

# ***Ethan Davis***

GSAPP Graduate Portfolio

# Ethan Davis

t : (224) 383-4857

e : ethan.davis@columbia.edu

## education

August 2020-Present Columbia University  
Master of Architecture / Graduate School of Architecture, Planning, & Preservation

## University of Michigan

May 2018 Bachelor of Science in Architecture / Taubman College of Architecture & Urban Planning  
University of Michigan, Dean's List

## experience

May 2021-August 2021 **Studioteka / Brooklyn, NY**  
**Architectural Intern**  
Worked with studio principle and various consultants on the adaptation of the book "2100: A Dystopian Utopia" into a multiplayer player video game meant to educate users on cutting-edge sustainable technology that will soon be necessary for humanity's survival. Created and designed sample game play images, videos, and heads-up displays for the submission for an "Epic Mega Grant" to receive funding for the game's further development.

## Buell Center for the Study of American Architecture / New York, NY

August 2020-May 2021 **Graduate Research Assistant**  
Assisting in the Green Reconstruction component of the POWER: Infrastructure in America research project. Contributing to a variety of research and data scraping exercises seeking to restructure the way educational and professional curricula handle environmental concerns within the built environment.

## Myefski Architects / Chicago, IL

January 2020-August 2020 **Architectural Technician**  
Worked on a variety of project programs including senior care facilities, student housing, and a multi-home development. Assisted with concept design, schematic planning, and design development services.

## Skidmore, Owings, & Merrill / Chicago, IL

July 2018-November 2019 **Architectural Assistant**  
Assisted in domestic and international projects, from concept design through construction documents. Worked on a variety of project types, including a museum, transit hub, and multiple towers up to 500 meters. Participated in multiple competitions, competing against world renowned firms for major overseas projects. Contributed in client and internal meetings, project management, concept design, and technical drafting.

## Wight & Company / Chicago, IL

Summer 2017 **Architectural Intern**

## Robbins Architecture / Winnetka, IL

April 2014-Summer 2016 **Architectural Intern**

## affiliations

August 2017-Present NCARB Intern Development Program: 4,200 hours complete

Fall 2014-Spring 2018 **Vice-President**  
American Institute of Architecture Students

Fall 2014-Fall 2016 **Student Government Events Coordinator**  
CSG Sustainability Commission

## awards/publications

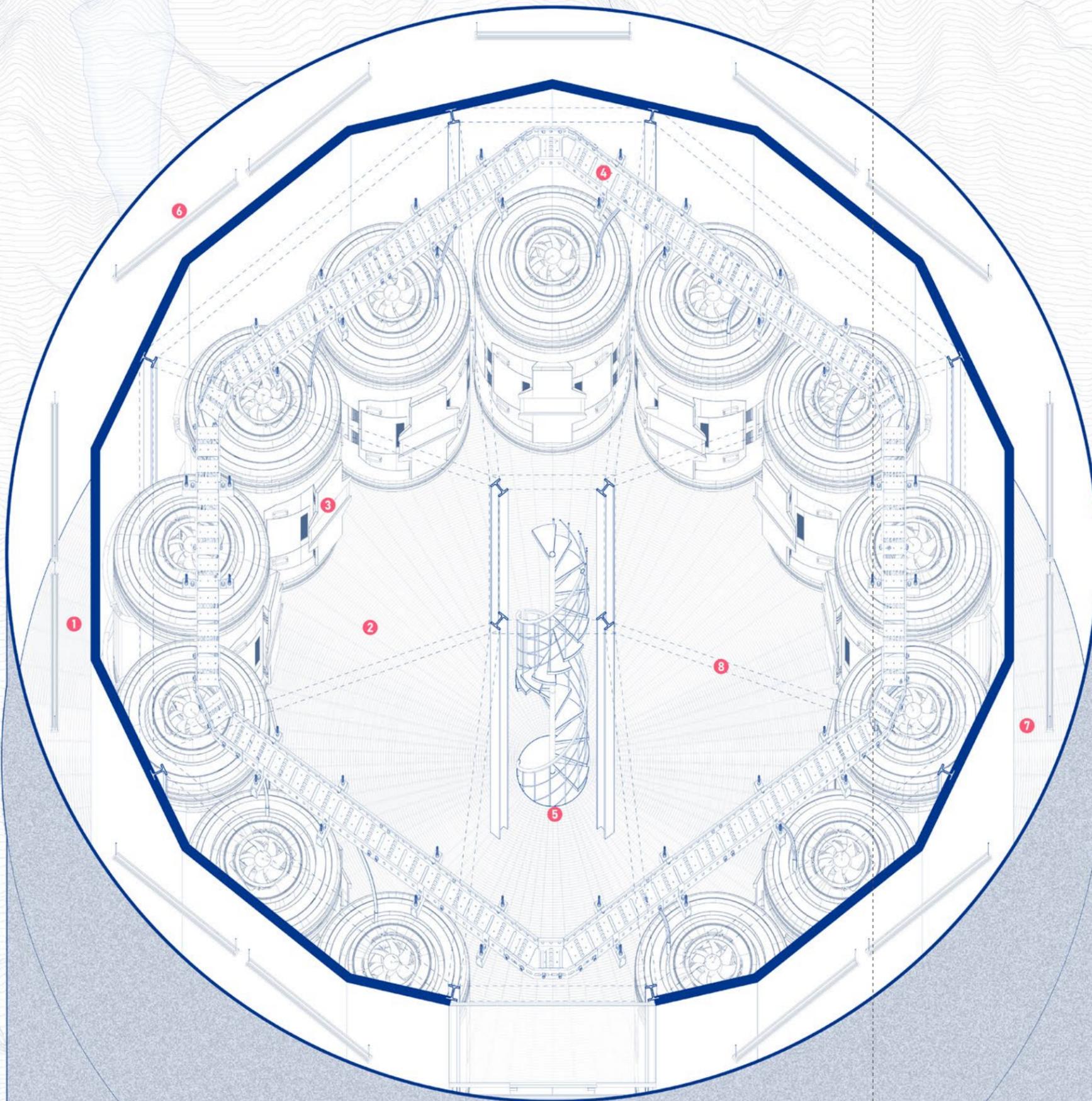
Winter 2022 **Green Reconstruction: A Curricular Toolkit for the Built Environment**  
Buell Center for the Study of American Architecture, Columbia University

Winter 2018 **Wallenberg Fellowship Nominee**  
University of Michigan Taubman College of Architecture & Urban Planning

Fall 2017 **Undergraduate Student Exhibition: Second Place Winner**  
University of Michigan Taubman College of Architecture & Urban Planning

## skills

Digital Adobe Creative Suite / Autocad / Bluebeam / Enscape / Rhino / Revit / Sketchup / Twinmotion / V-Ray  
Physical/Fabrication Hand Drafting / Model Making / Sketching / 3D Printing / Laser Cutting



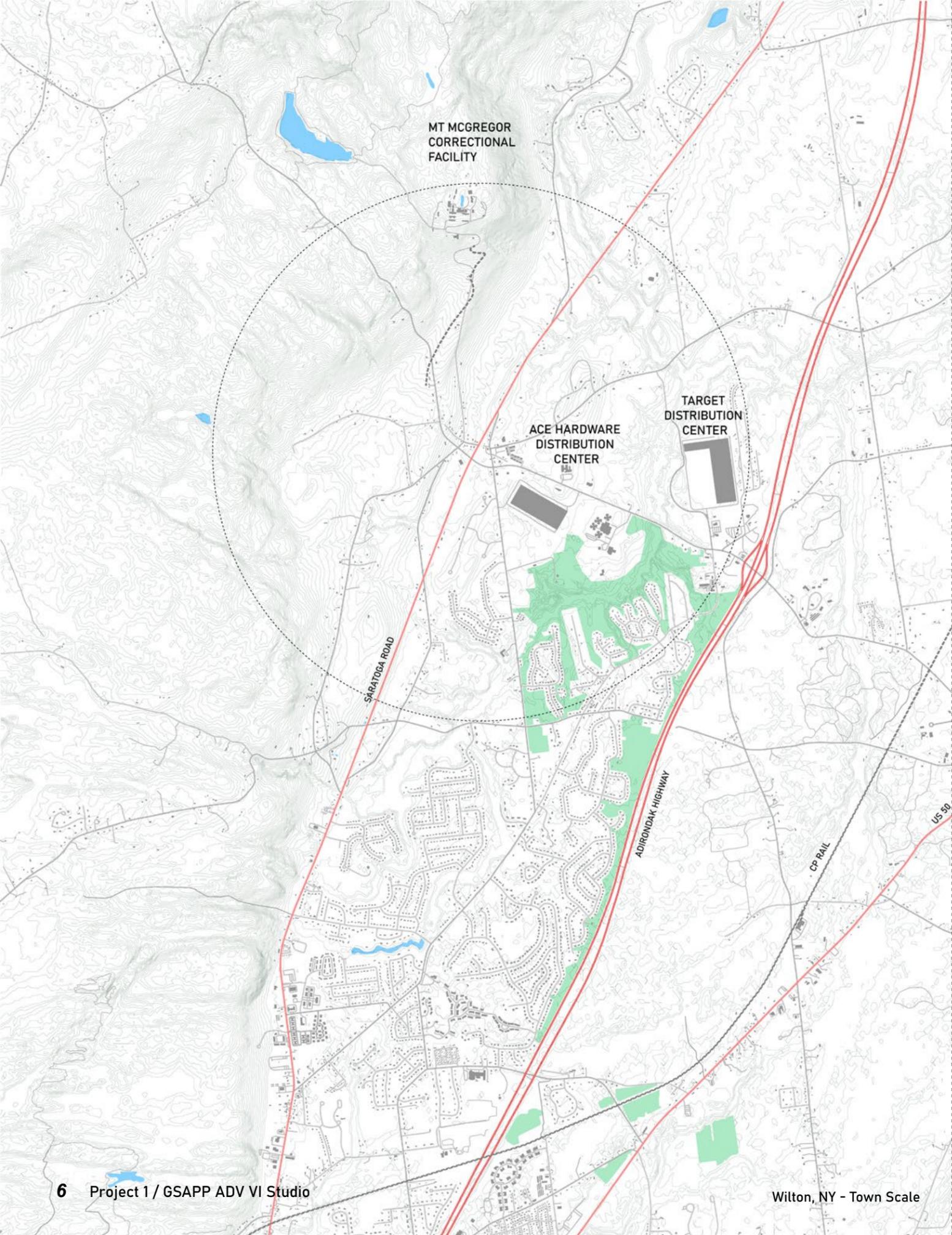
# Rurality Reconnected

*Wilton, New York*

Through the introduction of a sustainable collocation edge data center, Wilton will have the proper digital infrastructure and broadband access to instigate an economic renaissance that will break down the extractive nature of the town's sprawling cul-de-sac neighborhoods and imposing distribution centers.

After losing its primary mining industry, Wilton introduced the Mt. McGregor Correctional Facility as a way to fill this economic void. Without a cultural and economic identity, Wilton and the prison it housed began to attract "bad neighbors" like two massive distribution centers, and relentless suburban sprawl that dominates what should be a vibrant downtown. Now abandoned, the prison provides an opportunity to bridge the digital and economic divide that plagues Wilton. By retrofitting an existing water tower on site into a collocation edge data center, there is potential to spur economic growth within Wilton by giving small businesses the technology and digital real estate they need to thrive. A data center decreases broadband latency, improves upload/download speeds, and will allow Wilton's economy to take back the territory that lost to corporate neighbors like Target and Ace Hardware. This data center will also provide captured heat energy from the servers it houses, and transport this to the community as a means of negating any environmental impact it would have. The disruption will allow Wilton's citizens to gain economic independence, and will wither away at the corporate institutions and suburban sprawl that has become characteristic of the town. In their place will be community gardens and markets that act as an outlet for Wilton's repair the economic and social chasms that have dev last half century.

Columbia University  
GSAPP Adv VI Studio  
Prof. Laura Kurgan  
Spring 2022



MT MCGREGOR  
CORRECTIONAL  
FACILITY

ACE HARDWARE  
DISTRIBUTION  
CENTER

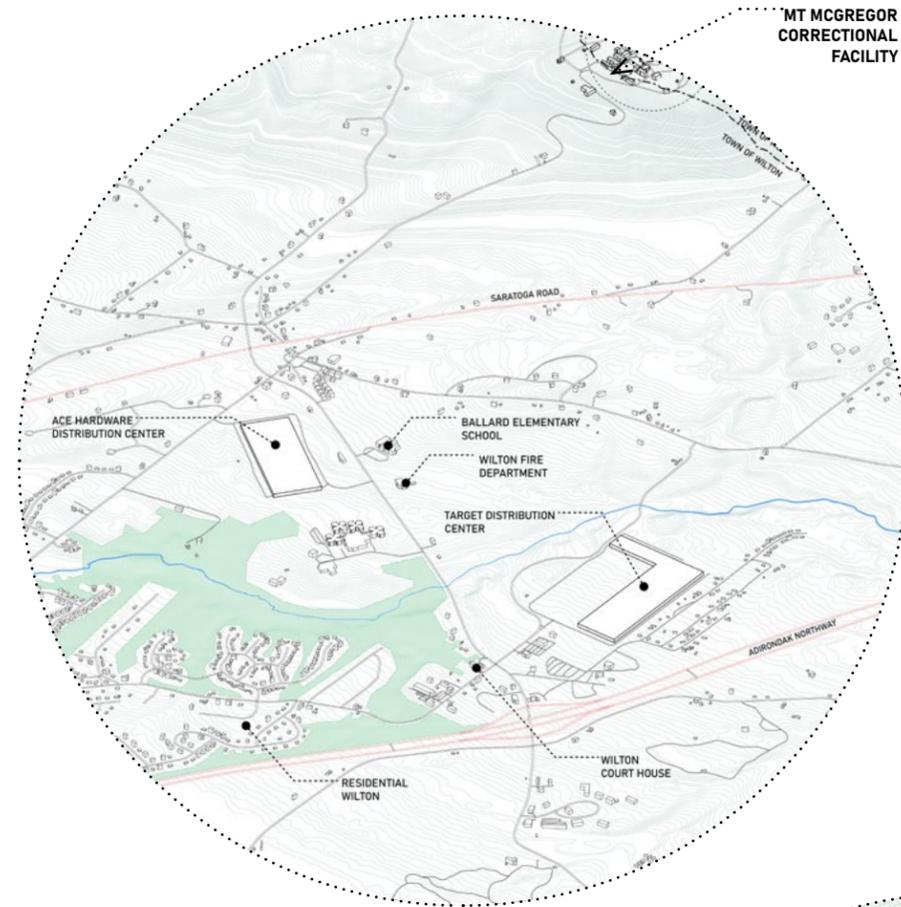
TARGET  
DISTRIBUTION  
CENTER

SARATOGA ROAD

ADIRONDAK HIGHWAY

CP RAIL

US 50



MT MCGREGOR  
CORRECTIONAL  
FACILITY

ACE HARDWARE  
DISTRIBUTION  
CENTER

BALLARD ELEMENTARY  
SCHOOL

WILTON FIRE  
DEPARTMENT

TARGET DISTRIBUTION  
CENTER

RESIDENTIAL  
WILTON

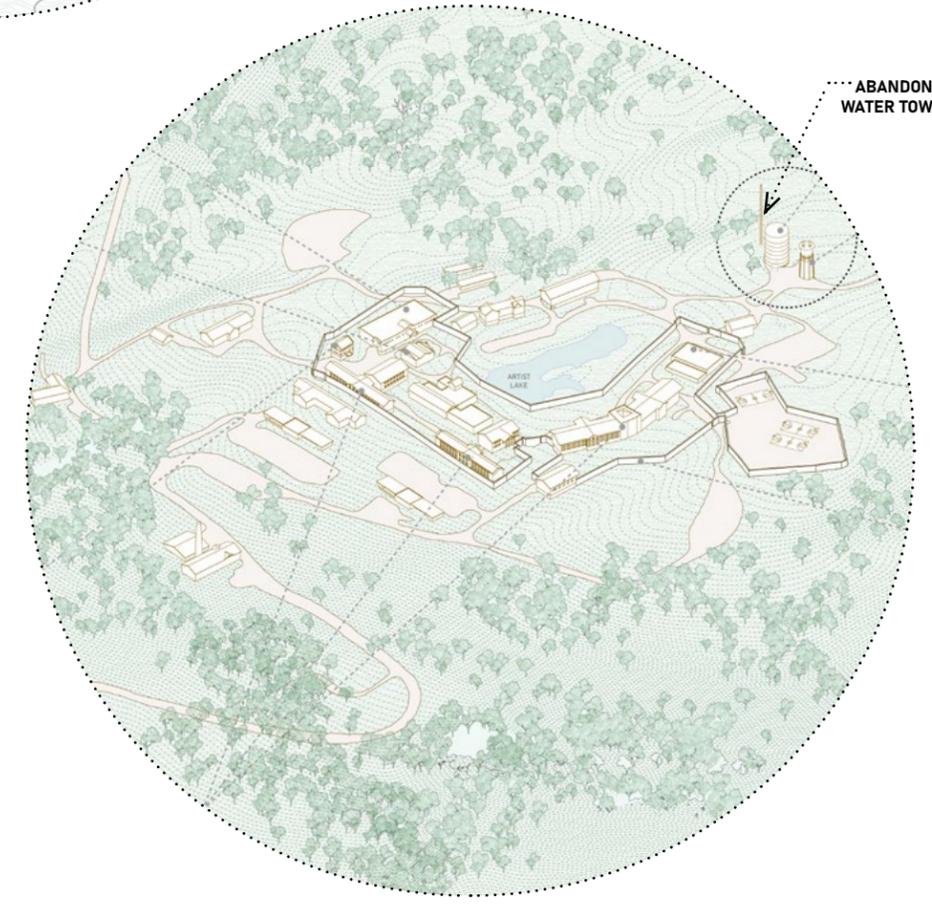
WILTON COURT HOUSE

SARATOGA ROAD

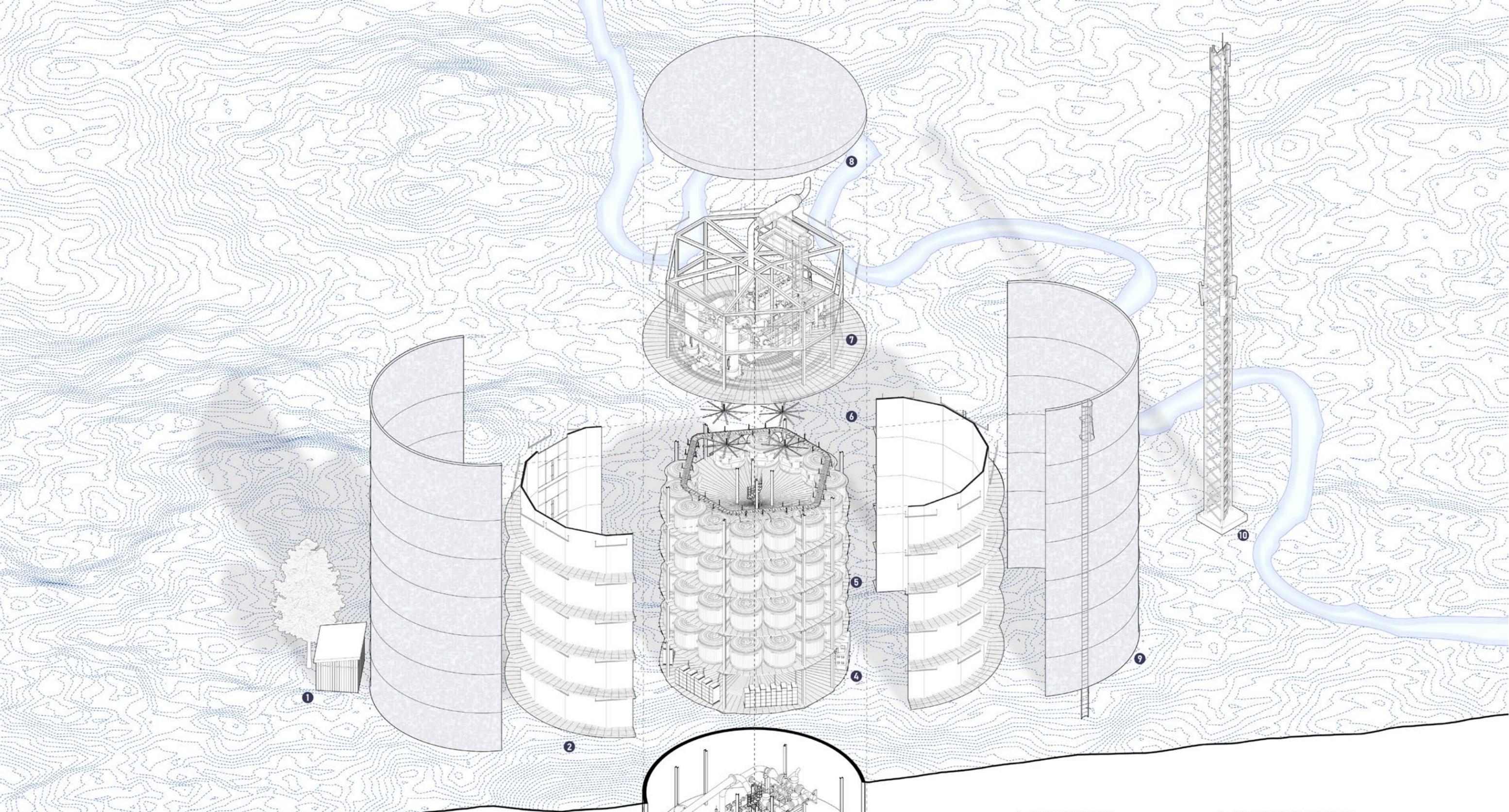
ADIRONDAK NORTHWAY

**Enlarged Site Scale**  
Wilton, NY

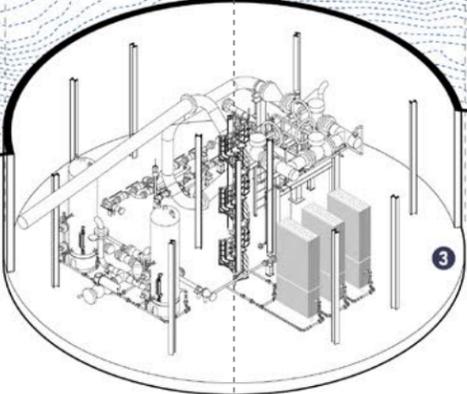
**Existing Site**  
Mt. McGregor Correctional Facility

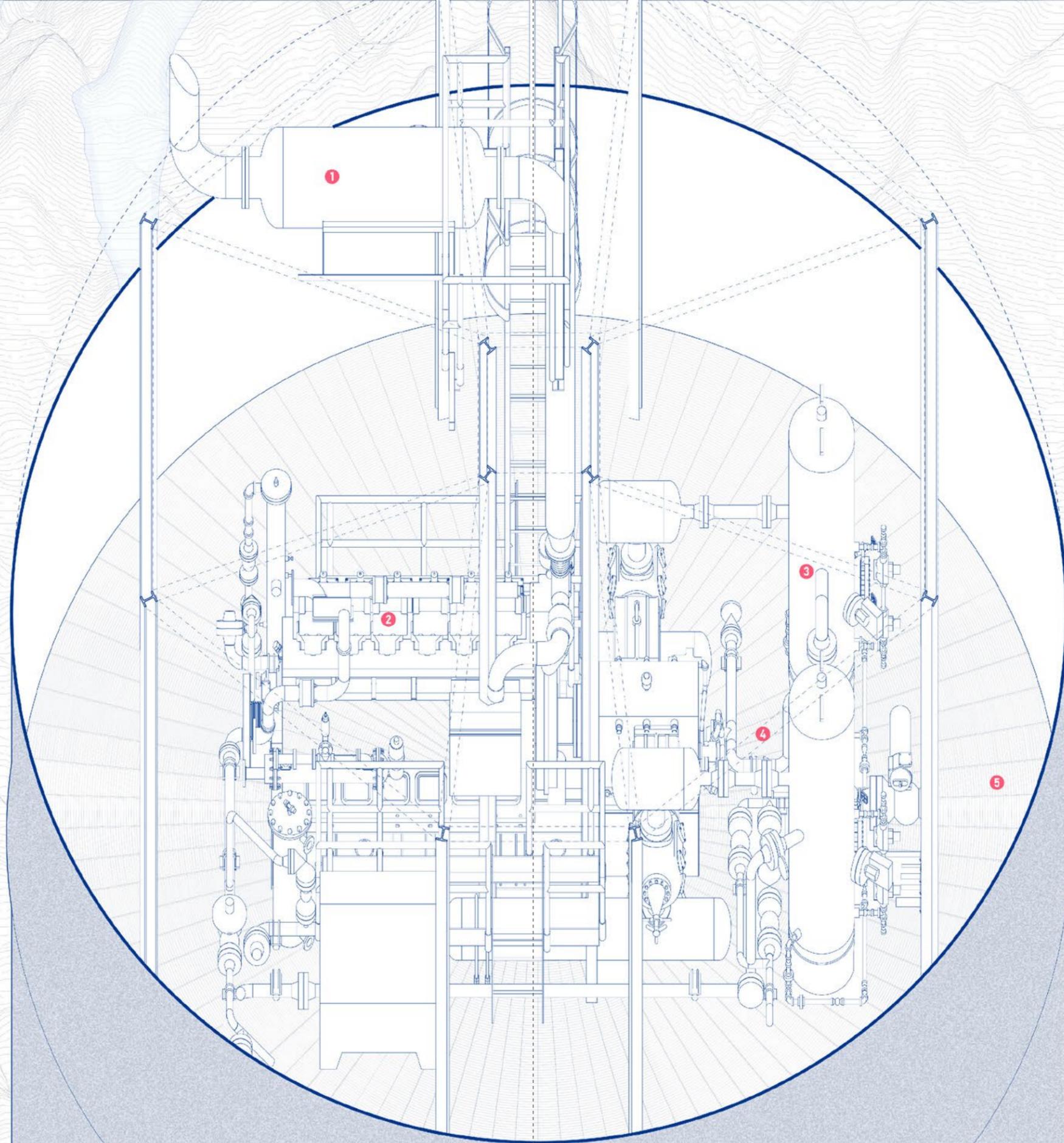


ABANDONED  
WATER TOWER

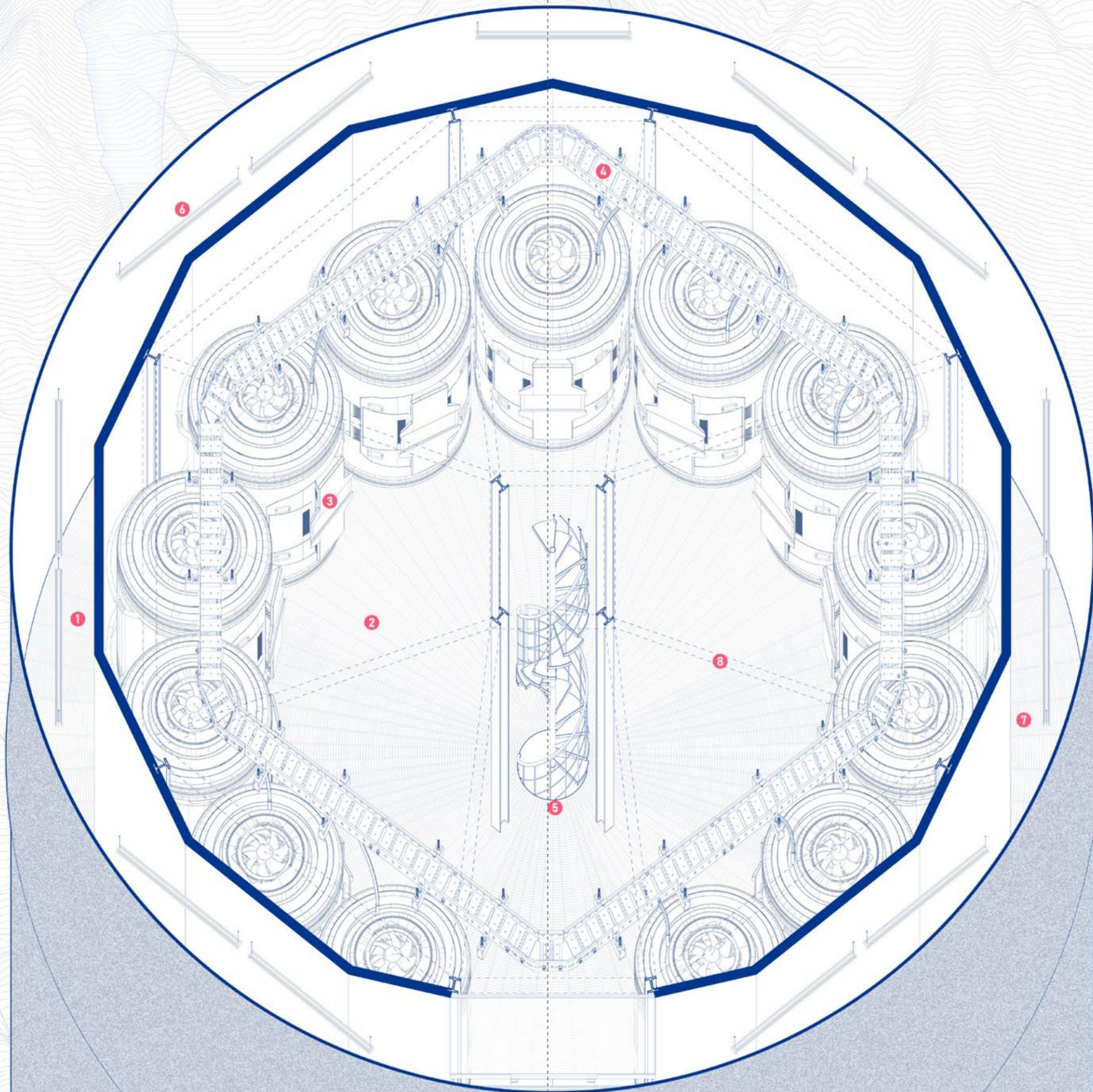


- |   |  |
|---|--|
| 1. Manual Control Hub                   | 6. Industrial Airflow Circulation      |
| 2. Cold Aisle with Grated Flooring      | 7. MEP Level & Air Intake              |
| 3. Heat Energy Reclamation              | 8. Existing Water Tower Roof           |
| 4. Data Storage Level & Management      | 9. Existing Water Tower Exterior Shell |
| 5. Hot Aisle with Vapor Chamber Servers | 10. Existing Emergency Radio Tower     |

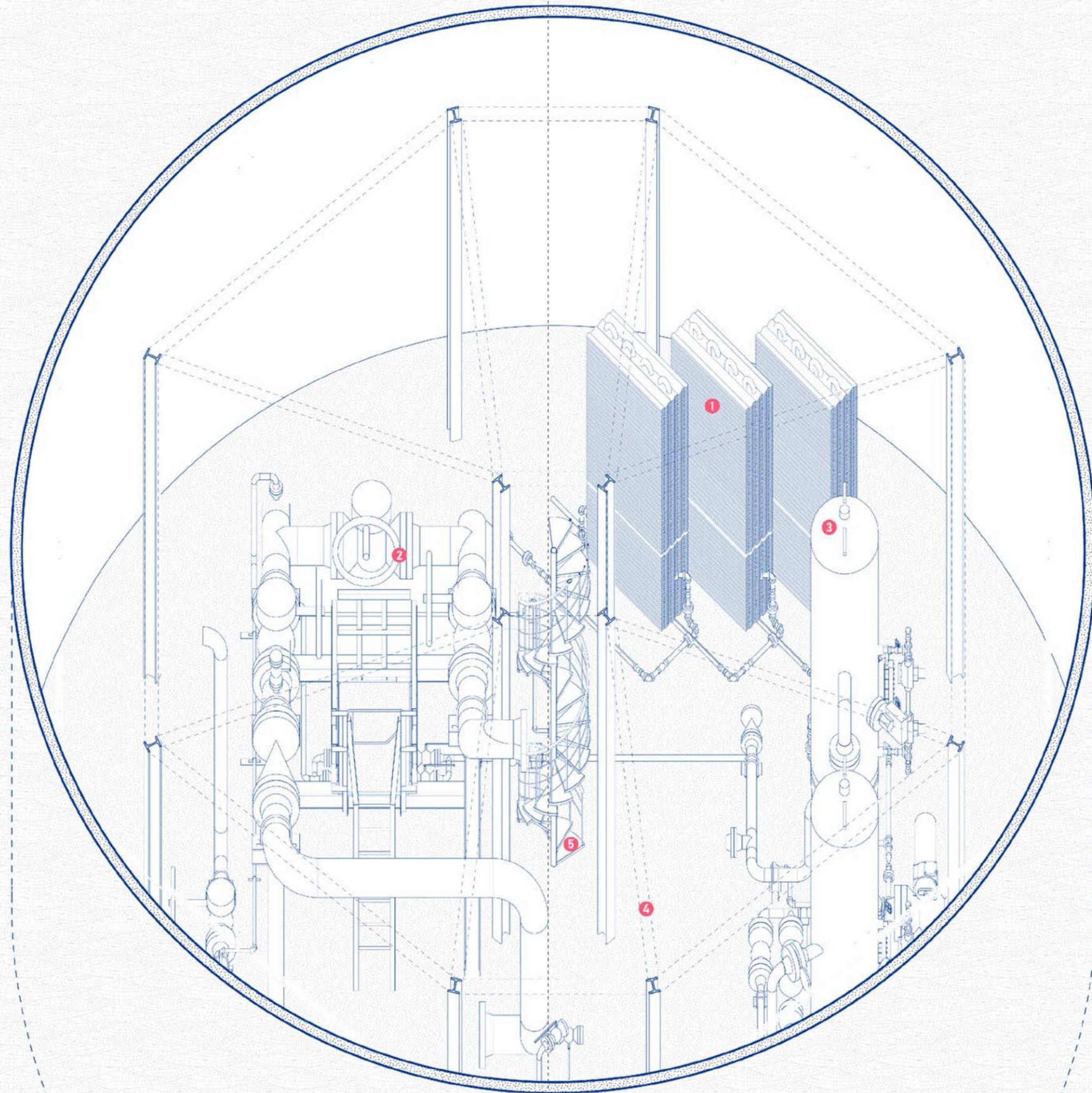




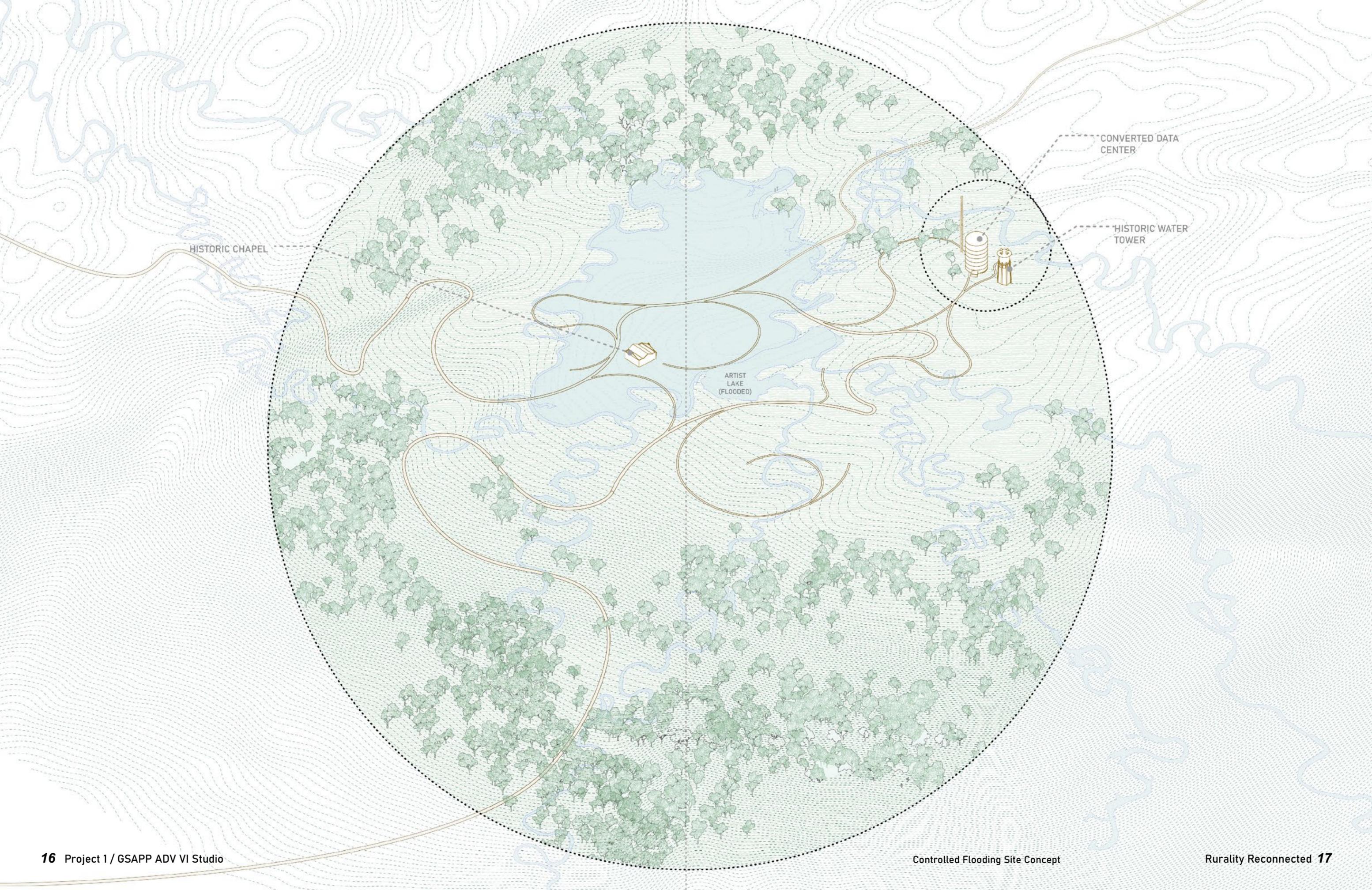
- 1 Air Intake
- 2 MEP
- 3 Circulation Chamber
- 4 Structure Above
- 5 Grated Flooring
- 6 Existing Water Tower Exterior



- 1 Cold Aisle
- 2 Hot Aisle
- 3 Vapor IO Cylindrical Server
- 4 Cable Tray
- 5 Vertical Circulation
- 6 Suspended Ceiling Lighting
- 7 Grated Flooring
- 8 Structure Above
- 9 Existing Water Tower Exterior



- 1 Hot Water Coil
- 2 Heat Energy Maintenance Access
- 3 Hot Water Storage
- 4 Structure Above
- 5 Vertical Circulation
- 6 Basement Retaining Wall



HISTORIC CHAPEL

CONVERTED DATA CENTER

HISTORIC WATER TOWER

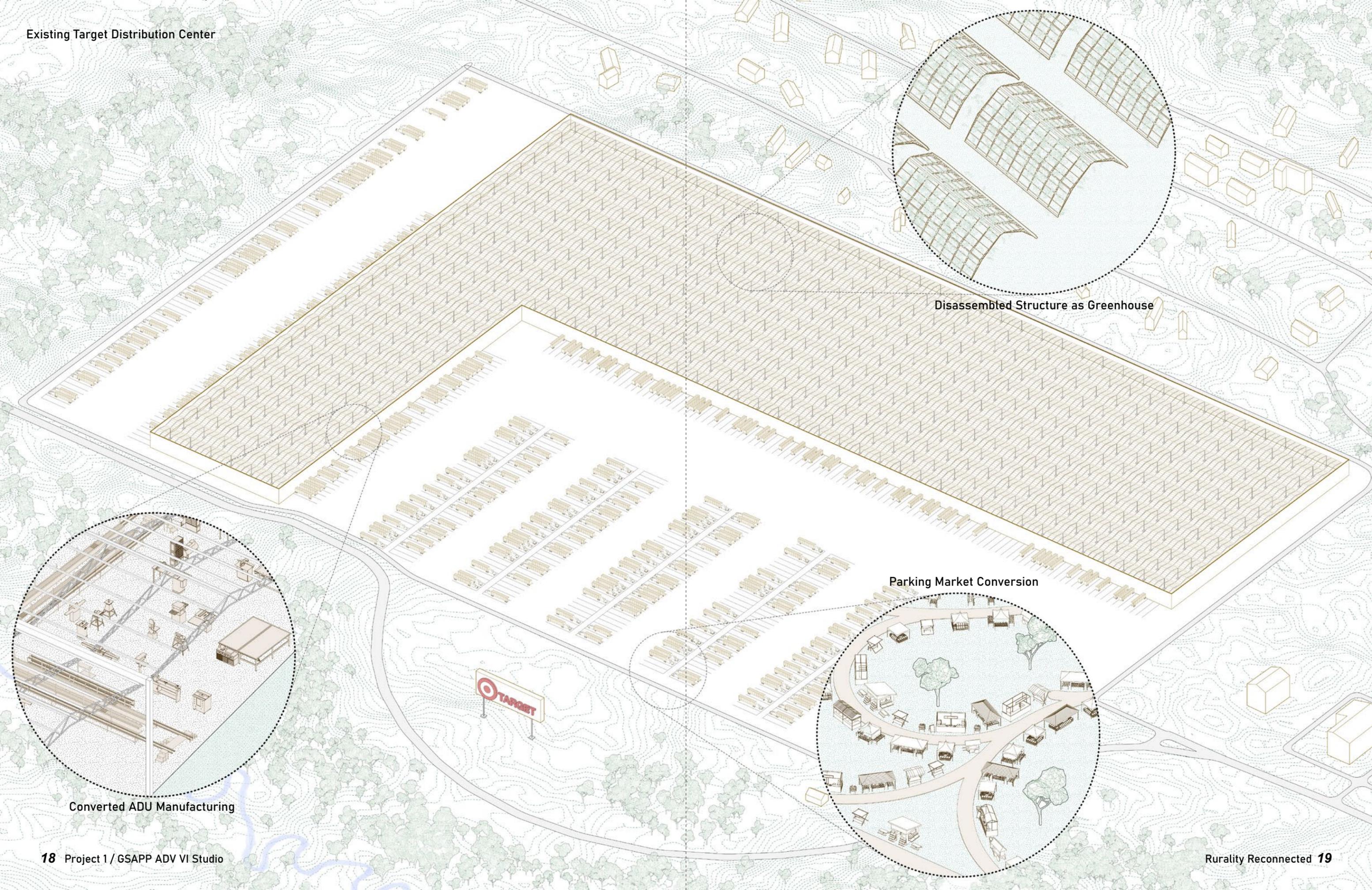
ARTIST LAKE (FLOODED)

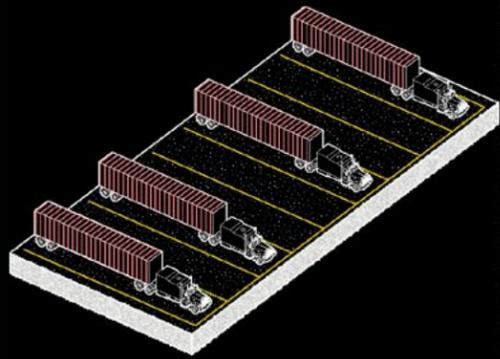
Existing Target Distribution Center

Disassembled Structure as Greenhouse

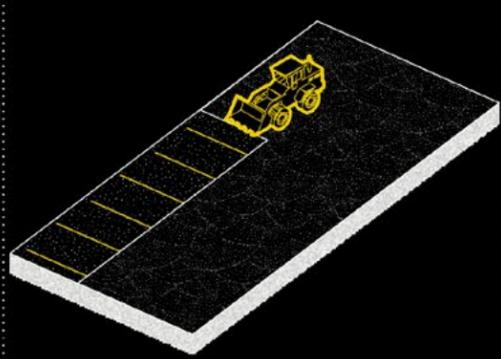
Parking Market Conversion

Converted ADU Manufacturing





EXISTING EXTERIOR CONDITION



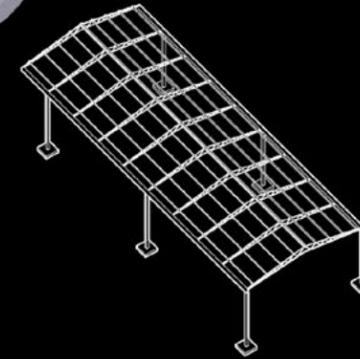
DEMASK



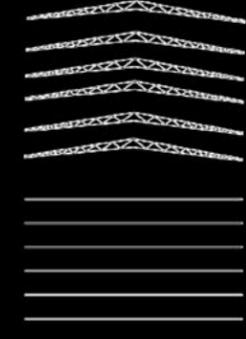
EXISTING PROGRAM OUTPUT



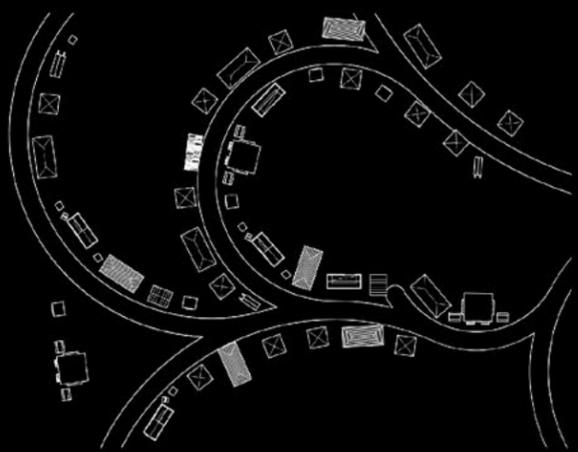
DEPROGRAM



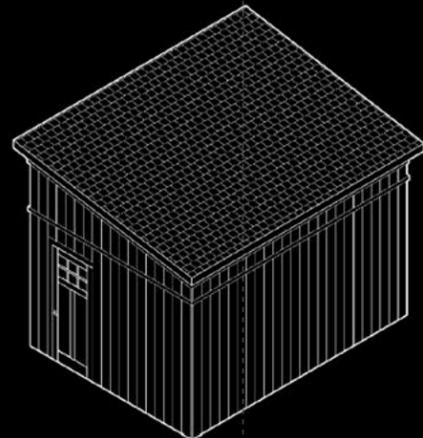
EXISTING STRUCTURAL MODULE



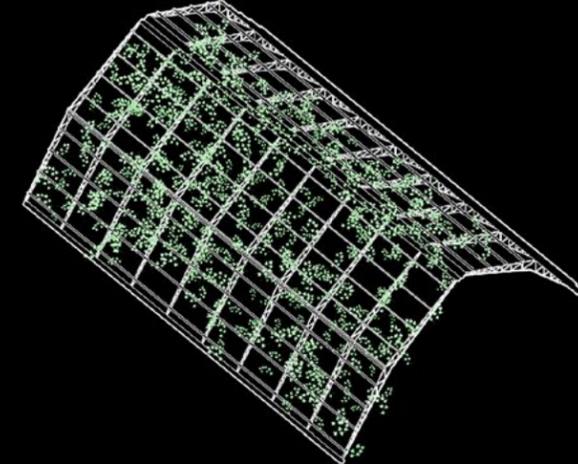
DISSASSEMBLE



REIMAGINE



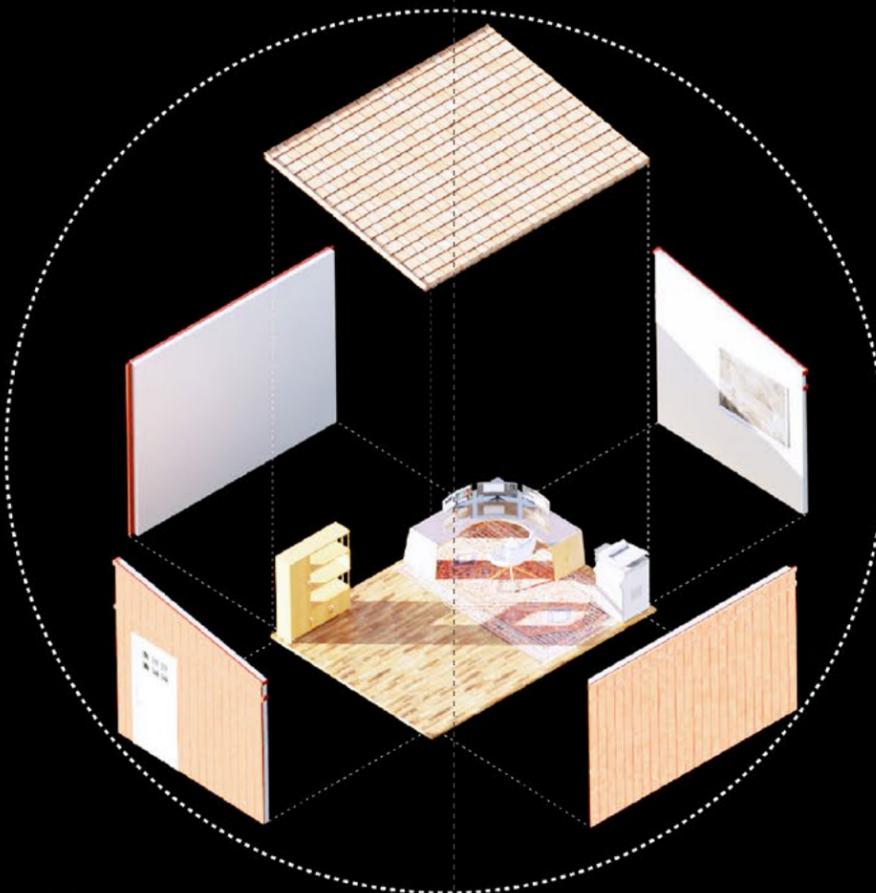
REIMAGINE



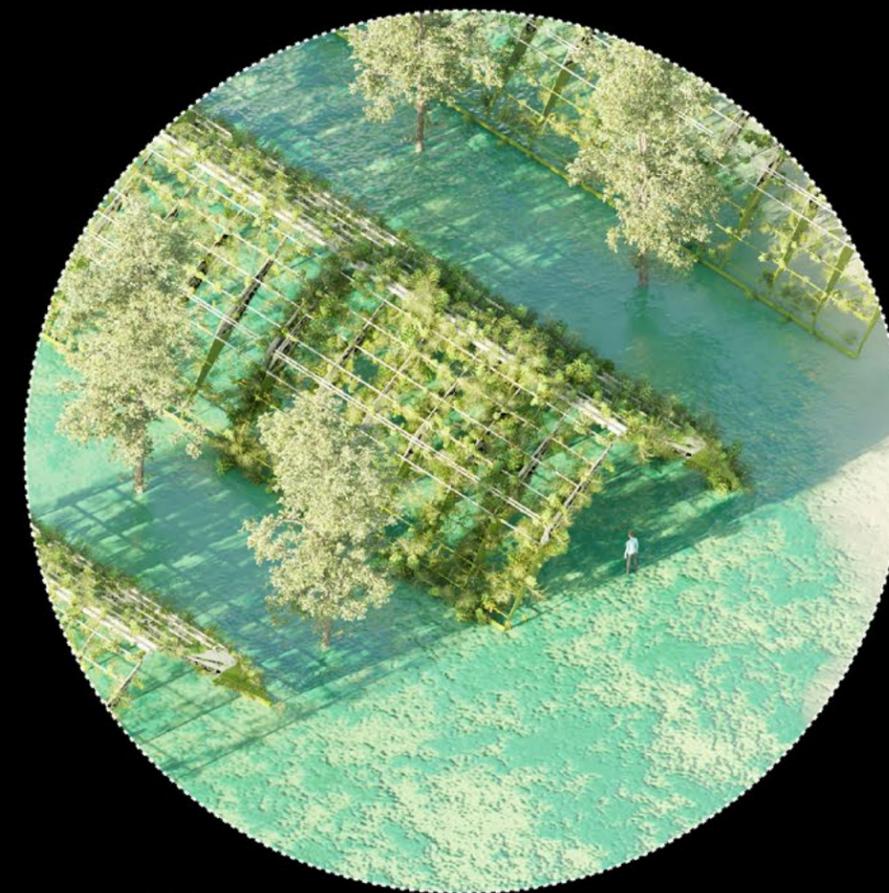
REIMAGINE



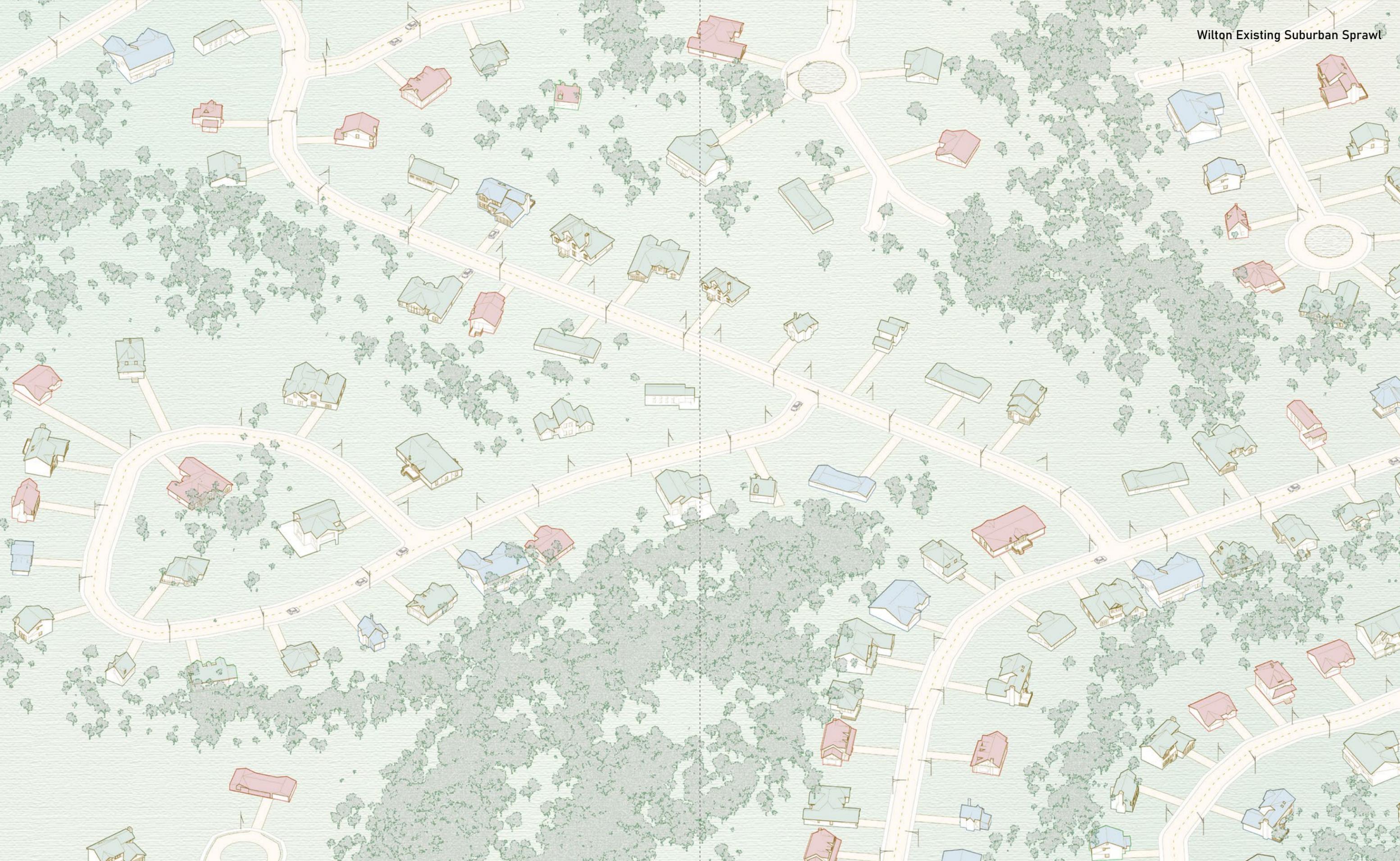
FARMER'S MARKET CONCEPT

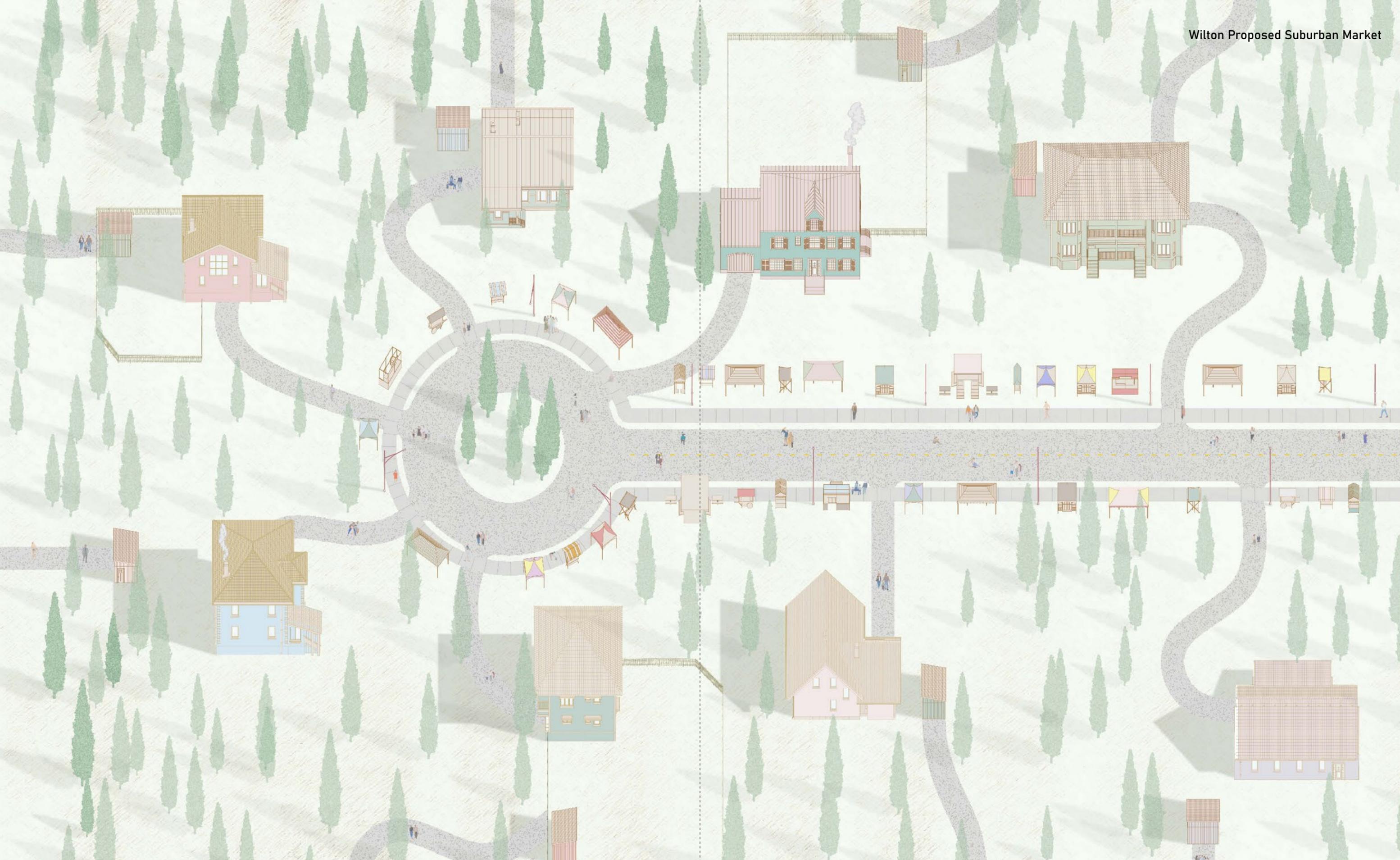


ADU CONCEPT



GREENHOUSE CONCEPT







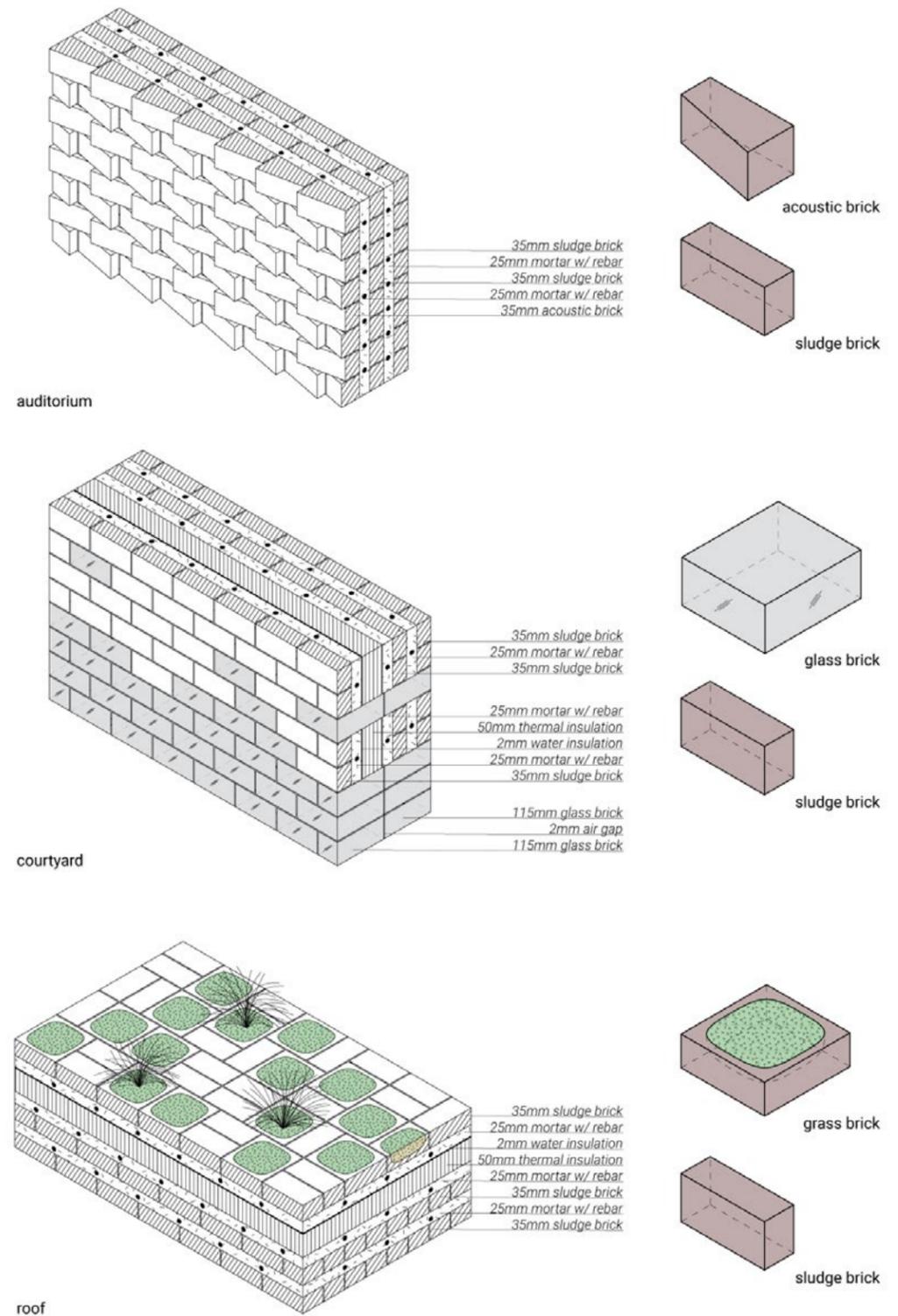
# Sludge

*Gowanus, Brooklyn*

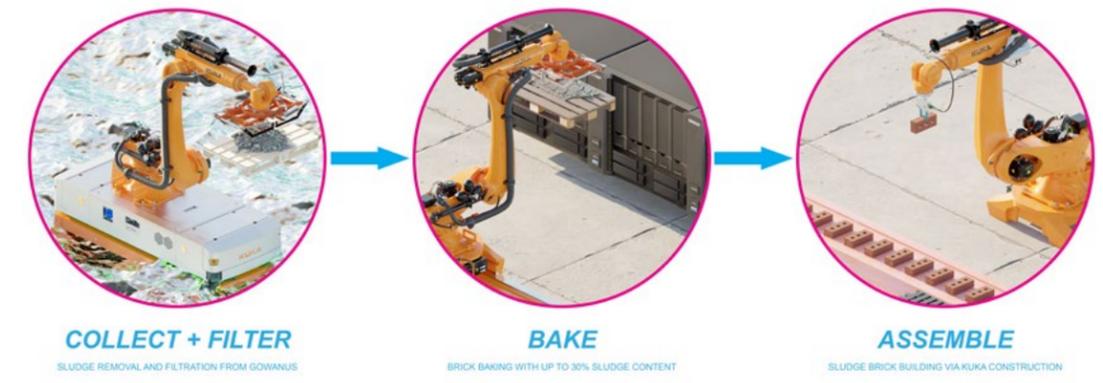
The Gowanus Canal in Brooklyn is considered one of the most polluted sites in the country. It is said that residents and businesses along the canal historically dumped anything from trash to carcasses into the canal, and a simple whiff of the surrounding area proves this to be true. Tasked with creating a cultural center that embraced material reuse, my partner and I opted to extract the abundant amount of sludge from the canal to be used as a material to form bricks. These 'sludge bricks' would then be fired and used to assemble a self-supporting Catalan brick vault structure that beckons back to the canal's industrial past of brick factories, while ushering in a new future of sustainability.

Intended to house three different cultural institutions focused on different mediums (art, theater, and fabrication), the structure uses the necessary structural drop downs of the brick vaults as permanently occupied rooms, while leaving the remaining space as semi-programmed flex areas meant to promote collaboration between mediums. These transformable spaces are flanked by optional curtains that can be deployed when further privacy is needed. Special variations of the sludge brick are incorporated into the structure when necessary, such as glass bricks that allow light within the space, acoustic bricks that insulate sound sensitive areas, and grass bricks which allow the roof to grow wild with vegetation. Along the interior is a brick production line which is constantly operating, as canal-faring robots extract and process sludge for the creation of bricks to be sold as a means of funding for the cultural institutions the building serves.

Partner: Ata Gun Aksu  
 Columbia University  
 GSAPP Adv V Studio  
 Prof. Mark Tsuramaki  
 Spring 2021

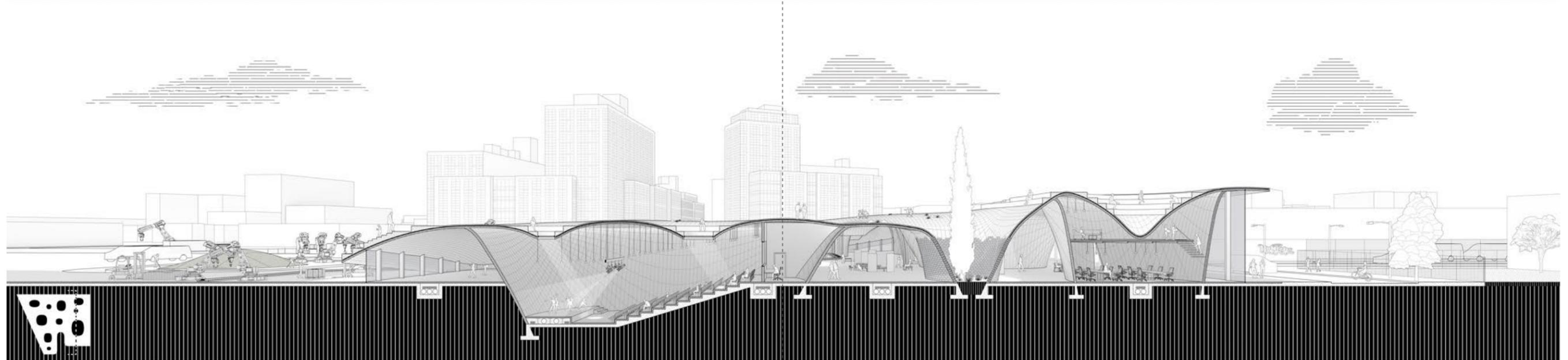
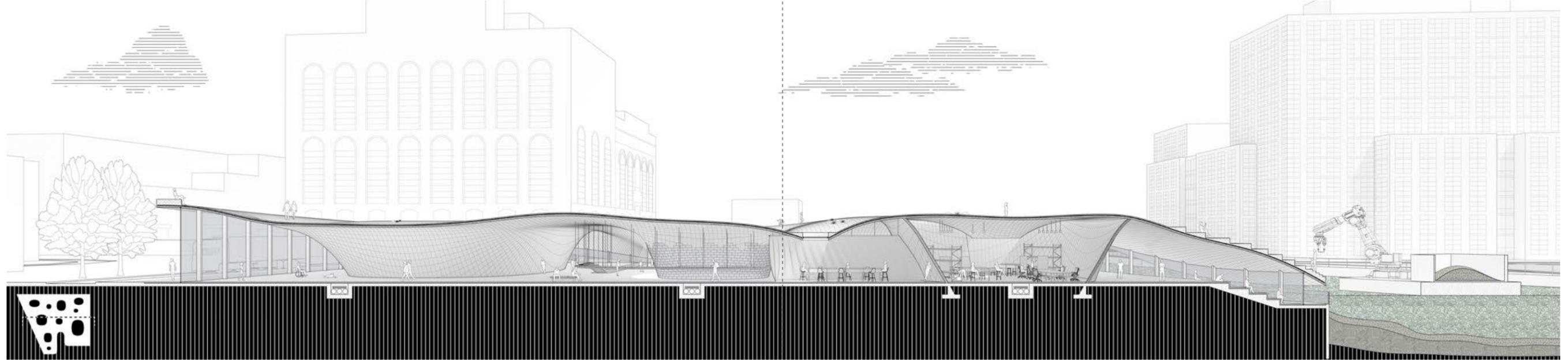
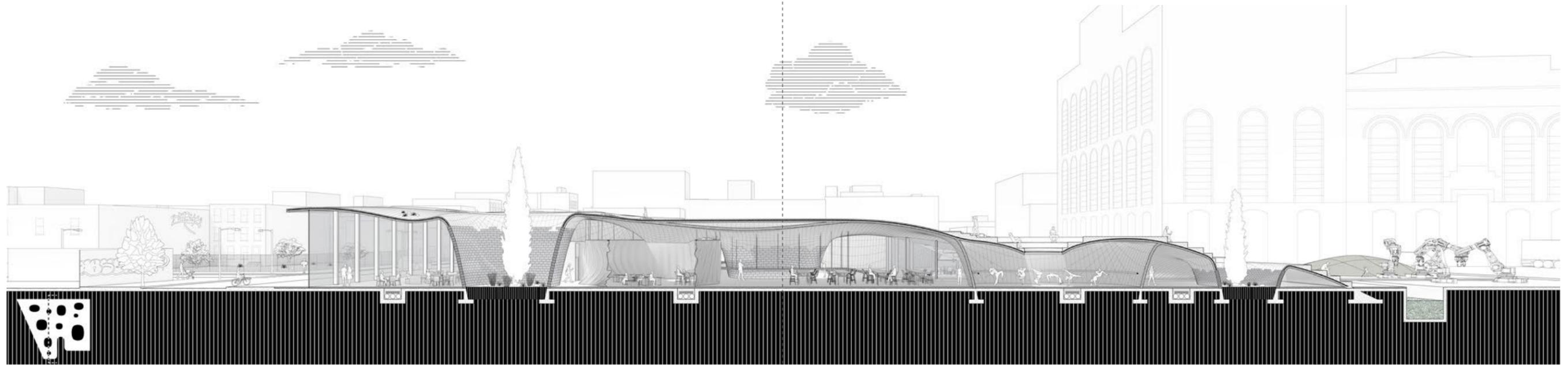


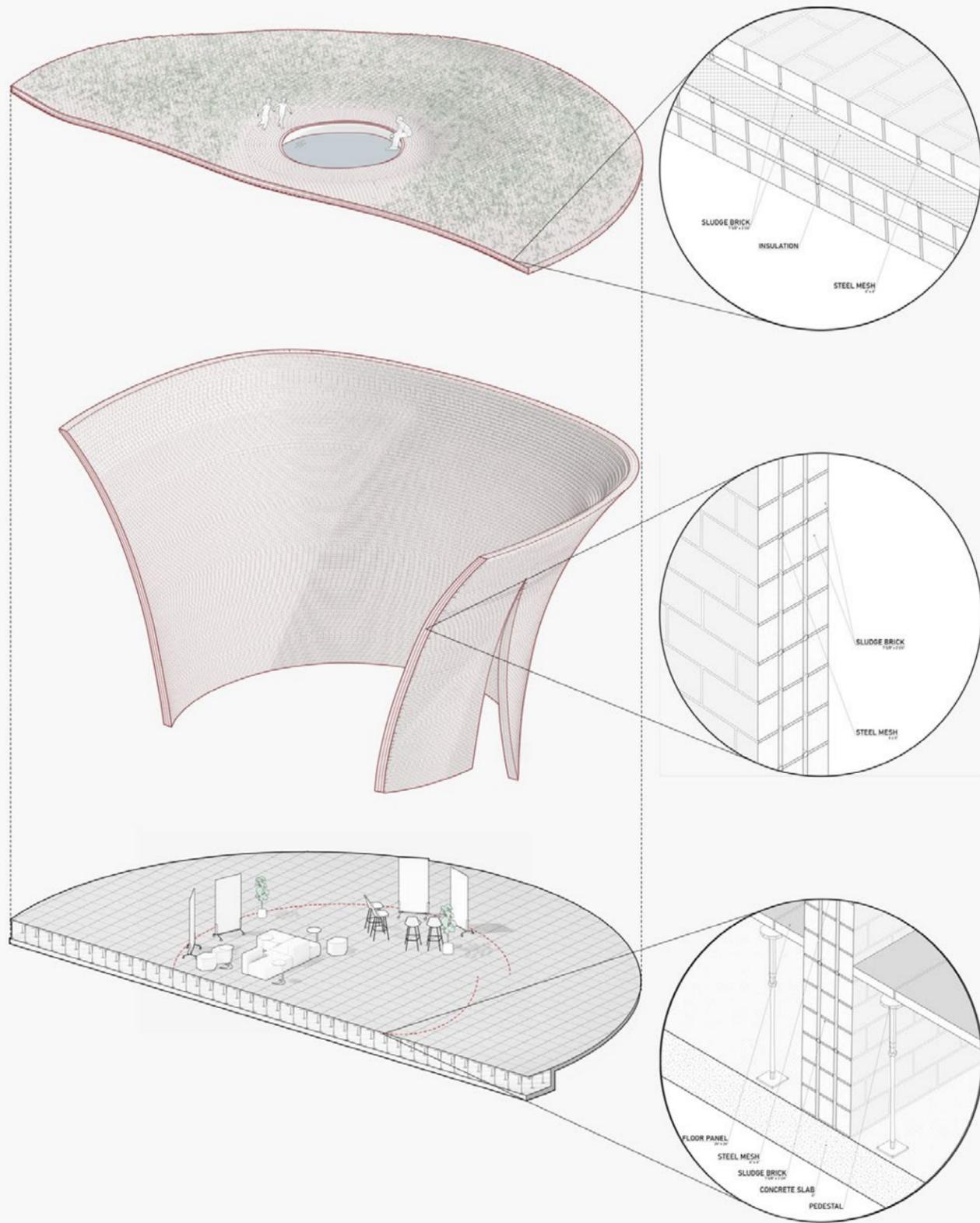
Sludge Brick Variations



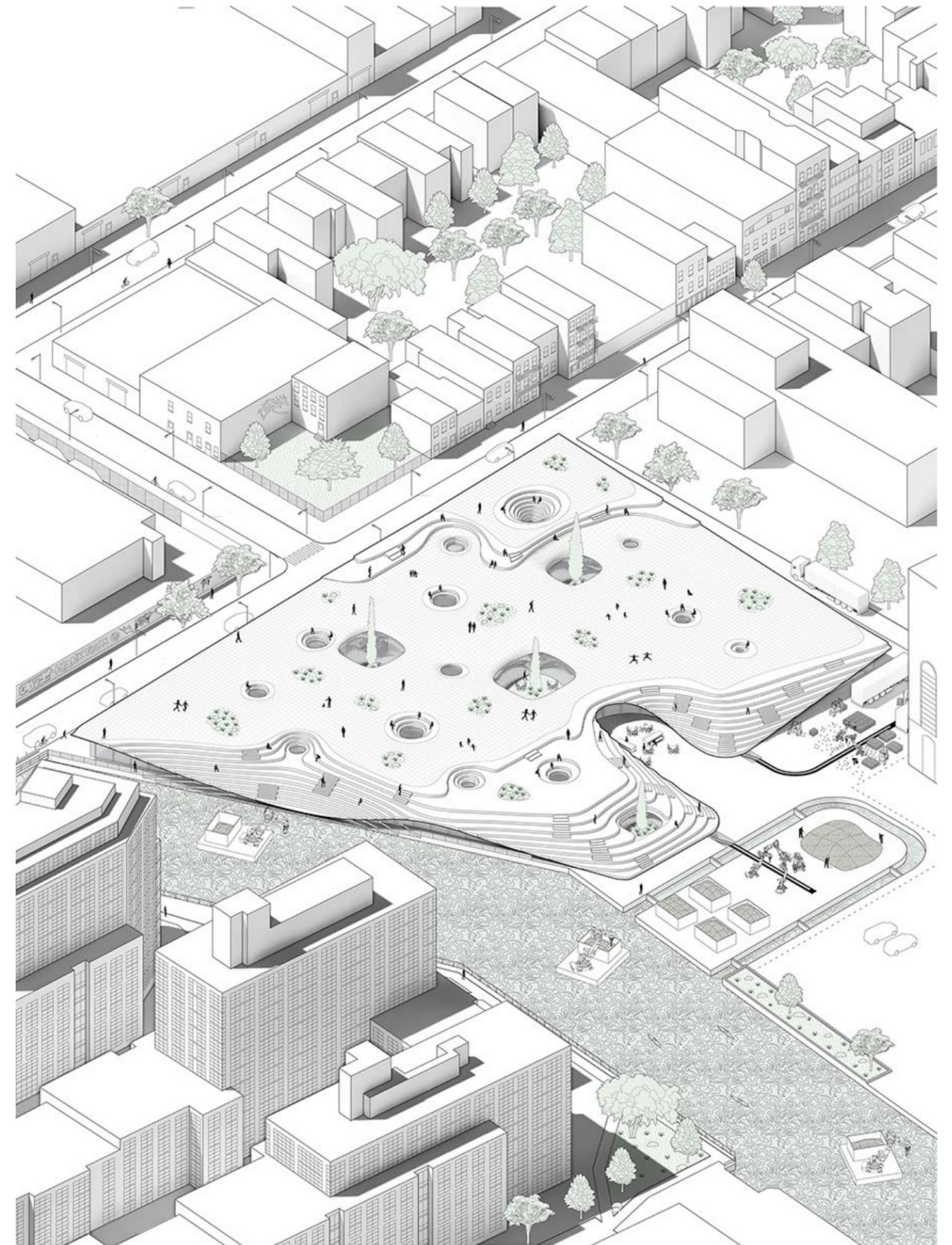
- | Sludge Collecting                       | Water Filtering                         | Brick Production                                 |
|---|---|--|
| 1 Robots collecting sludge from Gowanus | 1 Water gets into the filtering pool    | 1 Collected sludge being prepared for production |
| 2 Gathering the sludge on the shore     | 2 Filtering through various layers      | 2 Aggregate mix with filtered water              |
|   | 3 Filtered water goes back to the canal | 3 Moulding according to desired size             |
|   |   | 4 Air drying                                     |
|   |   | 5 Bricks getting ready for shipping              |
|   |   | 6 Loading into trucks for shipping               |

Sludge Collection Diagram and Site Map

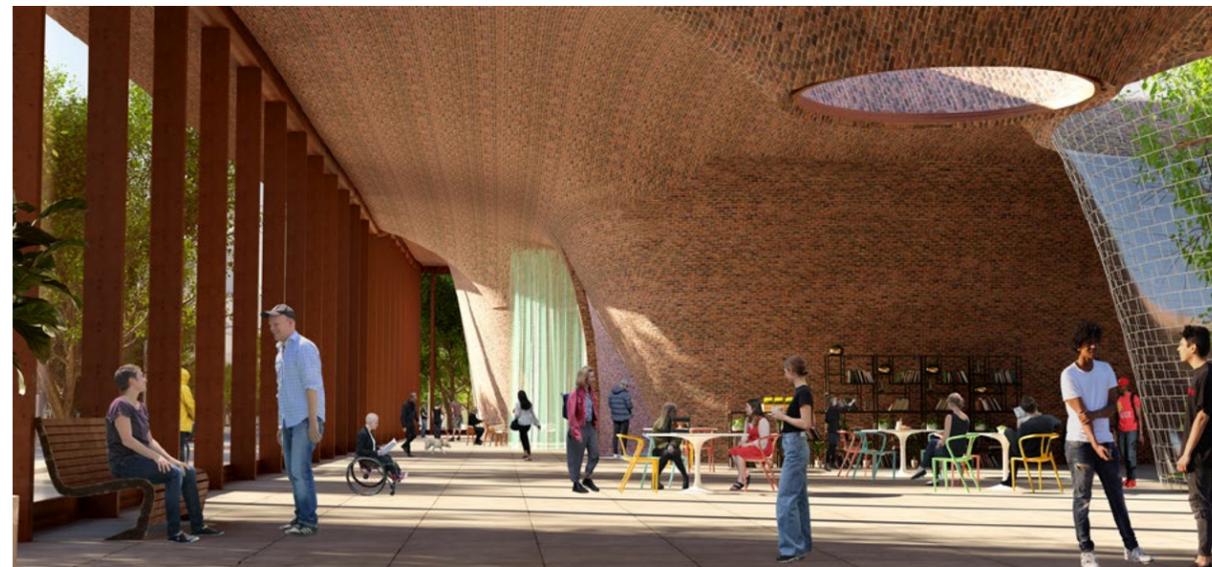




Assembly Diagram - Typical Brick Drop Down



Site Axon





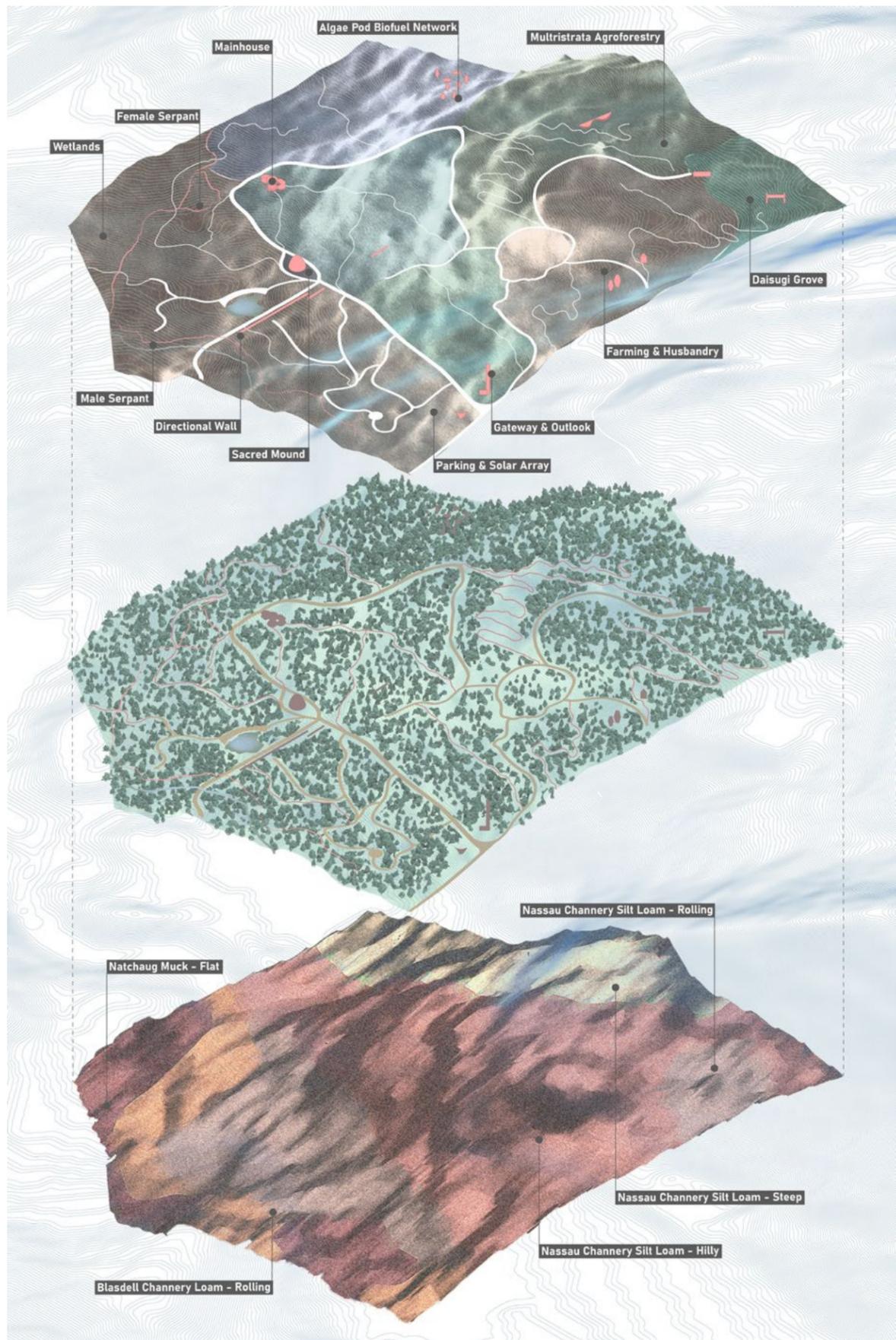
# Re : Wild

*Columbia County, New York*

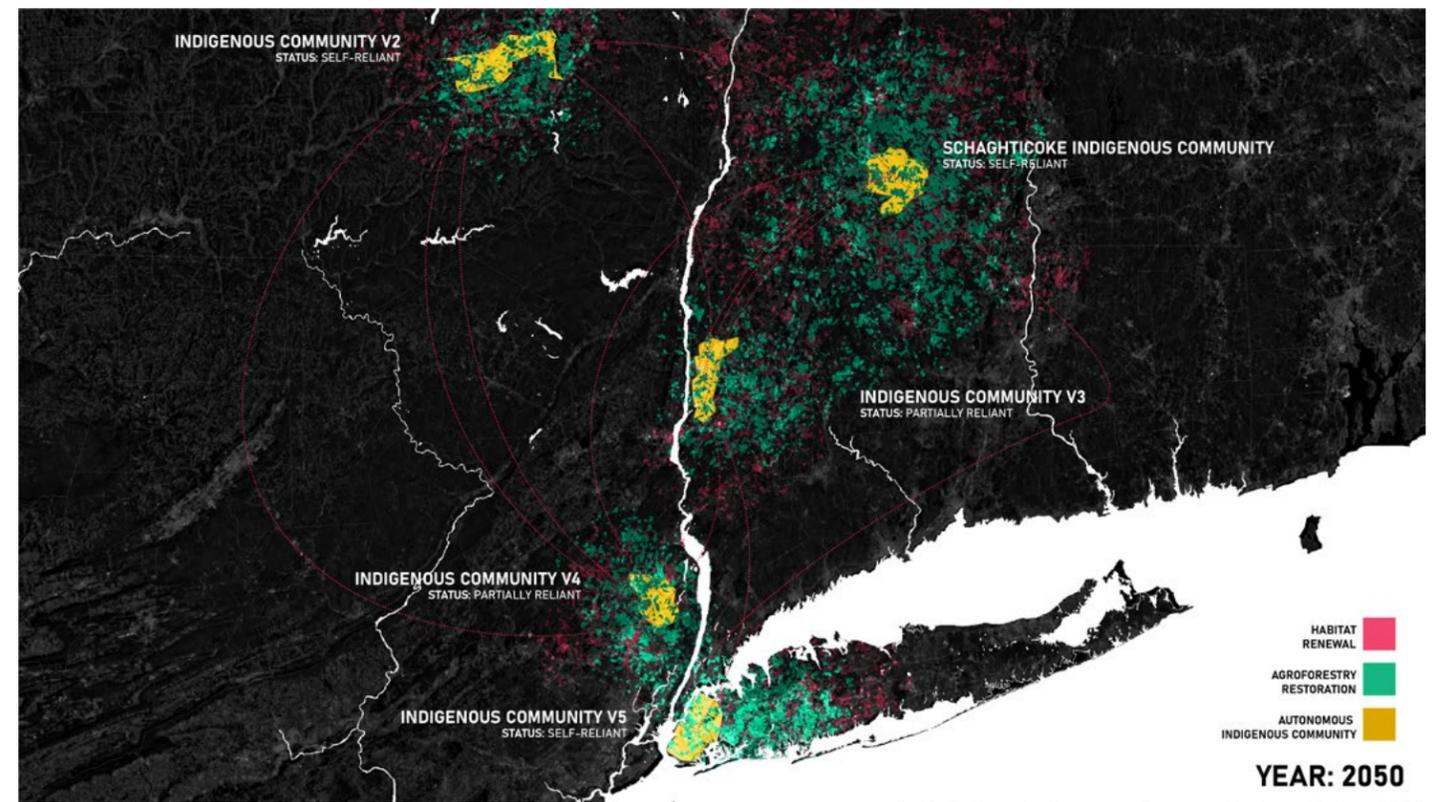
Indigenous communities have persevered in a way of life that is sustainable and attuned to the earth's cycles despite a continual barrage of cultural and environmental threats. Drawing on Indigenous insight and environmental consciousness as a catalyst for ecological respect, these communities live in opposition to the Western-centric attitude of untempered consumption. Even with a low-impact approach to their environmental surroundings, Indigenous communities are often forced to rely on erratic systems of food and energy resources designed to maximize profit rather than fulfill the needs of people. These infrastructures often shift resources that should be benefiting those who produce this capital towards major metropolitan centers.

Our project seeks to aid in establishing an alternative path forward for Indigenous communities through the installation of infrastructure and sustainable strategies that can enable these populations to become self-reliant, producing food and resources needed on site. By replacing destabilized supply chains already weakened in the face of climate change with locally produced resources, a sustainable blueprint is formed which can filter into the general population, re-indigenizing our shared environment back to its original state. New possibilities in a future that has been 're-wilded' are endless, with the potential for micro-trade networks of locally sourced goods between communities, ecological territories dedicated to the benefit of wildlife, and designed agroforestry zones protecting this newly restored world from the destructive mistakes of our past while forging a new way forward.

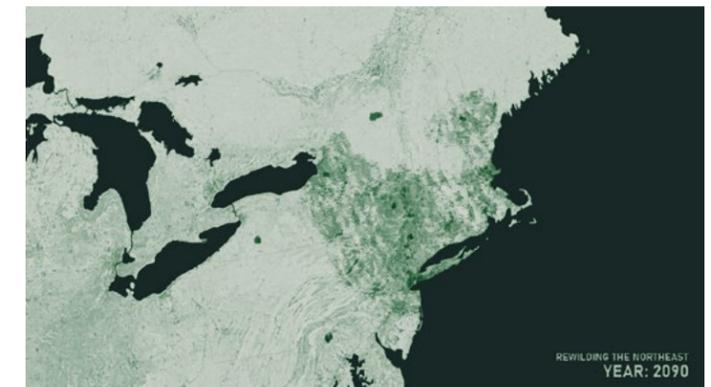
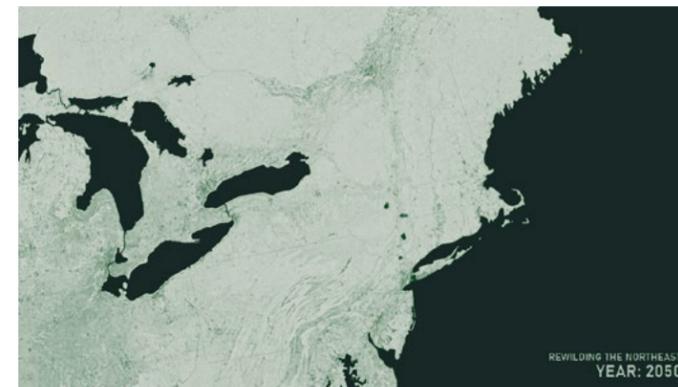
Partner: Benjamin Fox  
Columbia University  
GSAPP Core IV Studio  
Prof. Vanessa Keith  
Winter 2021



Exploded Site Map



Self-Reliant Indigenous Zones - Hudson Valley 2050



Future Projection - ReWilding The Northeast



Gateway/Outlook  
Elevation: 577 FT



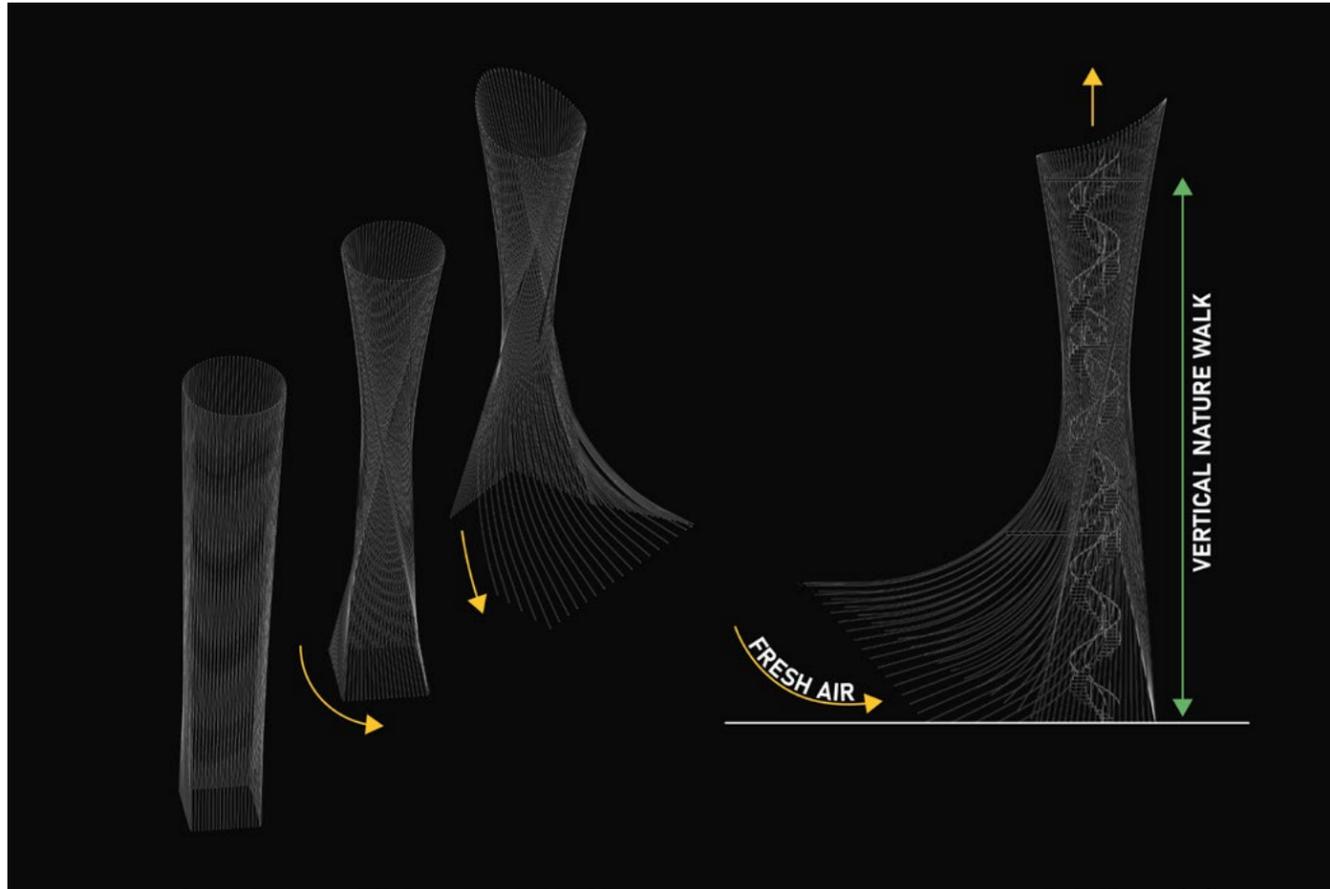
Methane Digester (Project Drawdown)  
Elevation: 824 FT



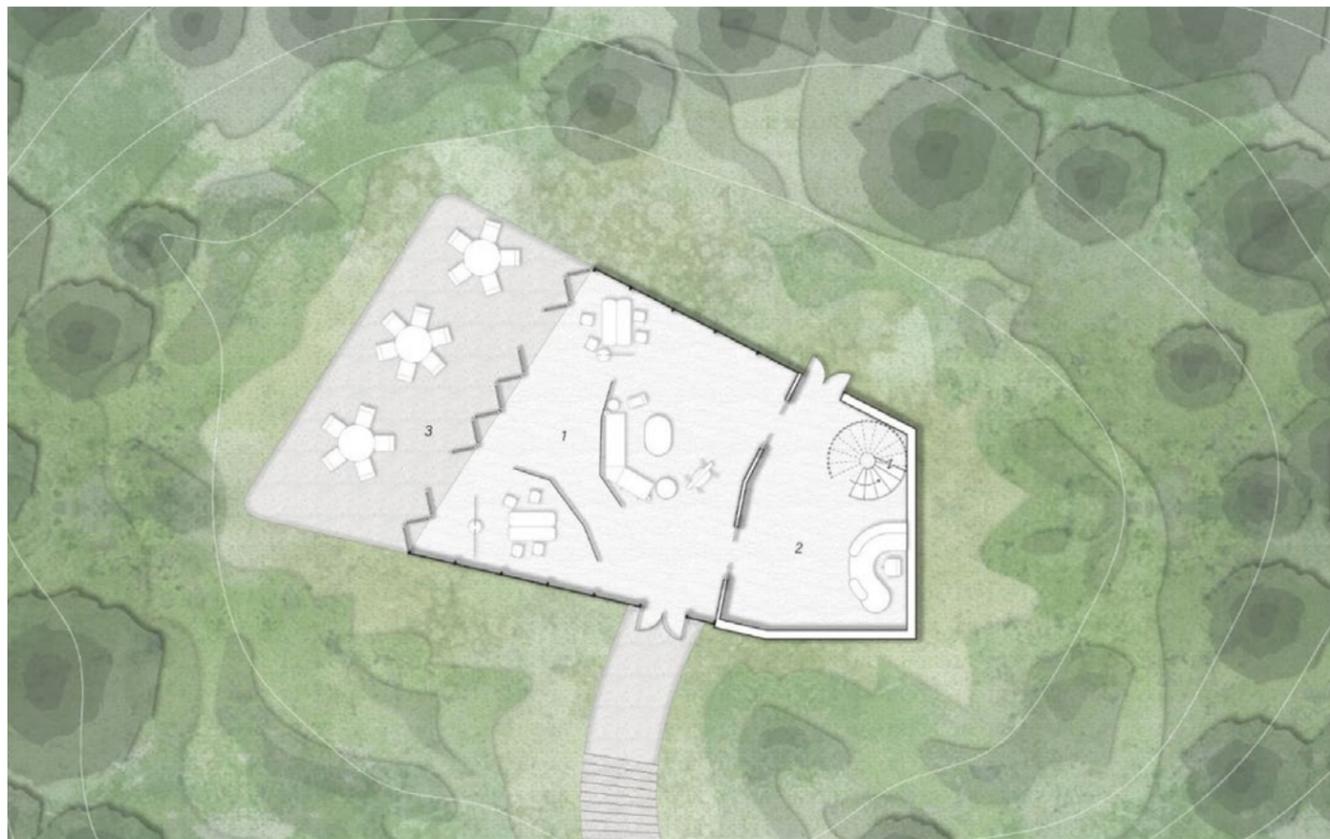
Main House  
Elevation: 646 FT



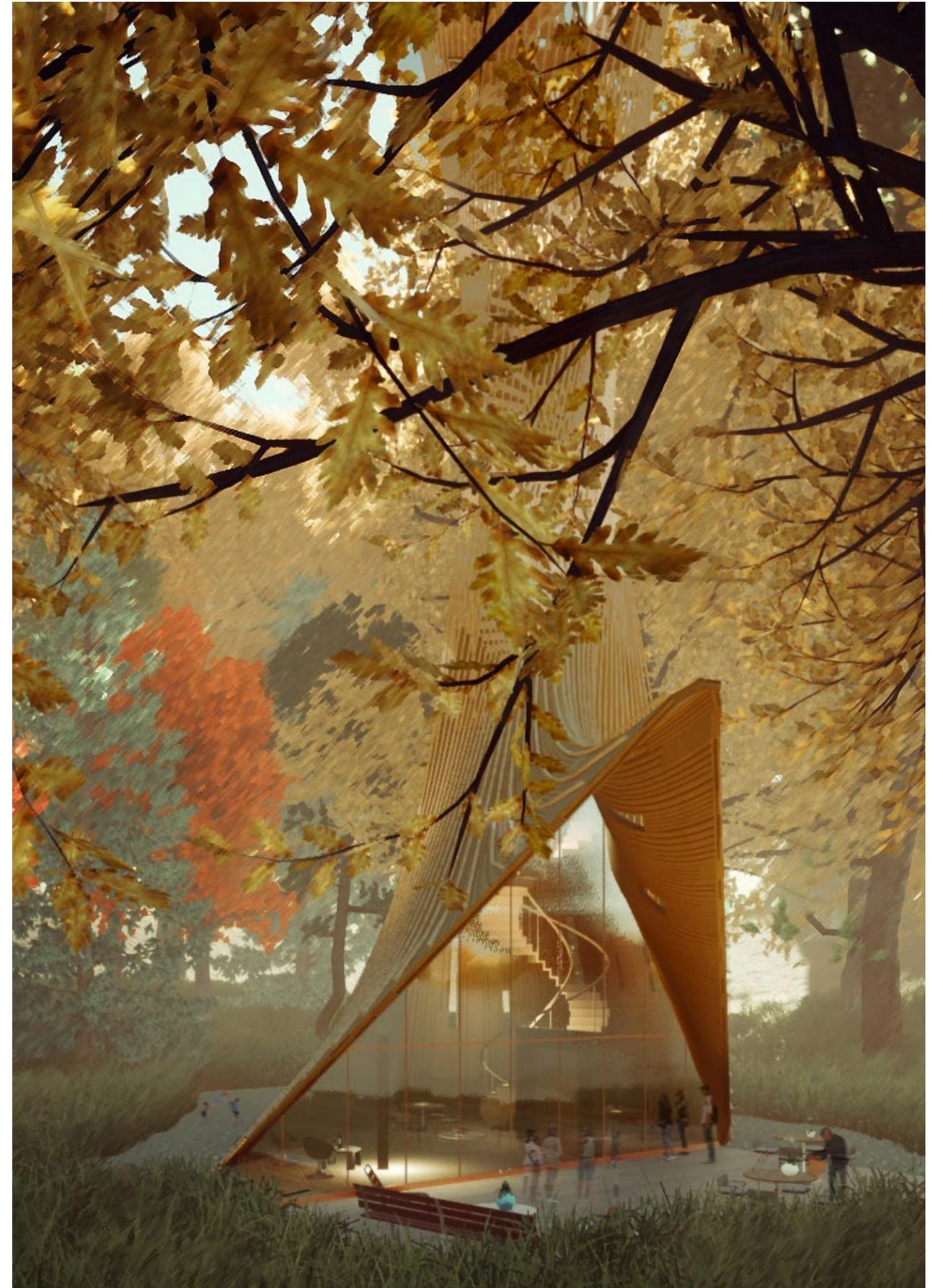
Gateway House Elevation



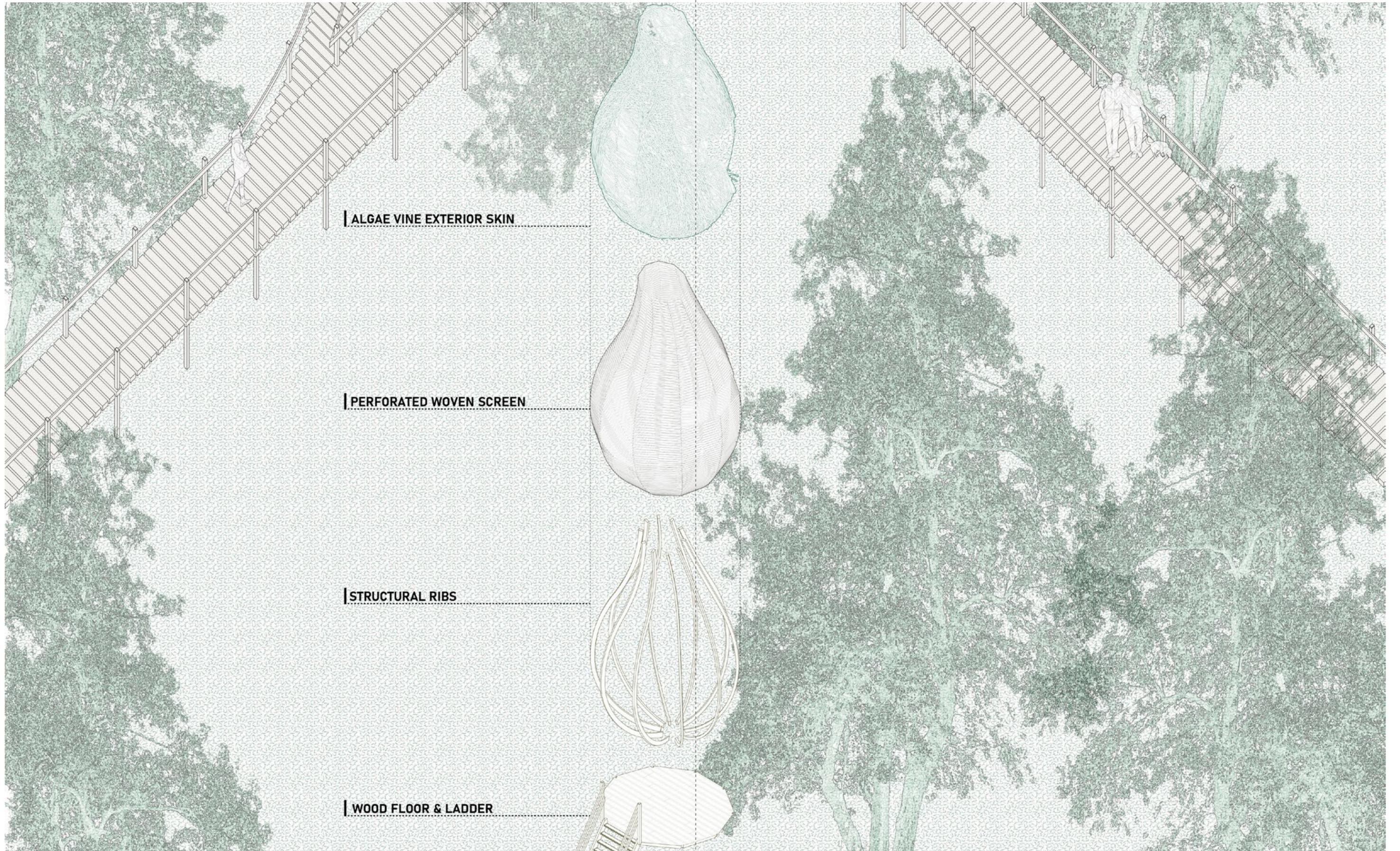
Gateway Diagram

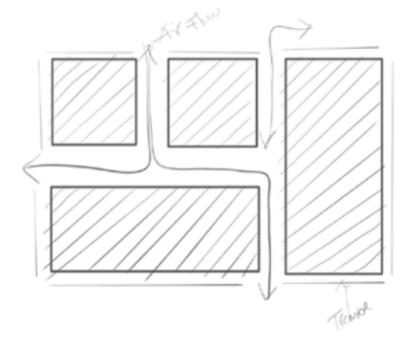


Gateway Plan



Gateway Render





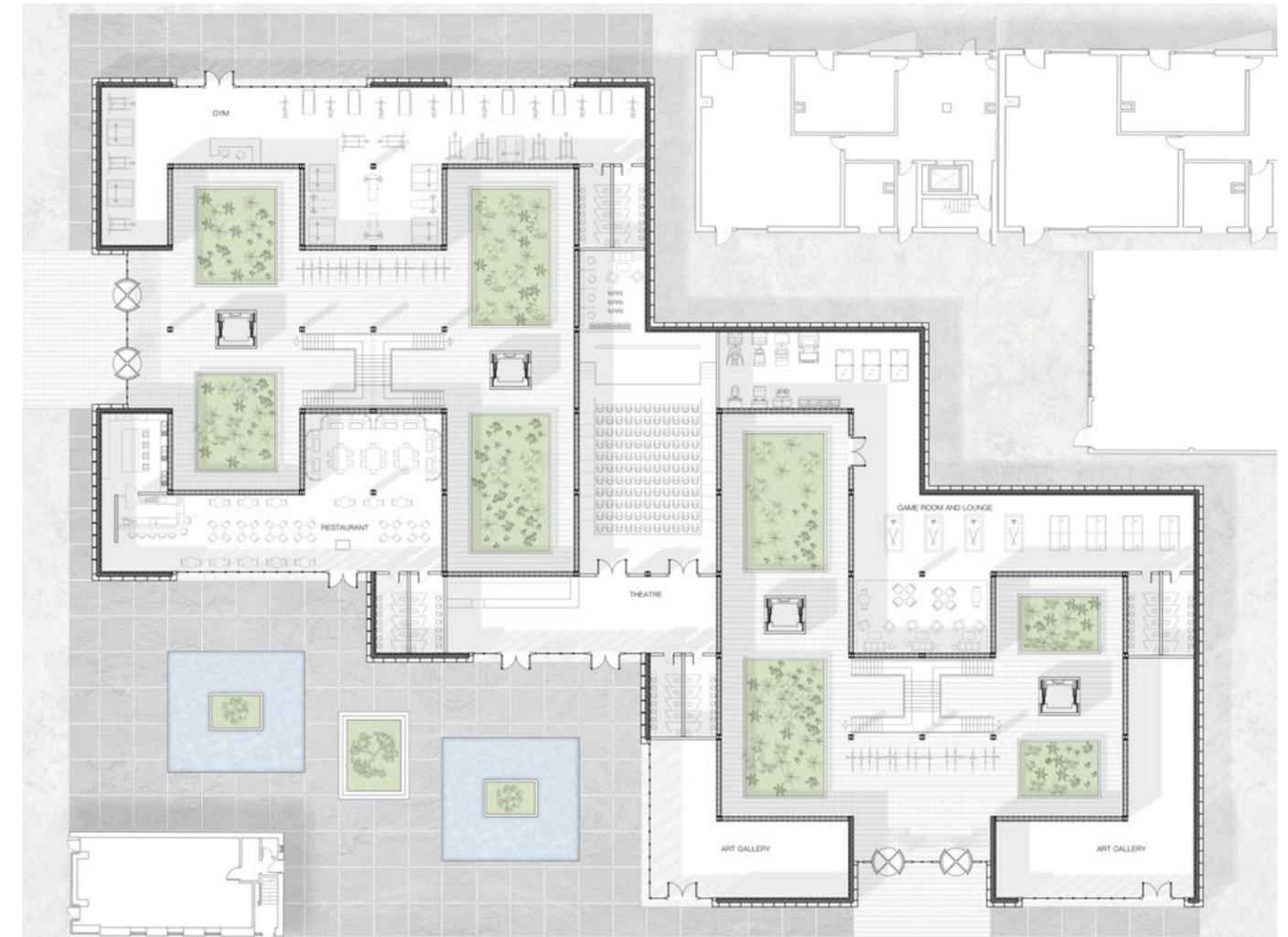
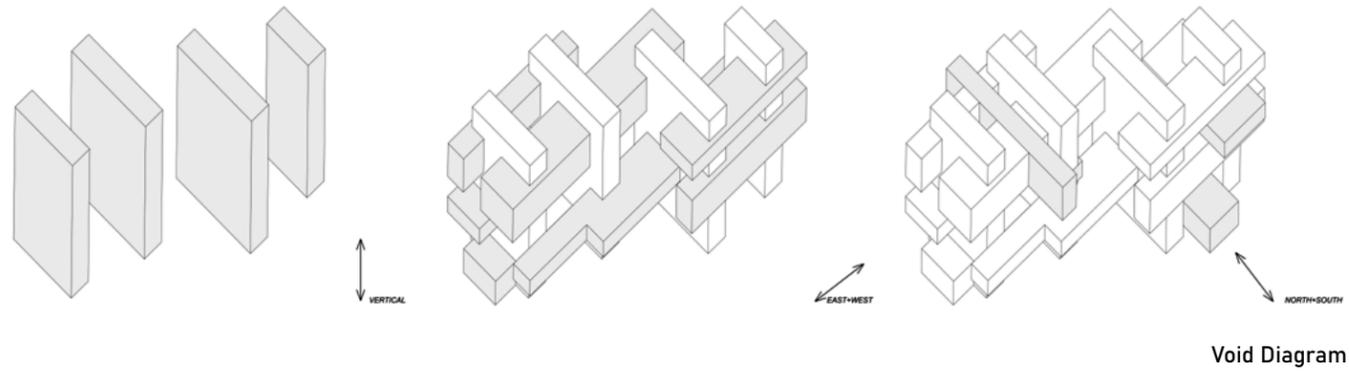
# Avenues Of Atmosphere

*The Bronx, New York*

Tasked with crafting an experiential community center for the Melrose population of The Bronx in New York City, the goal of our project was to create a space that captures and repurposes atmosphere. By creating such an intervention, 'Avenues of Atmosphere' attempts to introduce a new form of semi outdoor space that will benefit and nurture the community of Melrose. The structure attempts to fold surrounding atmosphere into the building, and cradle it in a network of volumes and pockets that stretches throughout the building. Atmosphere carves through the building instead of the building carving through the atmosphere, allowing the building to be defined by air and light that moves through it.

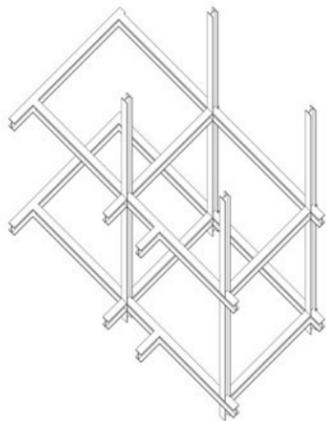
Additionally, a trombe wall feature envelops the entire structure, creating a greenhouse effect between the load bearing concrete wall and layer of offset glass. This system passively heats air that is then permitted into each unit by operable louvers included within the facade. Working in tandem, a concrete and metal deck assembly along with an open grate layer in the circulation space permits light and air to travel more easily through the space, connecting inhabitants to the environment that molds their domicile.

Partner: Benjamin Fox  
Columbia University  
GSAPP Core III Studio  
Prof. Erica Goetz  
Fall 2020

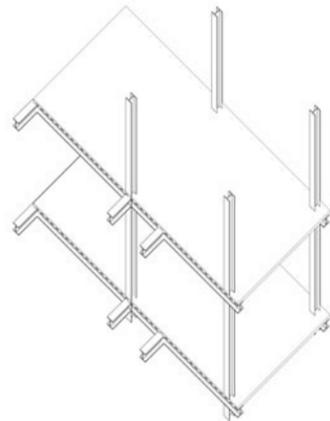




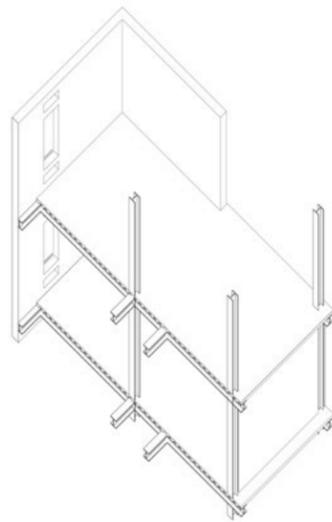
Interior Rendering



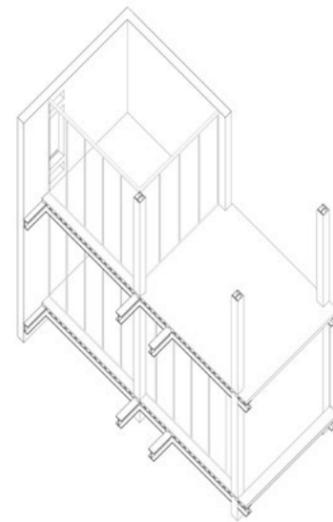
Steel Structural Support System



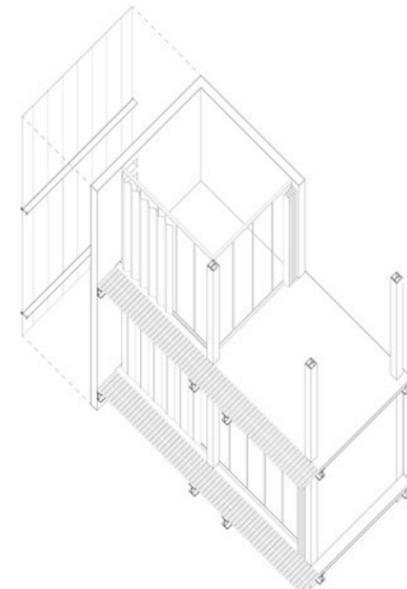
Cast-In-Place Concrete Slabs



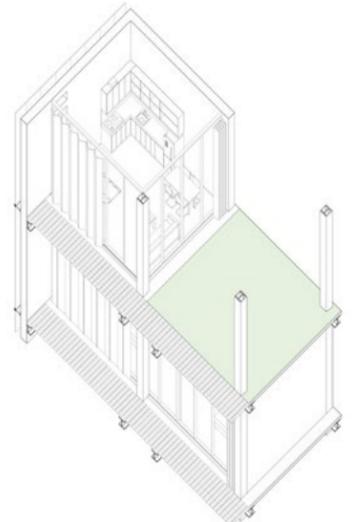
Exterior Enclosure - Punched Openings



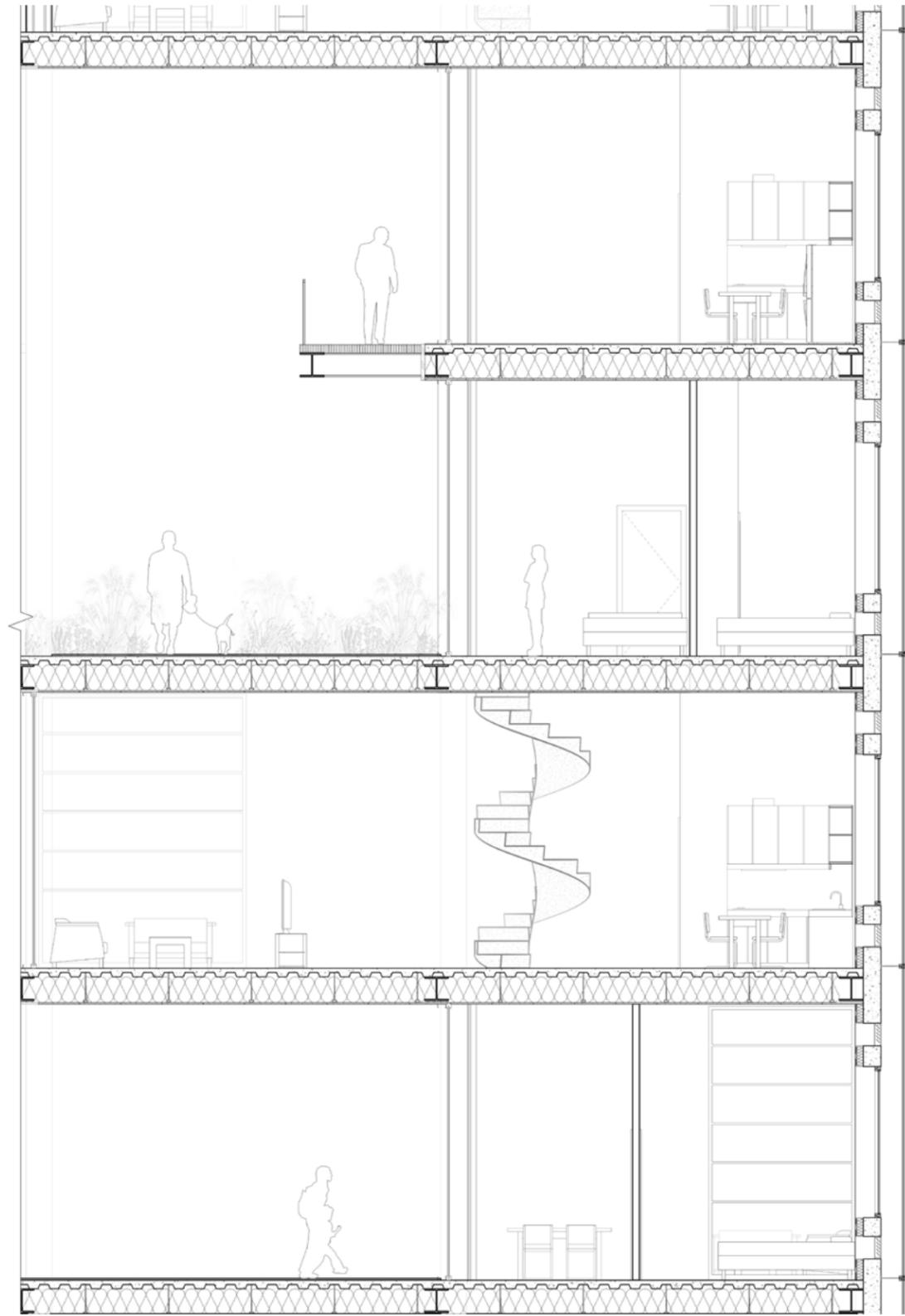
Operable Unit Wall



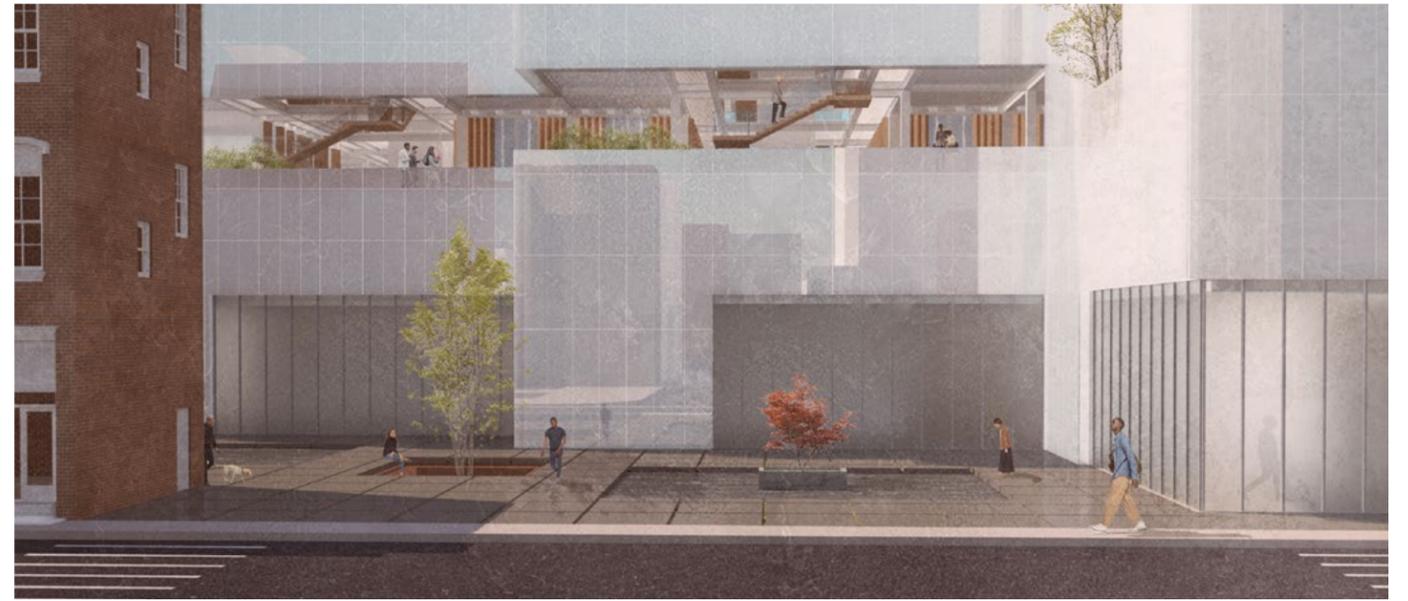
Trombe Wall Passive Heating Attachment



Fully Assembled Unit Tectonics



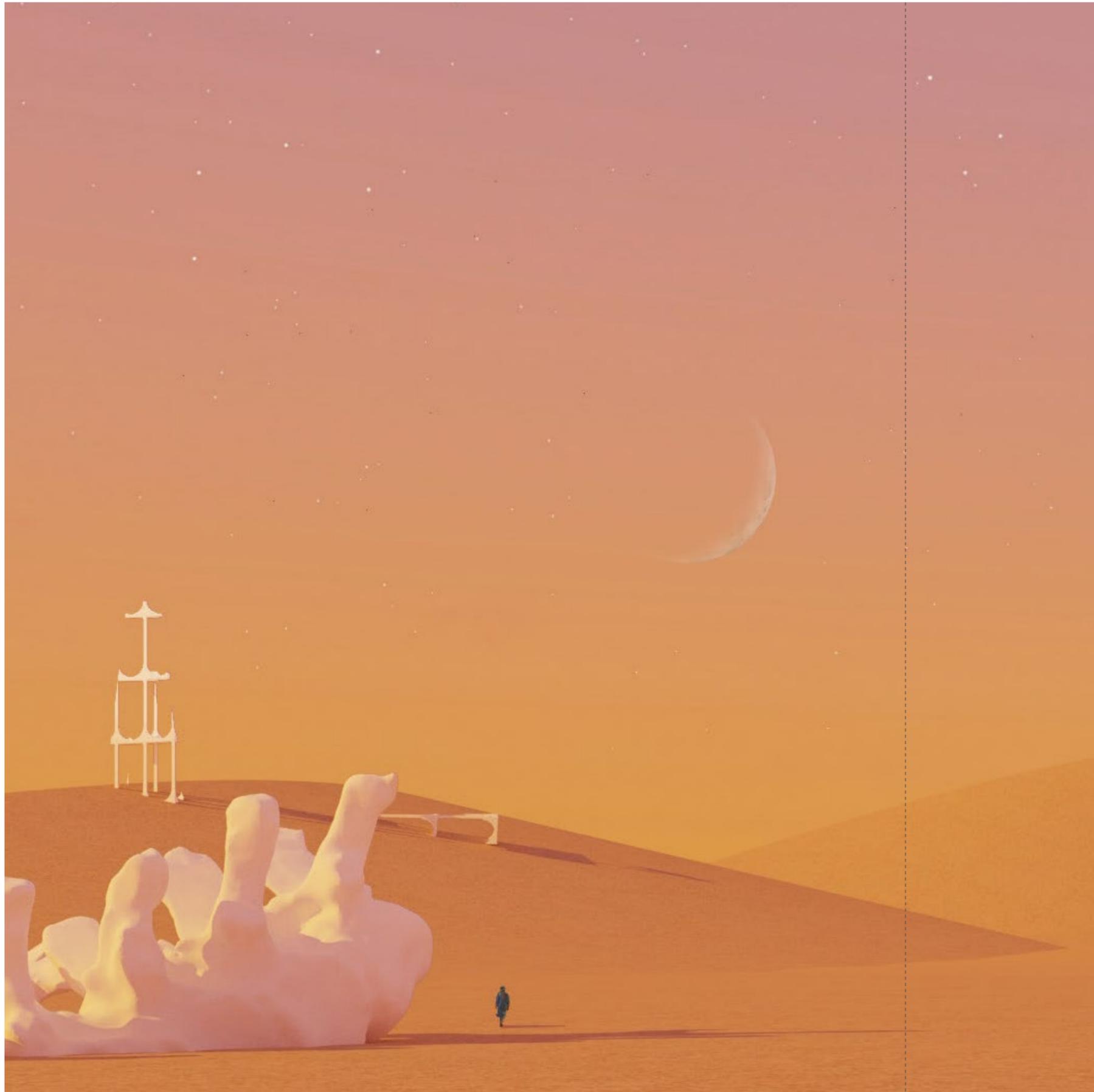
Ceiling Sandwich



Exterior Rendering



Section - North/South



# RuinScape

*Atarchania Desert, Delta Galaxy*

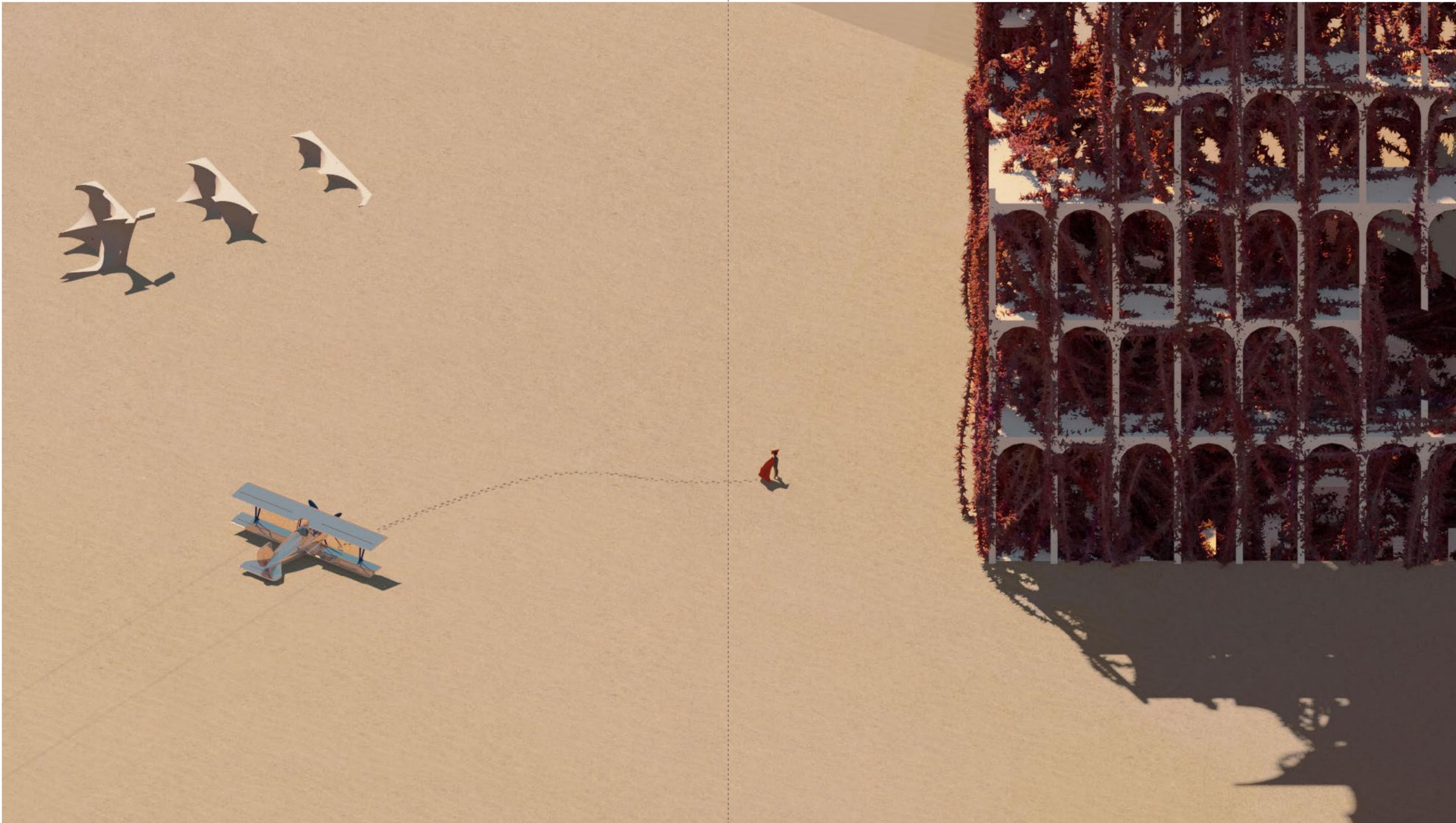
On a faraway planet...

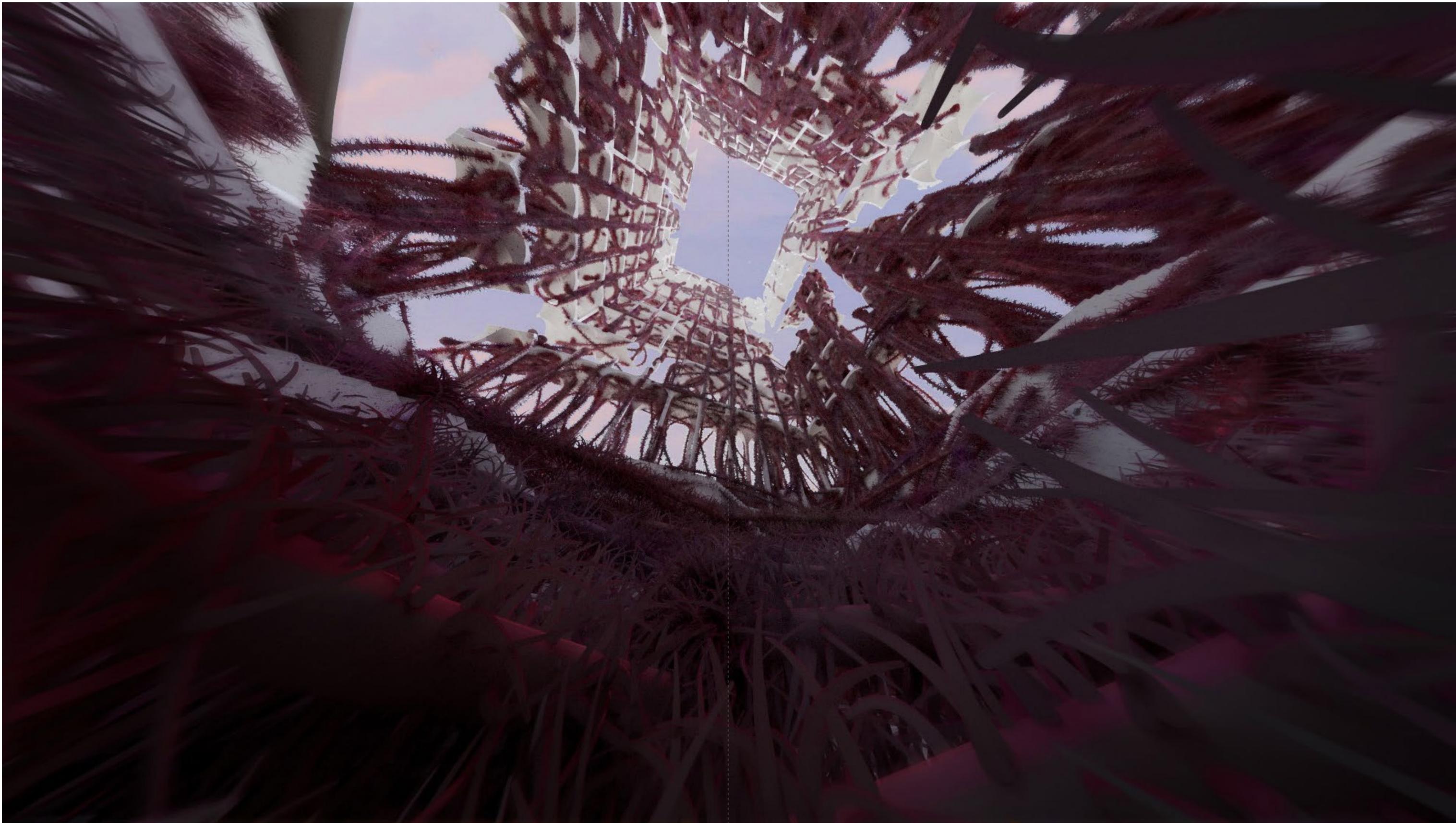
In a faraway galaxy...

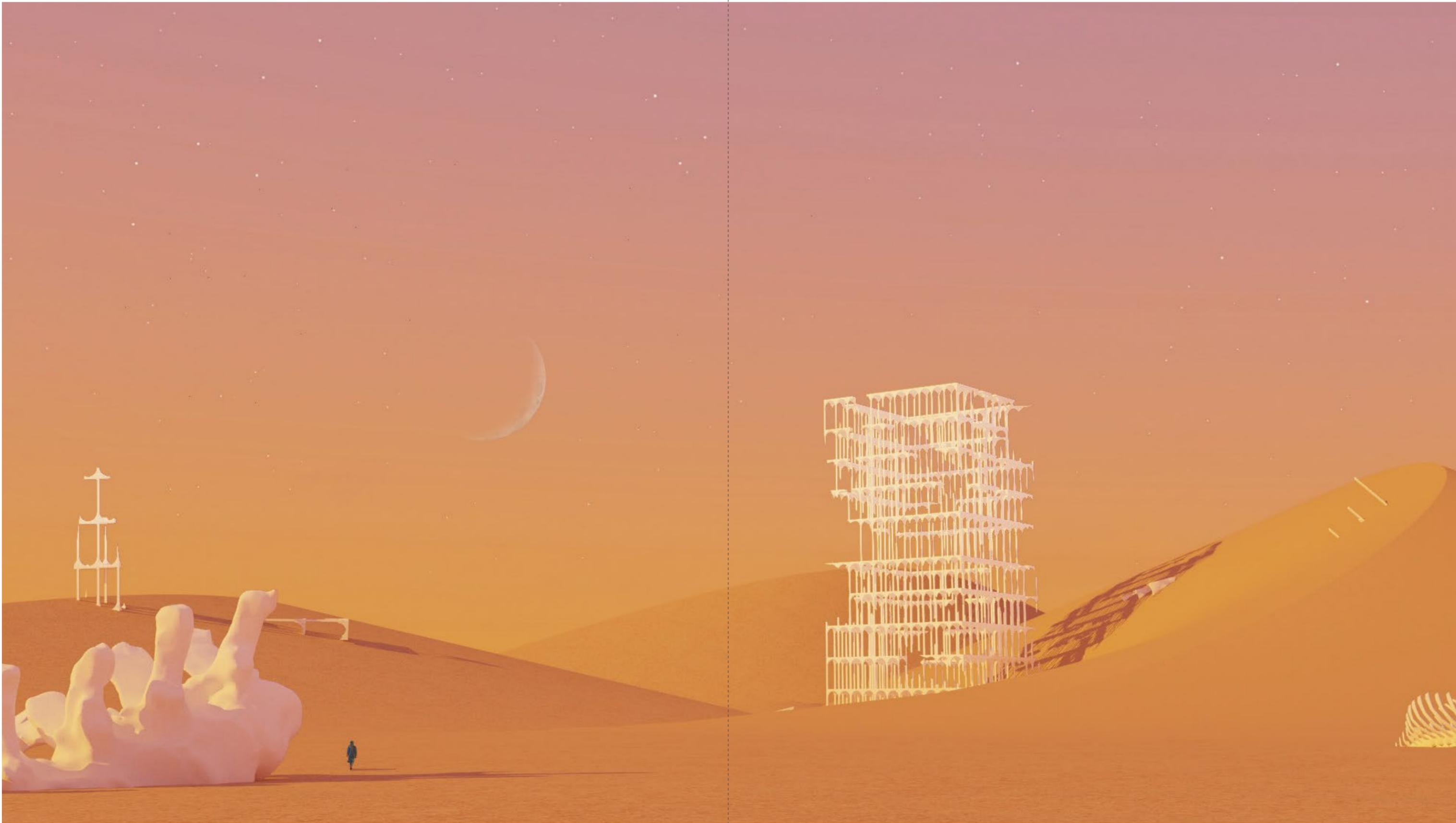
A solitary figure traverses the endless desert landscape... (to be continued)

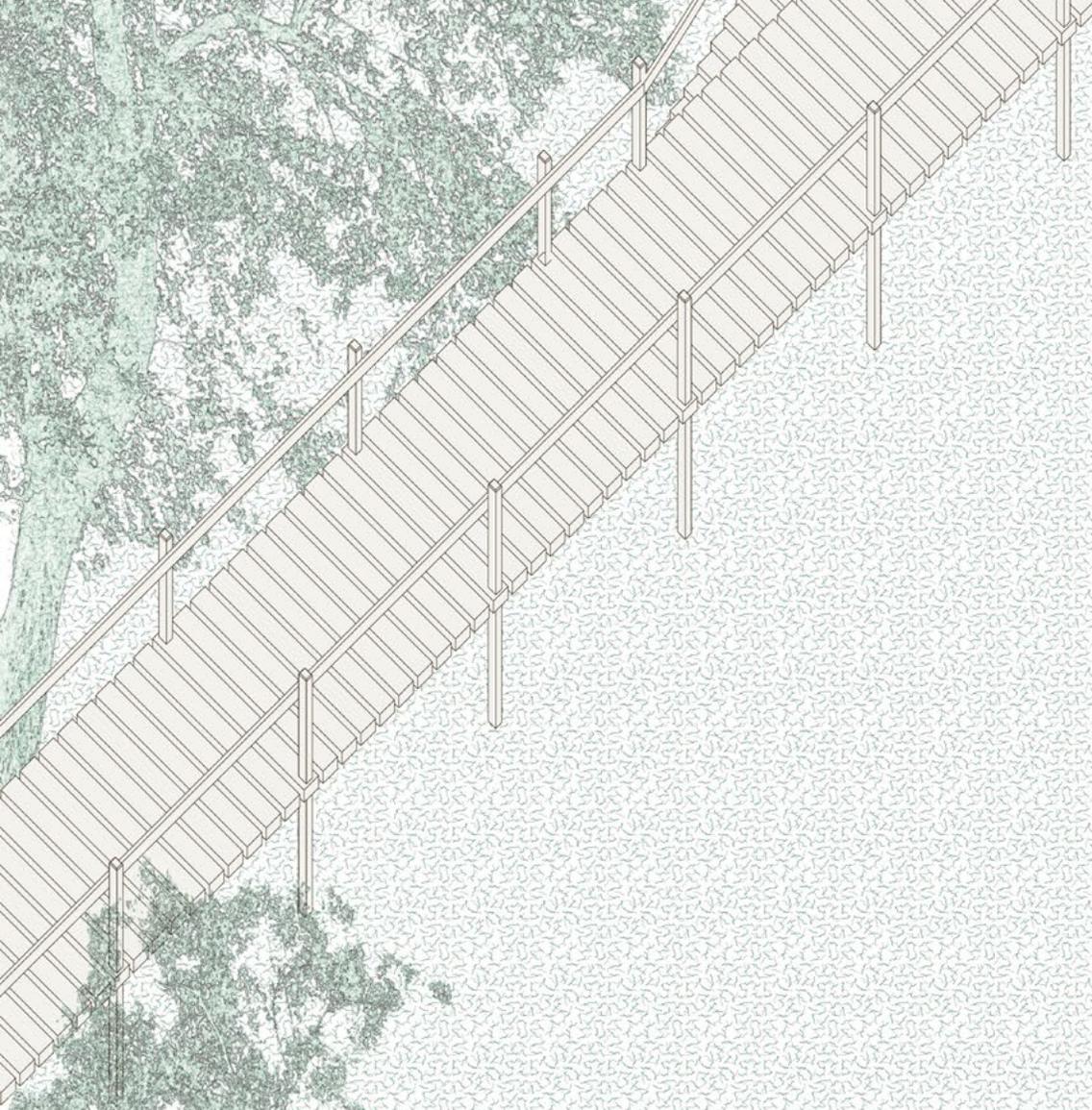
Ruinscape is a visual exercise exploring how renderings can be used to tell stories.

Partner: Dan VanDerhorst, Novak Djogo, Karan Matta  
Columbia University  
GSAPP Techniques of the Ultrareal  
Profs. Brenan & Crupi  
Winter 2021









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