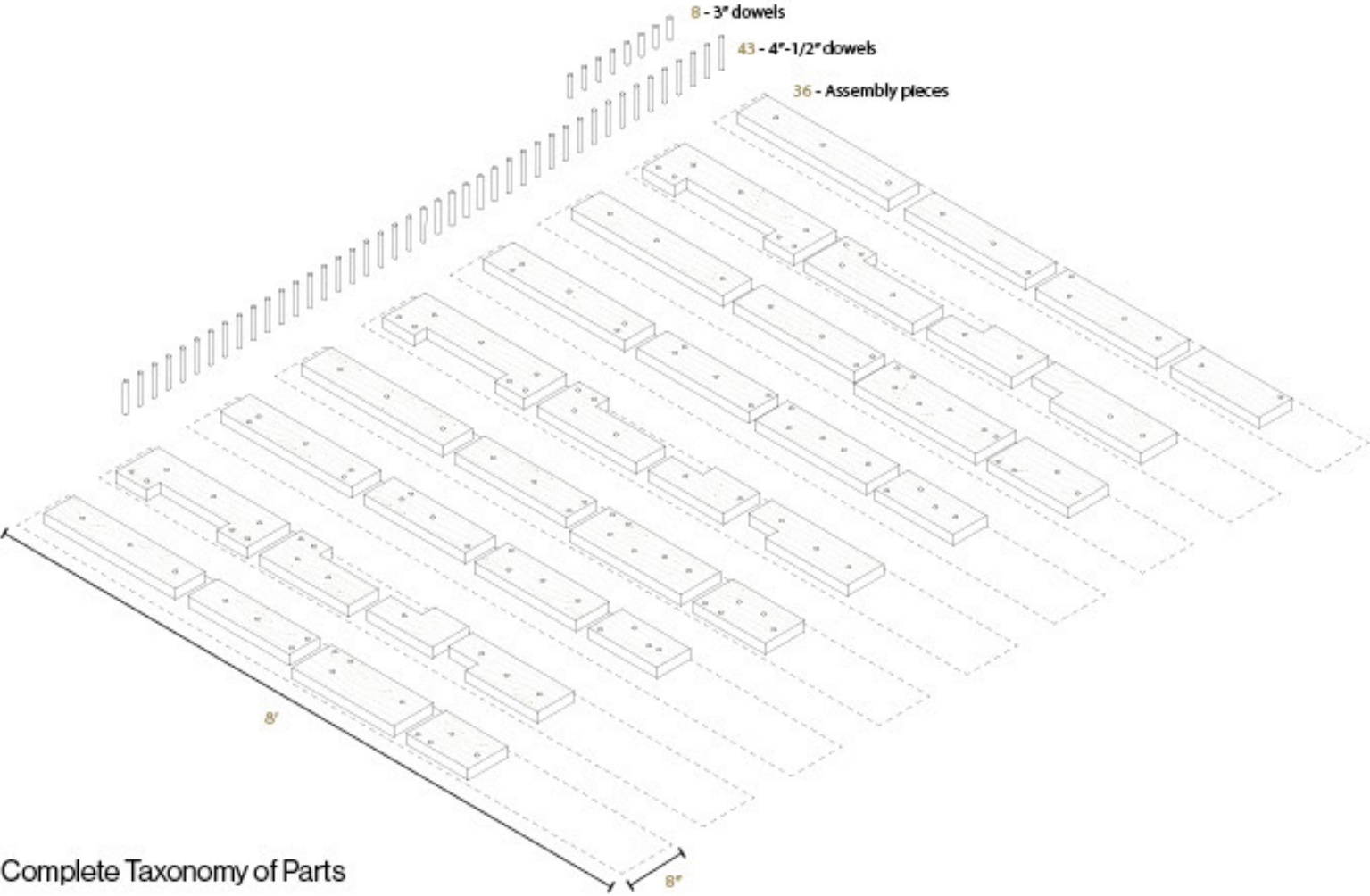
Mono- Making:

Building of a Novel yet Traditional Wall Assembly

Spring 2026
Tech V
Lola Ben-Alon
Team: Ephrem Yared, Jack VanderMolen,
Luca Calandri, Olivia Van Wersch, Phil Martel

Buildings in contemporary construction are full of complicated lists of material assemblies. Toxic construction materials, complicated assembly details, and insufficient longevity of materials plague modern construction techniques and principles. Understanding this, we challenged the ways in which contemporary building techniques by imagining the possibilities of what a building could be like using only a single material.

We can look back to building techniques that simplify construction, design and still perform to contemporary building standards.





Utilizing the technique of Shou Sugi Ban, a mono-material assembly of purely wood is able to function to the same performance standards as, much more complicated, toxic, and unsustainable modern wall assemblies.

Conversation Station:

A Machine for Drawing

Spring 2024

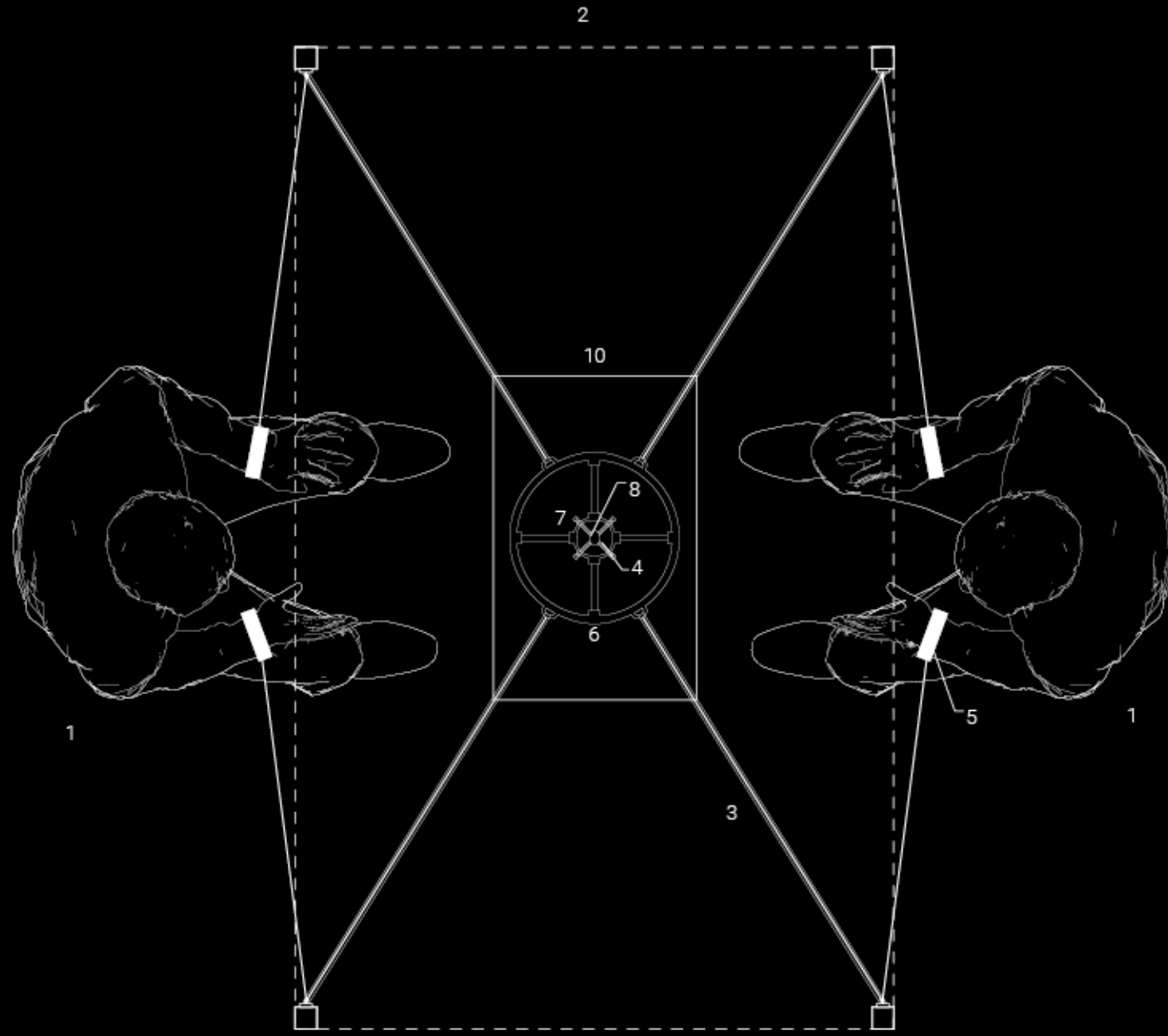
ADR 2

Stella Ioannidou

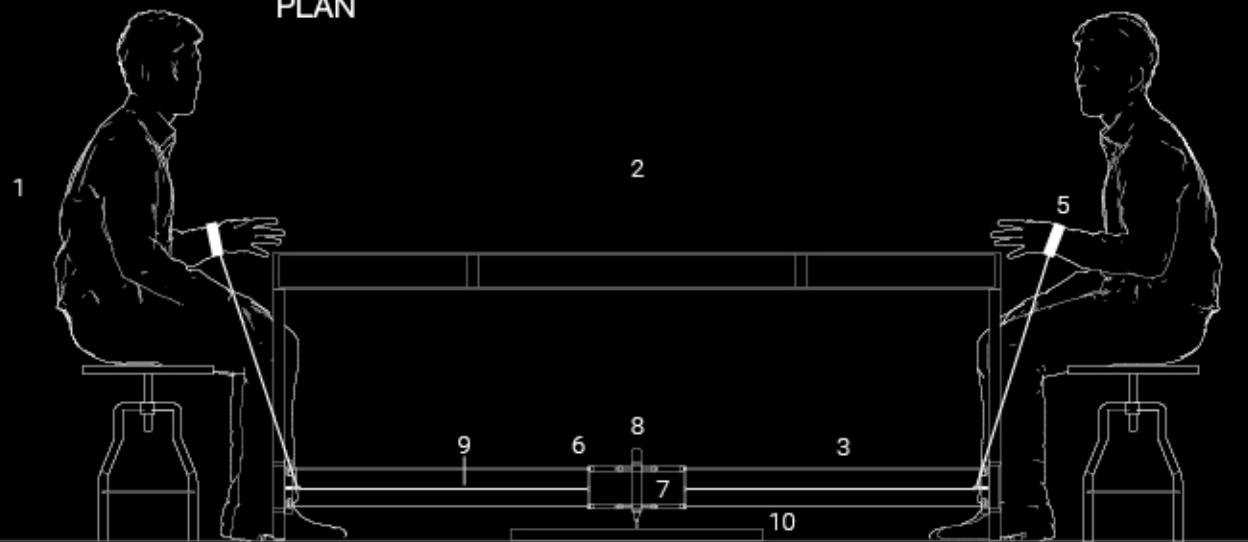
Non-verbal communication is a large part of how we communicate. What does this look like? How could these subtle forms of communication be measured, quantified, and drawn. The conversation station aims to do just that. This project serves as a machine for drawing conversations. The machine is two people sitting across a table

No machine is ever neutral. As the machine functions, the two in conversation are able to feel the feedback of the others, subtly making the conversation and flow of the language known to either agent.

with armbands on strings connected to their wrists. These connections track and tension a pen sitting underneath the table. When movement occurs, the pen is put under more tension and moves. This method tracks the ways in which we communicate through our hands as a metric for body language and non-verbal communication. Placed under the table, the machine aims to be a silent observer. But no machine is ever neutral. As the machine functions, the two in conversation are able to feel the feedback of the others, subtly making the conversation and flow of the language known to either agent.



PLAN



ELEVATION

1. Conversationalist
2. Desk
3. Bungee Chords
4. Screws

5. Strap
6. Structural hoop
7. Pen Housing
8. Brush Pen

