

JAGGER UDY

Master of Architecture '26
Columbia GSAPP Projects



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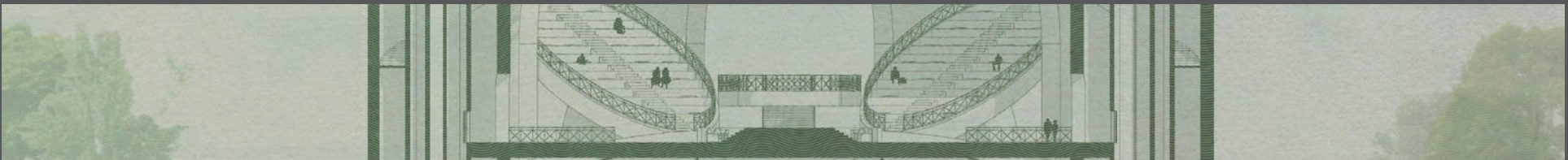
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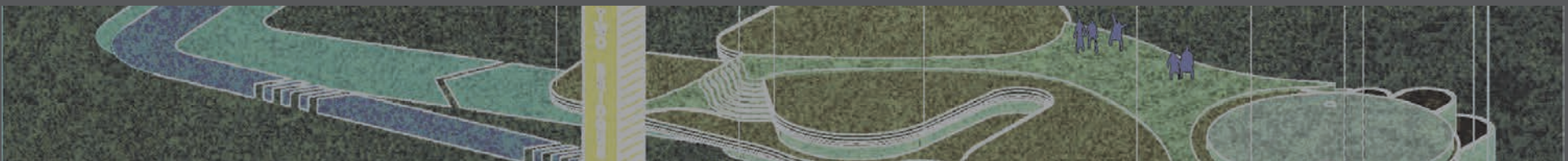
West Harlem . New York
Core III . Housing Studio
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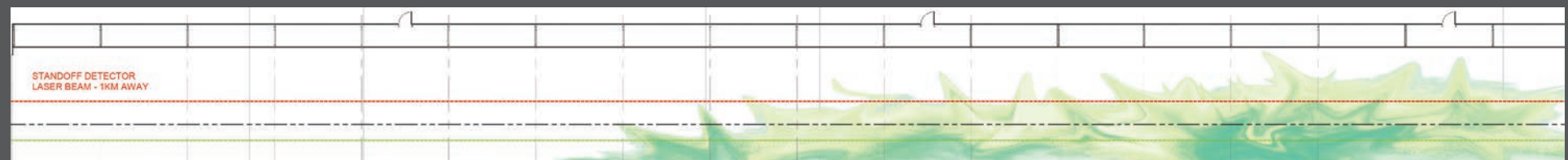
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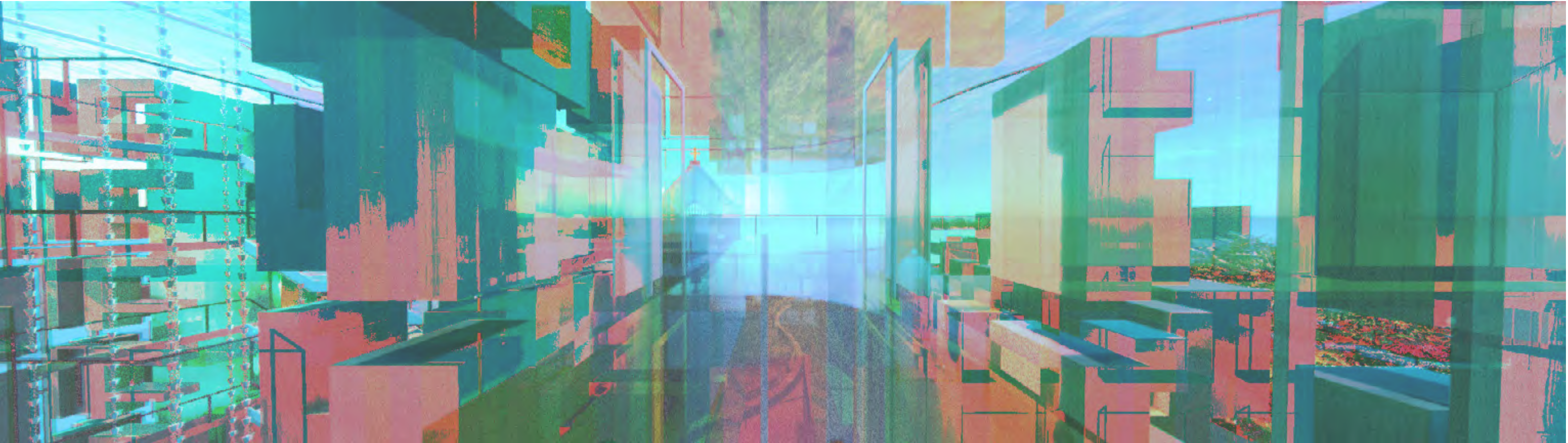
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01 HARLEM LANE : GENESIS
A COUNTER-GRAVITATIONAL PROTOTYPE
FOR MULTI-GENERATIONAL WEALTH

Central Harlem . New York
Advanced V . Harlem Lane
Professor . Gary Bates
Collaborator . Jonah Johnson

HARLEM LANE proposes a faith-based development model that leverages New York City’s City of Yes zoning reforms, adaptive reuse, and creative financing to generate multi-generational wealth for Harlem residents. Centered on St. Philip’s Episcopal Church, the project introduces a 6-story, 32-unit mixed-income housing complex that preserves the church’s architectural character while strategically using infill and airfill massing, as articulated in Gary Bates’ approaches to adaptive reuse, to protect sacred light and unlock 116,927 square feet of sellable air rights. A three-part capital strategy, which includes equity participation from faith-based developers working alongside Trinity Church’s Mission Real Estate Development, an air right sales through the creation of a Harlem TDR bank, and \$10M from the Columbia–West Harlem Community Benefits Agreement fully covers the development costs and produces surplus capital for neighborhood reinvestment. This surplus seeds a broader civic vision: the transformation of St. Nicholas Avenue into Alexander Garvin’s dream of “Harlem Lane,” a continuous public green corridor. Long-term ownership of a new pipeline real estate assets along Harlem Lane is structured through a Regulation A+ Equity Real Estate Investment Trust that allows Harlem residents to purchase ownership shares, receive dividends, and collectively benefit from local asset growth. In doing so, this housing prototype offers a counter-gravitational framework for equitable development and community-controlled prosperity.

Programs used: Autodesk Revit, Rhino3D, Adobe Photoshop, Adobe Illustrator, Microsoft Excel, Proforma, Property Scout

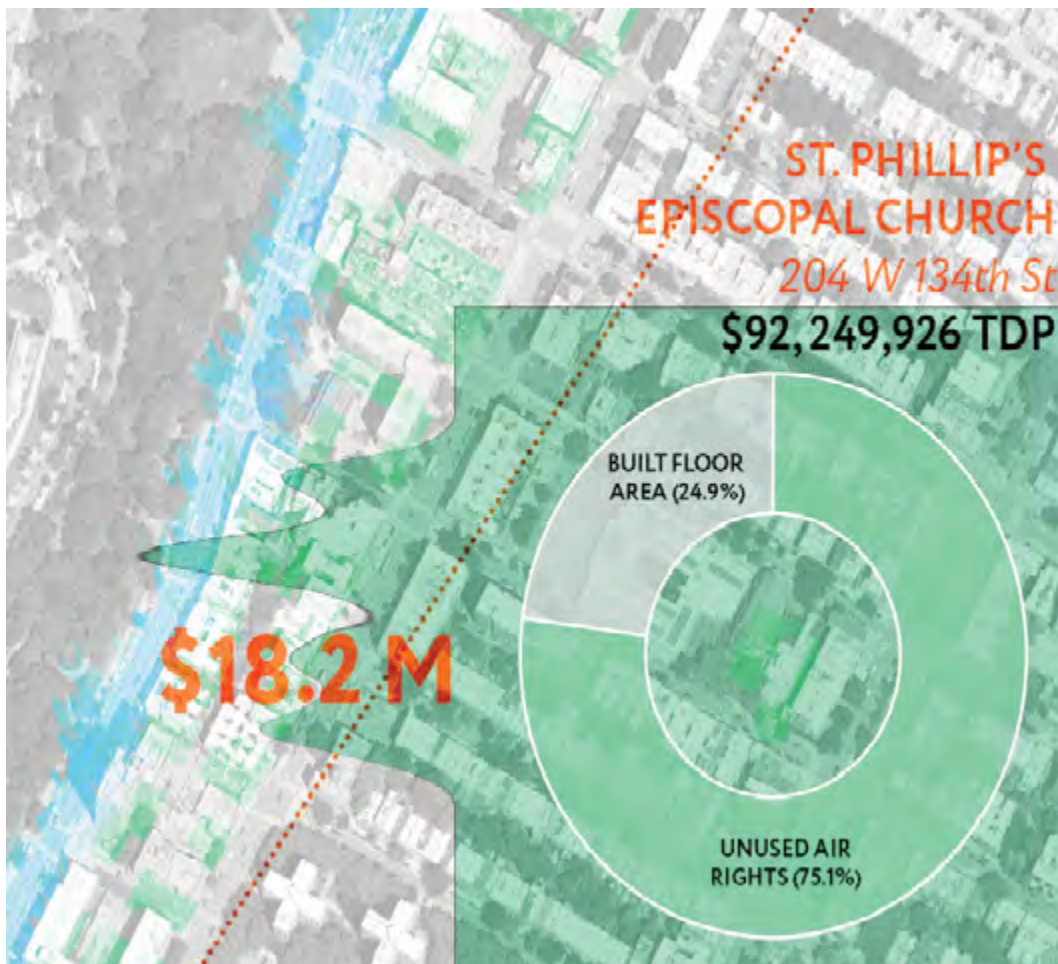


A three part capital stack strategy through accessing dormant capital on the site yields \$39,779,250 in total which well exceeds our total development cost without any loans. With loans, which is typical in the vast majority of real estate development deals, this leaves us with copious capital to pursue the next step in our plan to create wealth in Harlem, for Harlem. Near St. Philip's site is St. Nicholas Avenue, which runs through Harlem from 110th Street to 145th Street. Our proposal includes the redevelopment of St. Nicholas Avenue into a corridor of outdoor park space, calling on Alexander Garvin's notion of St. Nicholas Avenue, activated as a green civic spine which he referred to as "Harlem Lane". Our initial concept for the redesign of Harlem Lane would be to utilize the water supply from upstate reservoirs and create a creek along the existing street that feeds into reservoirs in Central Park. This redevelopment would function similarly to San Antonio's Riverwalk, where public spaces flank each side of the river, facilitating a new layer of civic engagement. We imagine our capital stack, with its nucleus at St. Philips, being reinvested in a pipeline of civic projects full of amenities, reminiscent of Soho's transformation from an industrial meatpacking district into a living, breathing commercial hub attracting visitors citywide. We imagine residential communities, top-tier educational options, medical centers, and recreational facilities that cater to middle-class multi-generational living.

These assets will be conglomerated into what is known as a cross-collateralized Real Estate Investment Trust (REIT). REITs are portfolios of diverse real estate assets that pool money from stakeholders to buy and develop real estate. This structure is similar to mutual funds for stocks and essentially becomes a way in which real estate can be crowdfunded. We imagine this REIT being equity-based under Regulation A+, as it eases the regulatory burdens for developers to raise capital directly from the public. Why is this an attractive notion? Why should the people in Harlem trust outsiders pitching a promise of new developments, and asking for their hard-earned money when the community has been so heavily exploited historically?

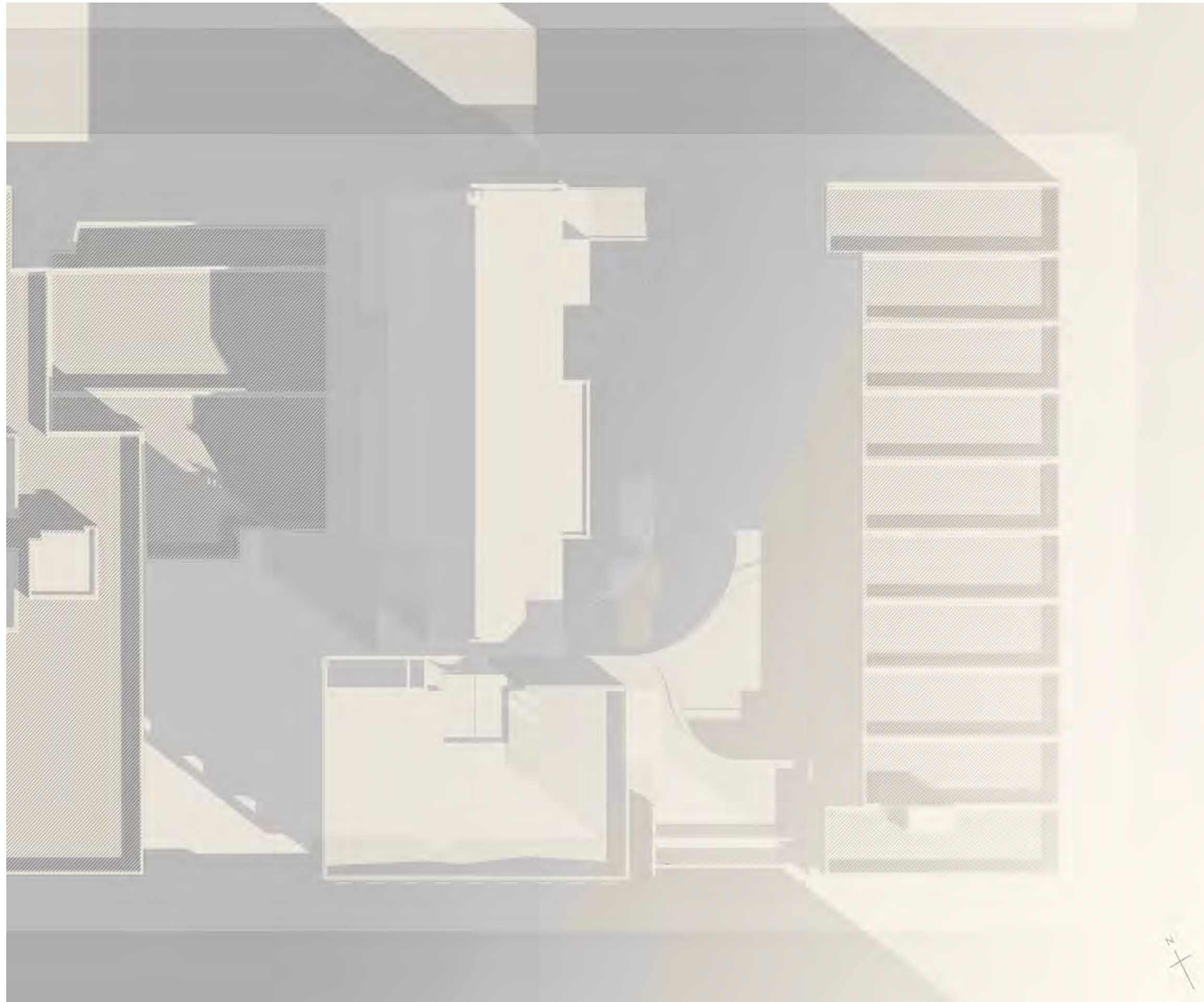
The REIT allows the people of Harlem to become owners of these new developments. As owners, Harlem residents make money as these new developments generate income, in effect localizing profits. Harlem residents interested in stable investments can buy ownership shares through a local investment platform shared via a cooperative partnership with churches. The REIT will be shared via strategic marketing through Harlem's church network. QR codes will be posted to access a robust site that features education about the REIT is and expected returns and dividend scheduling. By buying into the REIT, the people of Harlem can benefit from the increased liquidity of an otherwise illiquid asset. This counteracts the gentrification that often follows new developments in lower-income neighborhoods by making the current residents owners of the new developments. The REIT can be trusted because its very structure requires a high-level of transparency, regulation and liquidity. As these income-producing assets generate capital, as do the owners, the majority of whom are from Harlem. 90% of the taxable income from the assets within a REIT must be paid in the form of shareholder dividends. As property values and rent income grows, residents receive dividends and can choose to reinvest them or cash out.

Our main contact point at St. Philip's was a member of the vestry named Russell Weatherspoon, who shared with us the values, needs, and assets of the congregation and church structure. He placed great emphasis on needing only minor structural repairs for some interior moments of the church space affected by water damage, while also protecting the school building on the site from demolition, despite their expiring lease. Therefore, our architectural moves and decisions will respect these two buildings and will serve only to provide structural support for our addition, as well as subtle subtractions to increase the capabilities of the existing courtyard, as well as the floor area of the school. Our intention for this new addition is to serve primarily Black mixed-income, multi-generational families from Harlem through a blend of affordable and market-rate housing. In Harlem, what is referred to as market-rate housing in the city at large, is positioned locally towards its middle class. This allows for a dynamic where working class affordable units are subsidized by market-rate units. This increases financial feasibility, balancing development incentives with neighborhood scale assets.



One conversation that we had with Member of the Assembly Jordan Wright opened our eyes to the possibilities at St. Phillips Episcopal Church at 134th and Adam Clayton Powell. This church has an older congregation with declining attendance following the pandemic. However, it features a rich history, serving as a refuge for Harlem's black community in the early 1900s, a time of turmoil in the city and beyond. It was designed by the first registered architect in New York State, Vertner Tandy, and stands as a protected landmark. The site is layered with social, spiritual, and architectural significance that is elevated through the addition of our endearing living complex.

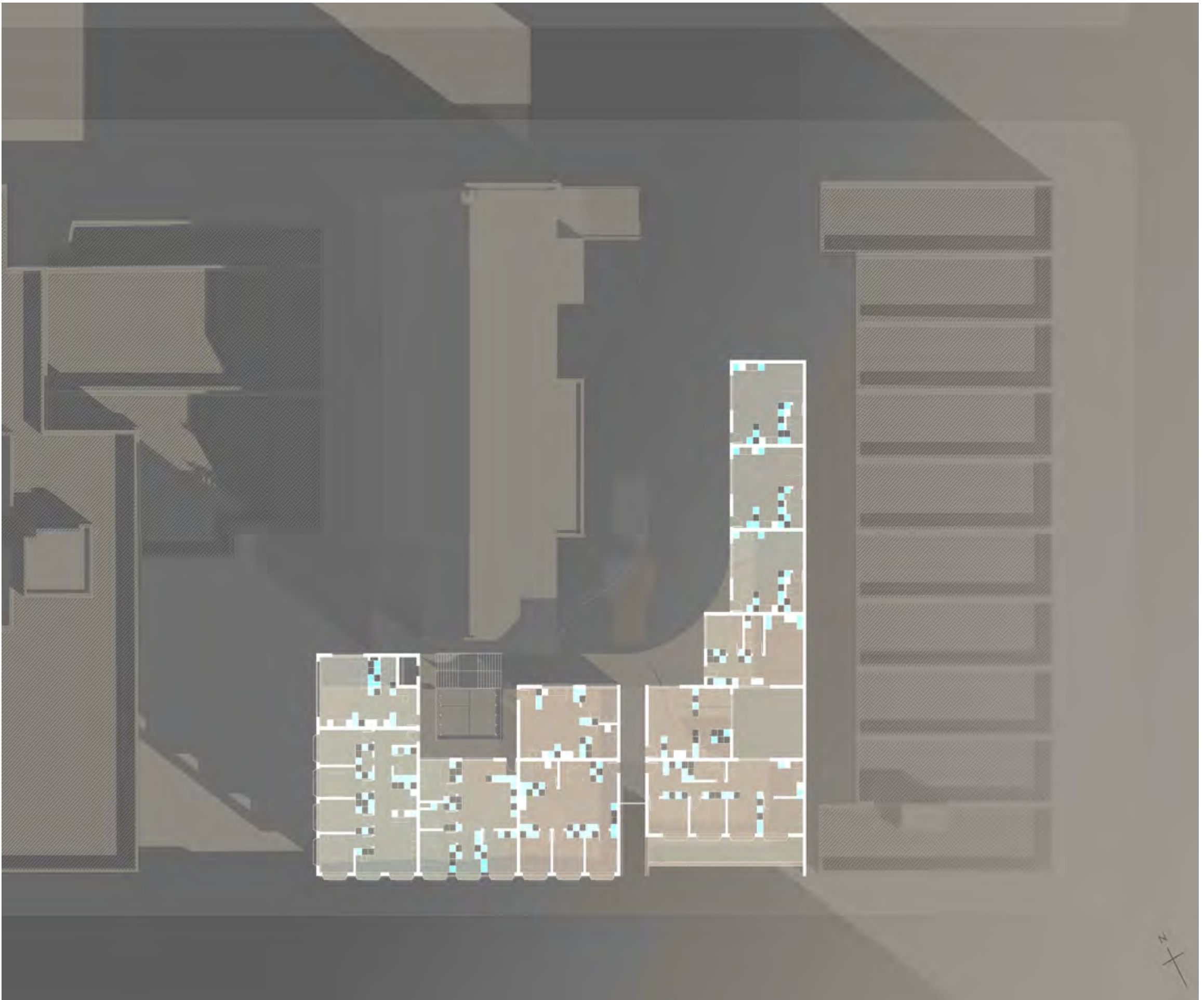


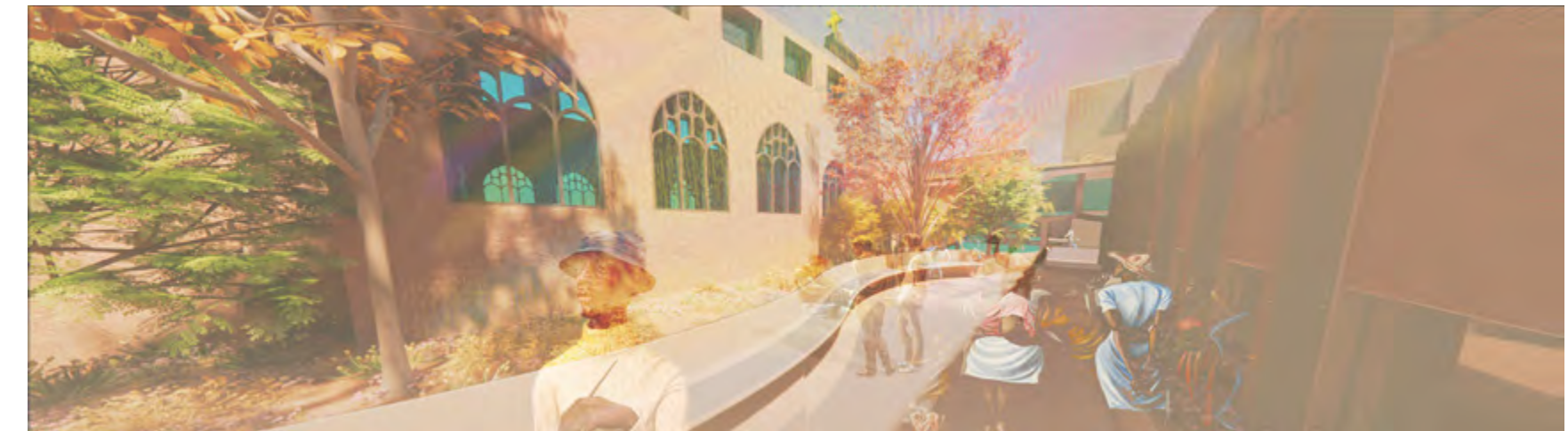
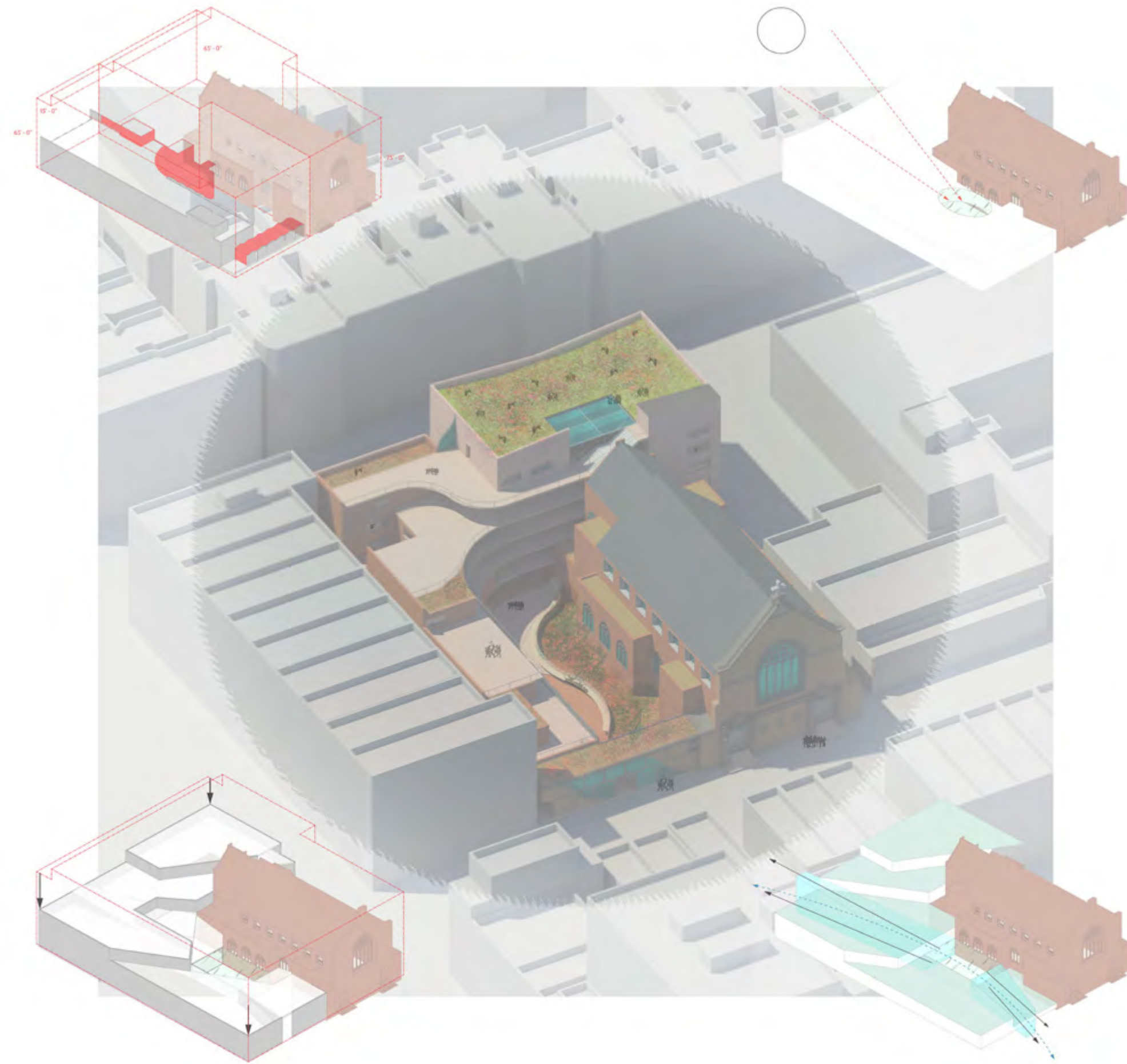


In dealing with preserving the light quality during service, we propose a solution where our new building will extrude upwards at the south of the church in the existing parking lot, and will cascade through terraces that spiral around the courtyard space. In this way, we create density in the areas of the site that have no effect on the light quality of the interior of the church. This architectural strategy possesses a dual incentive, as it leaves St. Phillip's with an abundance of air rights that they can sell post-construction to help facilitate the small repairs needed for the existing buildings and future investments. Through housing density studies on the site, we determined that we could achieve the same level of density through this proposal that utilizes less air rights than a development that completely maximizes the allowable built area of the site.

The facade of St. Phillip's features orange Roman brick along with a large stained glass window, while the rest of the exterior is wrapped with a regular bond red brick, as those sides were never intended to be seen from 133rd or 134th street. Our strategy for the facade along 134th Street is to continue this orange Roman brick, interspersed with stained glass bricks that create a brick gradient mosaic, marking the entrance into the courtyard. This brick will continue in a gradient that envelopes the facade of the school, while also carrying this notion along the ground floor of the 133rd Street facade.

This living complex is mid-rise, with 6 stories, featuring 32 total units. These numbers are typical for the area based on our local residential comparable analysis. The descending spiral massing creates accessible roof terraces that create sky gardens, activated by residents, the church congregation, and members from Democracy Prep. Our adaptive reuse strategy is a combination of two fill strategies: infill and airfill. Infill refers to our insertion of new housing volumes that negotiate between parish life, neighborhood, and city. Airfill refers to the addition of dense units on top of the school and on the south side of the church, engaging the zoning envelope and the unused development rights on the site. In doing so we effectively project new public and private spaces, reimagining the site's vertical reach in an unobtrusive manner.

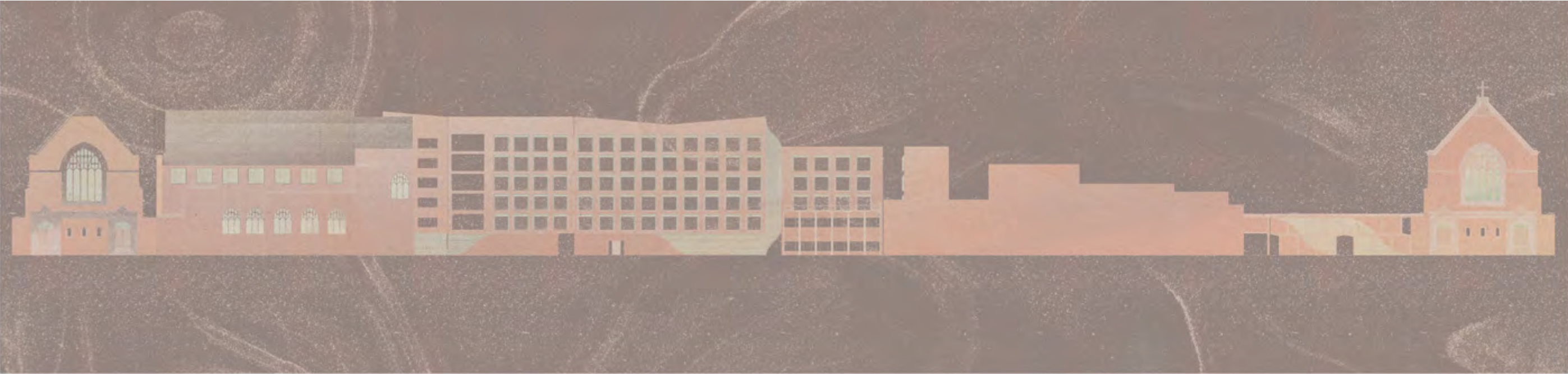
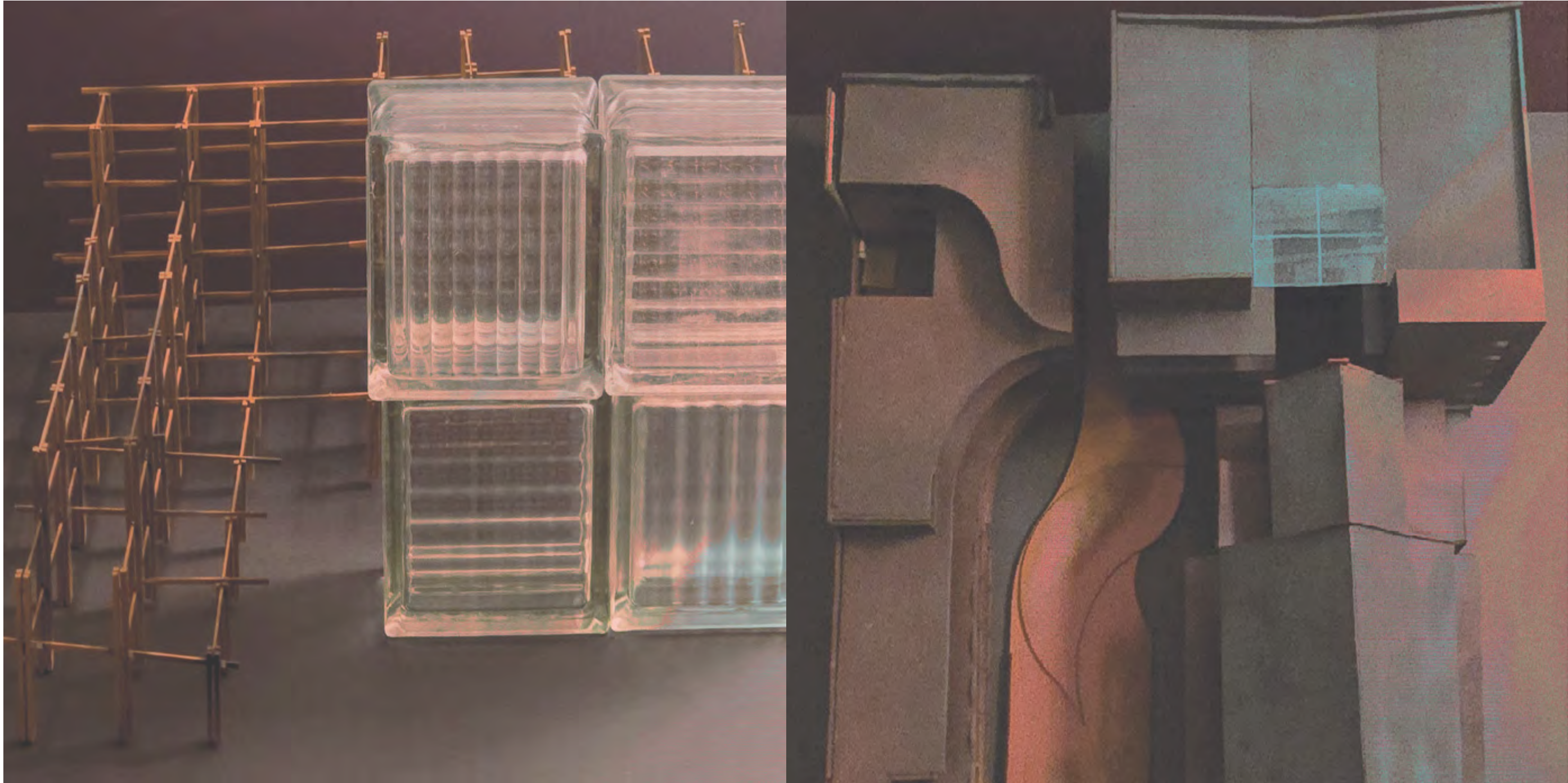




We seek to adaptively reuse stained glass windows in our living complex in a way that elevates its current functionality in the church. Stained glass windows in churches are currently used not only as a feature that elevates ambiance but also as a narrative tool, suspending biblical stories in space and time, and ensuring that sacred histories are never forgotten.

Our living complex becomes a tool to project Harlem into the future. Residents will move through the stained glass illuminated spaces, forming new contemporary stories, adding beauty to what is otherwise considered banal.

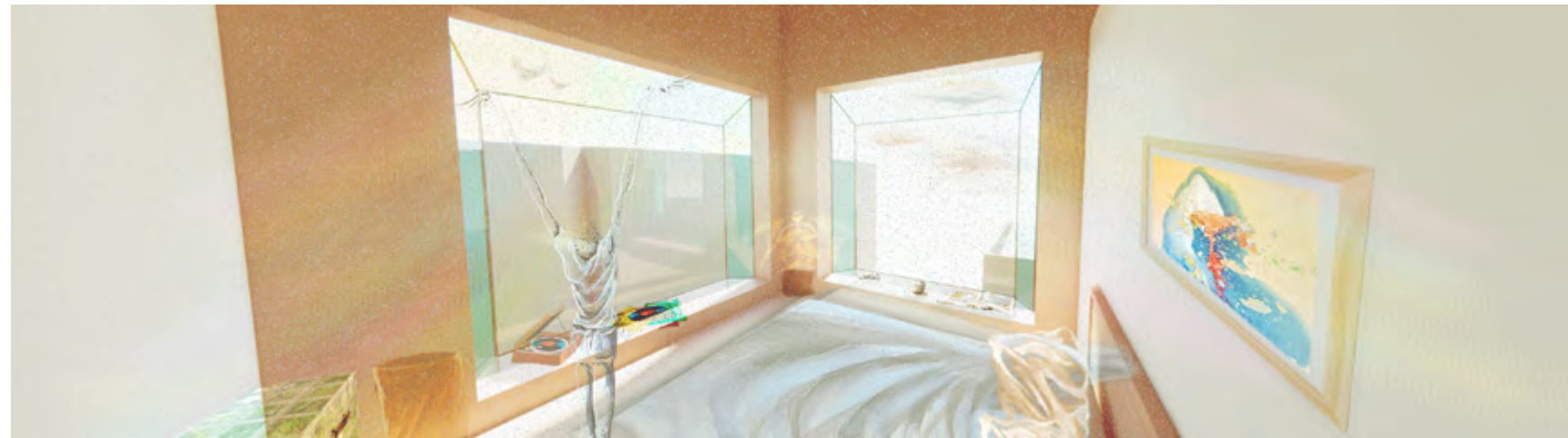
Here, living becomes a celebration, elevating the small moments and treasured memories of daily living. The architecture becomes a frame for a microcosm of soul and spirit, fostering community and scenes of joy, worship, and stewardship.



While attending church service at St. Phillip's, many of its celebrated architectural qualities stood out. The first was the striking acoustical properties that reverberated throughout the interior nave, magnifying the melodies of the organ and the harmonies of the choir. The second was the liminal, atmospheric morning light quality that streamed through the stained glass clerestory windows above.

Incense is burned at the beginning of service, and as it ascends, the morning light through the stained glass windows washes the smoke with muted tones, creating an ethereal experience of levitating, luminescent vapor. The third was the gradients of masonry used not only in the original construction of the church, but also in the additional development of the Democracy Prep Charter School.

The two spaces frame the courtyard in between the two buildings, expressing gradients of orange Roman brick, Dutch brick, and cast stone aggregate. These three qualities are those we hope to preserve and amplify through our new proposal.



02 . LIFE AT DIFFERENT LEVELS

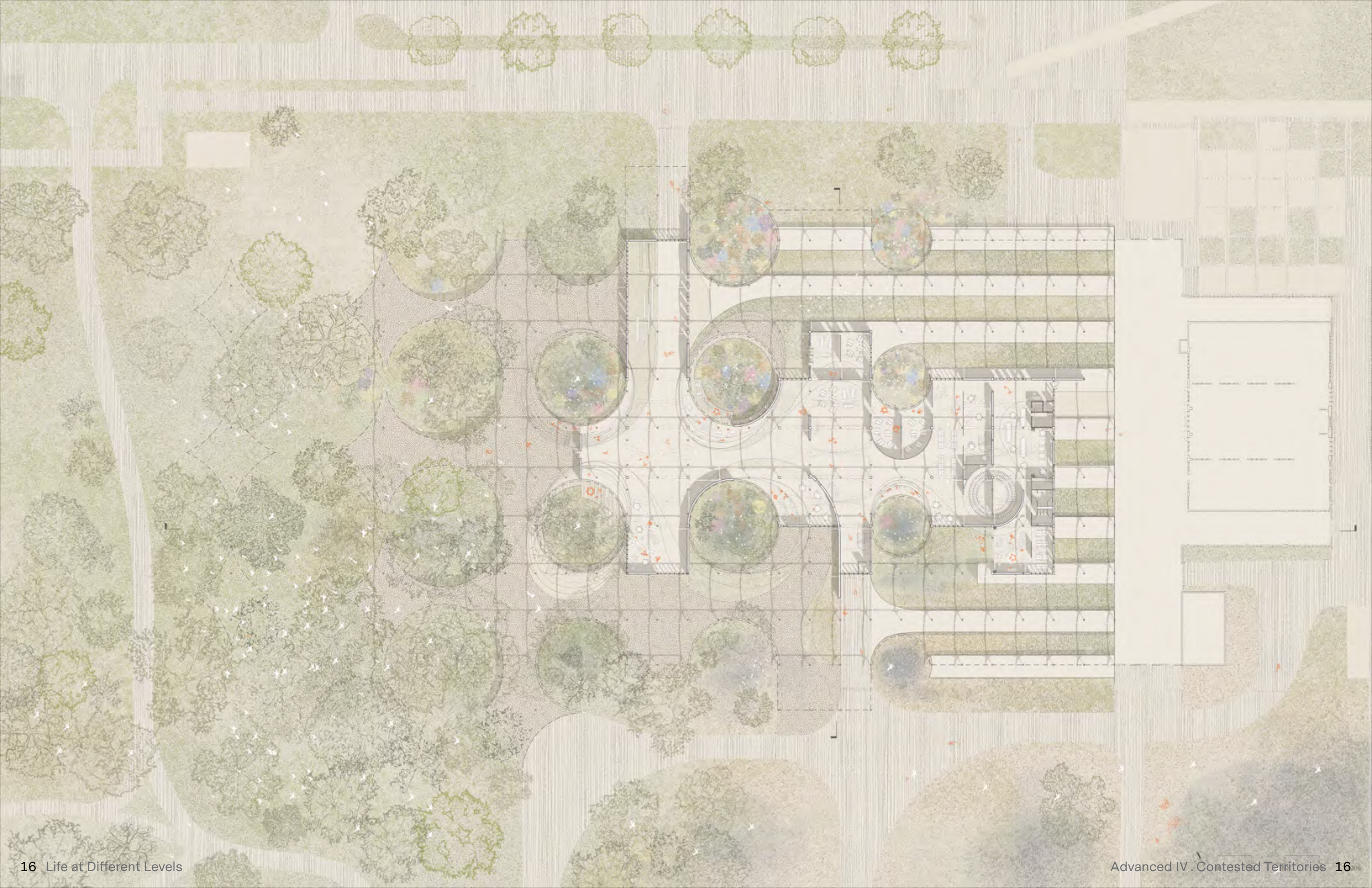
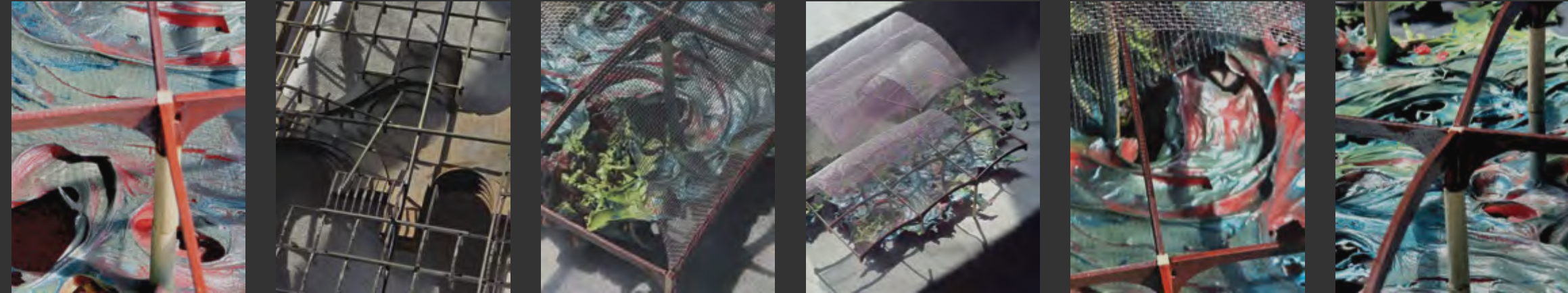
Liberty State Park . New Jersey
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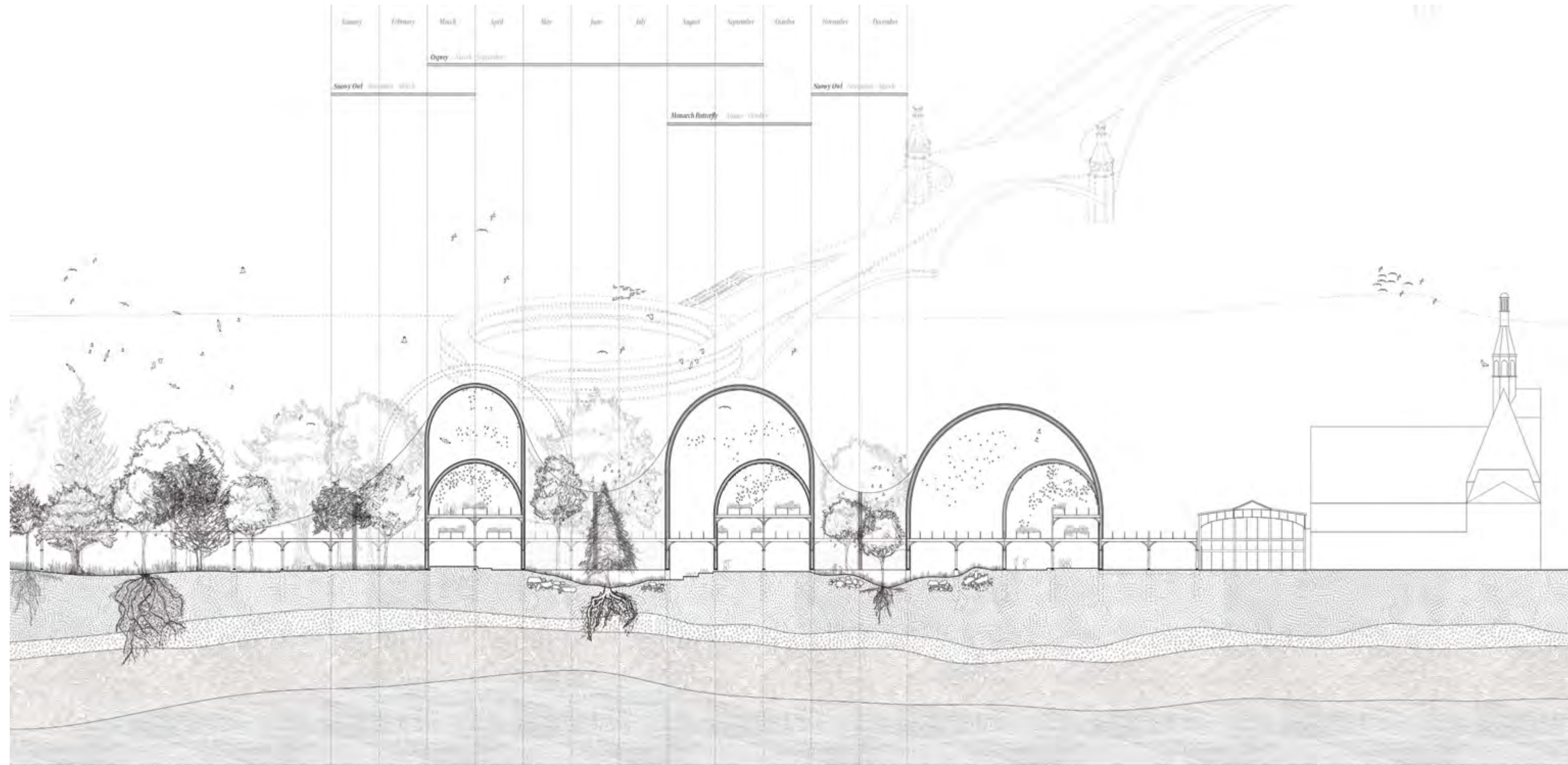
Once a threshold of human migration, the Liberty State Park train shed now stands as a relic of past transits, etched with the movement of bodies, industry, and history.

This proposal reimagines the train shed as a porous corridor of multispecies transit; an architectural intervention that mediates between past human migration and present ecological flow, creating a new landscape of exchange to facilitate LIFE AT DIFFERENT LEVELS.

Situated at the confluence of the Hudson River estuary and the greater Atlantic Flyway, Liberty State Park functions as one of the few remaining large green spaces along the densely urbanized northeastern seaboard, and provides indispensable stopover habitat for a wide range of migratory species undertaking long-distance journeys between breeding and overwintering grounds.

Programs used: Rhino3D, Adobe Photoshop, Adobe Illustrator

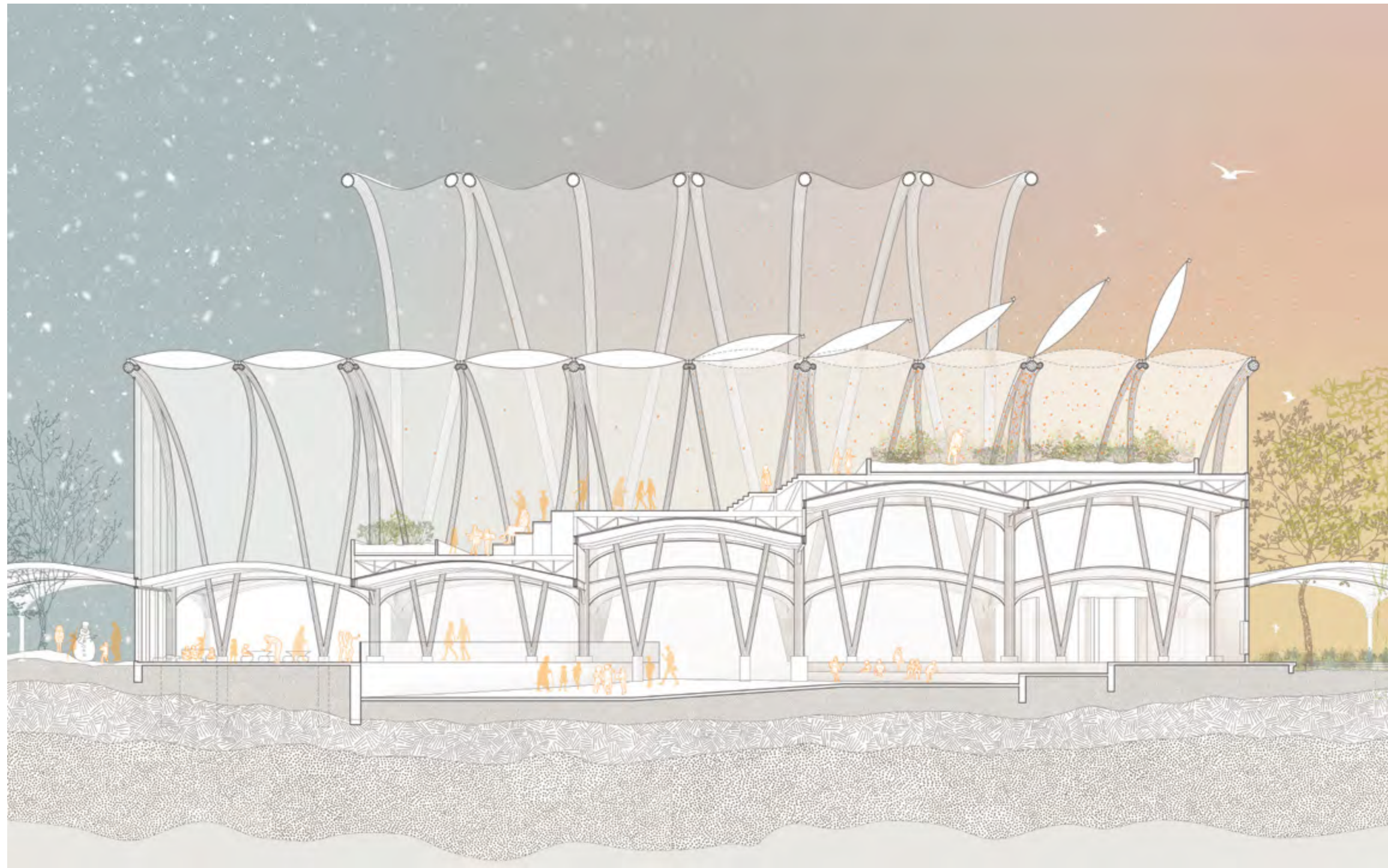




This project builds upon and extends existing conservation efforts already underway in Liberty State Park, particularly those focused on the monarch butterfly, whose eastern population has experienced significant declines due to habitat loss, climate change, and pesticide use on milkweed in the United States.

Utilizing the existing train shed structural grid, varying degrees of barrel vaulted spaces will encase and support a diversity of migratory species. The spaces that are more contained are the more “willed” environment, while the vaults closer to the sky will involve a more “wild” quality and microclimate to highlight these gradients within the project.

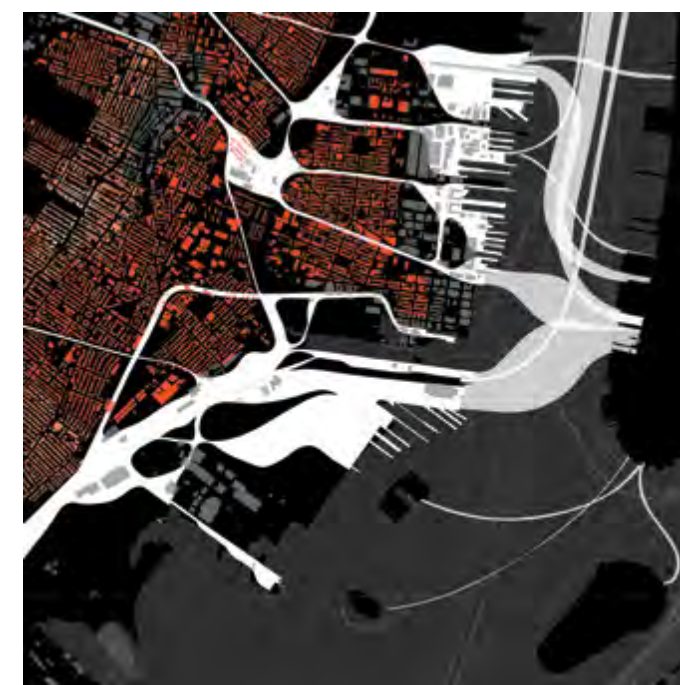
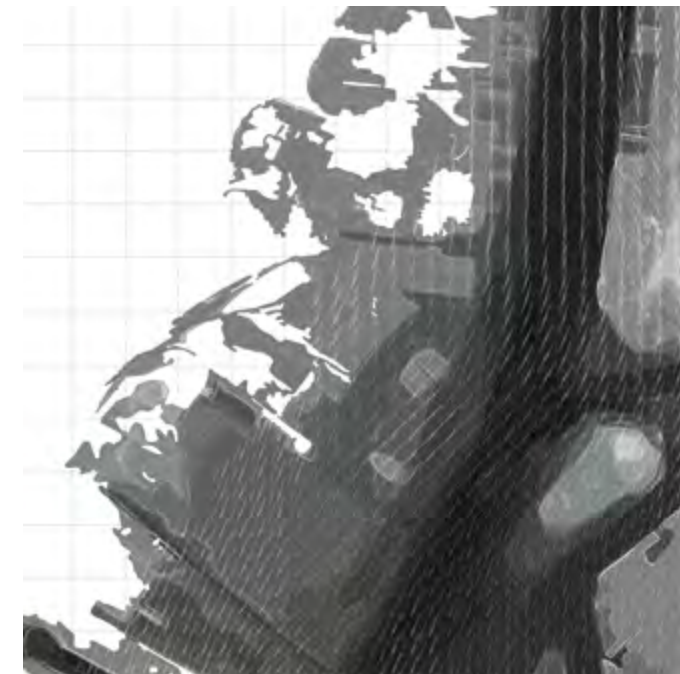




The adjacent shoreline traces a lineage of infrastructural intensity and social exclusion. Its industrial past, shaped by railways, ports, and manufacturing, coincided spatially with the systematic redlining of adjacent neighbourhoods, where residents, primarily working-class and people of colour, were confined to environmentally hazardous zones.

These historic adjacencies established patterns of urban development that linked environmental degradation with racialized dispossession, embedding long-term health, economic, and spatial inequalities into the urban fabric.

Since the mid-20th century, New Jersey has transitioned from a waypoint of European immigration to a complex multiethnic landscape shaped by South Asian, Latin American, and Caribbean communities. In Jersey City today, over 40% of residents are foreign-born.



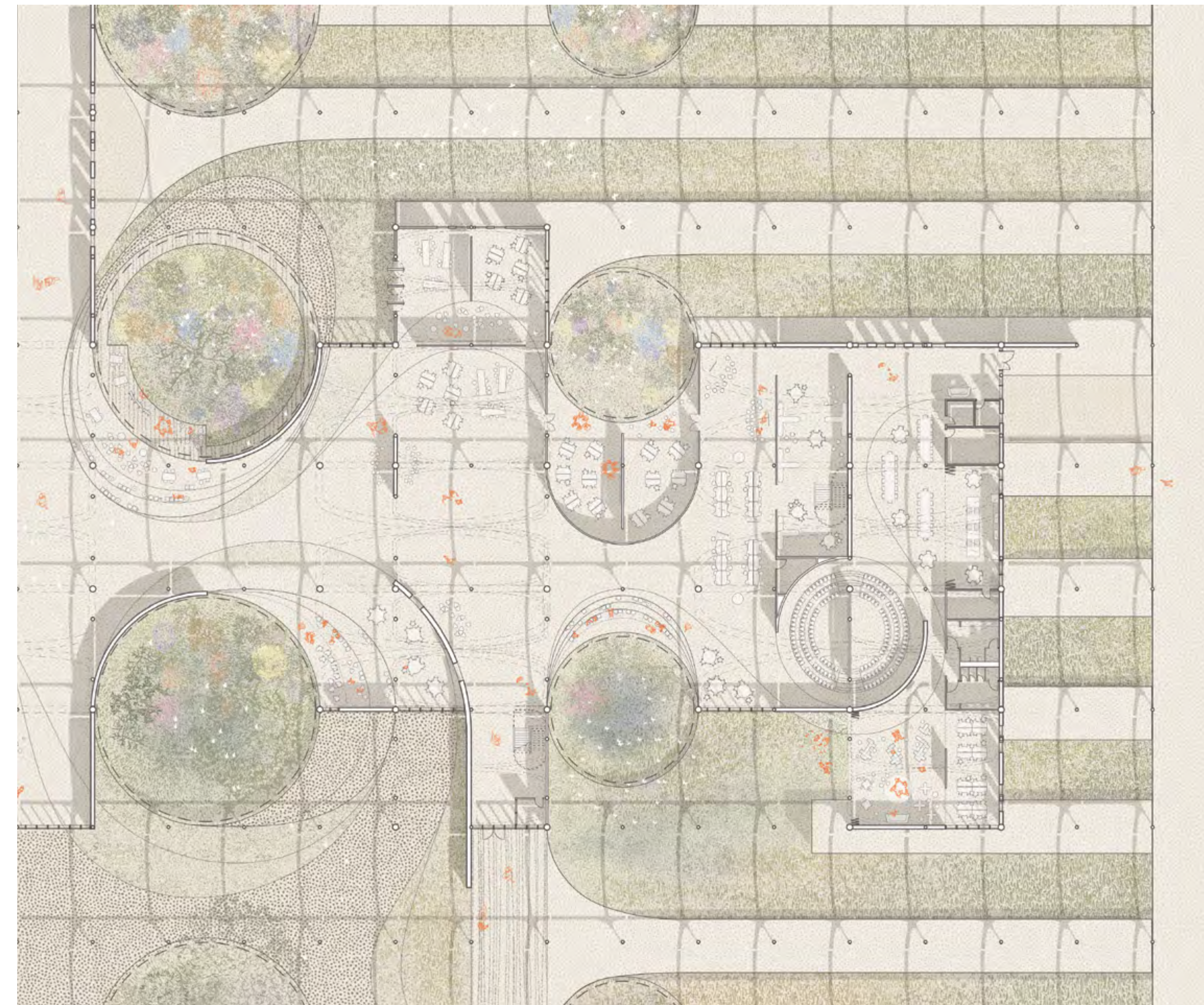
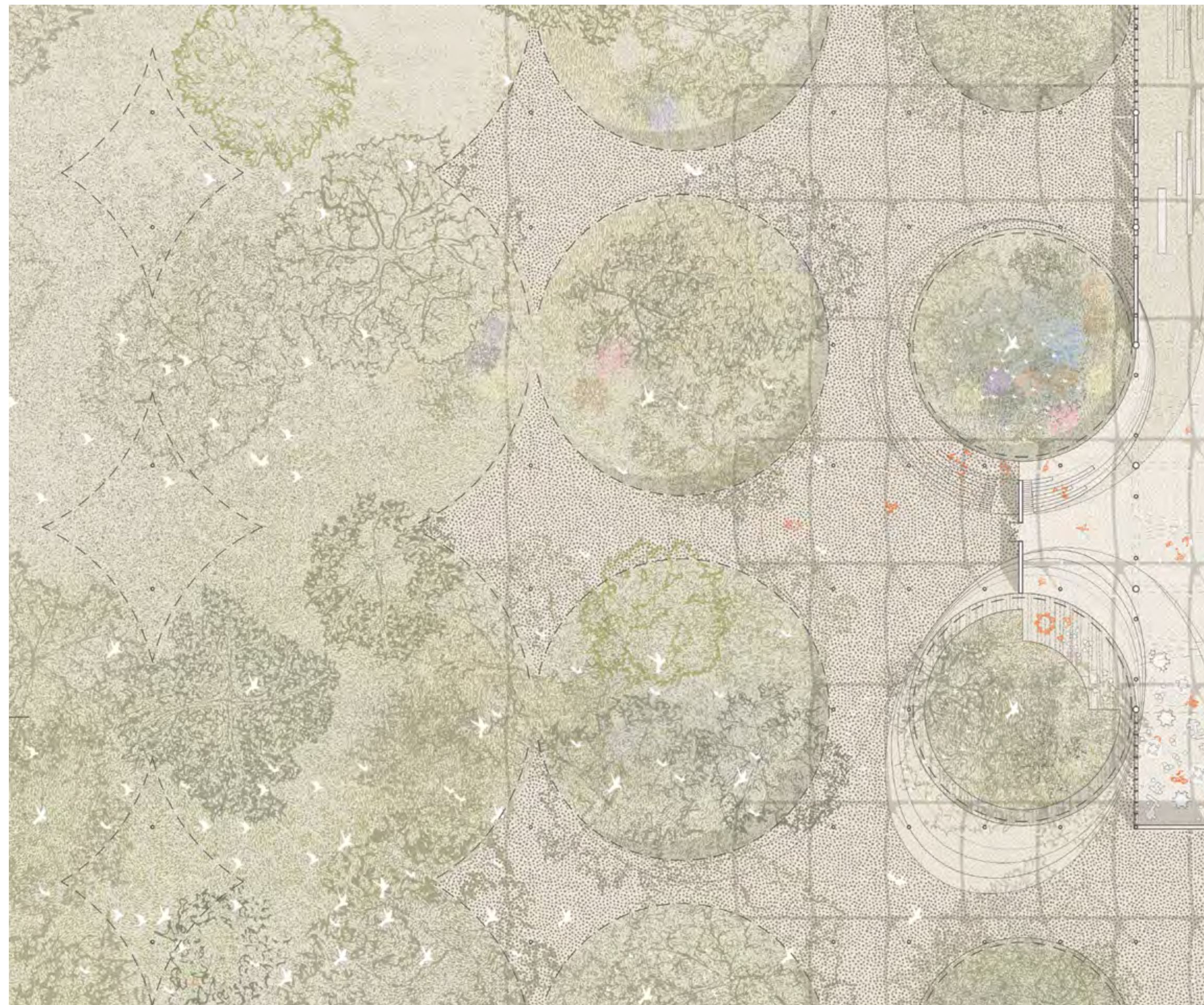
Despite this demographic richness, the city remains physically and socially fragmented and its neighbourhoods divided by highways, infrastructural voids, and economic disparities. Communities often live in close proximity yet remain disconnected, lacking shared spaces where cross-cultural and intergenerational exchange can occur.



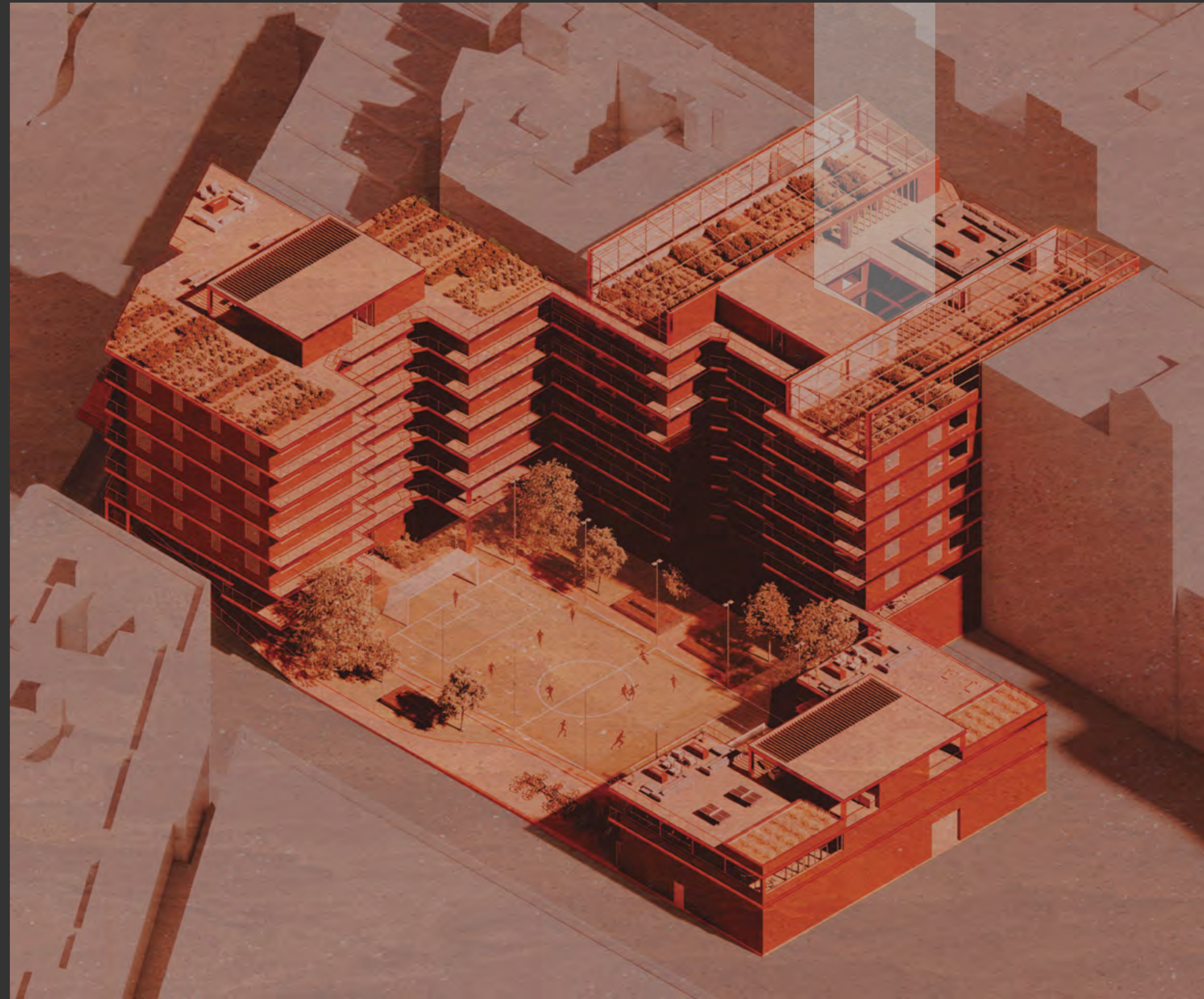
This vertical gradient of wildness is mirrored by a horizontal progression across the length of the shed. As seen in the floor plan, a series of circular exterior pockets unfolds longitudinally, each growing in size until they dissolve into the wild landscape at the far end of the train shed. These pockets of wilderness act as magnets, attracting soft matter and human interaction. Around them, the intervention's hardscape and softscape begin to flow and entwine, giving shape to the emerging spatial order. Circulation arises organically from the interstitial spaces created.

Material Natures Models were built and used for inspiration for the organization of the plan as well as the section. Observing how material was accumulated around members of the structure, how the layouts of structure responded to weatheral elements like water, ice, and heat was also important to ground the project in the seasonal changes the site endures throughout the year.

The intervention unfolds across multiple datums that organize spatial, ecological, and atmospheric conditions into a layered infrastructure. These layers are responsive, interdependent, and temporally dynamic. They allow for ecological exchanges and encounters to emerge at various heights, degrees of enclosure, and levels of control. The spatial character shifts from "willed" to "wild".



Through a hybrid programming that entwines education, ecological restoration, and species cohabitation, the train shed transforms into a site of exchange where migration is a continuous negotiation between species and environments. A primary school is embedded within a layered ecological infrastructure, allowing children to learn within an evolving landscape. Students do not "attend" school; they move through it. Learning happens in transit.



03 . NDIMBELLANTE HOUSING

West Harlem . New York
Core III . Housing Studio
Professor . Nina Cooke-John
Collaborator . Jonah Johnson

NDIMBELLANTE HOUSING, located in the heart of Little Senegal, New York, is an affordable housing complex designed to serve the rapidly growing population of Senegalese immigrants, particularly young men in their late teens and 20s.

The housing complex, consisting of 110 dwelling units is a refuge—not just as a safe place to live, but a space where health, community, and cultural support converge.

Rooted in the Senegalese concept of “Ndimbellante”, which emphasizes reciprocal help and mutual aid, the complex fosters a community in which individuals support one another’s well-being.

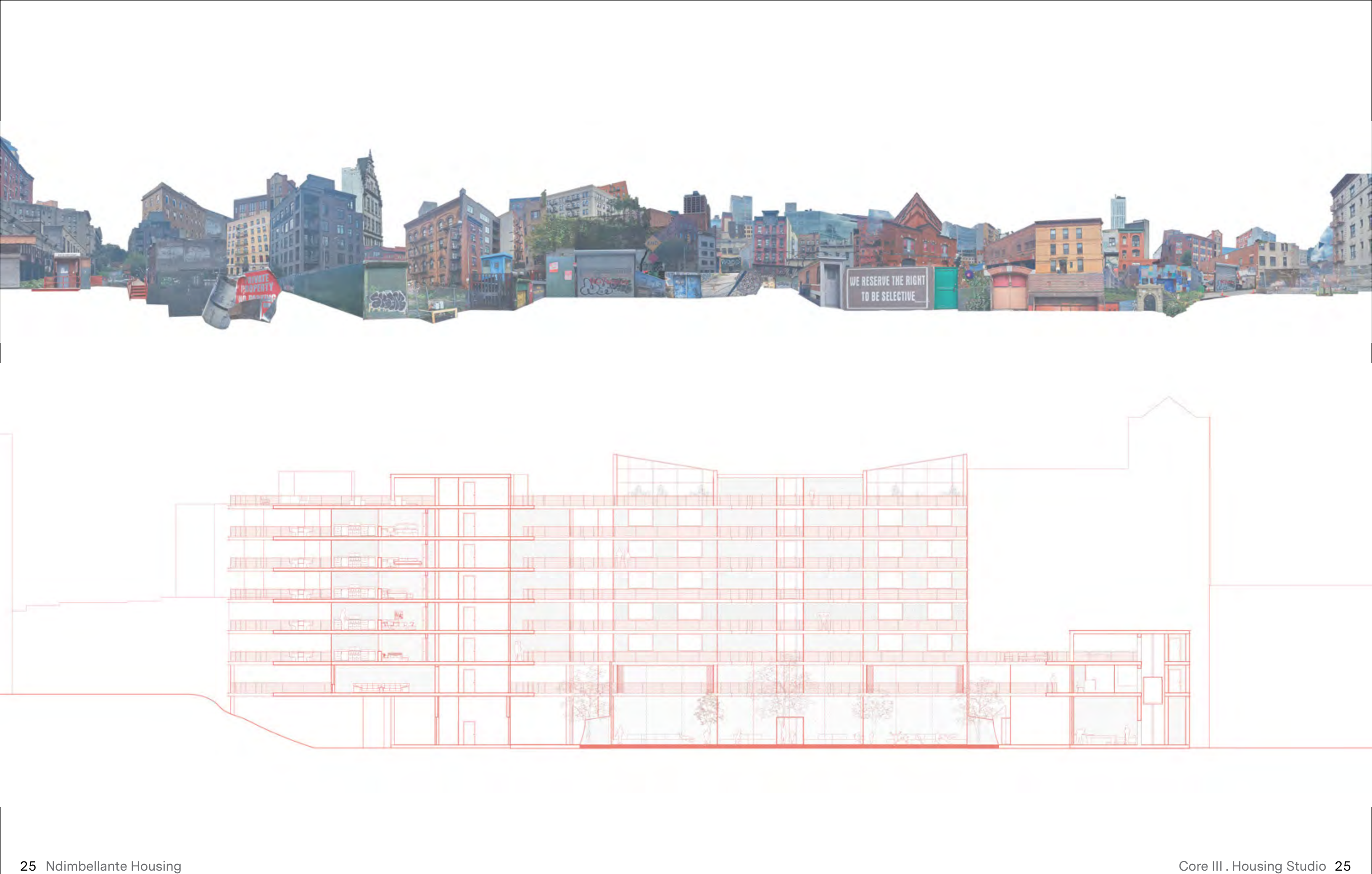
Programs used: Autodesk Revit, Rhino3D, Adobe Photoshop, Adobe Illustrator, Enscape

Ndimbellante serves as the foundation for both the design and the services provided, promoting a network of trust, care, and shared resources among residents.

The complex is designed to meet both the physical and psychological needs of its residents through the adaptive reuse of an existing warehouse and taxi garage in West Harlem.

These spaces provide an extension for the African Services Committee to provide psychological services as well as a food pantry attached to a rooftop communal garden for the residents of Little Senegal, as well as a recreational fieldhouse and gym for an uplift of health.



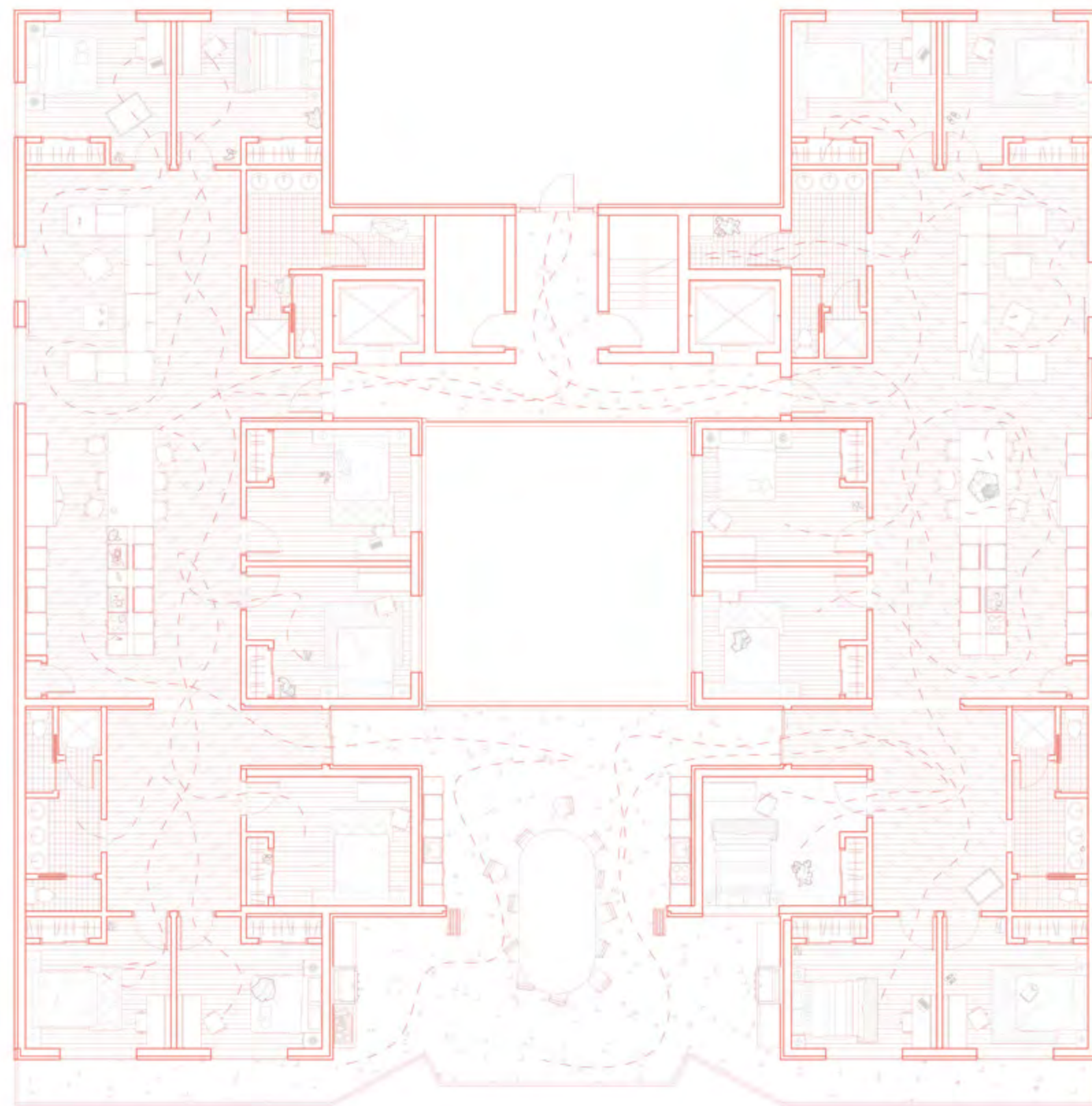


Research was done within the communities of West Harlem and Little Senegal in New York, as well as Dakar in Senegal to help gain perspective on what this specific demographic of Senegalese men in New York City needed the most.

The maps to the left depict stormwater flooding in relation to community gardens, soccer fields in relation to available green space, civil buildings in relation to food pantries, fitness centers in relation to commercial buildings, evictions in relation to residential buildings, and population demographics in relation to historic redlining. All of these maps pertain to our site's location in West Harlem, New York.

Surrounding the soccer field, the building's co-living arrangement is inspired by the traditional Penc living style, where private quarters are organized around communal kitchens, bathrooms, and living areas.

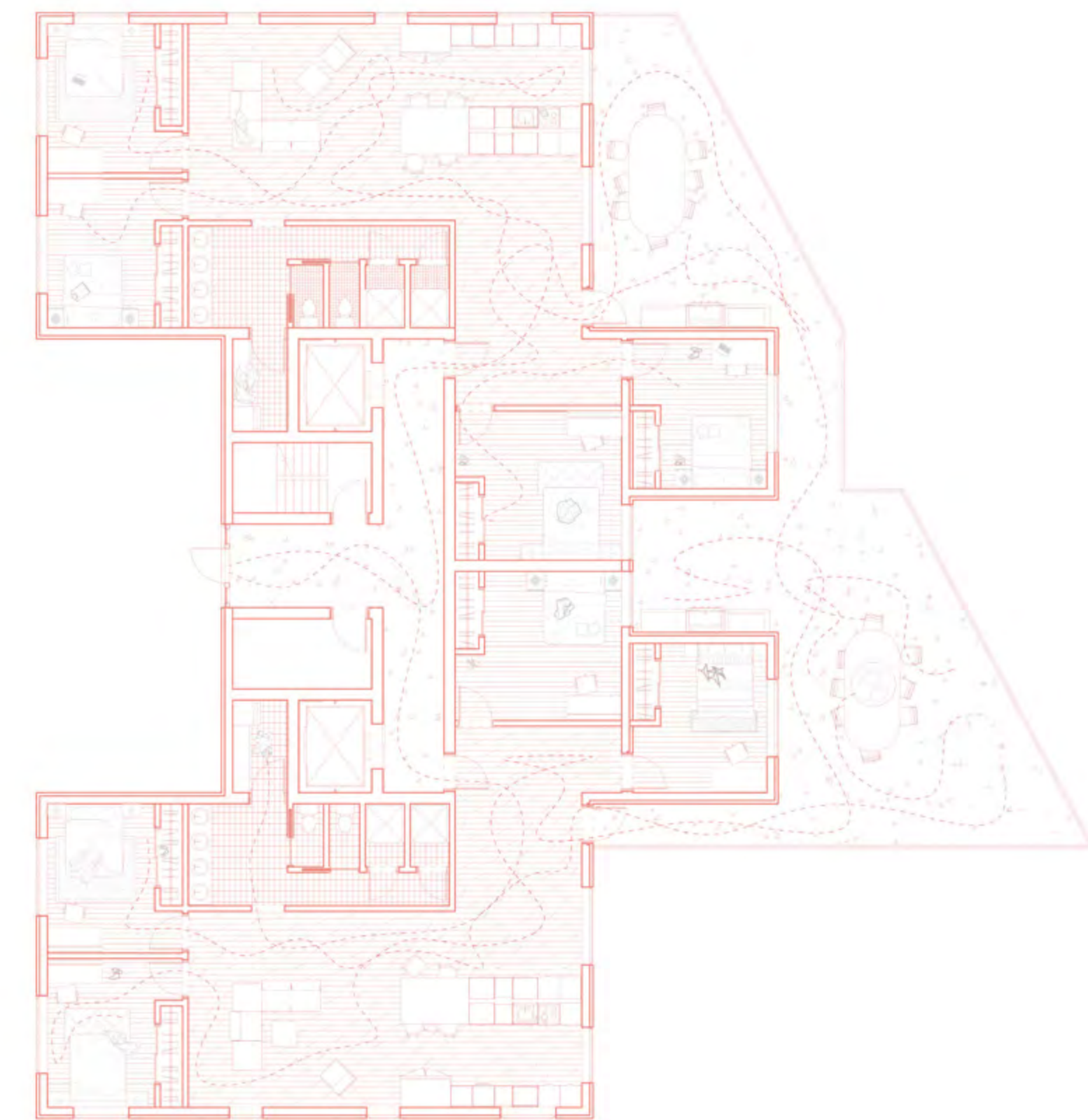
This layout fosters interaction, while still allowing for personal space and privacy. The room layouts were designed with New York city code restrictions in mind as well as daylight distribution.



The addition of adjustable partition walls and communal terraces further encourages connection among residents by blending indoor and outdoor spaces.

Each building is also connected by catwalks that surround the soccer field, creating another layer in the gradient of private to public space.

These catwalk spaces also provide an additional informal gathering space to watch and interact with the outdoor programming below.



Accessibility was also a huge design influence for the project as we wanted a filament of exercise to be imbued throughout the main access points to the streets surrounding our site.

How the building interacted with the evolving and collaged skyline of Harlem was also important, in order to embed the building into the existing visual and social frameworks in a seamless way.



The outdoor terraces as well as the communal kitchen and garden spaces also act as an extension of the city street below, where these semi public spaces are facilitators for life and activity to permeate vertically and away from potential power structures that could disrupt them on the street level.

Over time as more people interact with these programs these systems will support each other in a symbiotic relationship of growth, helping to alleviate the current pressures experienced by services like the African Services Committee which is currently overrun.

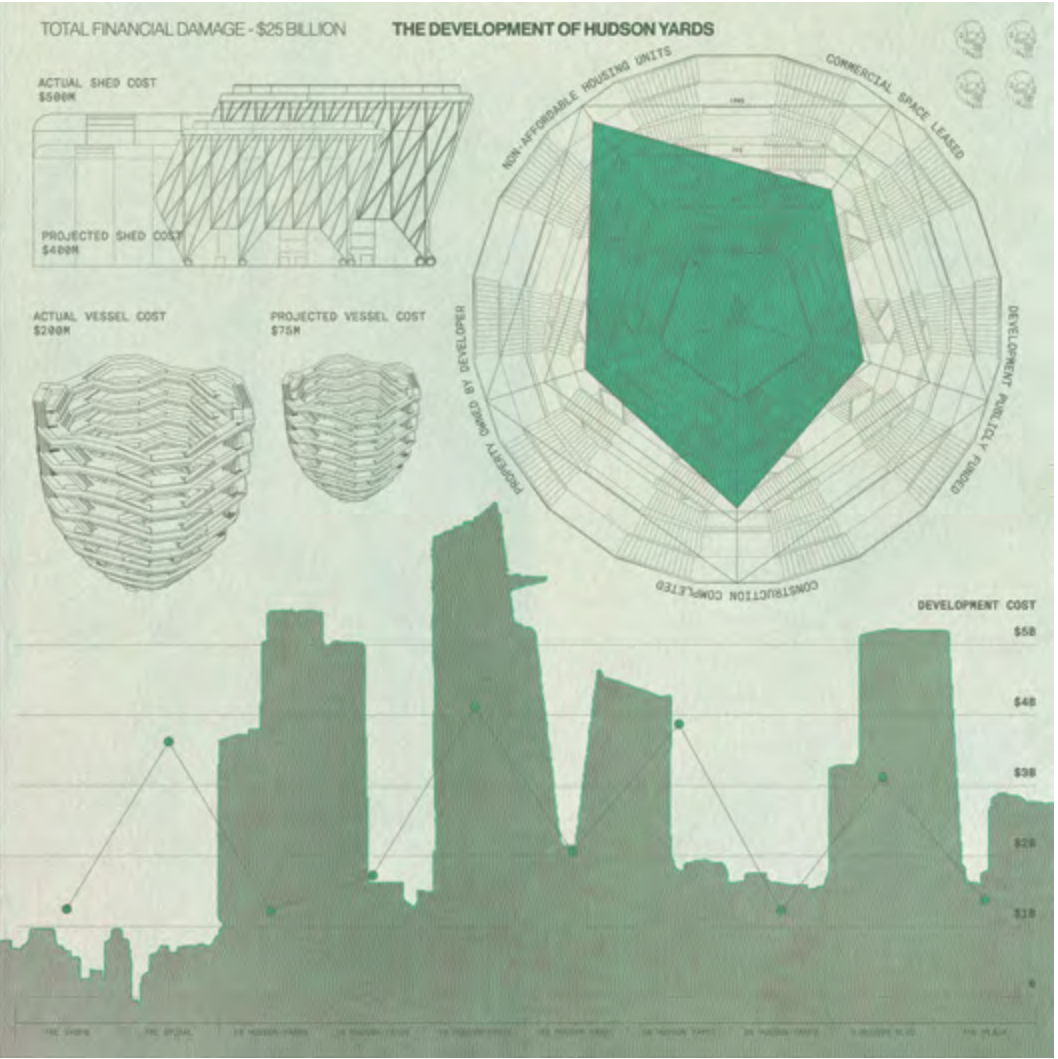
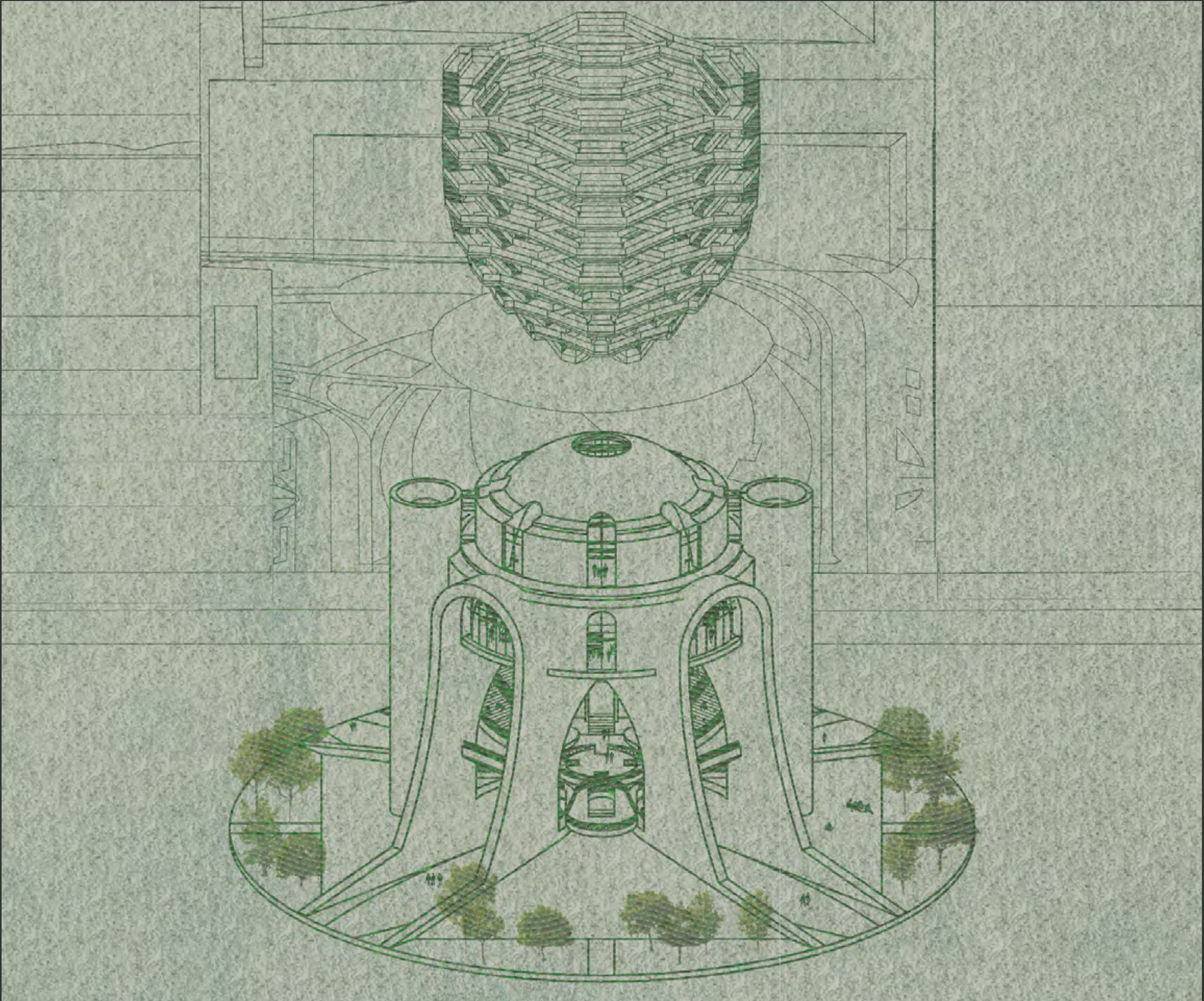
04 . BANK OF NEW YORK

Hudson Yards . New York
Core II . Damage Control
Professor . Abraham Murrell

BANK OF NEW YORK is formed upon the principle that public money should work for the public good, not private gain. The city of New York routinely places billions of taxpayer money into Wall Street banks that extract these funds from low-income communities and neighborhoods of color, perpetuating racial and economic inequality. Instead, this money is funneled into harmful corporate interests such as speculative real estate, fossil fuels, and the global arms trade that instigate the destruction of our planet.

The counter strategy that this project proposes is the creation of a public bank, an institution where the allocation of public assets will be made completely transparent. Through the establishment of a public bank owned and managed by the citizens of New York, restitution can begin for the groups that have been marginalized from the power structures of the private financial sector. This public bank will serve as an institutional pillar to divest resources away from the predatory banks of the financial district and instead into community-led economic development such as affordable housing and renewable energy for the city's general populous.

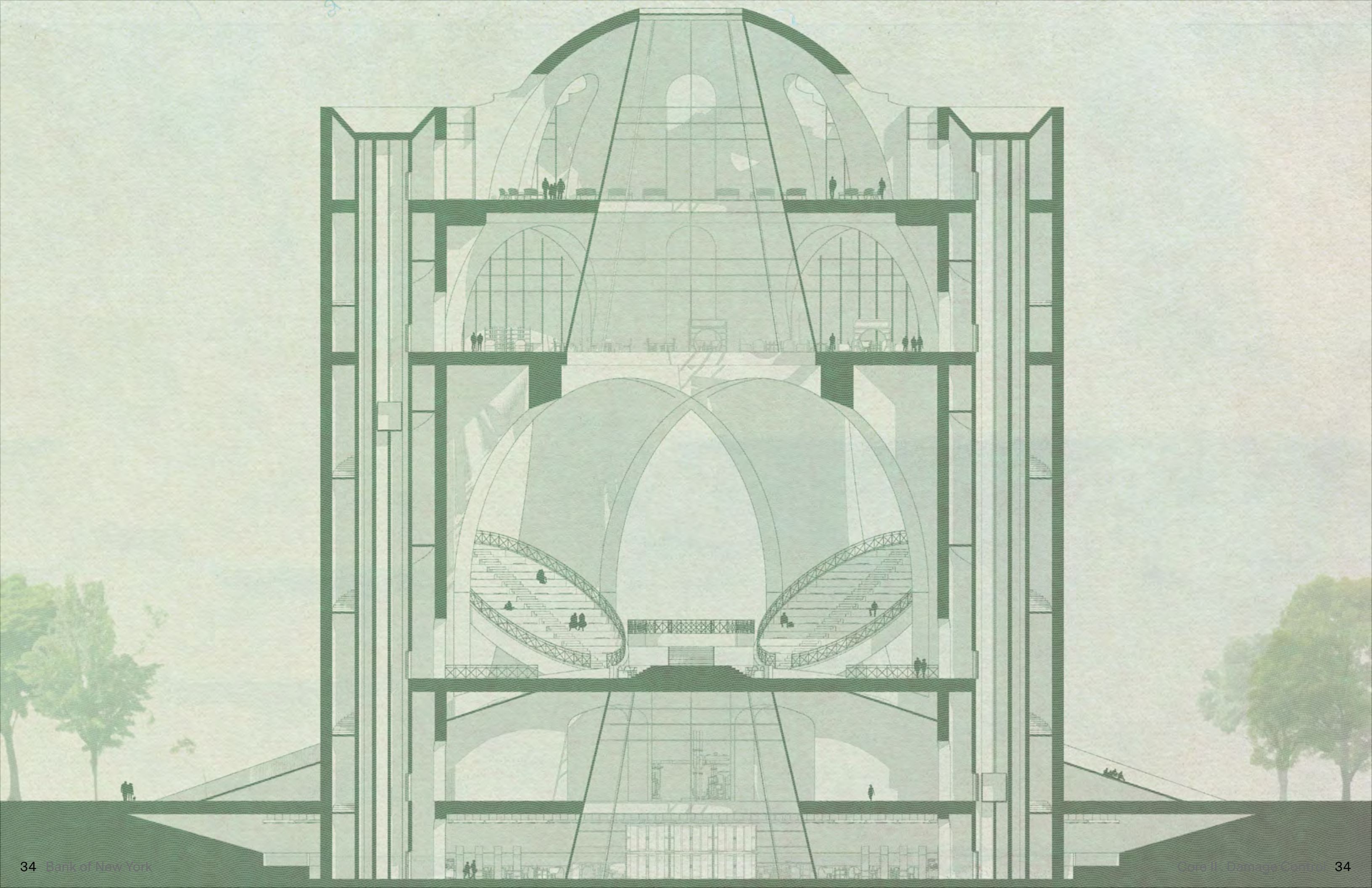
Programs used: Autodesk Revit, Rhino3D, Adobe Photoshop, Adobe Illustrator

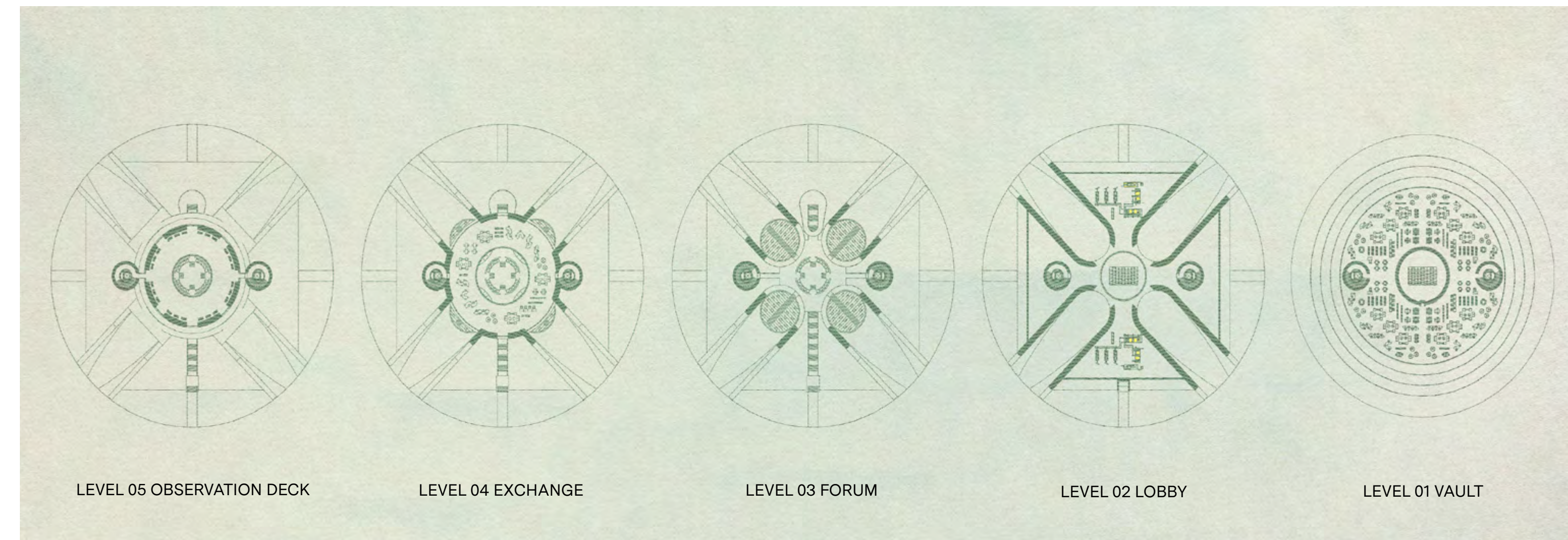
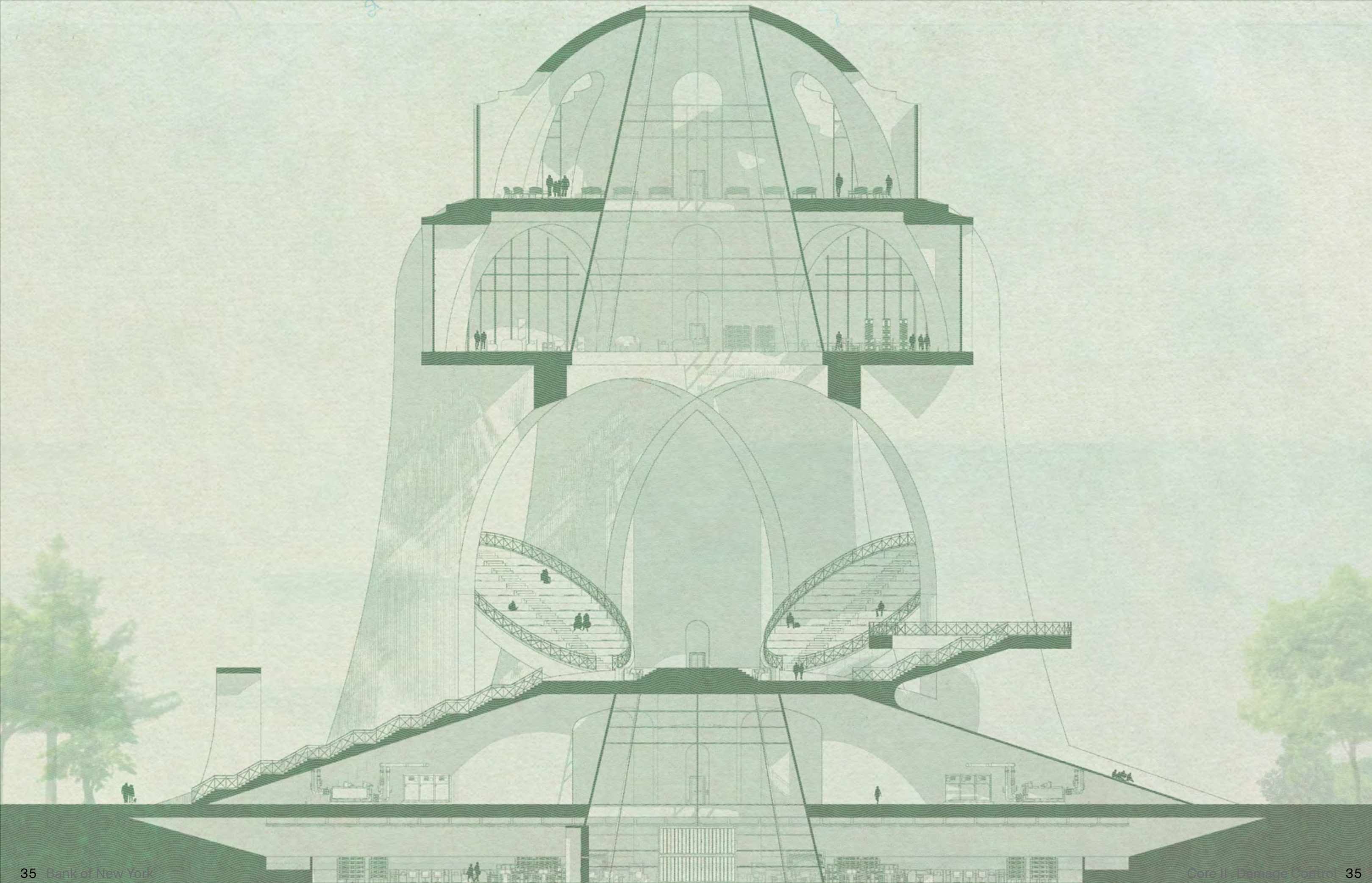


Initial analytical composite drawings were done depicting examples of financial catastrophes for research into the project. The bankruptcy of FTX as well as the vacancies surrounding the Hudson Yards development were chosen as conceptual drivers throughout all phases of design.



Next, a research model depicting stock price crashes was built. Tungsten cubes and coins are dropped through a hole in the top of the model until the weight causes them to fall onto a balloon, popping it in the process.





The programming of what is needed in a typical bank was challenged and discussed. Ultimately, a bank serves as an institution where conversations about money and more importantly how money is being spent need to occur and there needs to be a place for this exchange to happen.

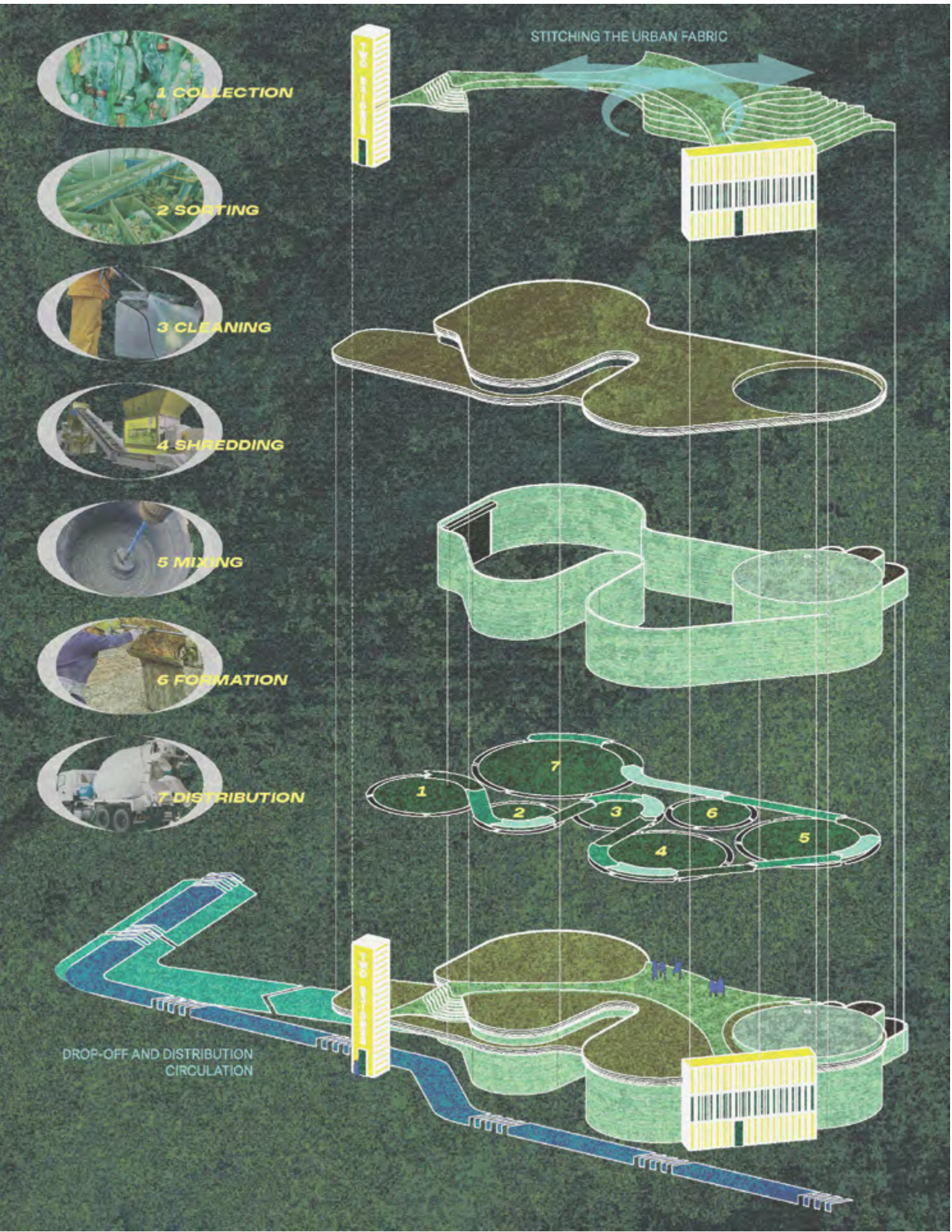
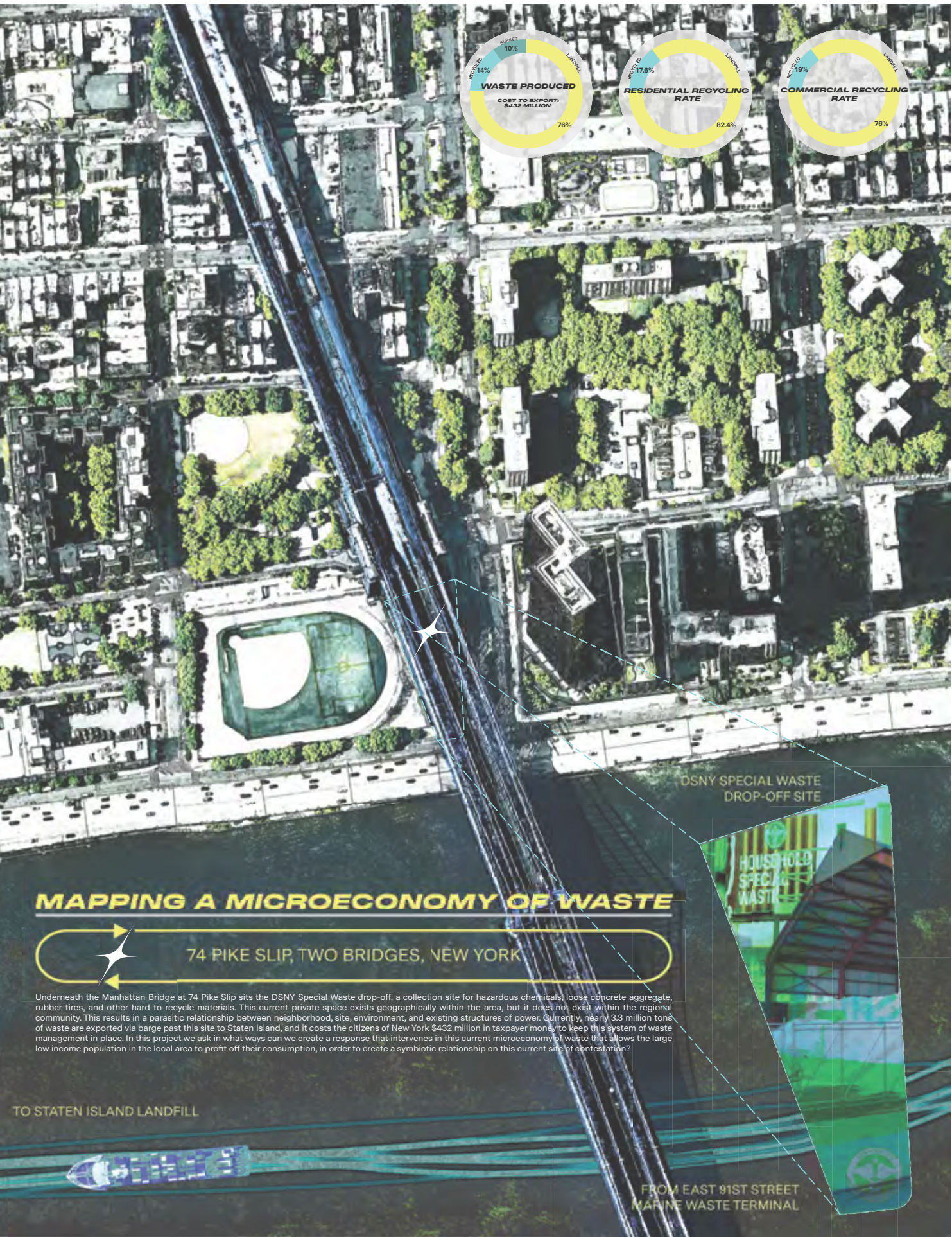
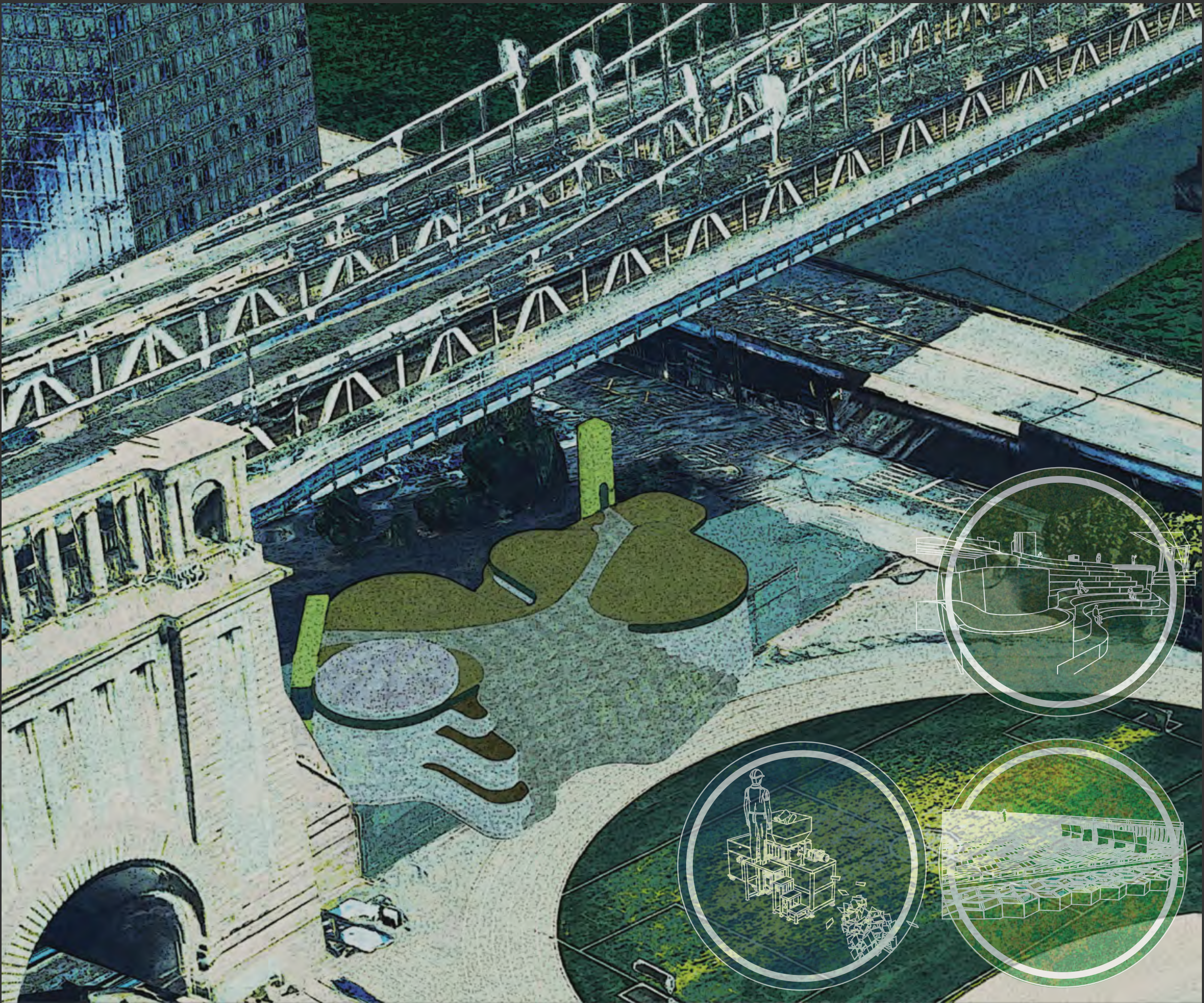
05 . DSNY TWO BRIDGES

Two Bridges . New York
Core I . Fugitive Mobilities
Professor . Talitha Liu
Collaborator . Jonah Johnson

DSNY TWO BRIDGES is the renovation and expansion of an existing DSNY Special Waste Drop-Off site that utilizes the existing aggregate material stored on the site as a replacement for portland cement in a bio-algeneate concrete composite that will be distributed from this transformed site of exchange.

The facility will also take advantage of the large collections of plastic waste that surrounds the streets of Chinatown as well as waste that accretes along the East River Greenway as a binding agent within this new bio concrete material to help restore and support these places rather than pollute.

Programs used: Autodesk Revit, Rhino3D, Adobe Photoshop, Adobe Illustrator



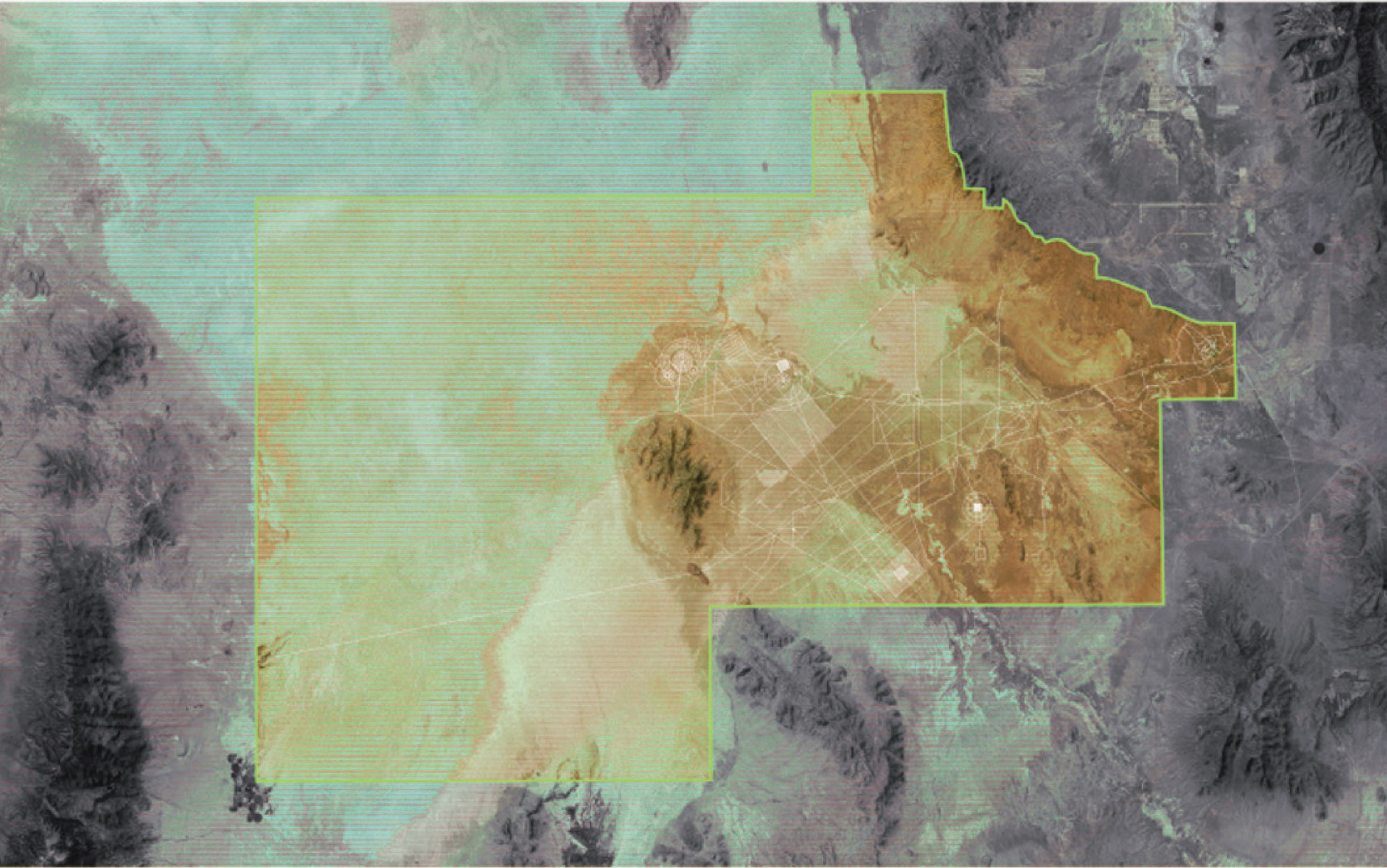
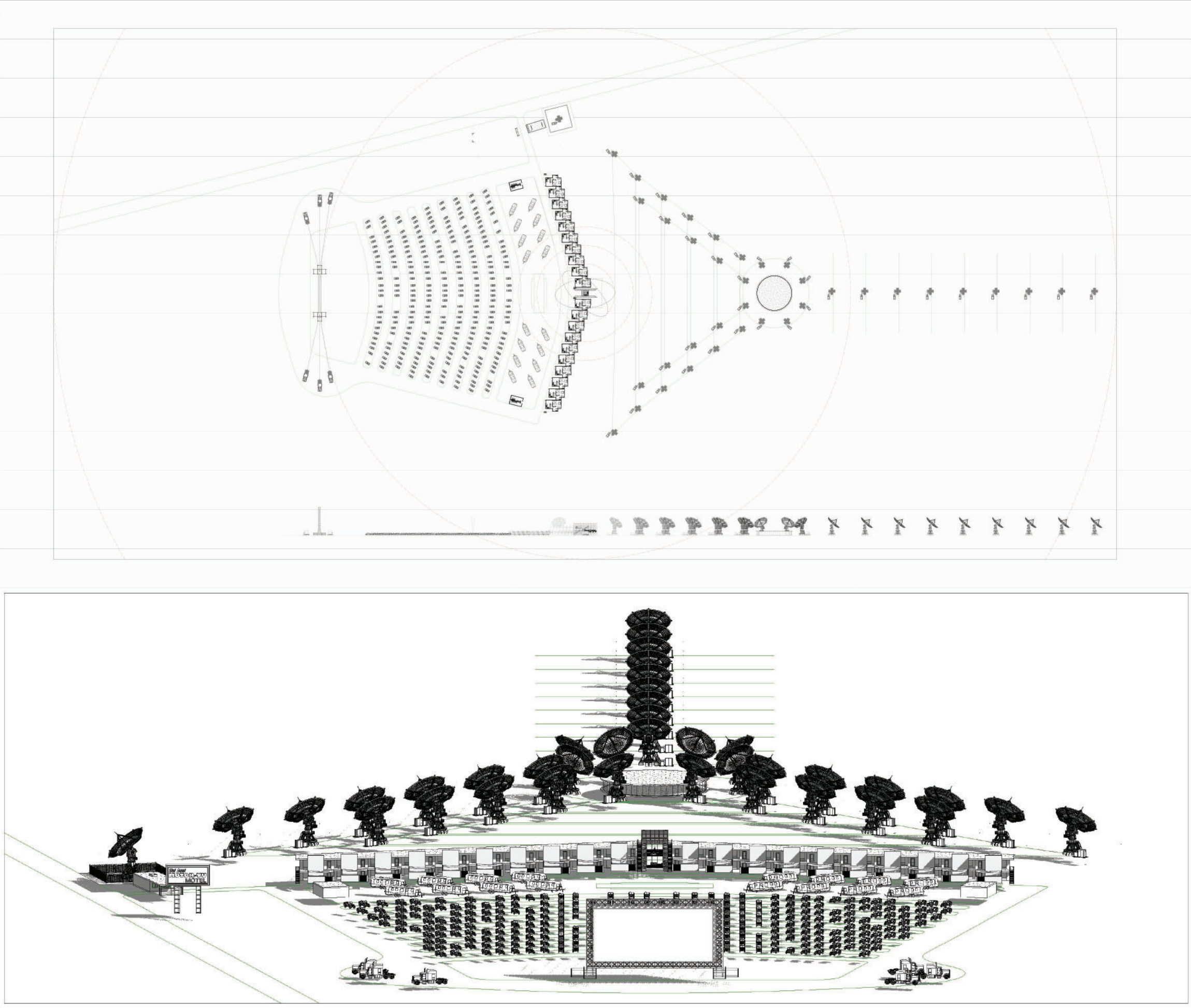
06 COUNTER WAR MACHINES

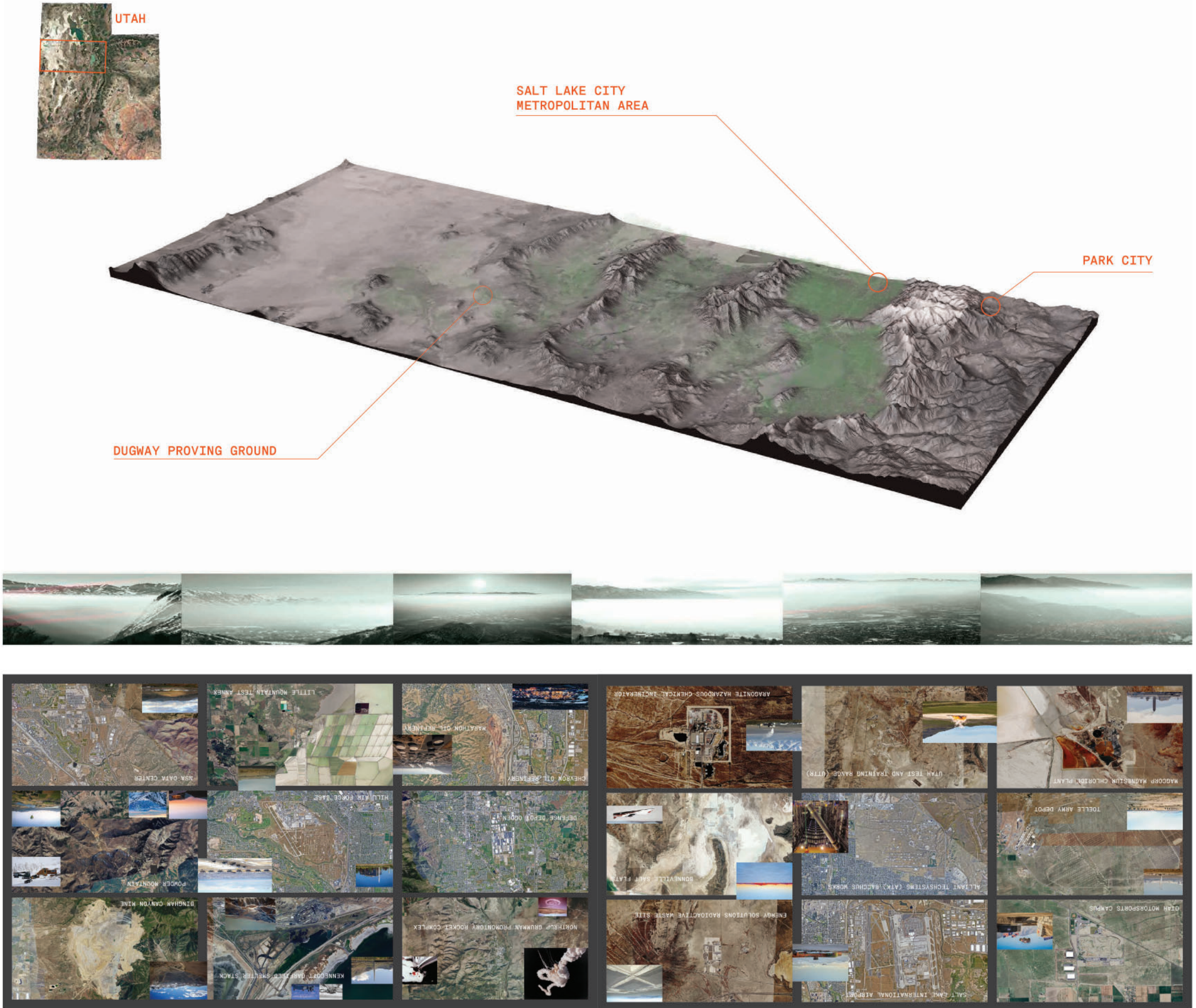
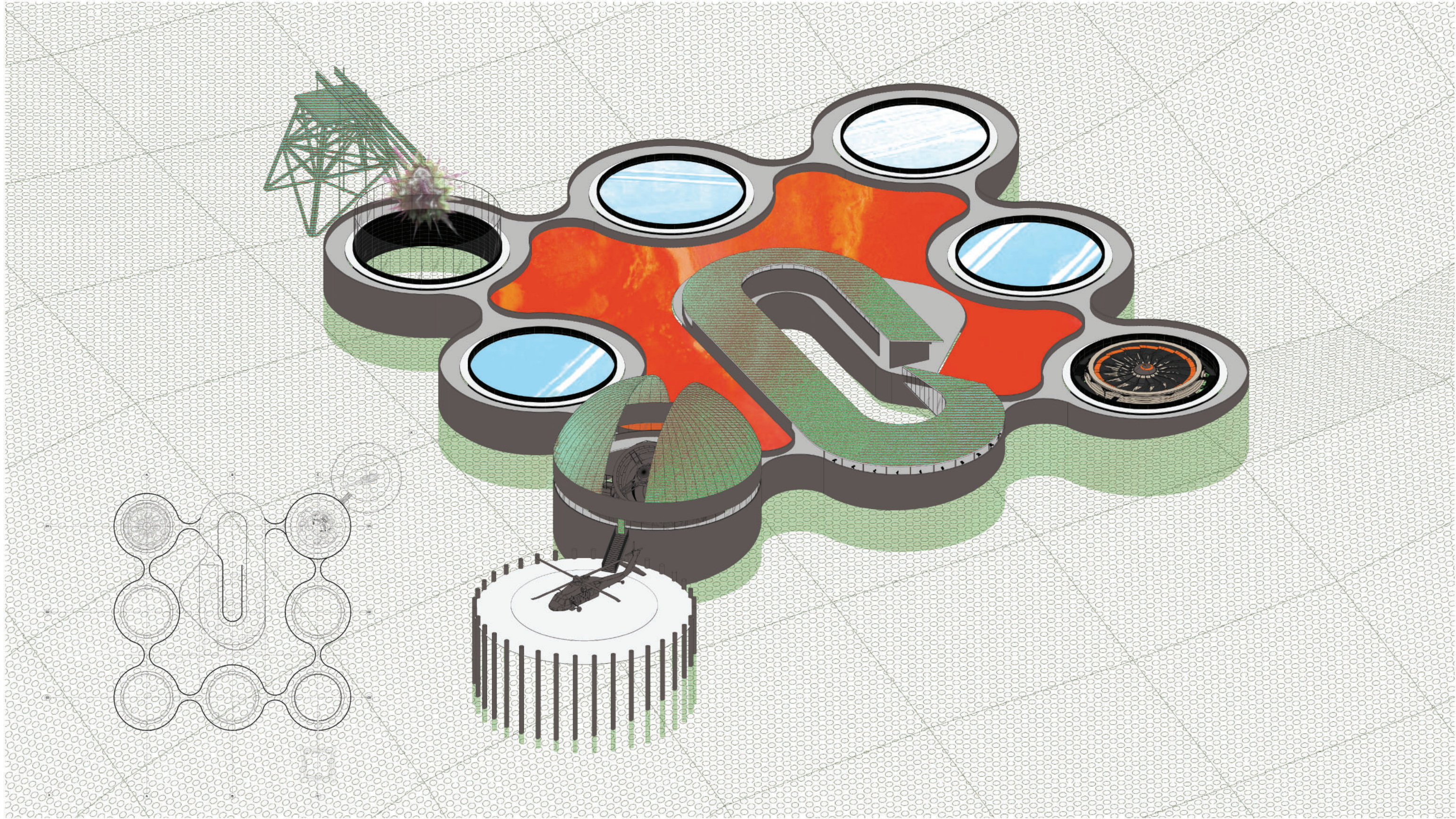
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Advanced VI . Detox USA
Professor . Mark Wasiuta

The nation's primary chemical and biological weapons testing and training site, Dugway Proving Ground is a unique defense site that combines the microscopic world of its chemical and biological laboratories with large-scale testing and training. The land within Dugway's 801,000 secured acres of Utah desert is dotted with several industrial and military complexes, and is latticed with overlapping target ranges and dispersal grids. The grounds of Dugway are used primarily by the Army and Air Force for smoke and vapor testing, chemical and biological weapons training, detonation and dispersal research, and other weapons and projectile experimentation, specifically to prove (test) the effectiveness of weapons, defenses, and tactics, primarily against AND for the deployment of chemical and biological threats. Further uses of the facility have included chemical weapons disposal research, as well as nuclear reactor meltdown tests. Live biological and chemical agents are used in tests in the several laboratory facilities located on the grounds. Dugway Proving Ground exemplifies how the U.S. military-industrial complex captures the “war machine”—transforming fluid, experimental, and decentralized forms of knowledge into controlled, state-directed systems of power.

This project proposes an architectural counter-war machine that reappropriates the technologies and logics of military testing—dispersion, detection, and atmospheric manipulation—and redeploys them as public, sensory infrastructures. By transforming instruments of secrecy into devices of detection, the project exposes the hidden operations of Dugway Proving Ground and renders their environmental and political effects legible within the Wasatch Valley.

Programs used: Autodesk Revit, Rhino3D, Adobe Photoshop, Adobe Illustrator, Adobe After Effects





The concentration of the empirical chemical industry in Northern Utah is constantly littering the atmosphere with toxins that create a physical representation of the haze of chemical modernity. Because of the natural geography of the Wasatch Valley, when warm air rolls in during the winter it traps cold air and pollutants towards the valley floor nestled between the mountains, creating an atmosphere that is consistently circulating the toxic pollutants of these hazardous industries that the population is consuming for weeks at a time when inversion is the most present. Utah residents live downwind of a system they cannot see or control. Civilian life becomes entangled in systems it didn't choose. Northern Utah is littered with all kinds of toxic industry. The sheep incident of 1968 is proof that Dugway exists within an atmospheric system where containment is never absolute.

