

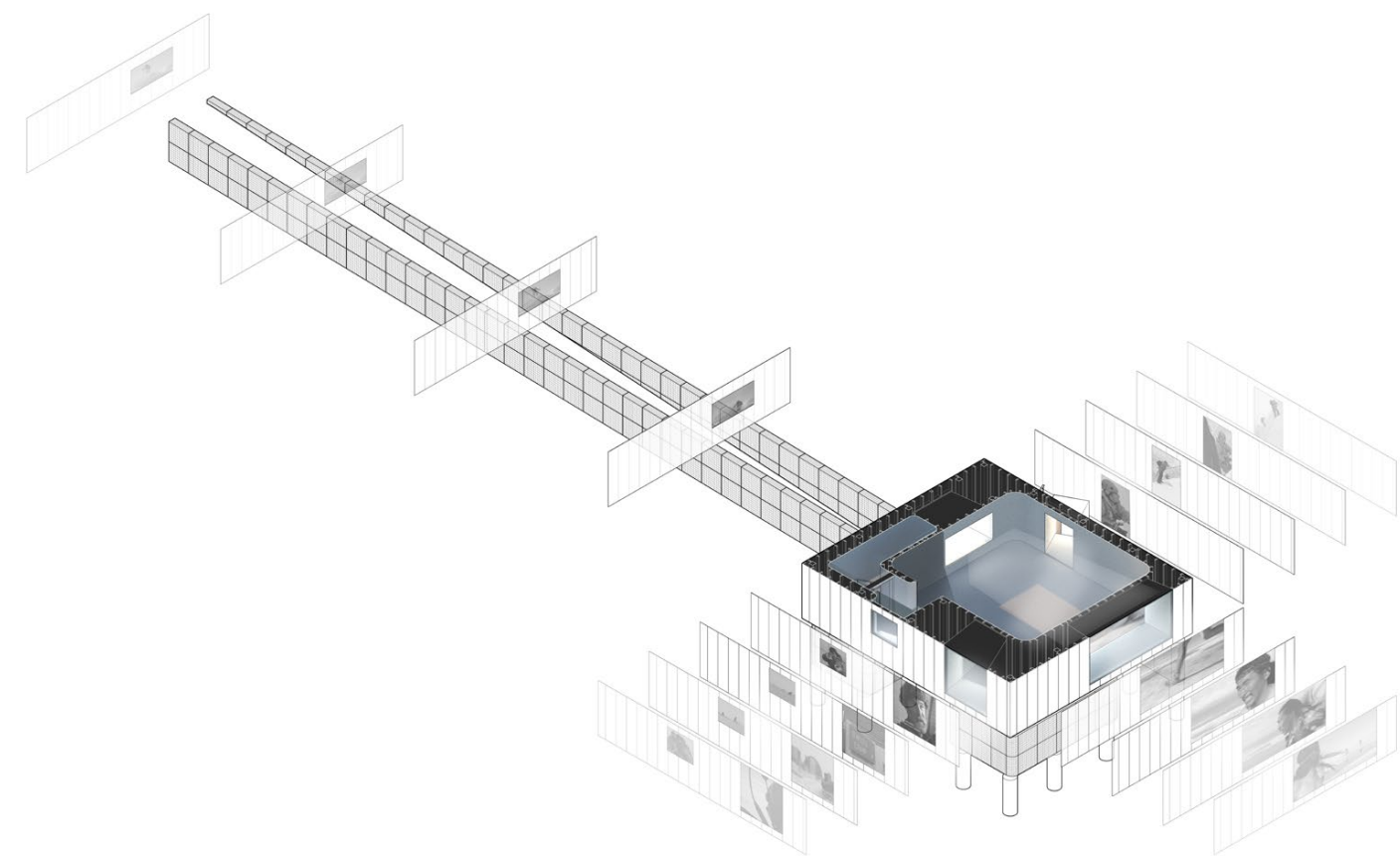
ZACHARY PONCHER

COLUMBIA GSAPP 2023-2026

PORTFOLIO

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APERTURE AS ARCHIVE

Reframing Arctic Mediation

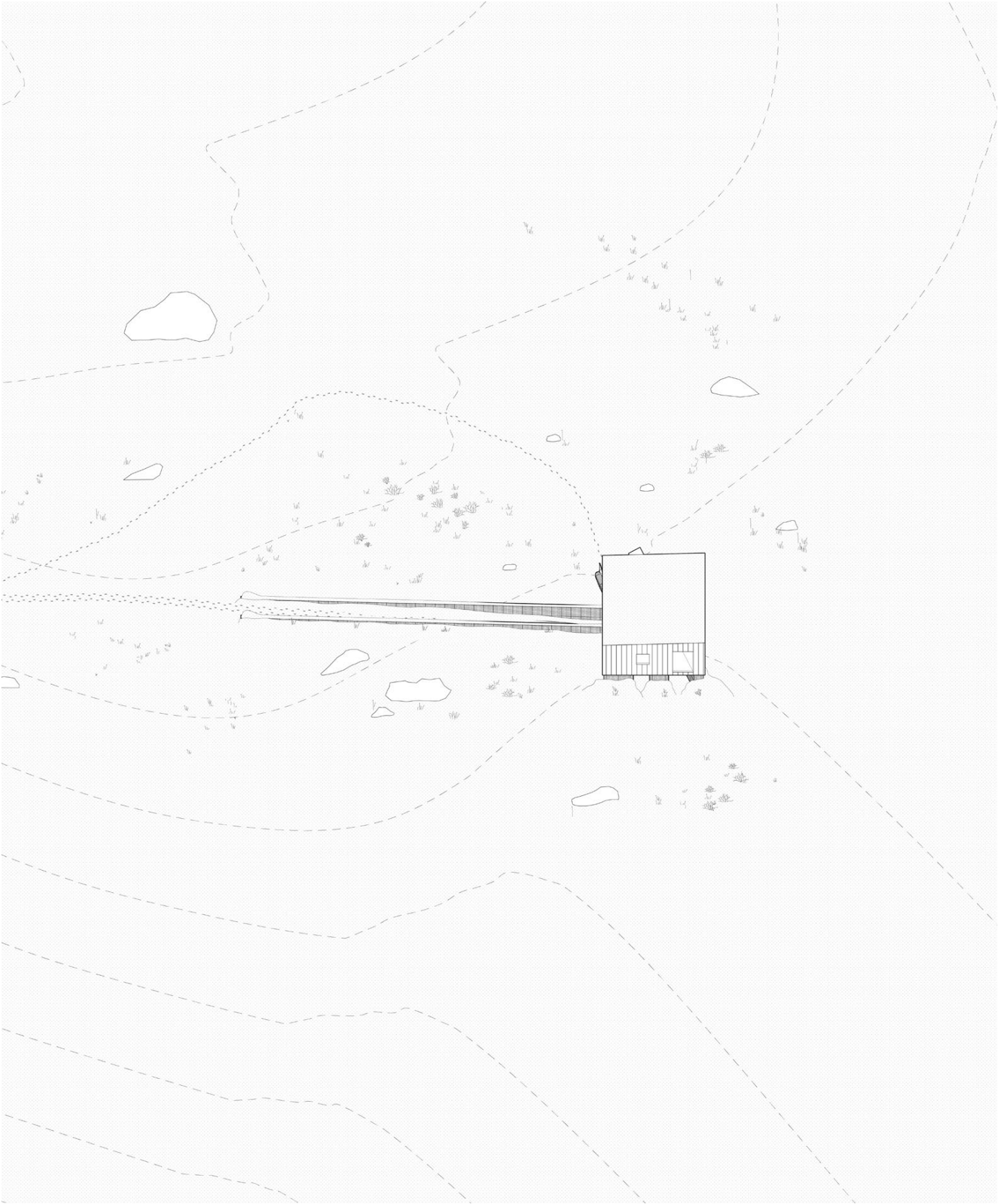
Site: Iglooklik/Montreal, Canada
Instructor: Leslie Gil & Khoi Nguyen
Adv V, Fall 2025

This project explores the tension between indigenous and western cinematic traditions as a lens for understanding colonial, sociopolitical, and environmental histories. Aspect ratio becomes a central analytical and architectural tool. Widescreen formats, rooted in the spectacle of Expo 67's Polar Life, signify exploration and dominion. Indigenous filmmakers have since adopted 35mm as a counter-practice, reclaiming image-making outside dominant modes. The forms encourage an intersection of views, using the buildings poché to create lens' that look both inwards and outwards. The building becomes a filmic tool, a superimposition of western and Arctic media traditions.

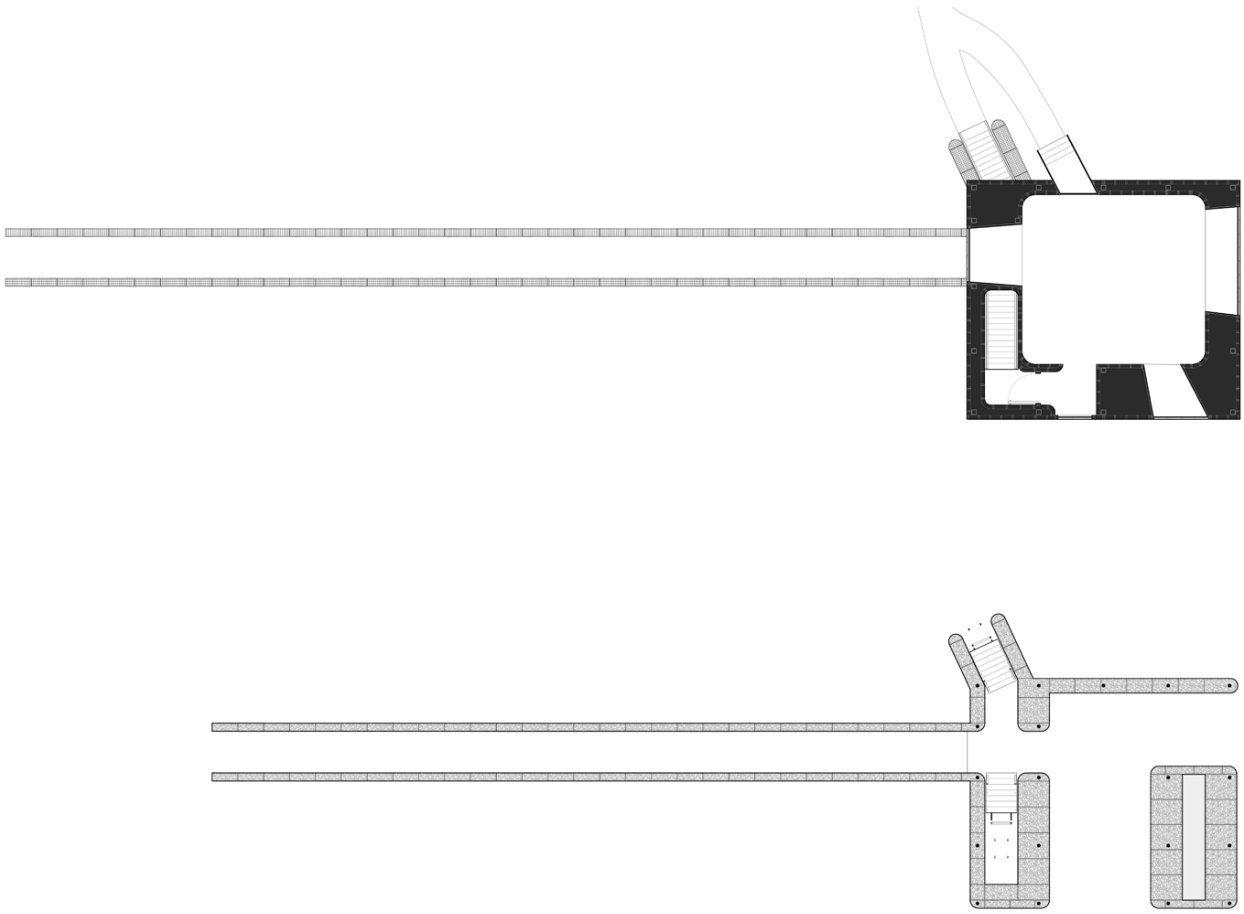
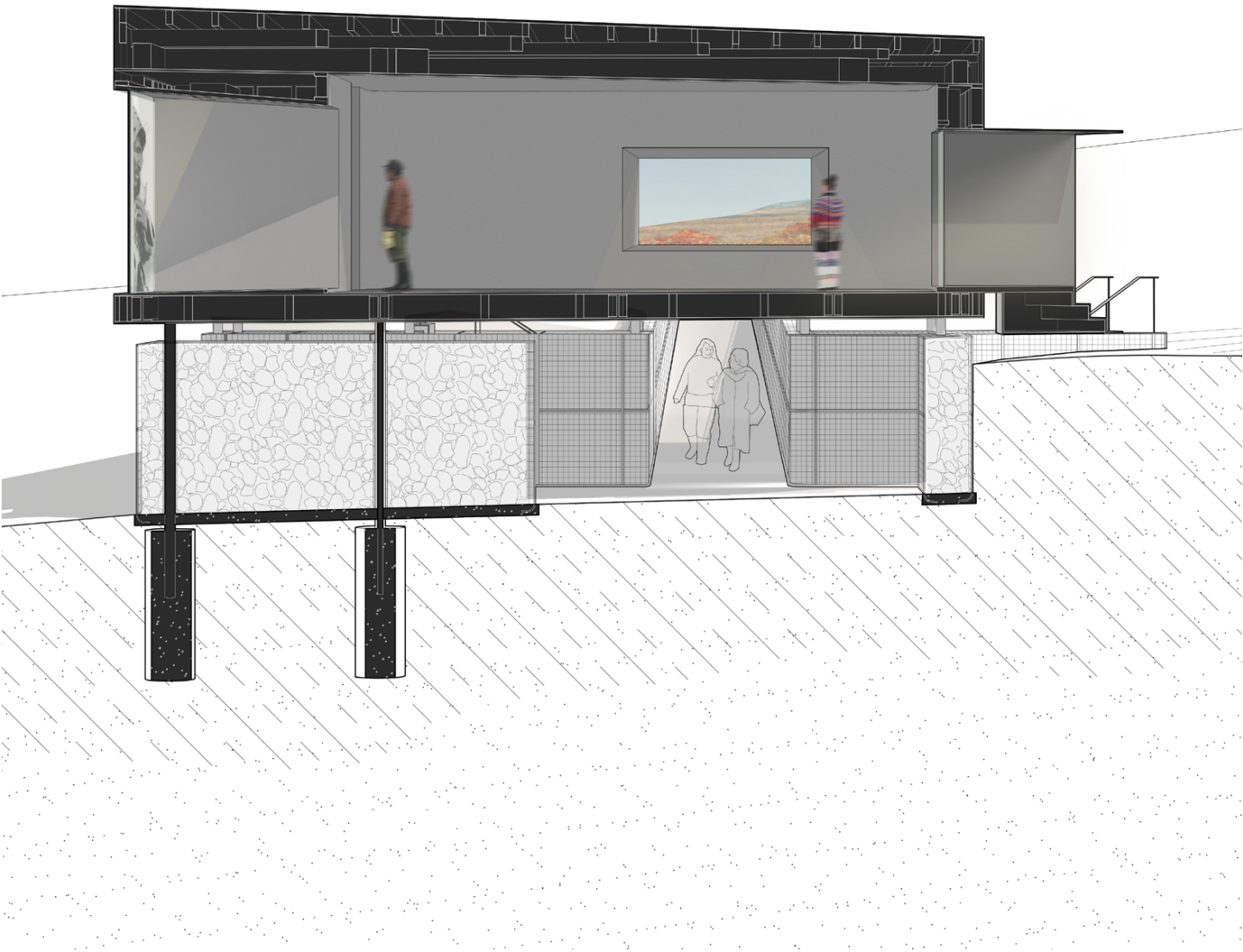
The work then translates into built form across two scales. The Outpost, a brushed aluminum box hovering above the Iglooklik tundra on a gabion base, operates as a tectonic instrument: its thick walls punctured by calibrated apertures, its section bisected by ramps and stairs that choreograph movement through framed views. Rear-projection windows double as screens, layering archived imagery onto the live landscape. This building becomes a register, charting the changes across the tundra and media simultaneously.

In Montreal, its archival counterpart houses a series of theaters, a library, and archive and a residency program that supports the development and preservation of expanded indigenous cinemas. A long aluminum space frame, cantilevered off a concrete shear wall and splaying outward in plan, forms a series of expanding apertures, oriented toward the Expo 67 islands across the St. Lawrence. Concrete theatre boxes rotate incrementally along the eastern wall, breaking through floor plates to create dynamic sectional relationships, apertures between interior program and exterior view, the building as filmic tool. Together, both structures treat the wall, the window, and the section not merely as enclosure, but as the primary instruments through which landscapes are mediated, archived, and contested.

Site Plan: Sited on the outskirts of Igloolik, birthplace to modern Inuit cinema, the outpost is placed at the source of the Inuit film tradition.



Plan Oblique: The Outpost embedded in the Arctic winter.

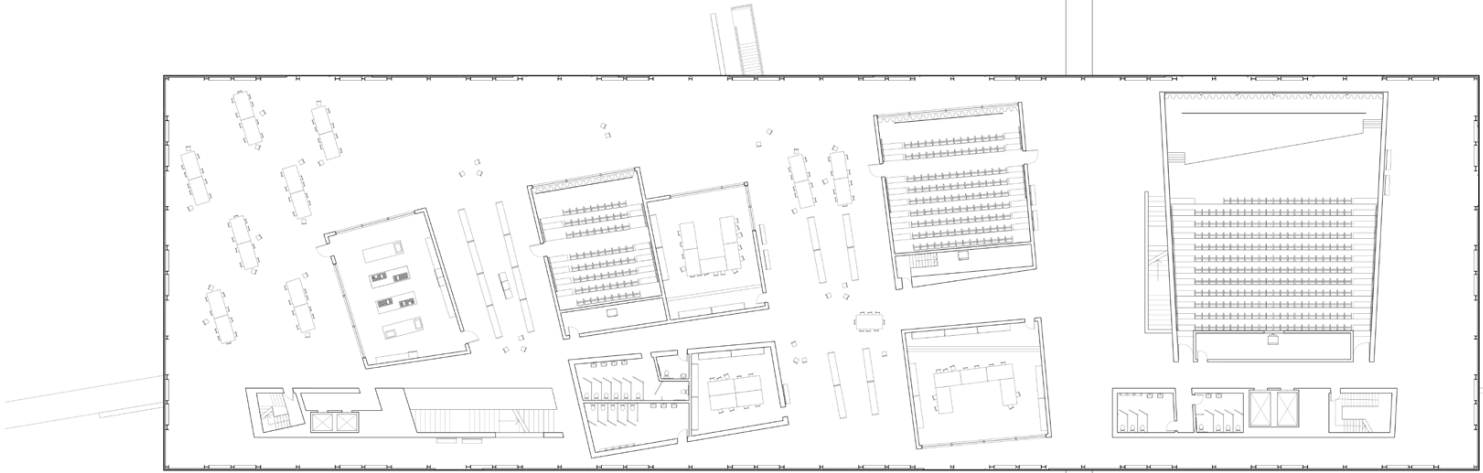
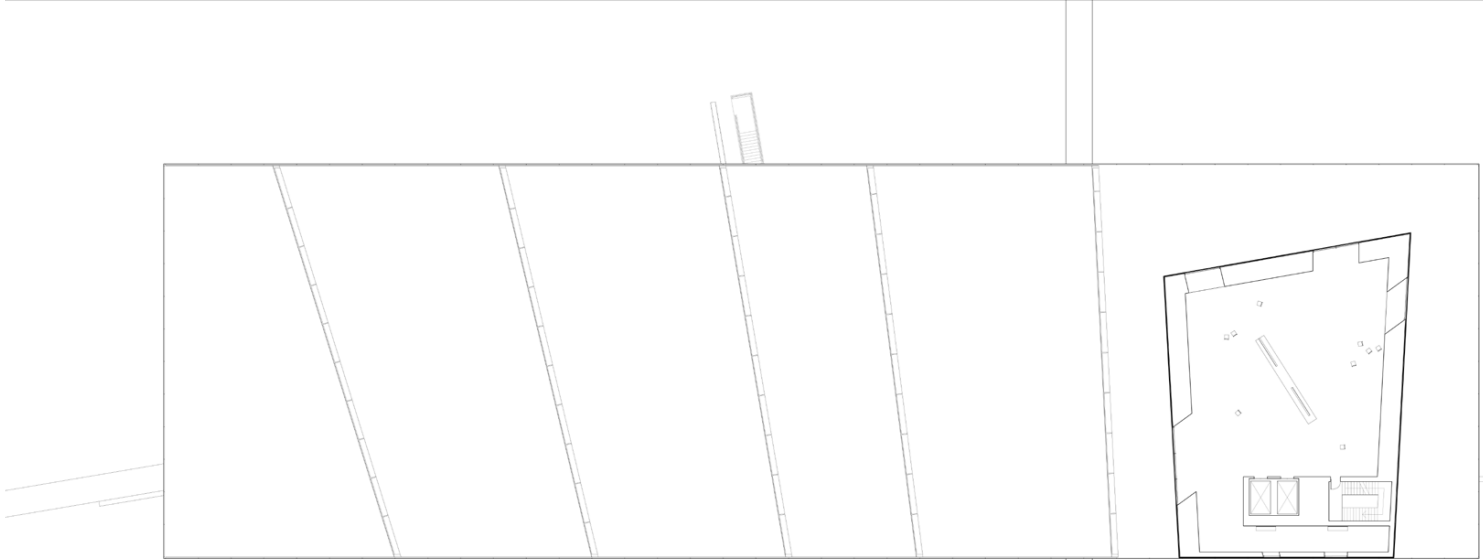
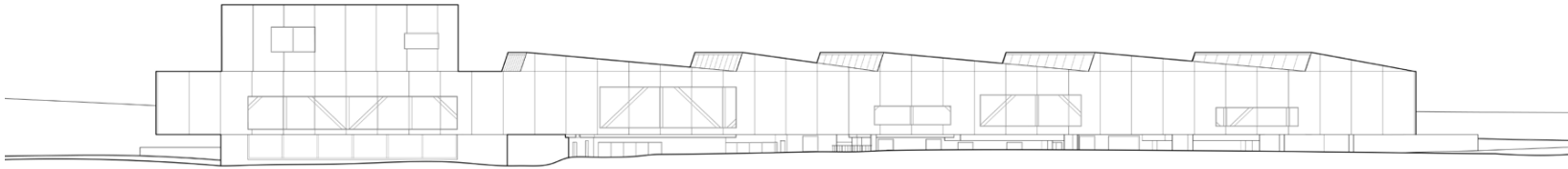


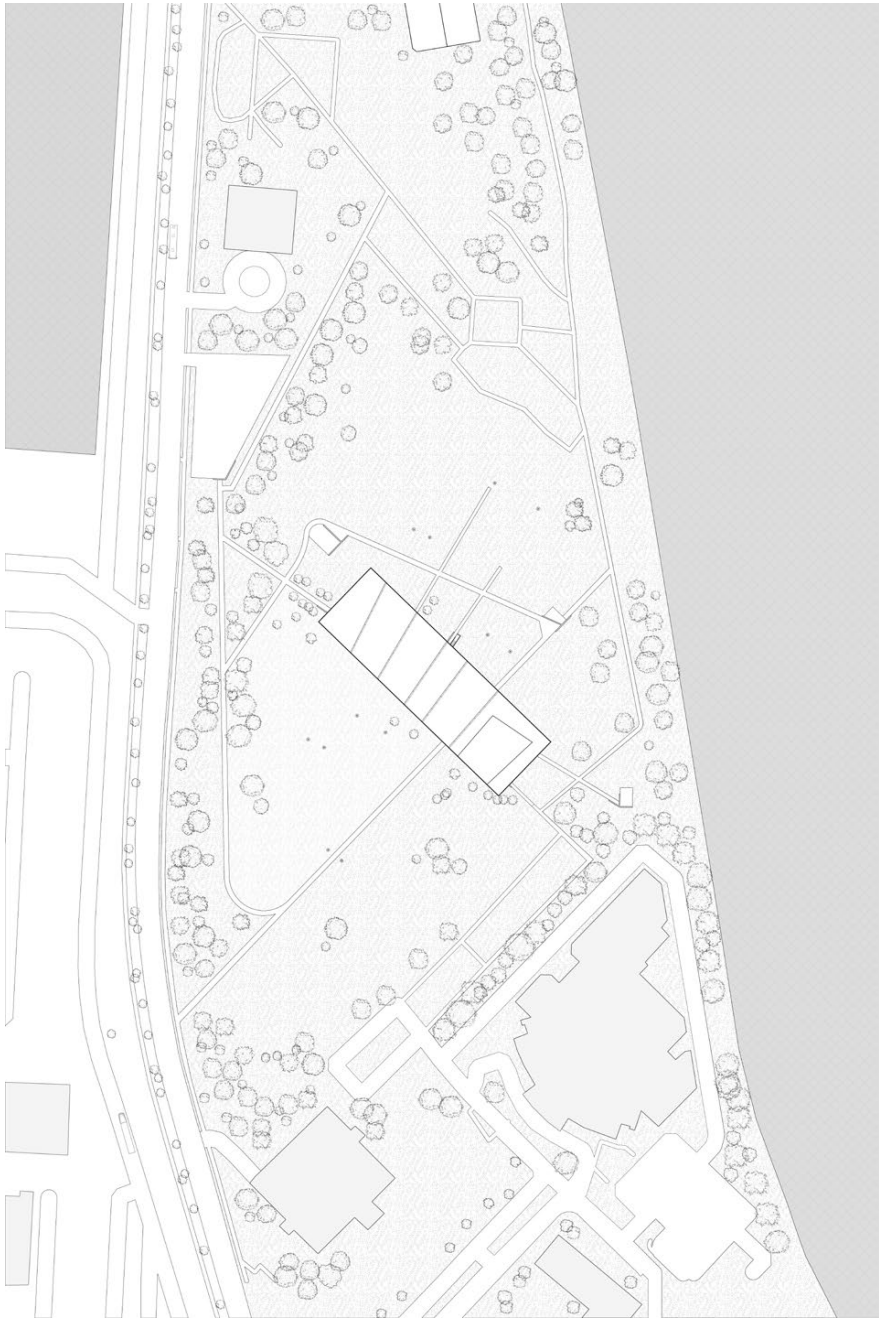
Plan: Outpost interior and gabion walkway

Perspective Section: Interior view of the outpost showing the cross sectional apertures and the view outwards over the gabion walkway.

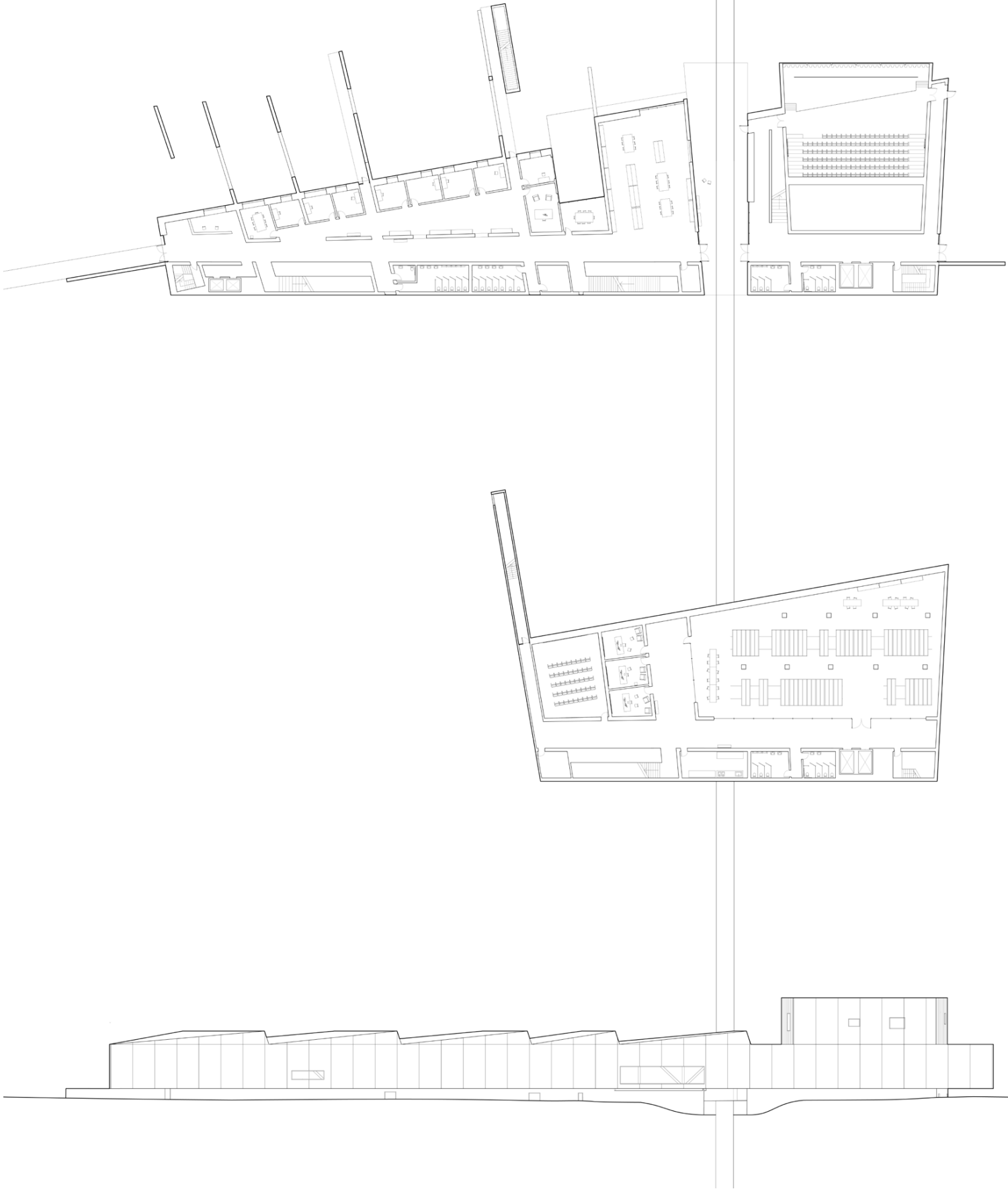


Exterior Render: Approaching the Outpost entrance at night through the gabion wall, its windows illuminated by a film screening within.





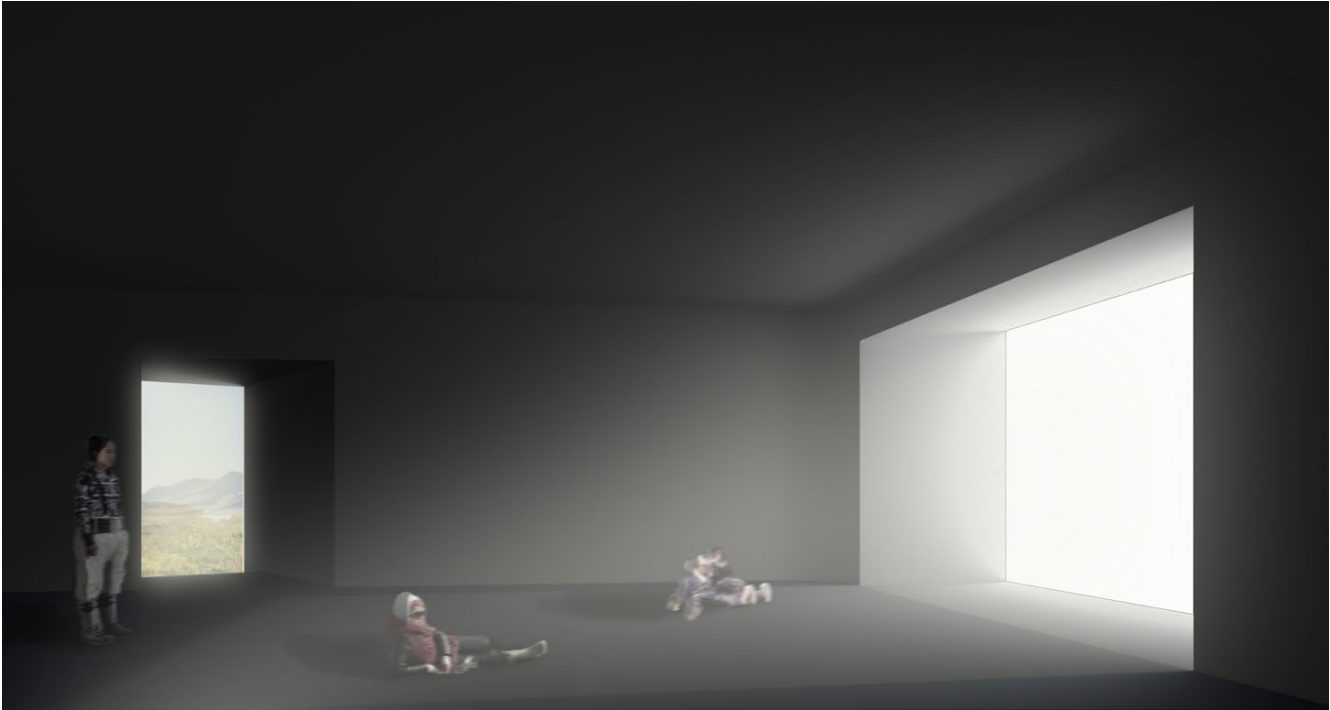
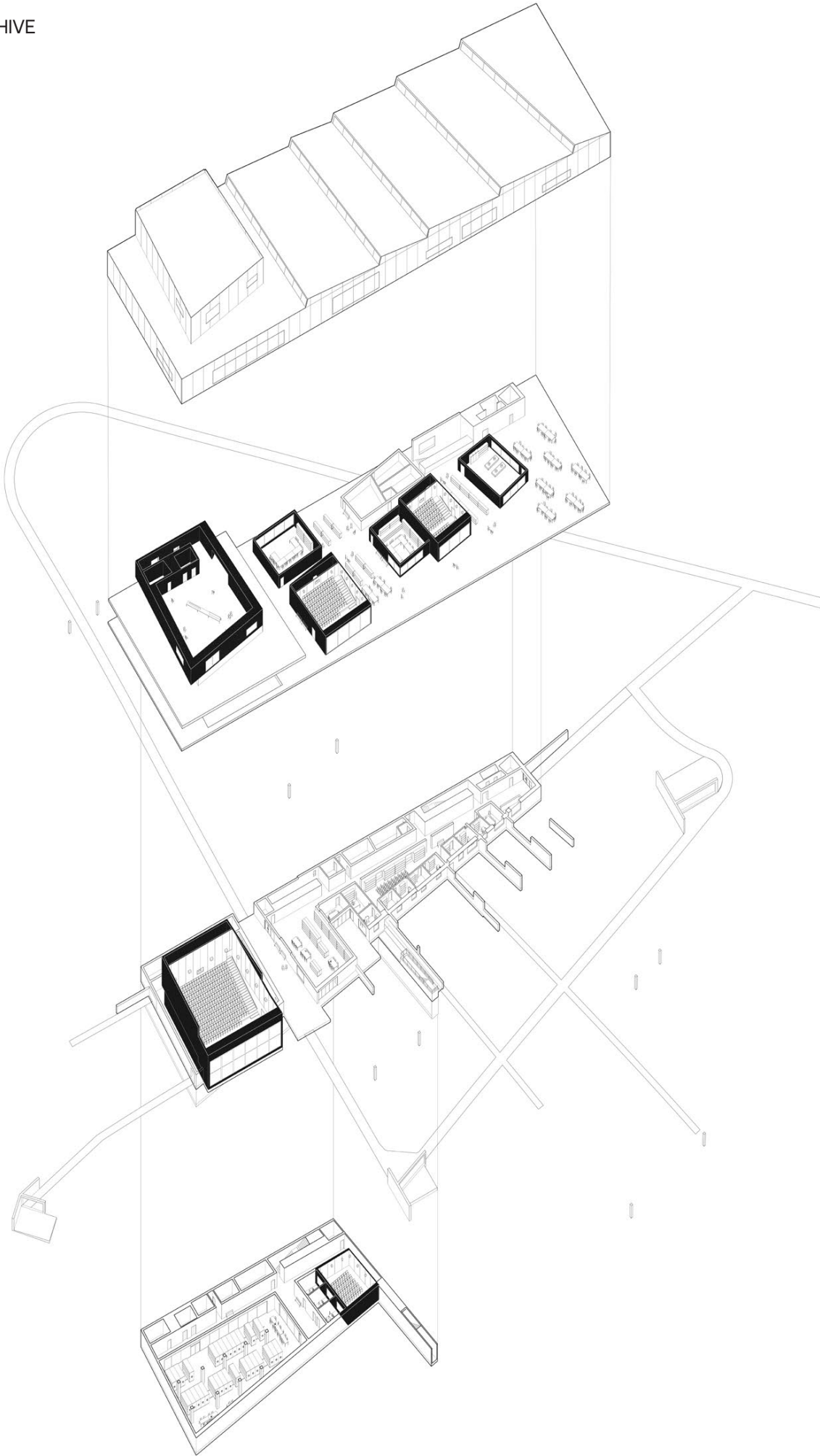
Above: Sited across the St. Lawrence from the Expo 67 Site, the genesis of Arctic IMAX Cinema, and the projects conceptual



Right: Archive and Residency plans, with front and rear elevations.



Section Perspective: A transverse view of the site, revealing the aperture of the upper floor theatre, the library below, and the archive in the basement. To the left, a concrete datum extends into the landscape, one last lens framing the St. Lawrence river.



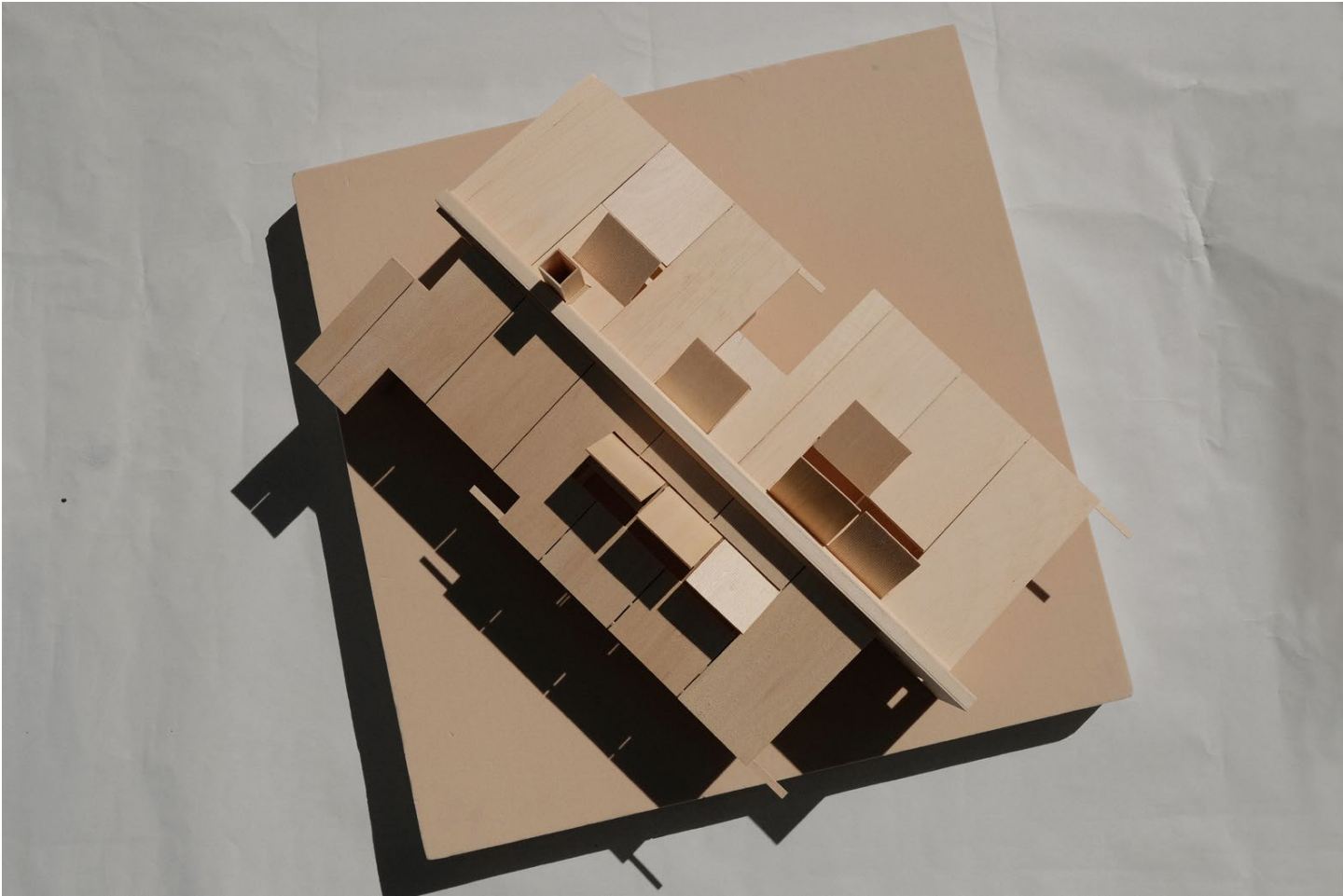
Left: An exploded axonometric revealing the subtle shifts in the interior form and the organization of programmatic

Above: The Outpost's interplay of framed views, a film projection and Arctic tundra in simultaneous





Section Perspective: A longitudinal view of the site, revealing the main theatre and library at ground level, the smaller theaters on the second floor, the viewing room at the top, and the archive and editing rooms below in the basement. Downtown Montreal rises in the



EDIBLE ARRANGEMENT

The Farm, the Table, and the Commons

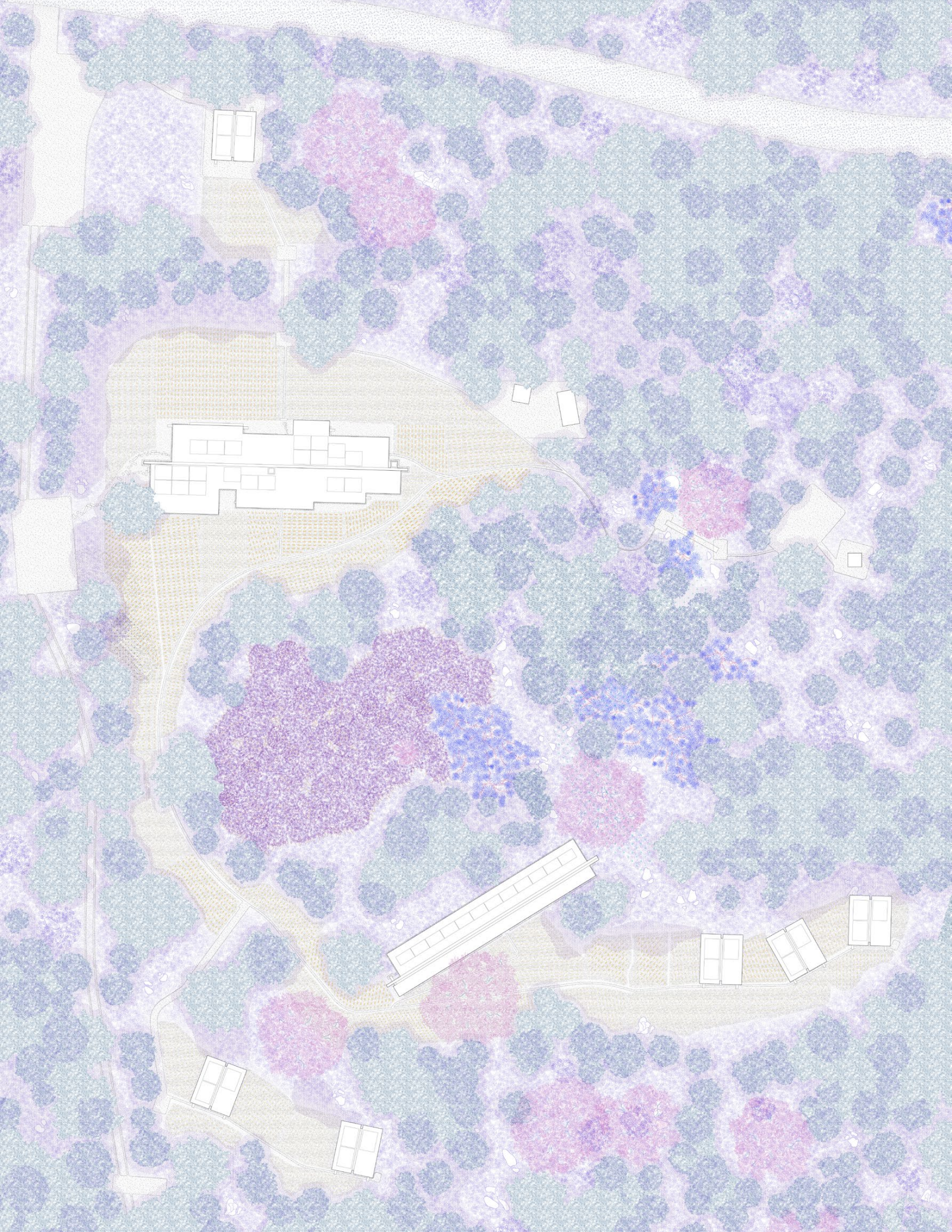
Site: Ishigaki Island, Japan
Instructor: Jing Liu & Alessandra Cianchetta
Adv VI, Spring 2026

Situated on Ishigaki Island in the Yaeyama Archipelago, Edible Arrangements supports a culinary residency focused on the tropical foods of these islands and their relationship to mainland Japan. Ishigaki is an island in tension, sitting between its own histories and the imprint of the mainland. The kitchen is a place to negotiate between cultures and flavors, what to borrow, what to resist, what to make your own. Along the roads of the island, micro restaurants and bakeries inhabit older buildings, maintained by a single chef serving only a few patrons. It is this spirit that forms the stock from which this project is made.

The site supports a fabric of gardens, orchards, and farming plots extending through the jungle from the road to its eastern edge. A small dirt path guides the way between each plot, inviting residents to imagine picking their ingredients as they walk from room to kitchen. This path forms the formal and ideological spine of the project, a soft boundary between the wildness of the jungle and the semi-orderliness of the farm. Along it sit the residency's structures, each anchored by the same organizing principle, a dense poured-in-place concrete shear wall from which concrete arms extend outward to form bays, framing views and creating porous, semi-conditioned space. Above each, an operable corrugated metal roof opens to the tropical air.

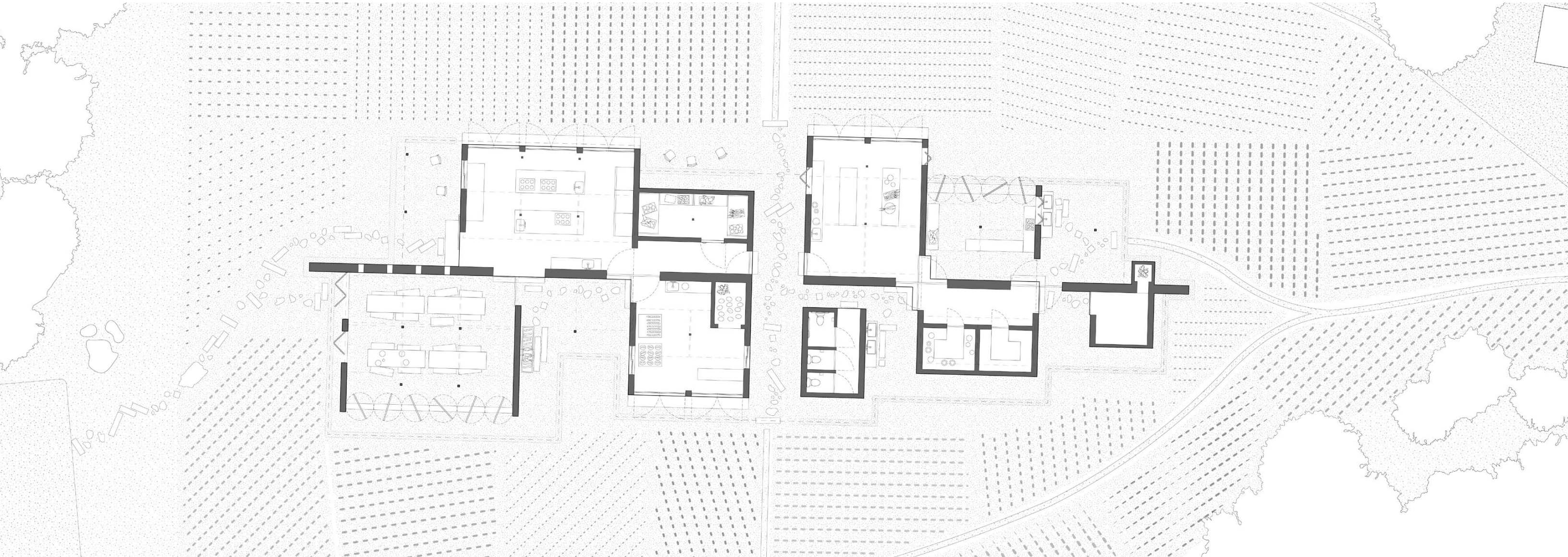
A roadside restaurant meets the street, testing what the land produces against the appetite of strangers. Behind it, the central residency building draws the farm fully inward. Here, the traditional idea of a kitchen is deconstructed into its constituent parts, each occupying its own bay along the path: a test kitchen, a bakery, a pickling and curing room, a smokehouse, an outdoor grill. Rather than a single contained room, the kitchen becomes a series of related acts, spread across the building and open to the farm on either side. The land itself is held in common, tended collectively, its harvest shared before it is ever transformed. Further along, a dormitory and bathhouse hold their inhabitants lightly. Deepest in the fields, a series of cabins sit embedded within the plots, housing twenty residents in total.

What this project proposes is not preservation, but propagation.

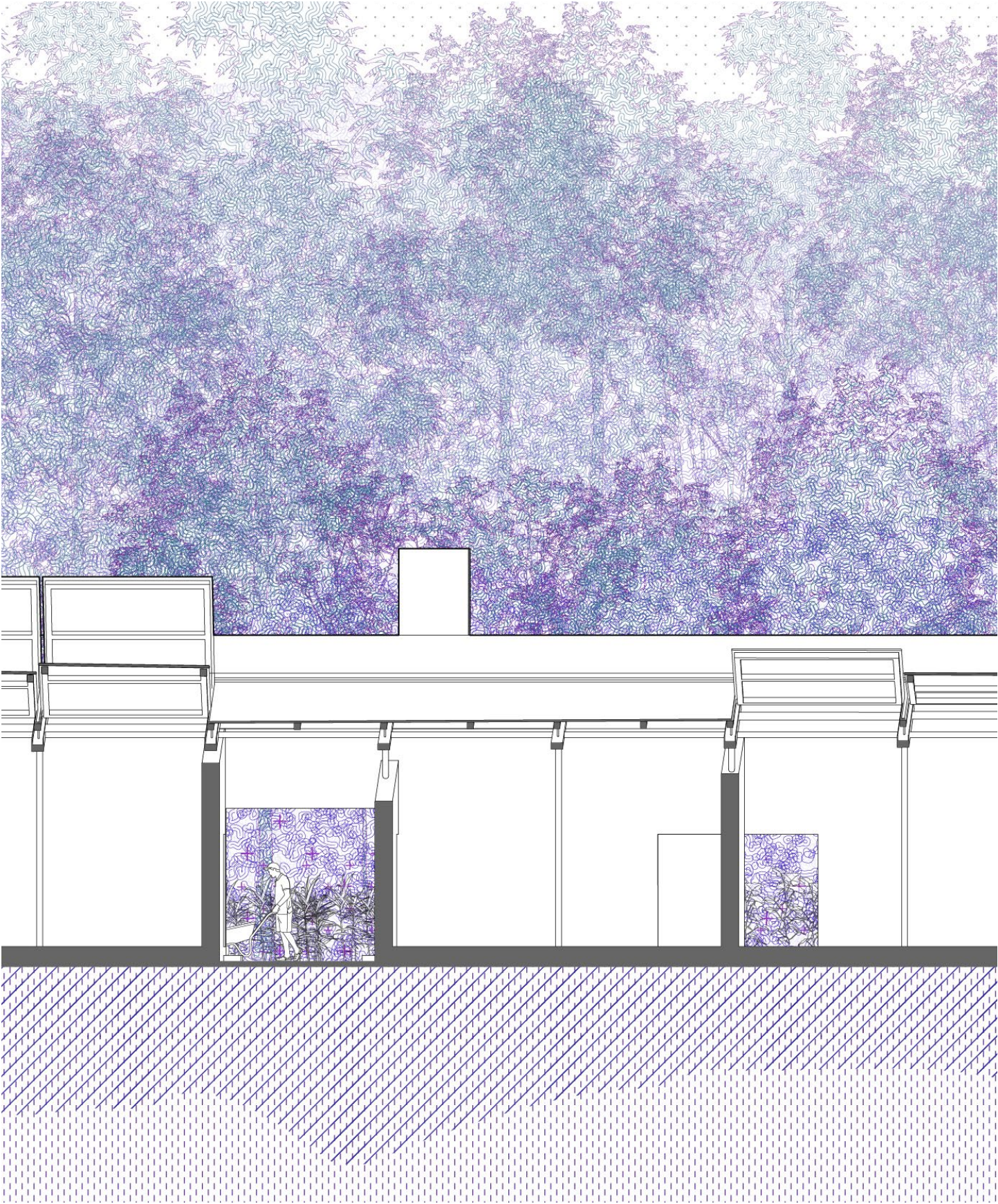


Interior Render: The kitchen active with culinary exploration, the farm reaching inward through open doors, sunlight falling through the operable roof above.

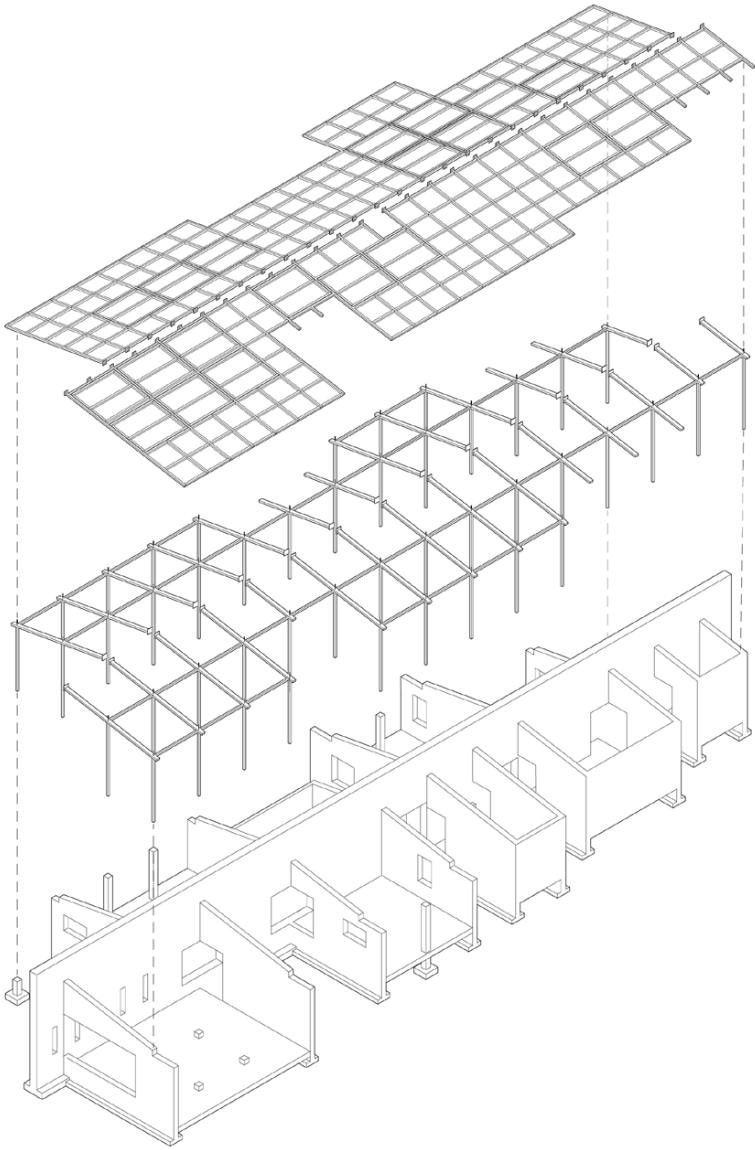
Site Plan: The farm organizes the footprint of the residency, a thin moment of order caught within the density and life of the tropical jungle pressing in around it.



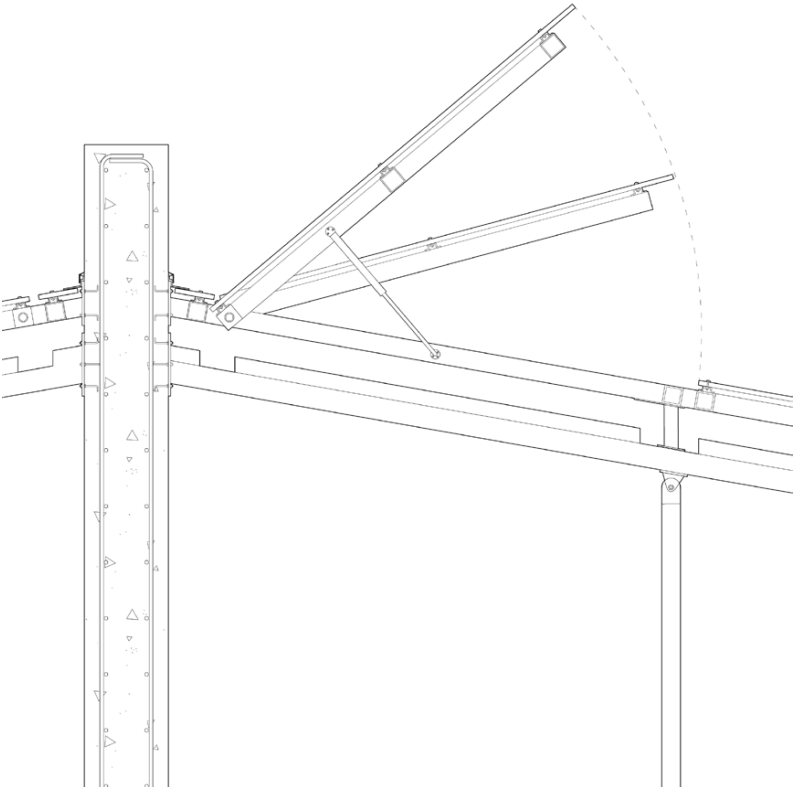
Plan: The kitchen deconstructed along the central concrete spine, each room open, inviting the jungle and farm inwards.



Longitudinal Section: The central residency building, its operable roof open to the sky, held within the density of the



Exploded Building Diagram: The poured-in-place concrete spine and bays carry a layer of columns and beams with integrated drainage, above which a second slender metal-framed roof system with operable sky lights.



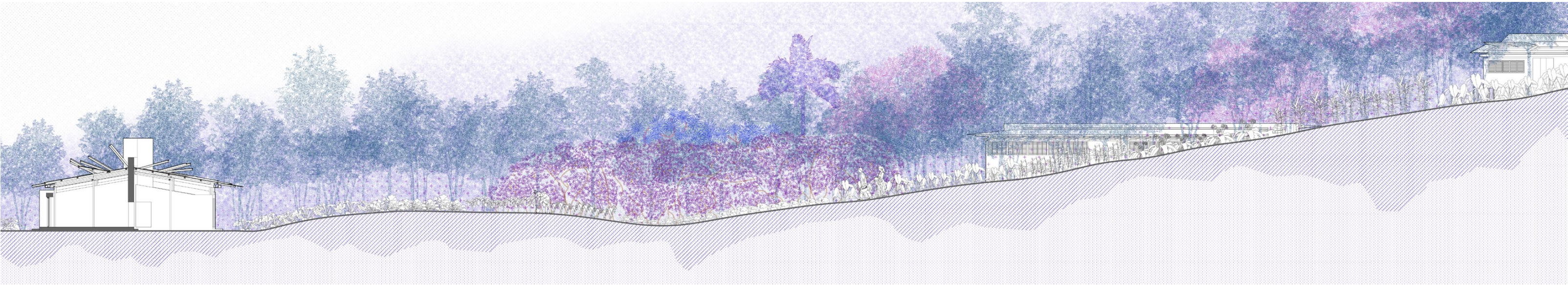
Detail: Two layers of metal framing, the upper supporting operable skylights, the lower an integrated gutter, both connected to the poured-in-place reinforced concrete spine.



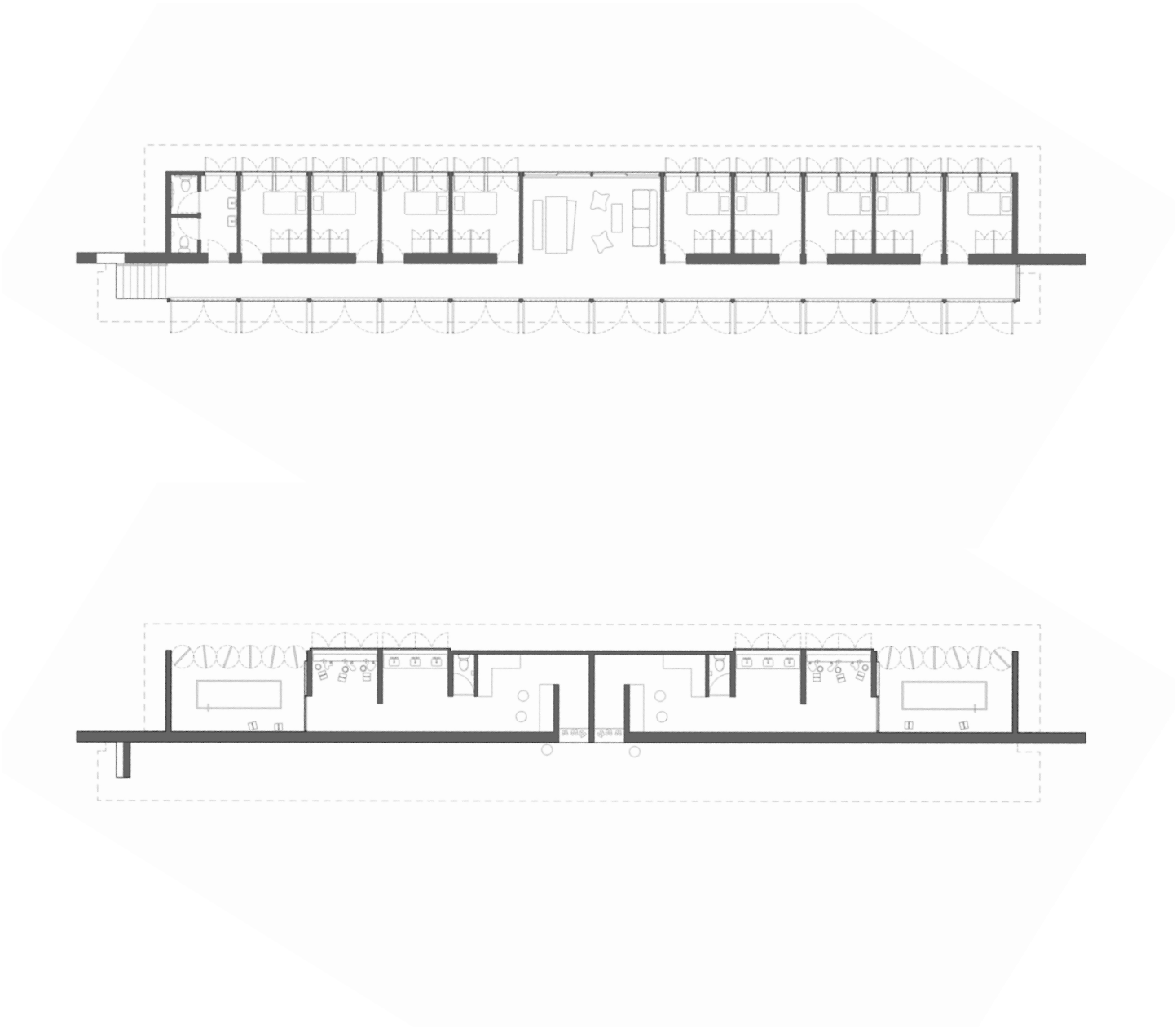
Photo: A model of the Central Residency, its operable roof skylights opening upwards.



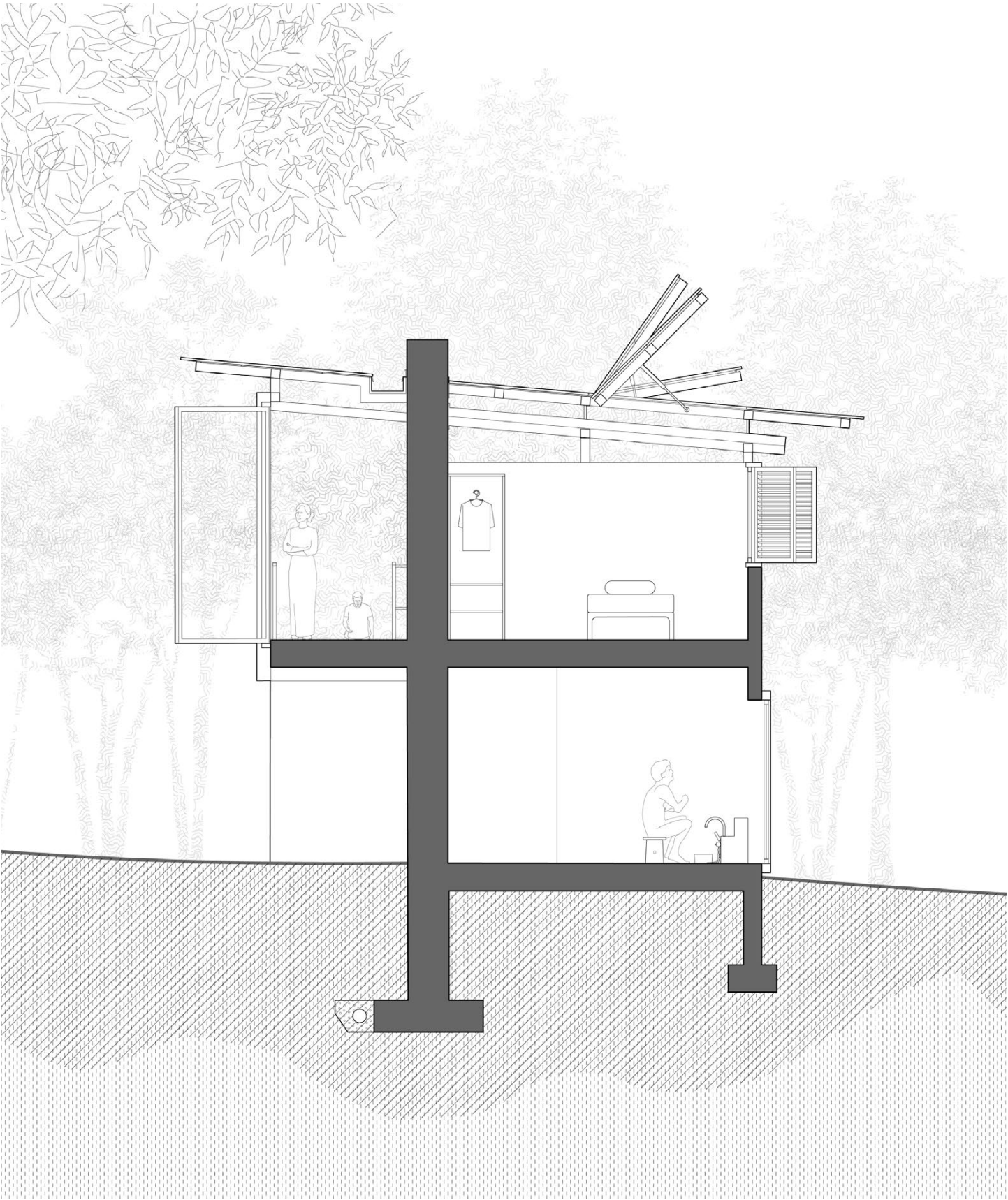
Exterior Render: Tended collectively, the central residency opens itself to the liminal path, drawing the farm inwards.



Section Perspective: A transverse view into the central residency, the liminal path cutting through the farm, with crops on either side. Further along, the dormitory and bathhouse settle beneath banyan trees, the cabins scattered up the hill beyond.



Above: The dormitory floor, a central mixed-use space shared between residents.
Below: Gendered bathhouses, an outdoor tub open to the jungle.



Enlarged Section: The concrete spine carrying a cantilevered walkway, each dormitory room porous to the jungle, the bathhouses looking outwards below.





Elevation: A longitudinal view of the site. The dormitory and bathhouse settle below banyan trees, the cabins tucked quietly into the jungle beyond. The farm path threads through, its crops leading residents along the way



HOMEWORK

Redefining the interstices of life and work

Site: West Harlem, New York
Instructor: Eric Bunge
Core III, Fall 2024
Collaborator: Richard Trevino

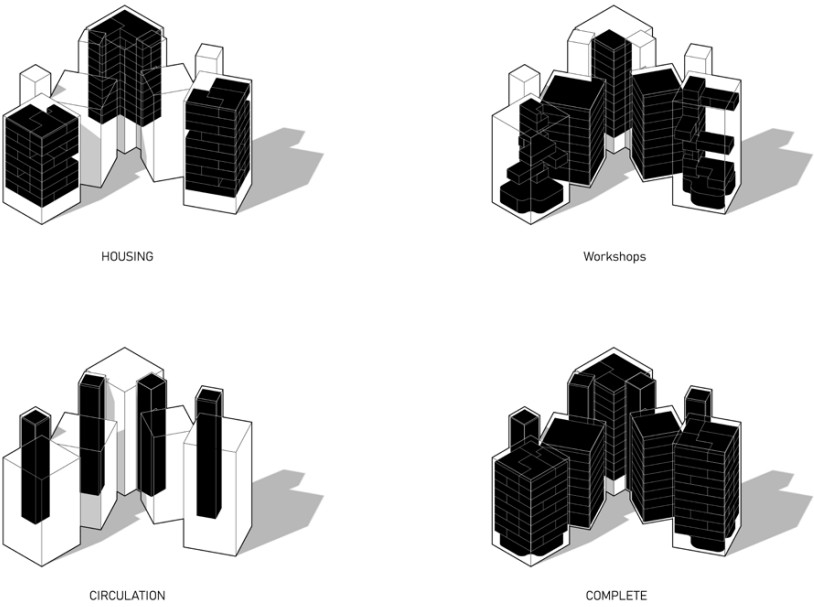
Aiming to foster creative equity across West Harlem, the site and its inhabitants, these towers become an armature that nurtures the liminal spaces between housing and making, creating an opportunity for a porosity between living, artistic pursuits and entrepreneurial intention. Homework breaks from the formality of the tower and instead uses the structure of the tower as a connecting element that binds programs together in a cyclical creative feedback loop and crystallizes into a dynamic mass that uses the tower as a mechanism to nurture interaction, creative endeavor and enhancement.

Comprised of 9 individual mass timber towers with poured concrete flooring, each assigned to one function, housing, creative and mixed-use space and circulation. The towers themselves begin as free-standing silos, with their own independent programs. The two tallest 10 story towers are central at the converging point and along convent avenue. The two working towers are smaller, each with their own double height mezzanine levels that alternate between each tower. The towers are then connected via the addition of circulation towers that are intersected between them. As the functions become increasingly enmeshed, the buildings and their programs likewise begin to coalesce.

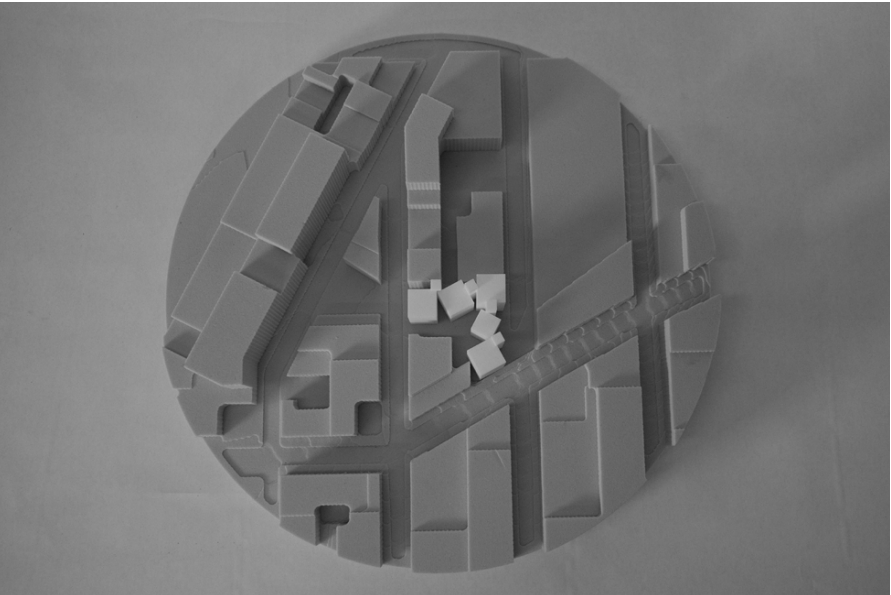
Homework will have 84 units spread across 3 towers, comprising of a variety of studio, one- and two-bedroom units. The facade consists of metal railings and operable louvers that accentuate the verticality of the tower, creating porous lateral relationships between each floors residents. The deliberate duality of material, structurally and through the facade, further reinforce the formal cohesion of these two programs through structural and social entanglement.



Perspective Thesis Drawing: Looking toward the site from convent avenue and 127th Street.



Program Diagram: A map of the distribution of programs throughout the 9 connected towers.

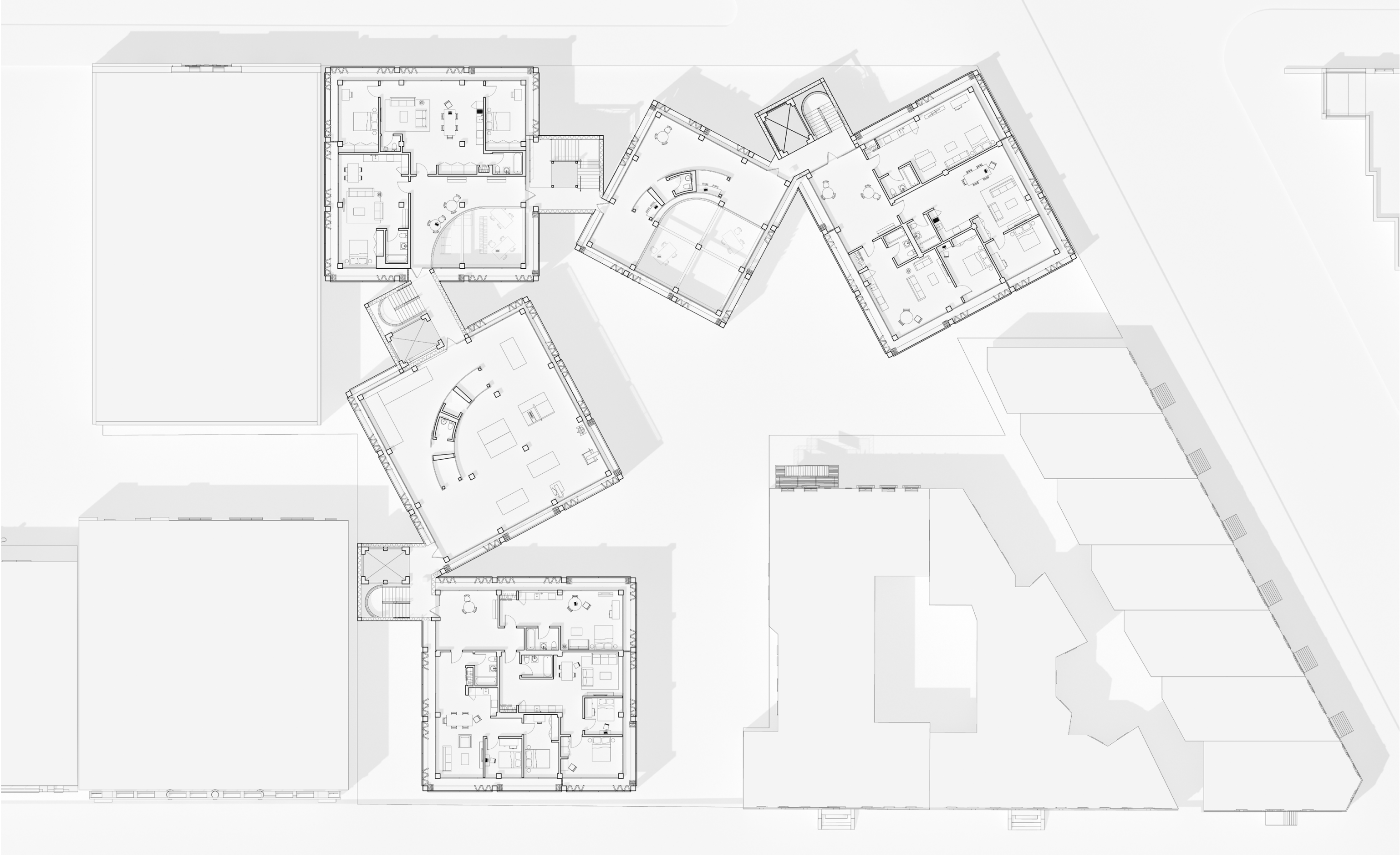


Site Massing Model: The final iterative massing model at 1/64th



Site Plan: A deliberate rotation of interior buildings demar-
cates a change in program, as well as serves to disrupt the

Homework Render: A view of the complex from 127th Street.



4th Floor Plan



Final Model: 1/16th scale model of 127th street housing tower. Shown looking into the tower interior.



Interior Rendering: An interior apartment view from a unit in the Convent Avenue tower housing, looking into the central courtyard.



Elevation 1: A view of the 128th Street Housing Tower.



Elevation 2: A view of the 128th Street Workspace Tower.



Section 1: A view into the 128th Street Housing Tower, showing a variety of unit types and ways to occupy them.



Section 2: A view into the 128th Street Workspace Tower, showing the variation of functions of each floor serving distinct artistic mediums.

To create a dynamic corridor, the project has a envelop of exterior mass timber columns and girders that encase and echo the original structure. The facade consists of metal railings and operable louvers that accentuate the verticality of the tower. The operability of the louvers allows the buildings residents to modulate the levels of light and privacy from the street and other residents.



Final Model: 1/16th scale model of 127th street housing tower. Made from Basswood with 3-D printed facade detailing.



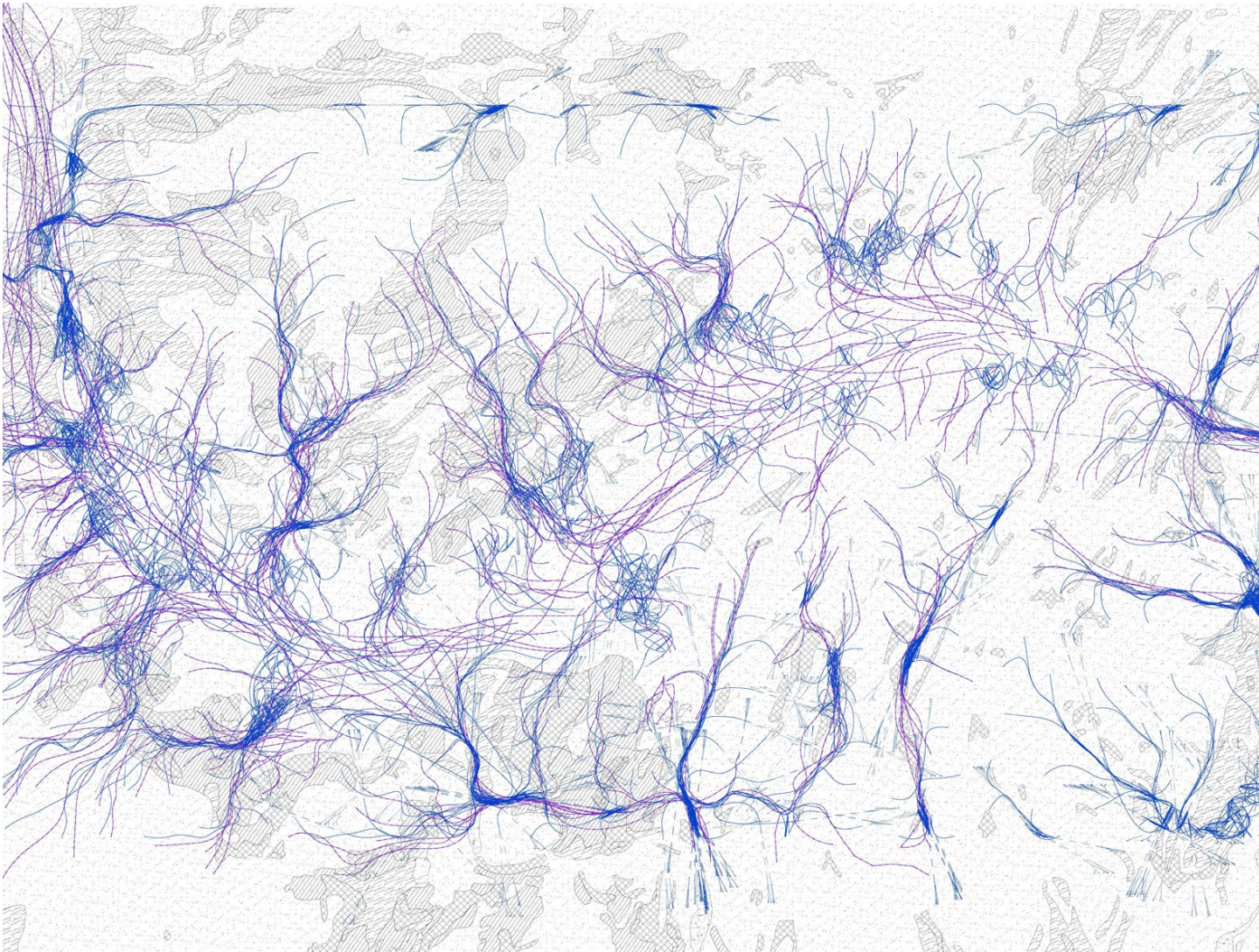
Interior Rendering 1: The double height workspace with views onto the central courtyard.



Interior Rendering 2: The ground floor entry of the 127th street housing building, looking into the central courtyard.



Section Oblique: A view into the 4th floor from 128th street and Convent Avenue, looking towards 127th street.



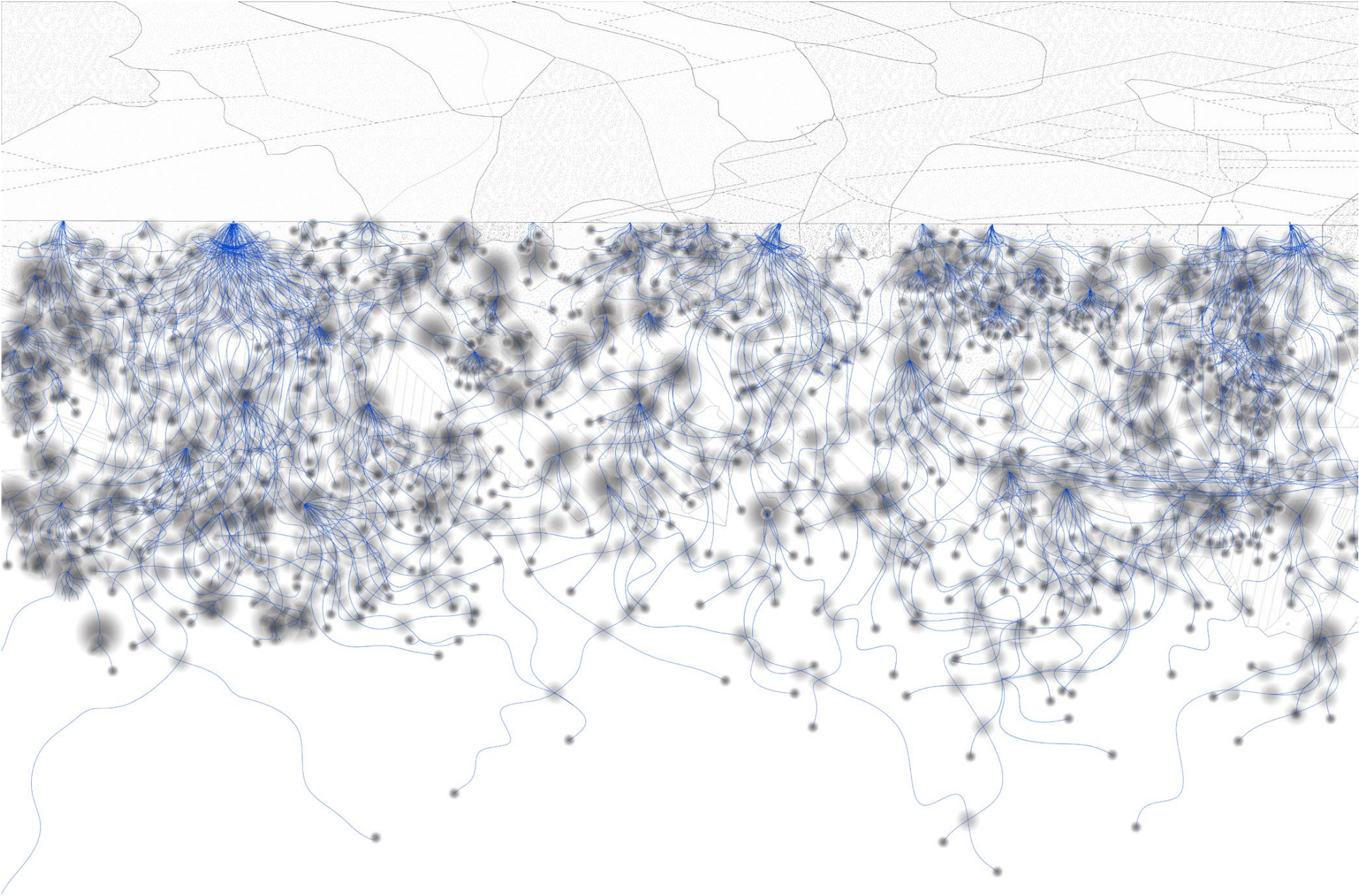
DISCONNECTED STOMACH

Recontextualizing Wastewater

Site: Ashokan Reservoir, New York
Instructor: Alessandro Orsini
Adv IV, Spring 2025

I am proposing to recontextualize this human and waste dynamic, by converting the watershed waste into humanure. This building would function as both factory for the creation of humanure and community center, encouraging commoning practices among the residents of the Ashokan reservoir. The rammed earth building and its programs are separated into two levels, yet remain connected through the scattered light wells and extrusions that cut through the roof to the bottom floor bellow.

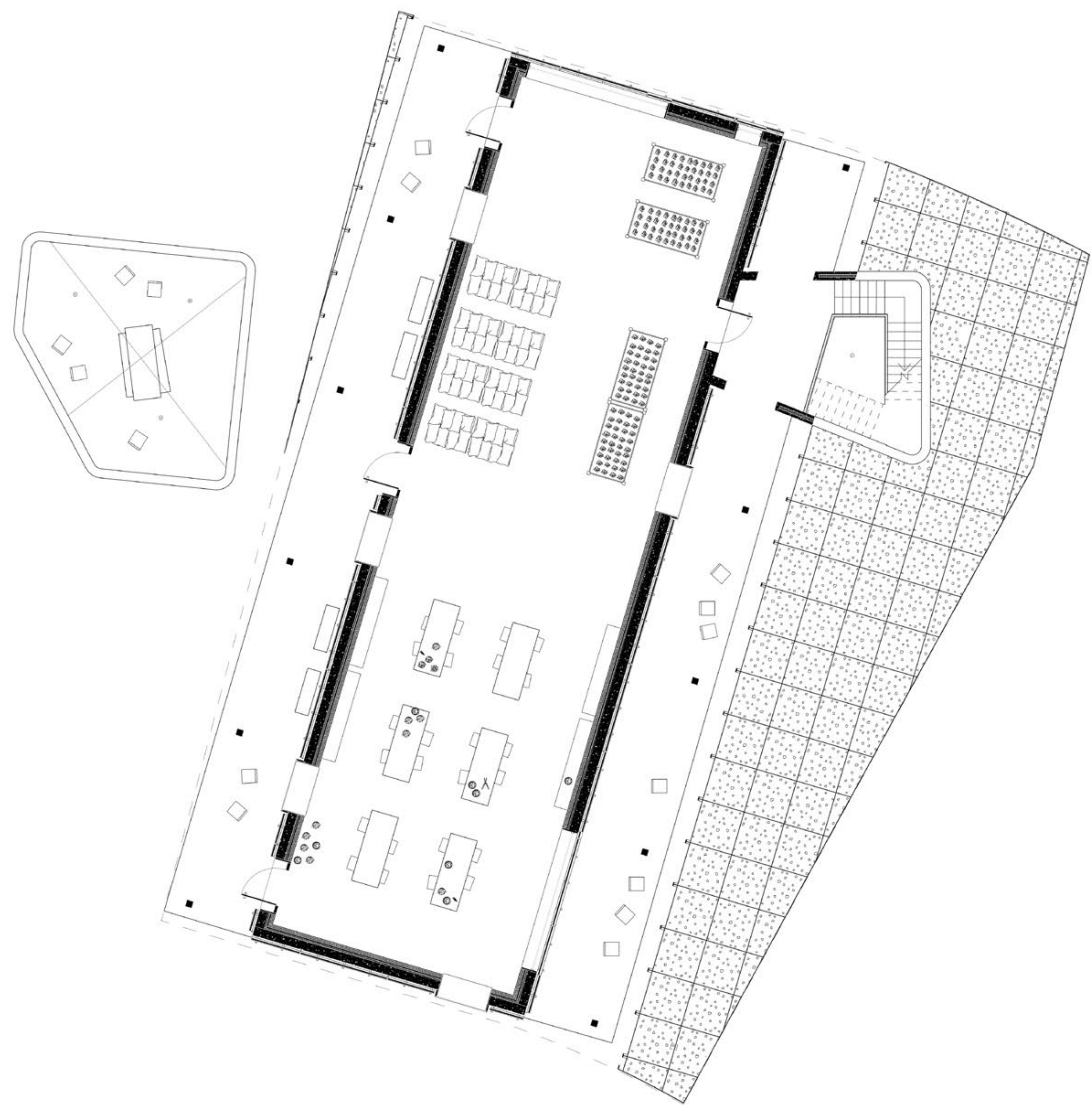
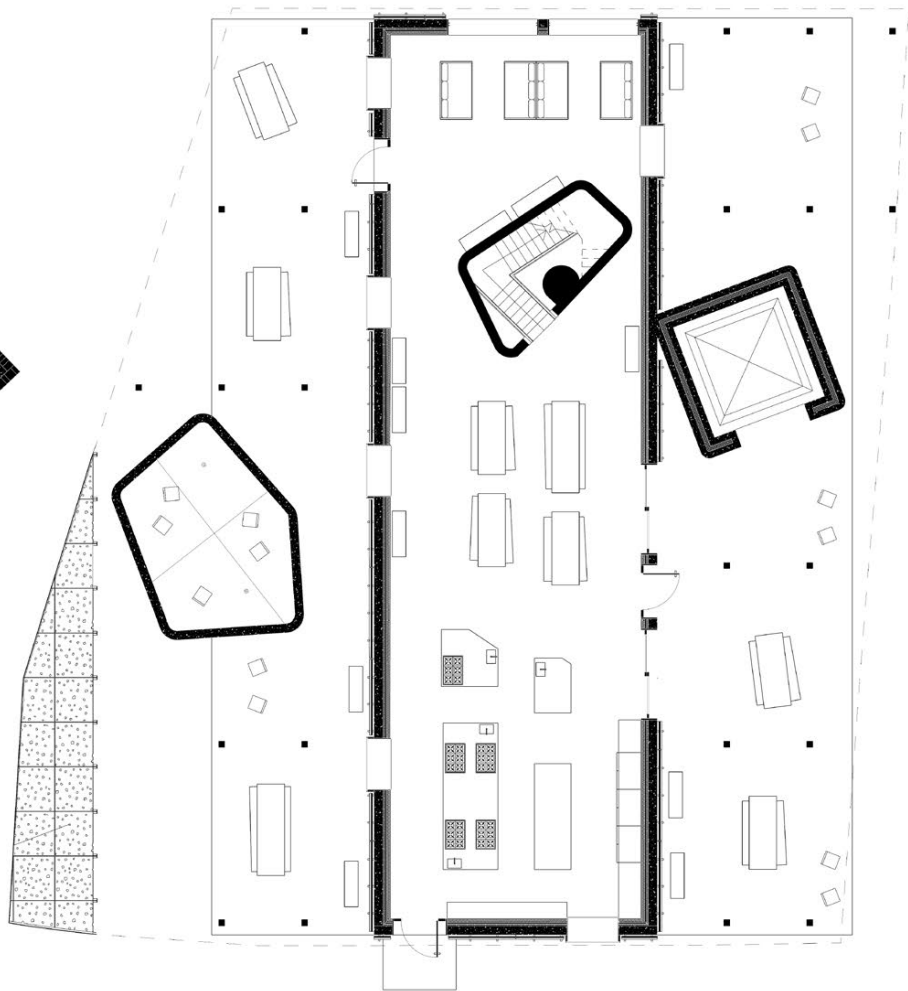
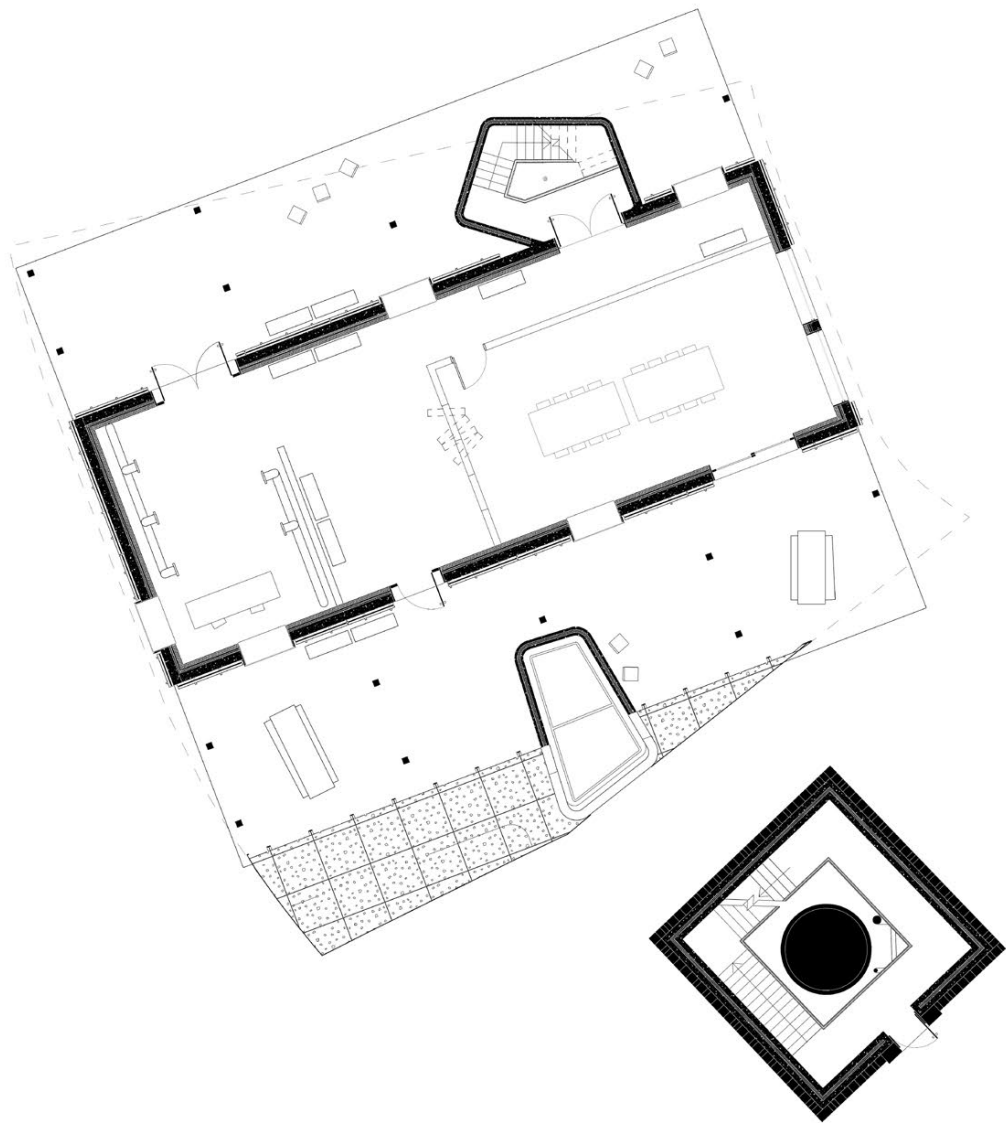
The subterranean space, the stomach, guides one through the process of the human waste to fertilizer conversion, an allegorical pathway through this space. The three malleable program-ming spaces above, the body, break through the ground plane creating distinct moments of connection between these intestinal processes. Moving through the space from left to right, one would be able to add or give to this process via these pipes extend from the floor below, there is additional a space for continued political negotiation between the city and the rural. In affect, to deal with their shit. The central building, houses a communal kitchen and eating area, to encourage the commoning practice of cooking for each other. The space would encourage using produce planted and grown on site using this fertilizer. Within the final structure, one collect manure for their own homes, as well as creating a space for the teaching of horticulture and propagation. Each building, is programmatically connected, a reflection of the digestion happening below.



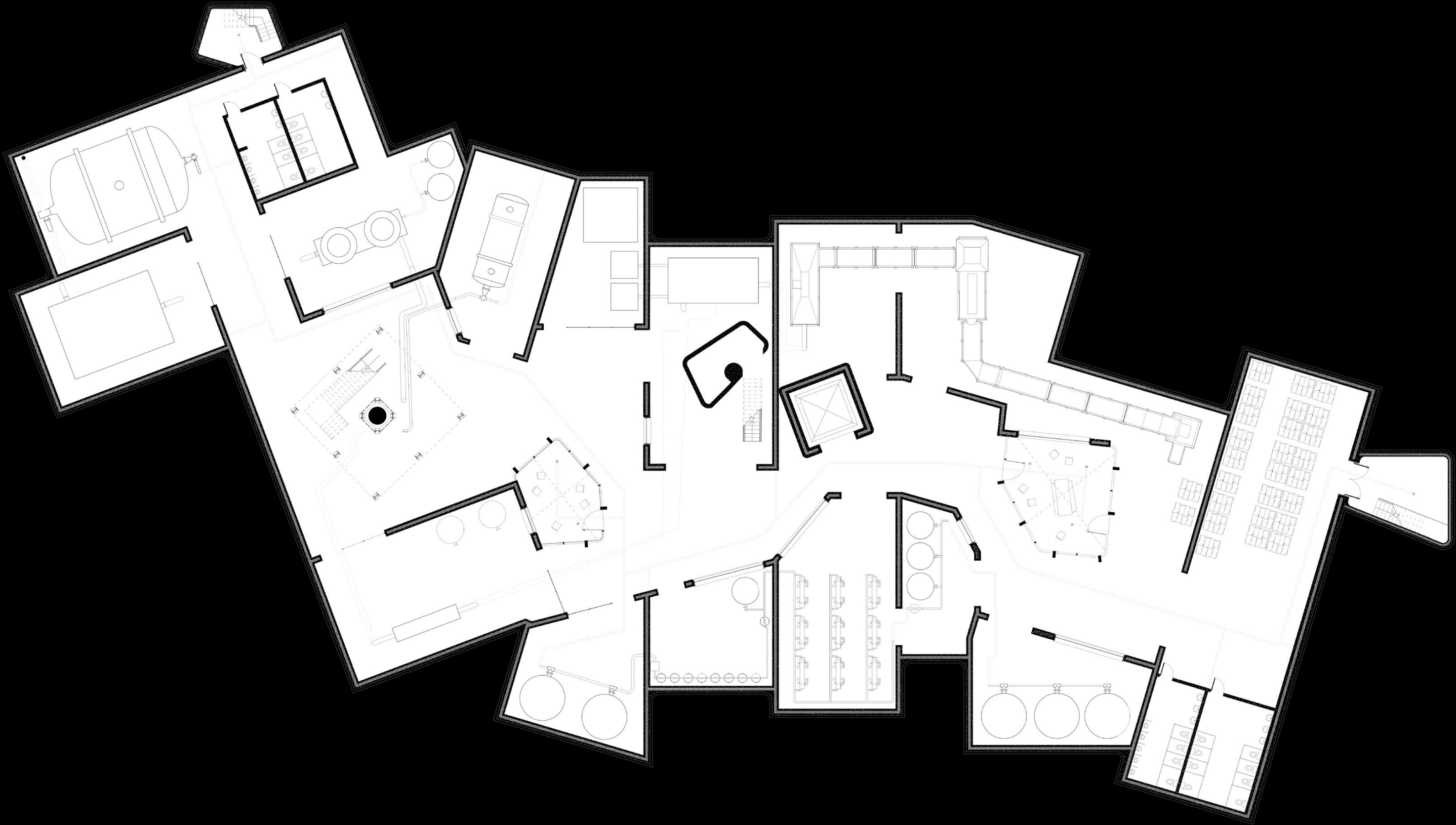
Critical Cartography: an investigation into how the ability of soil to filter wastewater can cause a redefinition of property ownership in the Catskill watershed. One can see the confluence of wastewater filtering through the ground. The more dense, the worse filtration. As each thread enjoins or intersects, we see nodes, a moment of dissipation as moisture seeps into the soil.



Site Plan: Situated at the J. Waldo smith monument, a historical site used to measure the valley topography during the creation of the reservoir.



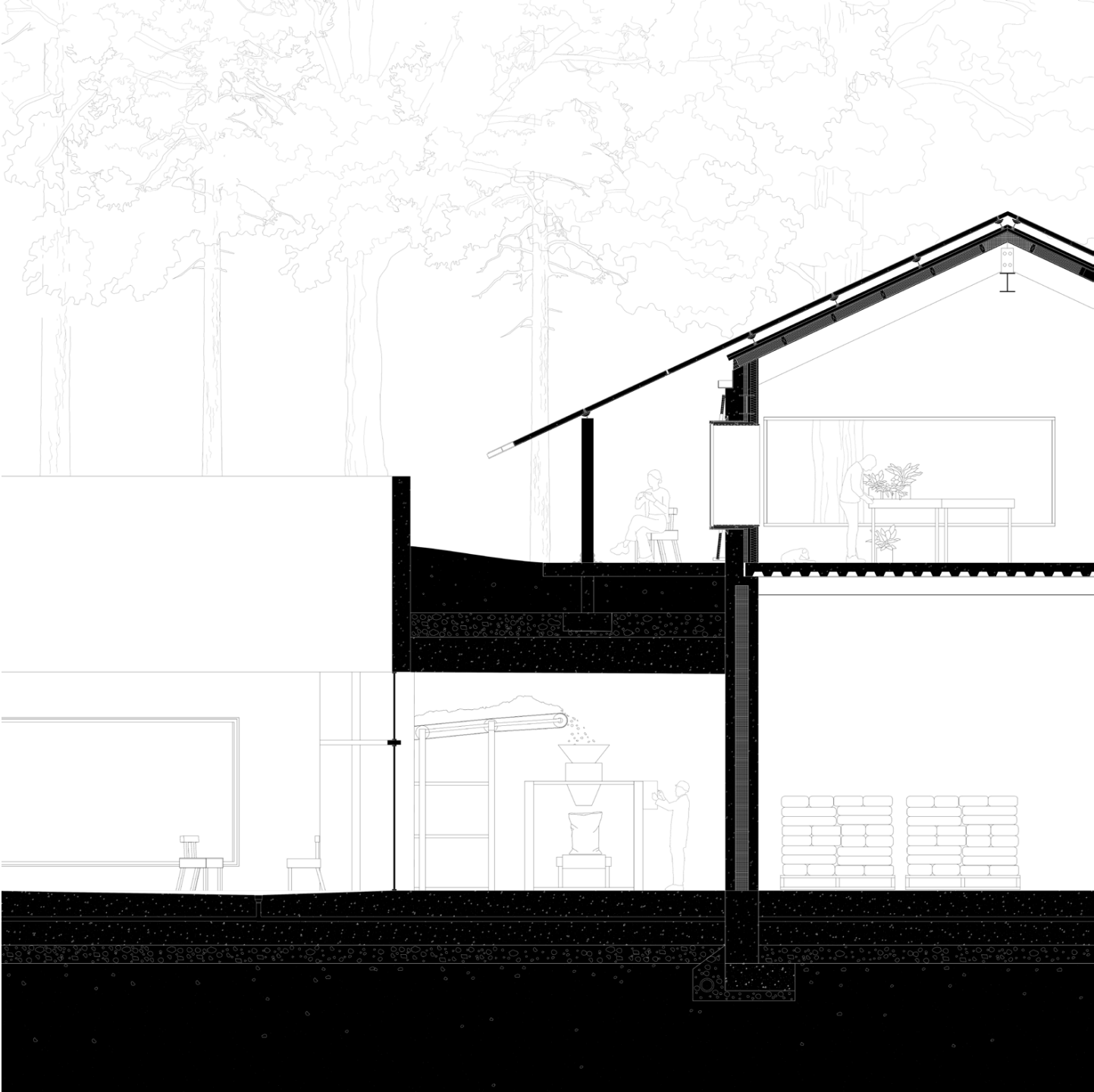
First floor Plan



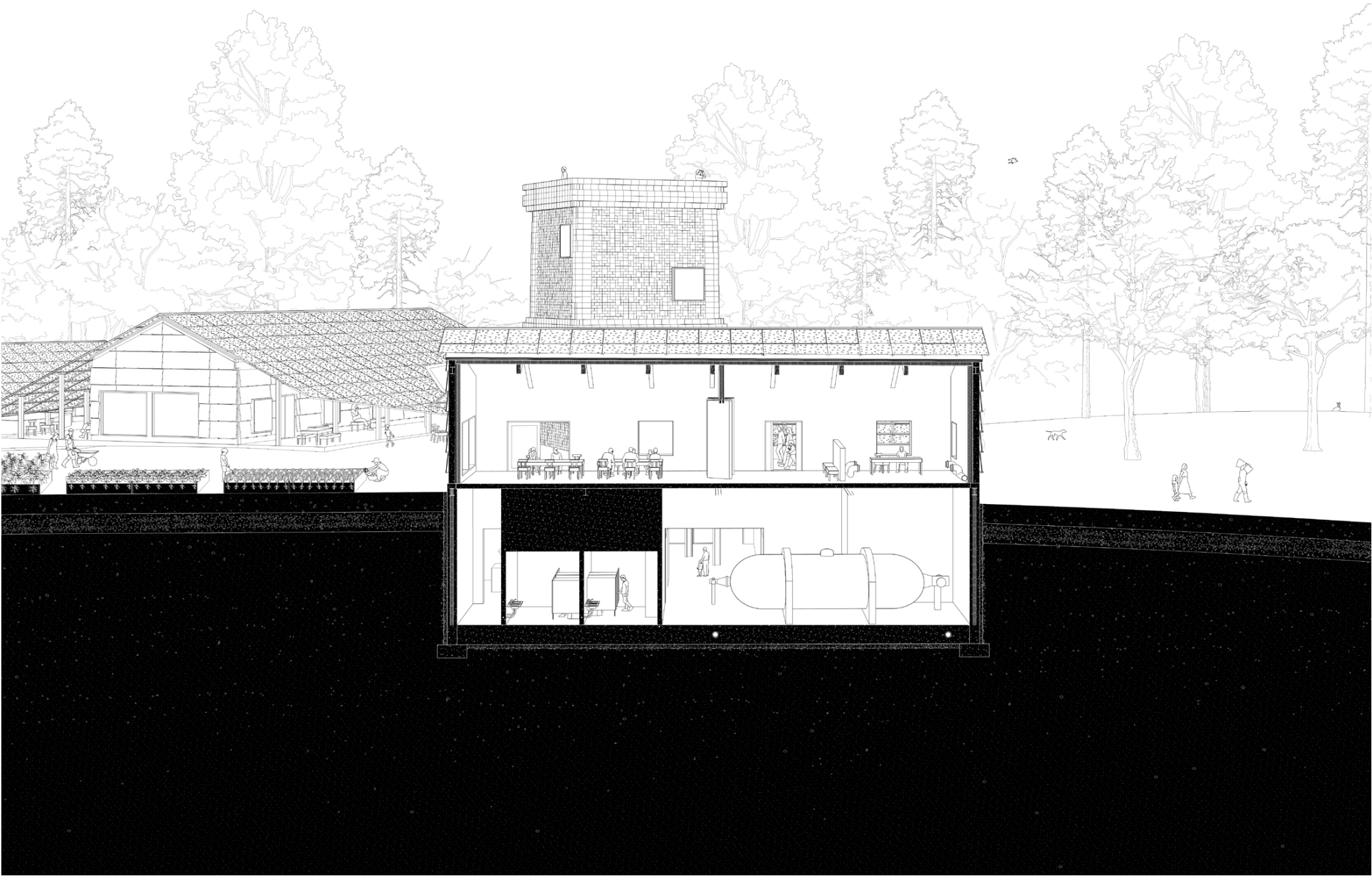
Basement Plan



Final Model: 1/4 scale sectional model of the central building, showing the covered patio and factory below.



Detail Section: a 1/4 scale detail, highlighting the wall, window and roof construction of the building.



Section Perspective: A view into the entry building, looking eastward.



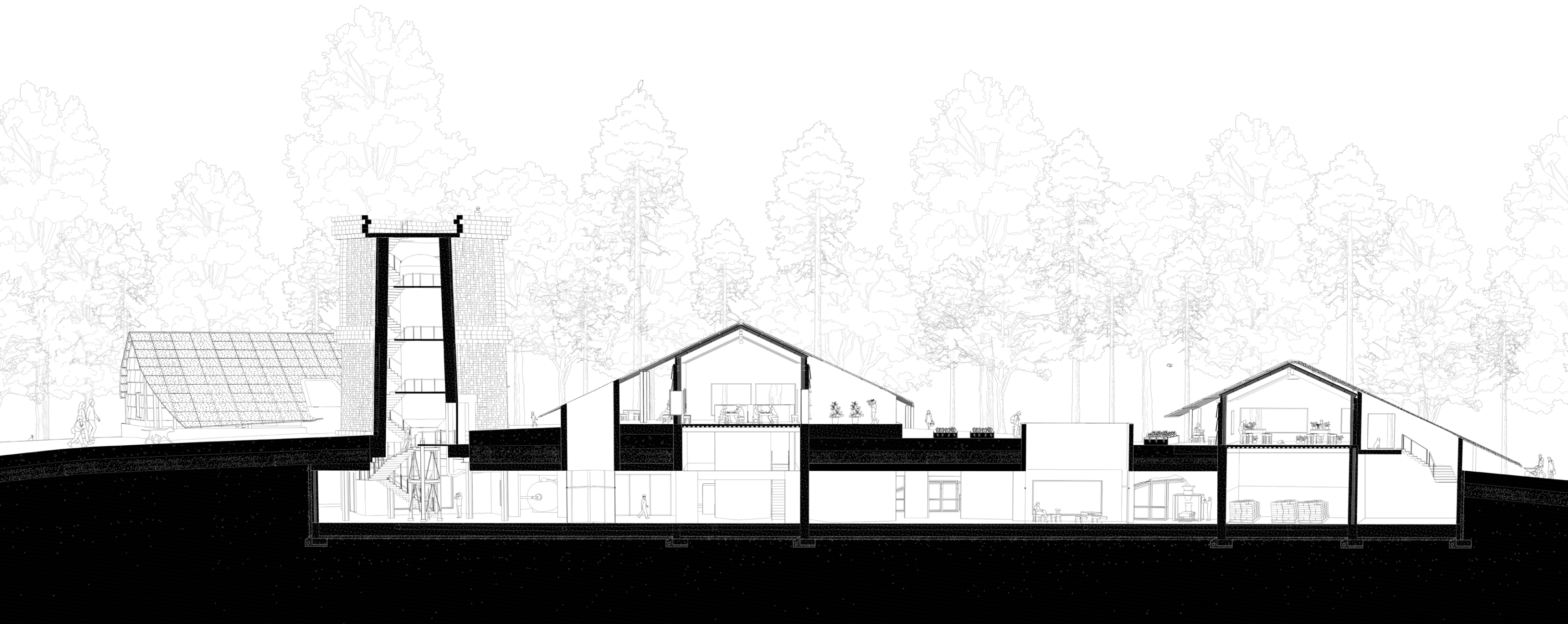
Final Model: A sectional view of the central building, showing the covered patio and factory below, complete with water storage tank.



Final Model: 1/4 scale model of the central building. Shown looking into the canteen interior.



Interior Model View: An interior view of the canteen looking towards west towards the staircase.



Section Perspective: A view into both levels of the central and eastern building.



Cockpit Rendering: A new drone training cockpit. Positioned in the center of the proposed classroom, best placed for observation and analysis.

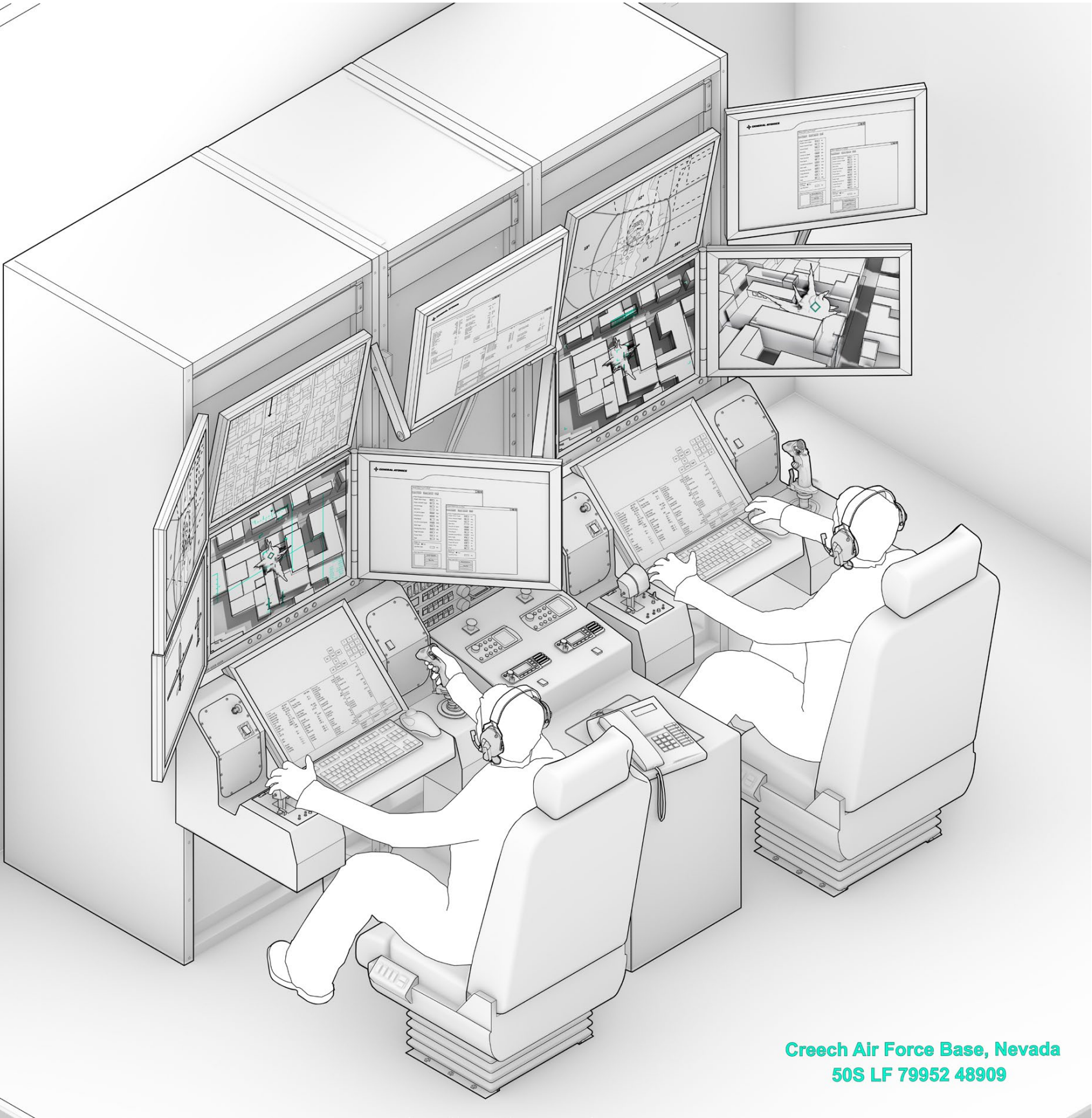
CREECH

Killchain and A New Drone Pedagogy

Site: Indian Springs, Nevada
Instructor: Jarrett Ley
Core II, Spring 2024

This training ground is built so that drone visions can fail. Failure to render the perfect image or the highest resolution opens a strain of inquiry and analysis into the US military apparatus’ focus and claims of accuracy and precision. The architectures monumentalize and hyperbolizes these failed military logics in which precision and accuracy are key. But failure in this context is about recalibration. It is about recontextualizing the pilots understanding of accuracy and success.

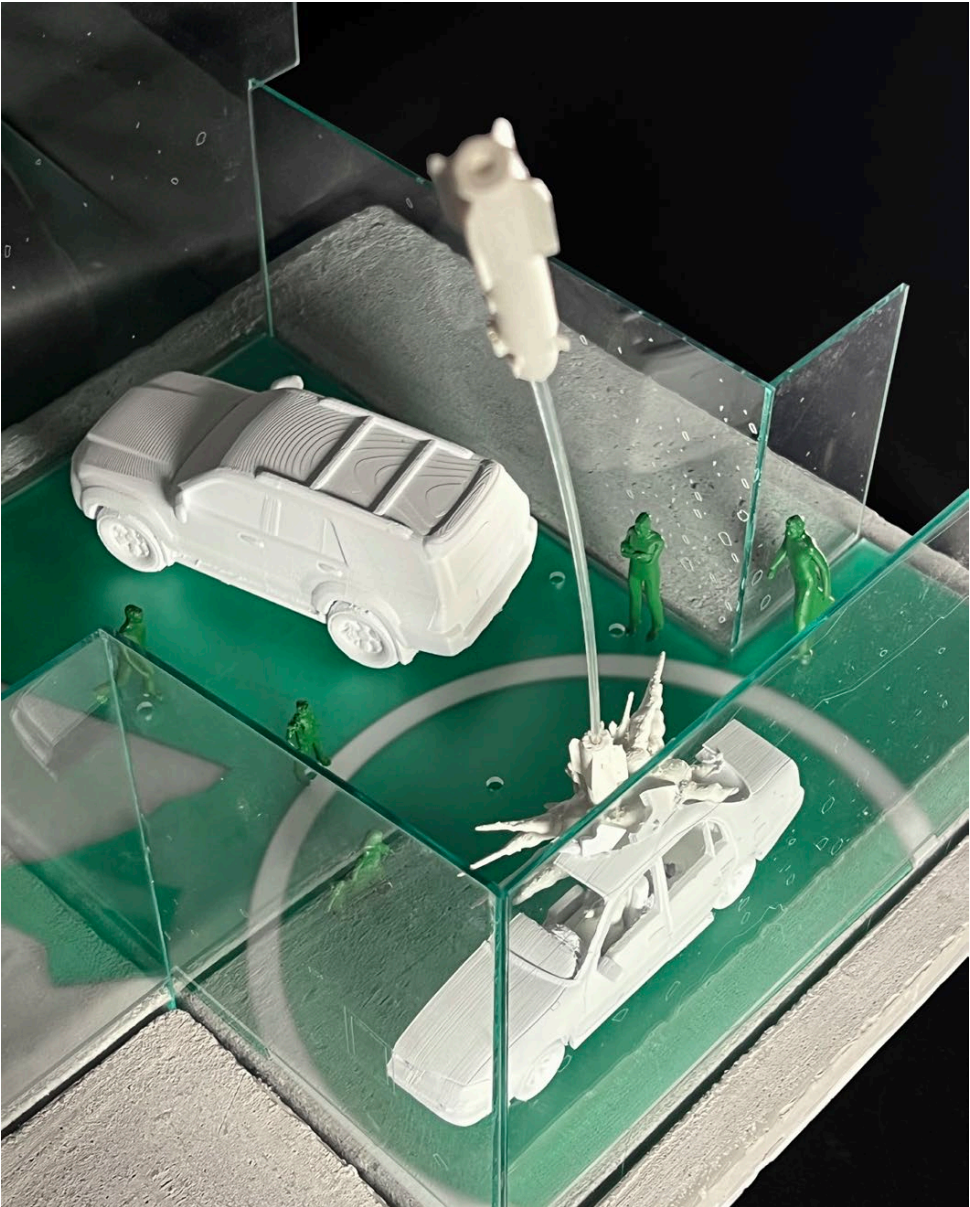
Situated on Creech Air Force Base, is a new type of drone education. The concrete Drone Maze is realized as a logic of concrete structures, whose defined forms have been placed throughout a grid creating an interwoven and complicating space built in direct contention with the sensorial vision of the drone and its use of synthetic aperture radar, electro optical infrared and high quality Color. In addition there is a viewing machine, a classroom built within the maze, whose structure extends above the ground on four sides of a road crossing, all while orienting the viewer towards the central projection in the subterranean atrium below. Its very form is intended to visually compress the human Point of view with the synthetic of the drone vision. Its function is to create a machine who synthesizes these two ways of seeing into one compressed technological omnivision. These two systems will create a symbiotic educational and analytical feedback loop in which the student pilots test to understand the limits of its visual and sensorial precision as the drones vision is obfuscated and confounded by the maze. The final proposal is the working group headquarters. It is a space in which high level military personnel convene to extrapolate from the lessons of this training ground to put forth new forms of military strategy and technology.



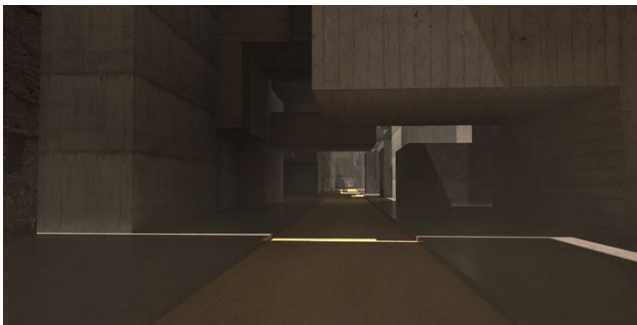
Creech Air Force Base, Nevada
50S LF 79952 48909

Drawing: An analysis and compression of a the August 29th, 2021 drone strike, showing the cumulative visual and analytical information used as both pilots action this missile strike.

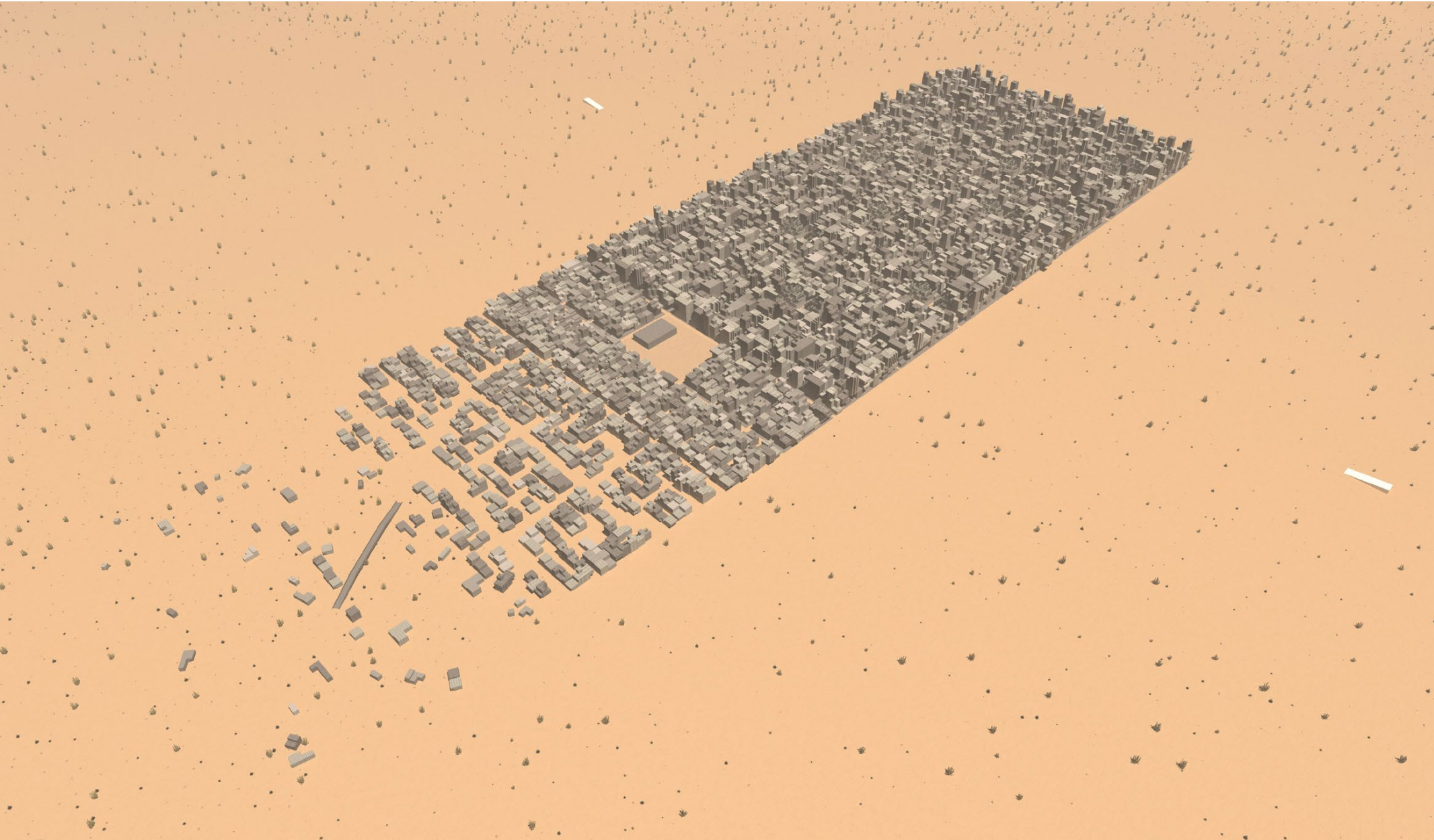
This proposals genesis is in the untangling of the august 29th, 2021 drone strike in Kabul of suspected target Zemari Ahmedi an afghan aid worker employed by an American aid company, and nine members of his family. Displaying the total capacity of the US military apparatus, to work transcontinentally between Creech, McConnell and Al Udeid Airbases in Qatar. The claims of precision and righteousness come into question after the targeted killings have occurred and viewed out of the context and mediation of the military apparatus.



Analytical Model: Compressing the strike into two separate moments, the Hellfire missile milliseconds before impact and the intended blast radius in white. The green highlights the true damage after the explosion.

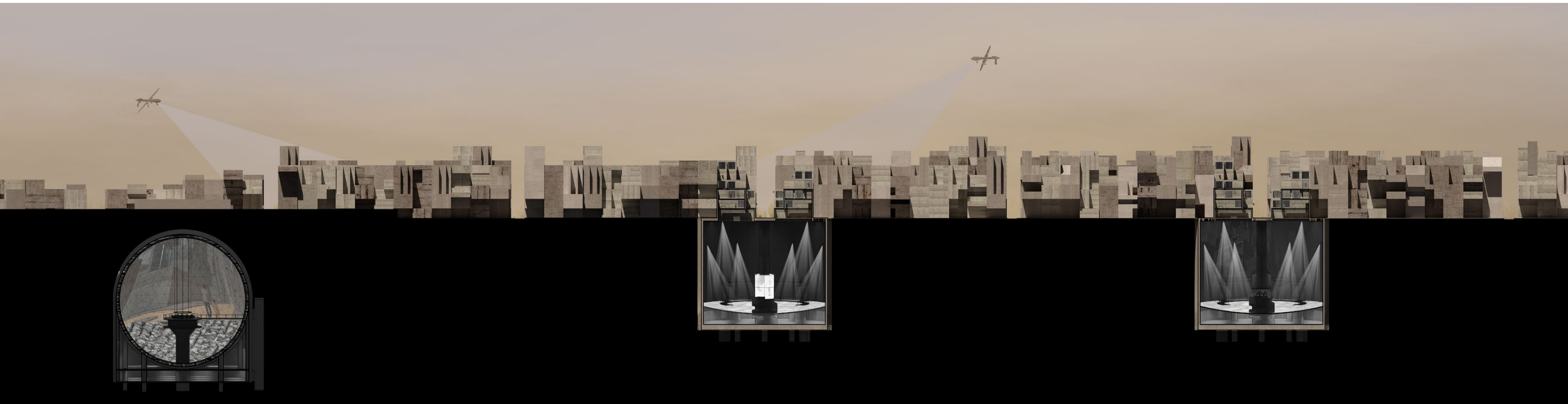


Rendering 1-4: The Drone Maze from street level. A father and child walks through, unaware of their surveillance.



Rendering 5: The Drone Maze, from the pov of a MQ-9 Reaper Drone.

This concrete training ground comprises of a set of 10 geometric typologies having been repeated and each one complicated differently, using extrusions, cutouts, overhangs and undercuts. Additionally this space uses a gradient of density and height to create a more complicated and varied space. It is 1km long and .3 km wide of concrete buildings.



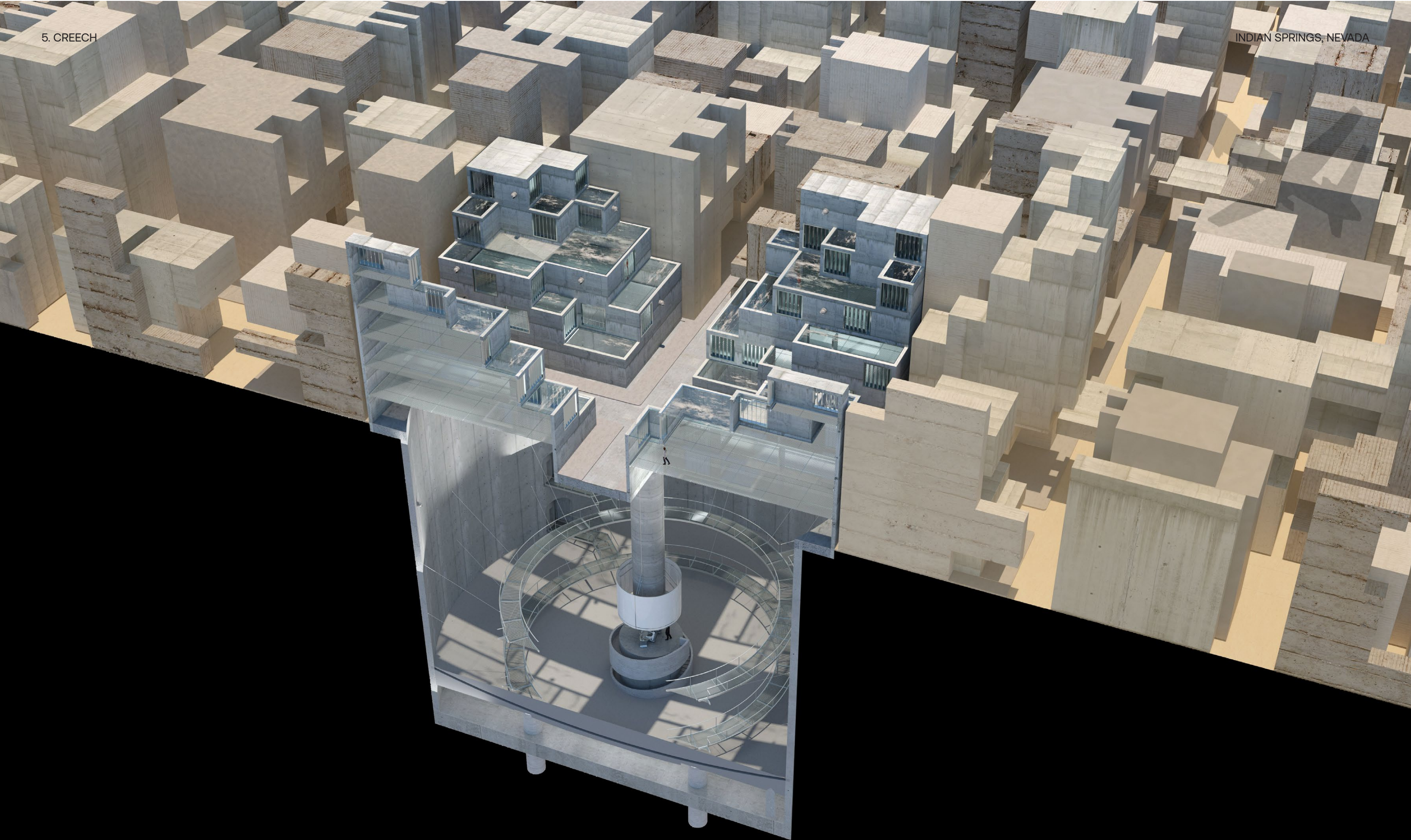
Thesis Drawing: A stitched section perspective, cutting through the headquarters, a classroom during an operation and a classroom reviewing the footage.



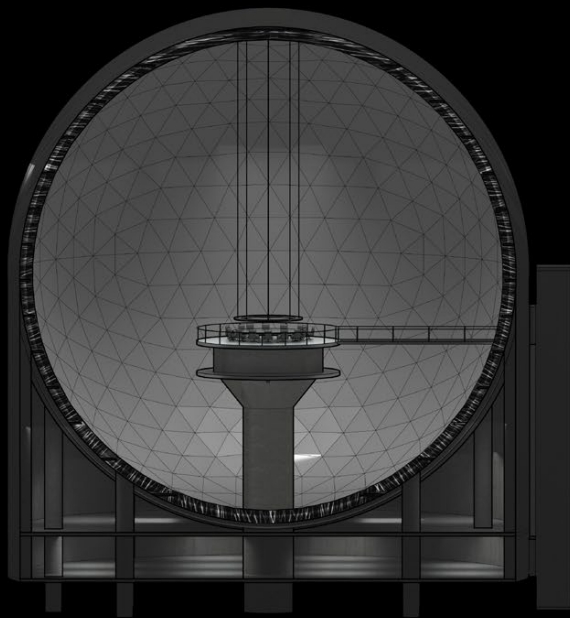
Drawing 1: A viewing machine built to optimize central orientation, with large windows and metal grating floors allowing the viewer to simultaneously engage with all views at once. The cockpit is located at the center. The drones vision is projected onto the floor and the street view onto the walls, enabling a collapsing of all vision above and below ground.



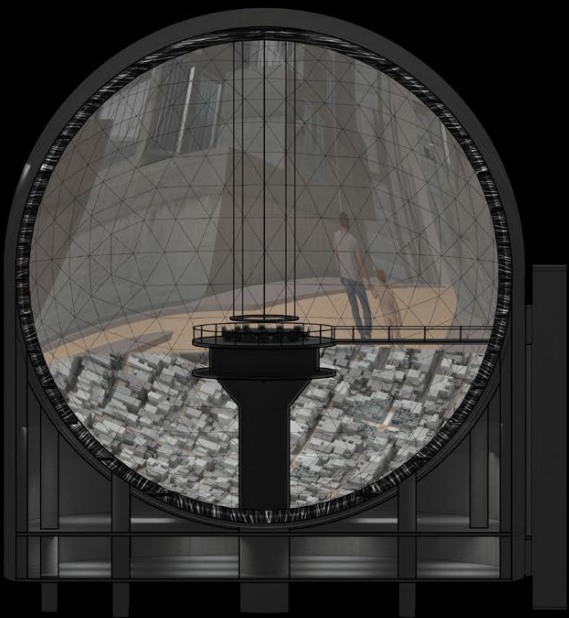
Drawing 2: A viewing machine in use. When the pilots are training, the central screen lowers. The view from the street is projected onto the central screens allowing for a critical collapsing of multiples spaces and technologies.



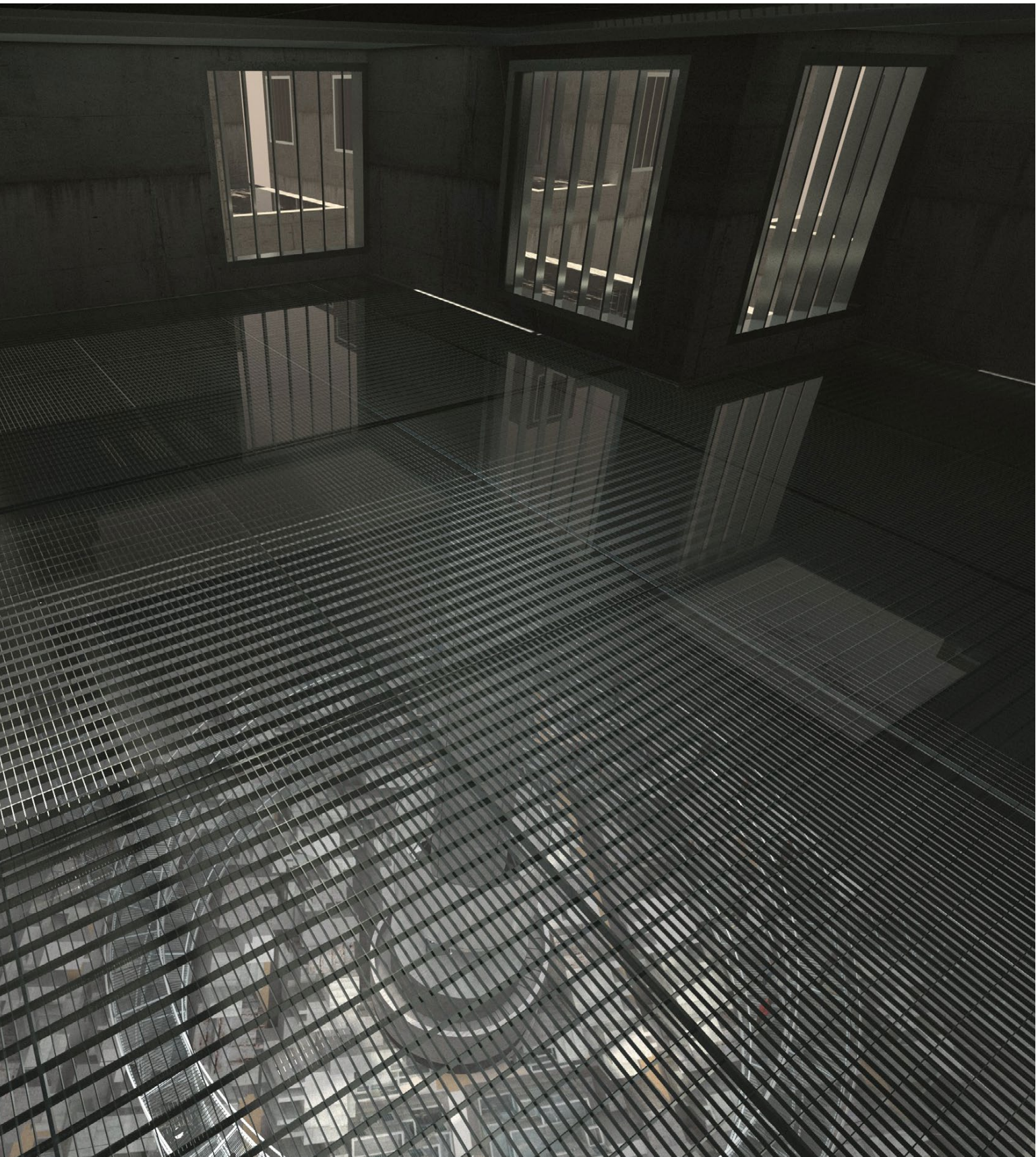
Render: A sectioned classroom, showing the viewing machines embedded into the Drone Maze grid.



Drawing 1: The headquarters, built with LED screens along its walls.
Meant to collate the Human/drone imagery to spatialize these views



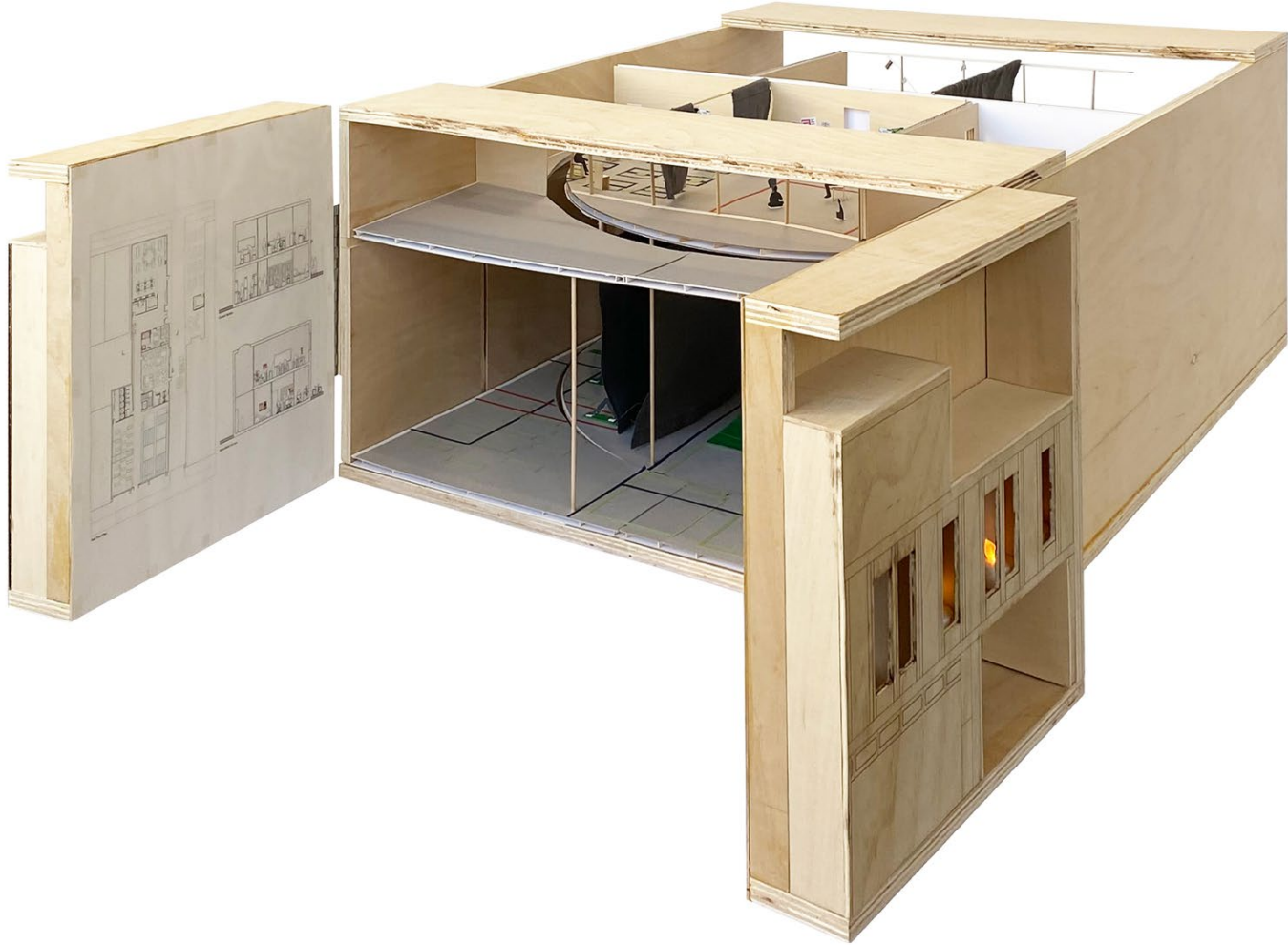
Drawing 2: a view of the headquarters compressing a 360 view of a
drone strike. Rendering the drone and street view at once.



Render: A simultaneous view of the street level and the classroom below. A collapsing of technologies and vision.



Perspective Render: A meeting at the center of the Sphere.



reOrder

Deconstruction and the Redistribution of Power and Space

Site: West Village, New York

Instructor: Carlos Medellin

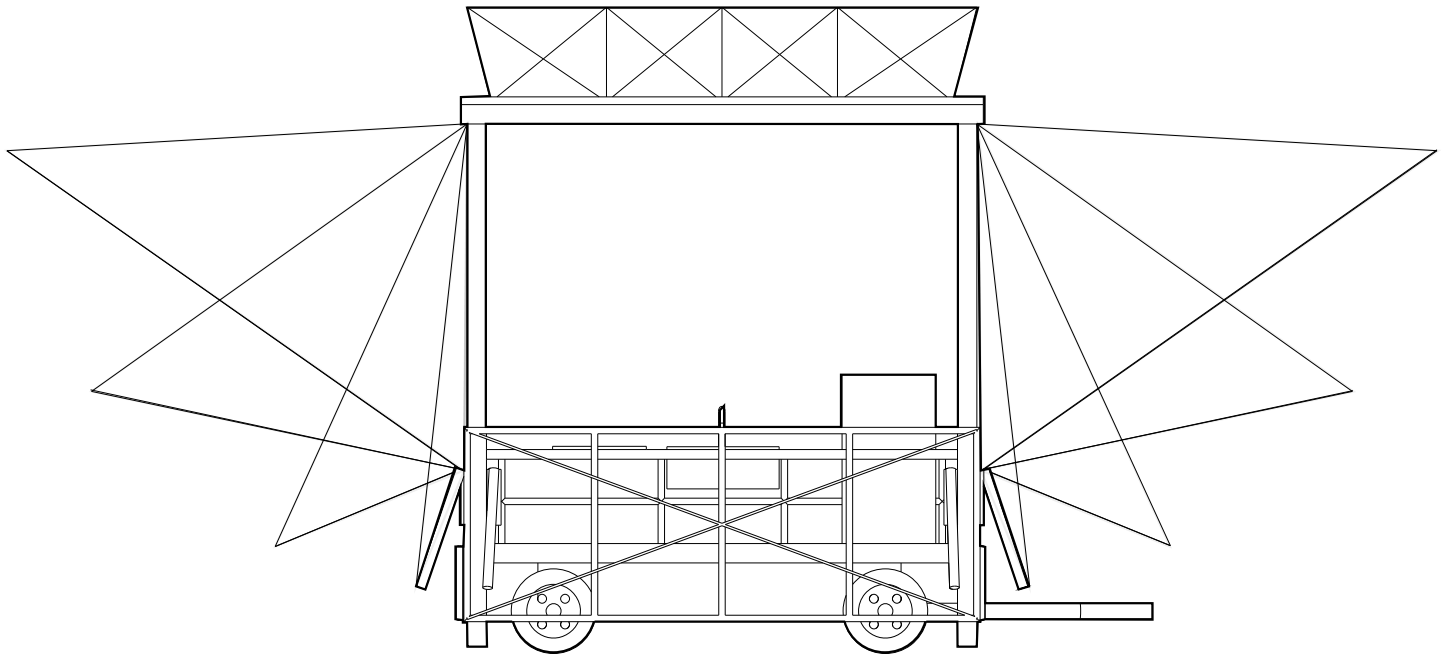
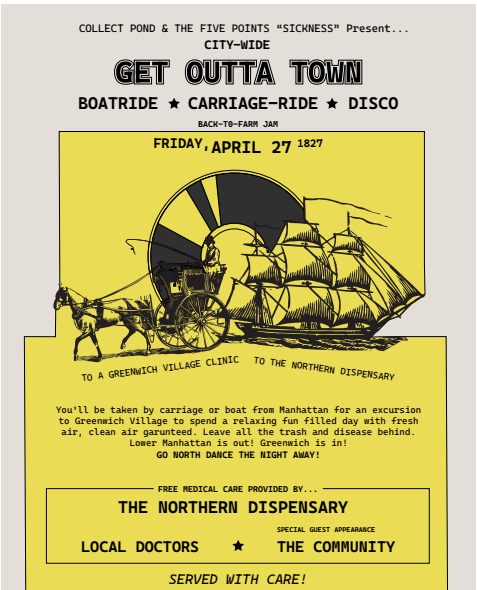
Core I, Fall 2023

Collaborator: Maya Yildirim

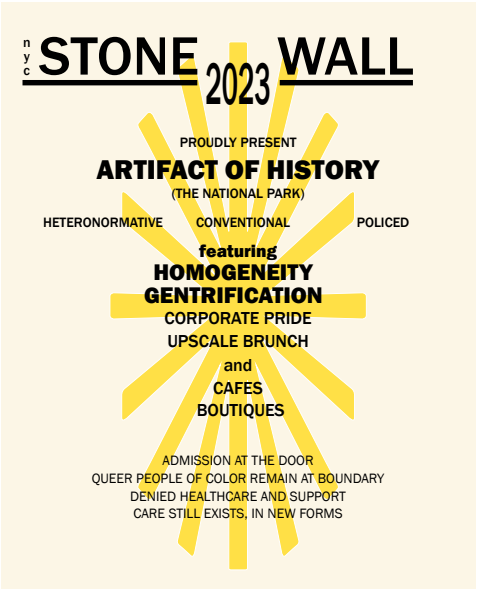
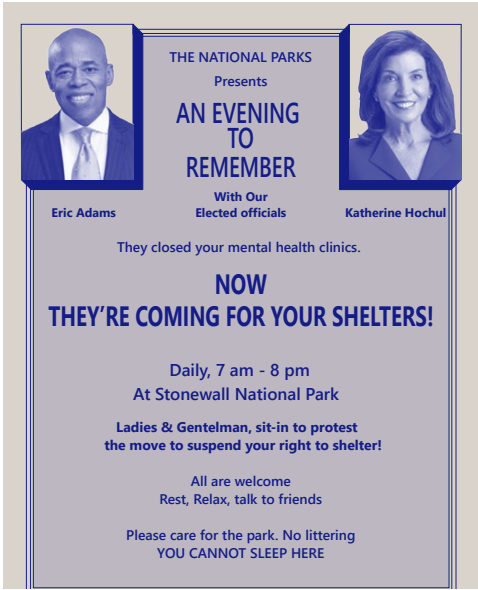
This proposal is a structural and epistemological reorganization of the 6th precinct of New York City, in its functions, its programs and how it serves the historically marginalized communities of the West Village and Chelsea. It operates to dismantle the relationship between the police and the policed, the oppressor and the oppressed, by altering the Sixth Precinct, a space that carries out oppression, punishment, surveillance and control, to become a liberatory, self organized, and community led space.

This new space and function of the police fosters community gathering, skill development, the exchange of shared knowledge, and training by community leaders and members of this new precinct. We speculate that it will be a Biannual programmable Community center, where leaders of marginalized communities will curate a selection of asset development and somatic learning exercises, as well as host events to open up the space to the local surrounding communities.

The oppressed and the oppressor have the opportunity to break from and remake a formerly tenuous relationships using alterability, accessibility and the recontextualization of the division between private and public space. It speculates a future that attempts to mend an unjust relationship.



Block Party float: The centerpiece of a proposed block party for the marginalized communities of the site. This served as an ideological starting point for the reorganization of the 6th Police Precinct.



Posters: A series of speculative posters made to reference significant moments of oppression and violence that has occurred to the marginalized communities on the site.



reOrder Exterior Model: Within the window frames of the current precinct reveals the forgotten histories of the communities affected by the direct interventions and policies of the 6th precinct and of the City of New York.



reOrder Model Interior: The doors open to the central space of this new speculation, a modular and programmable site. The space rotates within the model revealing the variety in program between somatic learning and community engagement.

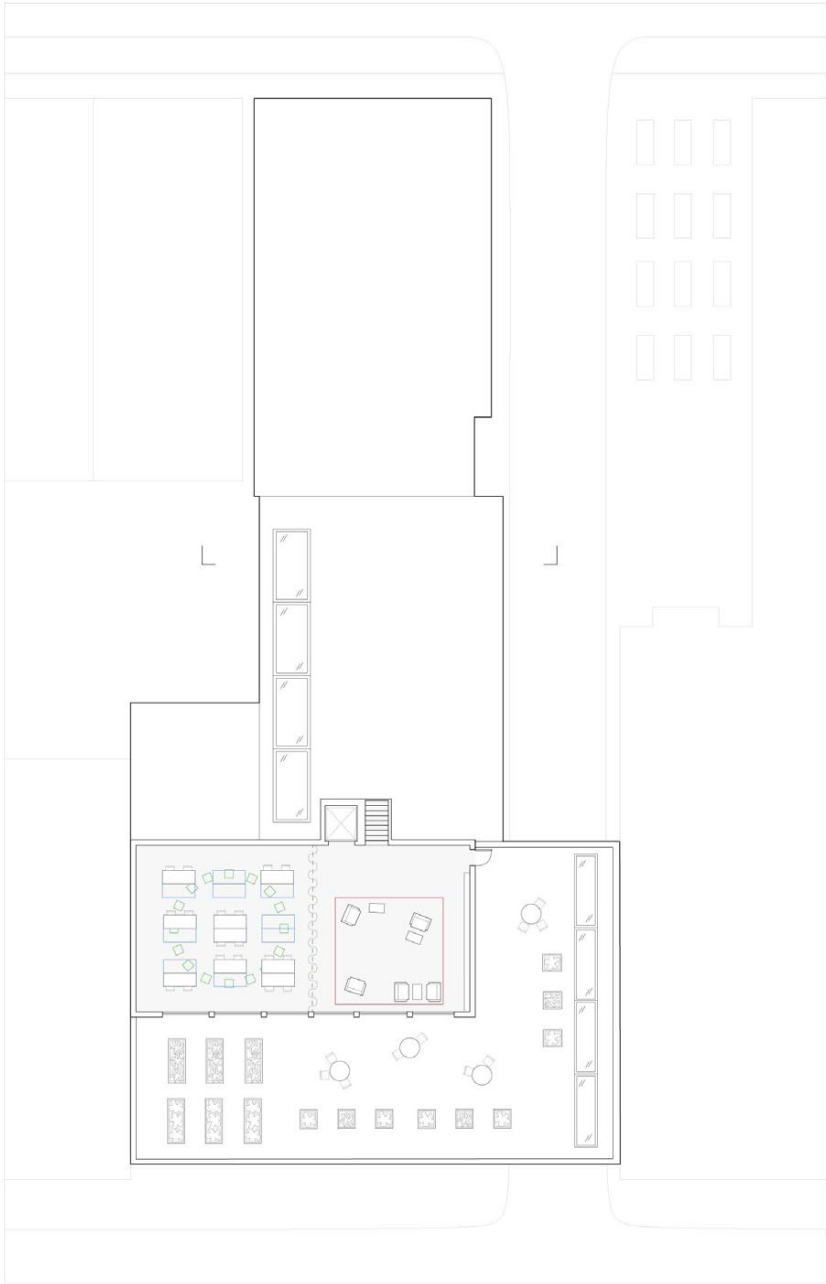
We acknowledge that each community will interpret the space differently and would organize it to their specific needs. These drawings suggest that the green areas are for self-nurturing, the blue are skill based learning, and the red is for entertainment.



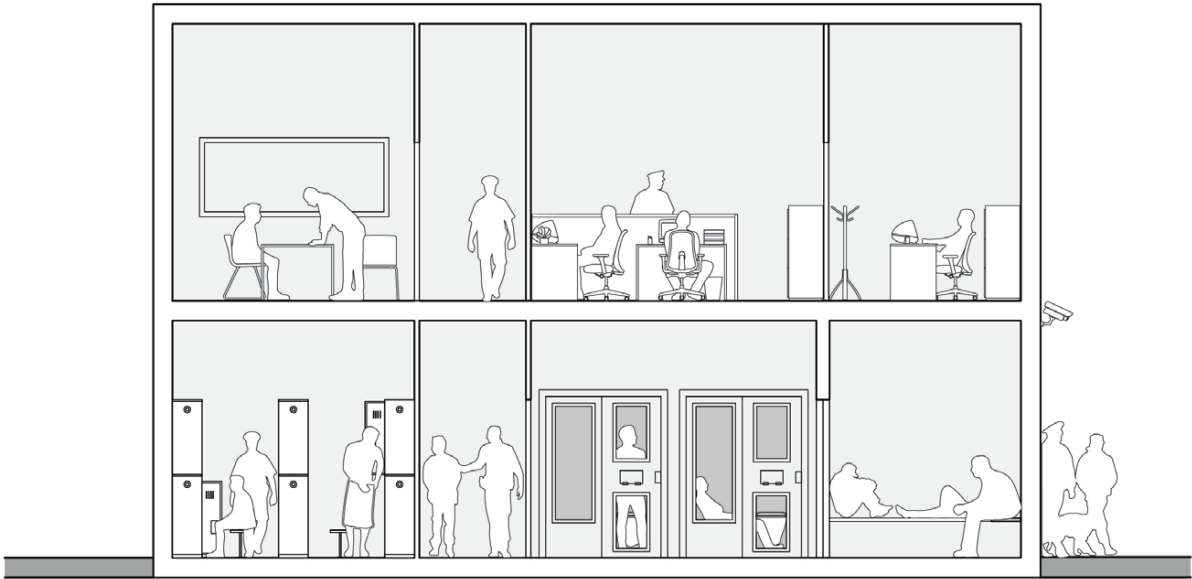
Ground Floor Plan: Encompassing the public spaces on the site, including a community kitchen, somatic learning spaces and changing rooms, as well as children's classroom and daycare.



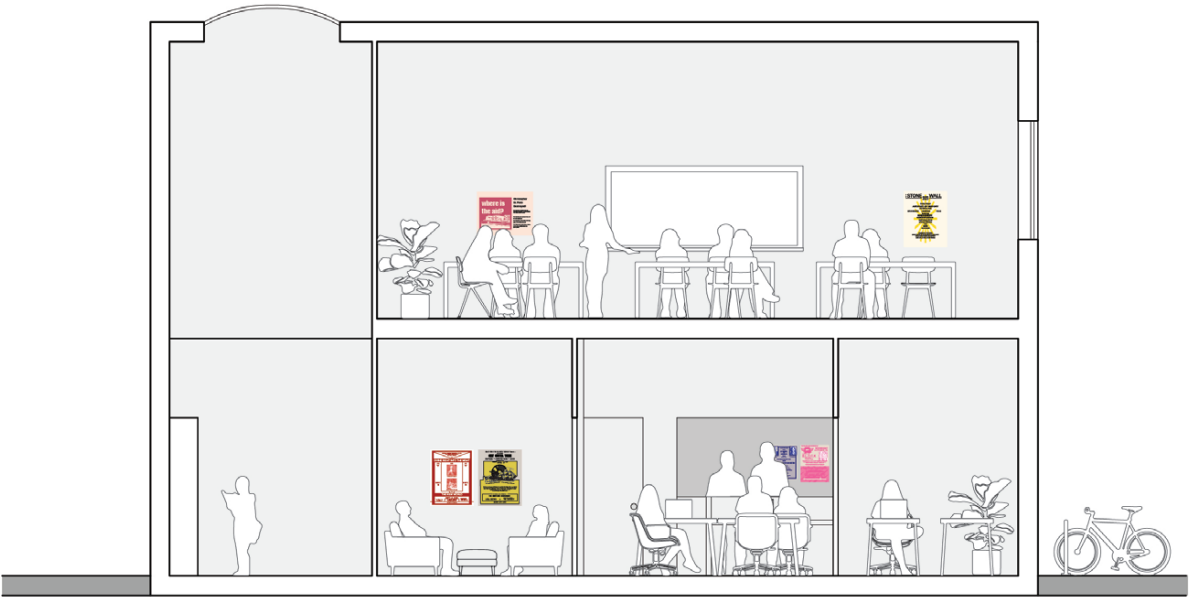
Second Floor Plan: Primarily used for skill based learning, this floor has two modular classrooms and many private working spaces.



Third Floor Plan: Comprises of an additional classroom and library, as well as a community garden whose produce is used by the community kitchen on the ground floor.



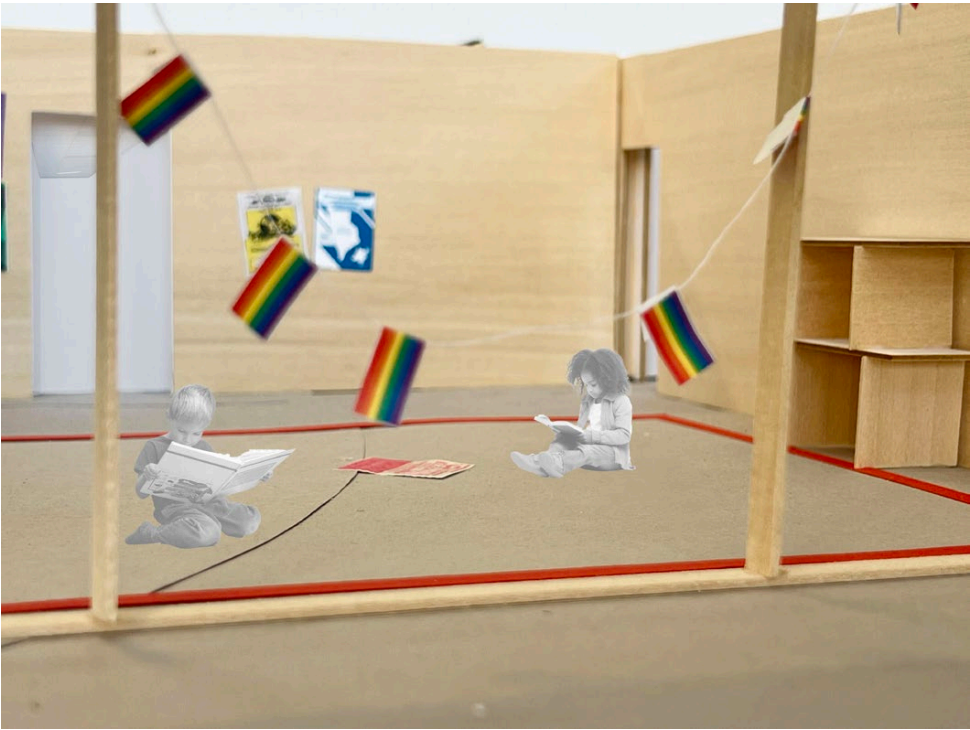
6th Precinct Section: A compressed speculation of the current activities held within the police precinct.



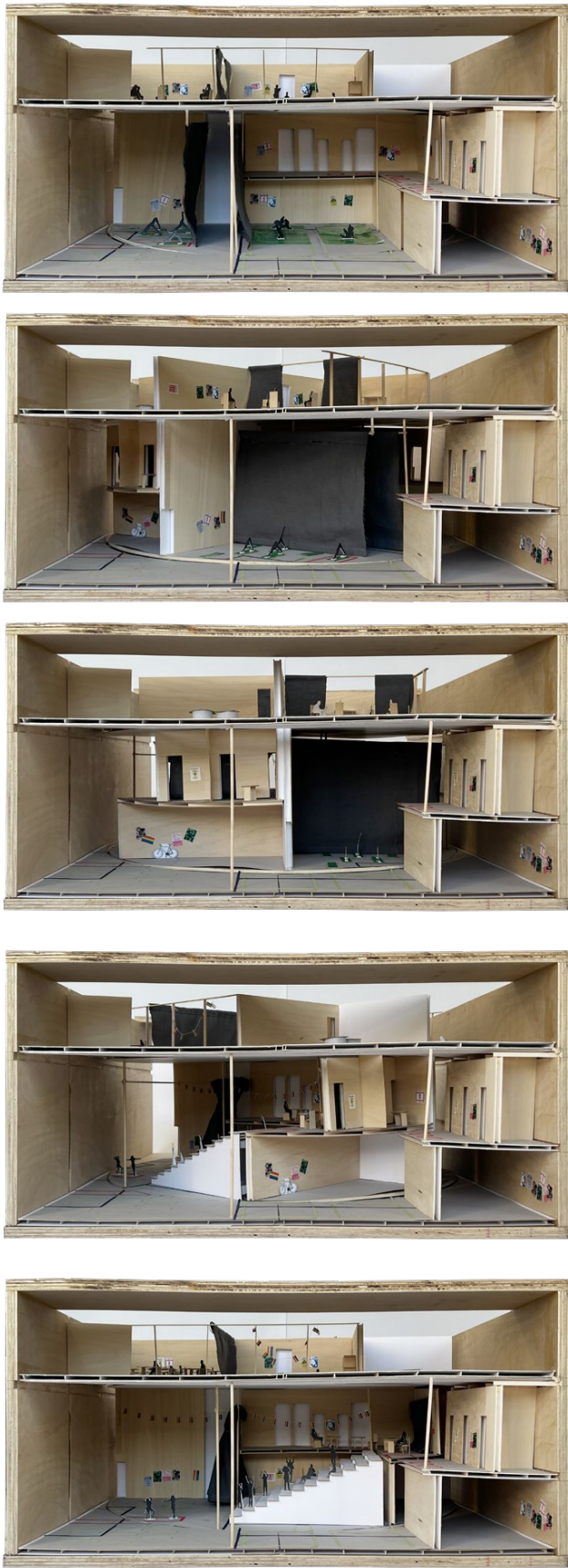
reOrder Speculation Section: The space has been rearranged so that jails have become classrooms, offices into private working areas.



Picture 1: During evenings for special programming, the central space holds discussions for community groups or the occasional block party.



Picture 2: A daycare and children's playroom is an important feature allowing for the parents to participate in the classes that are offered.



Picture 1-4: The central space of the model rotates revealing a variety of community led programming.



Picture 5: The central space used for somatic learning and classes, either led by or explicitly for the marginalized communities.

ZACHARY PONCHER

M.ARCH 2023-2026

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