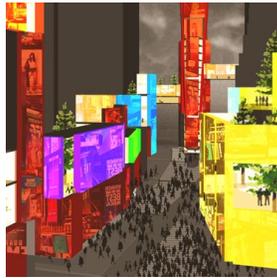


YAXIN JIANG

PORTFOLIO

Columbia GSAPP M.Arch
Studio Work 2018-2022



Columbia University GSAPP
Master of Architecture 2018-2022
Yaxin Jiang yj2513@columbia.edu

00

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68	SQUARE OF BILLBOARDS Re-imagine Times Square Roofscape



Columbia University GSAPP
Core III Studio 2019 Fall
Critic Hilary Sample
Partner Lu Liu

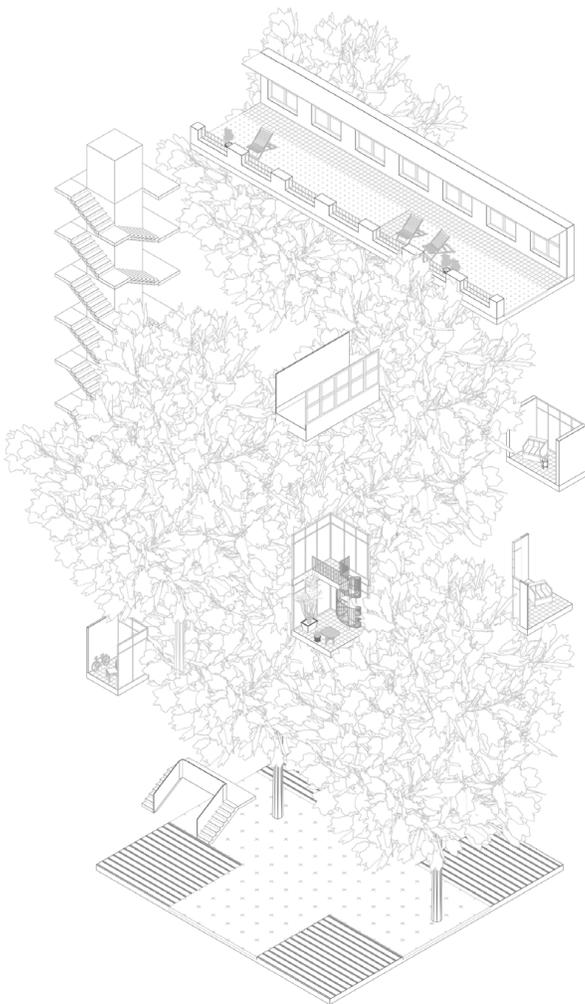
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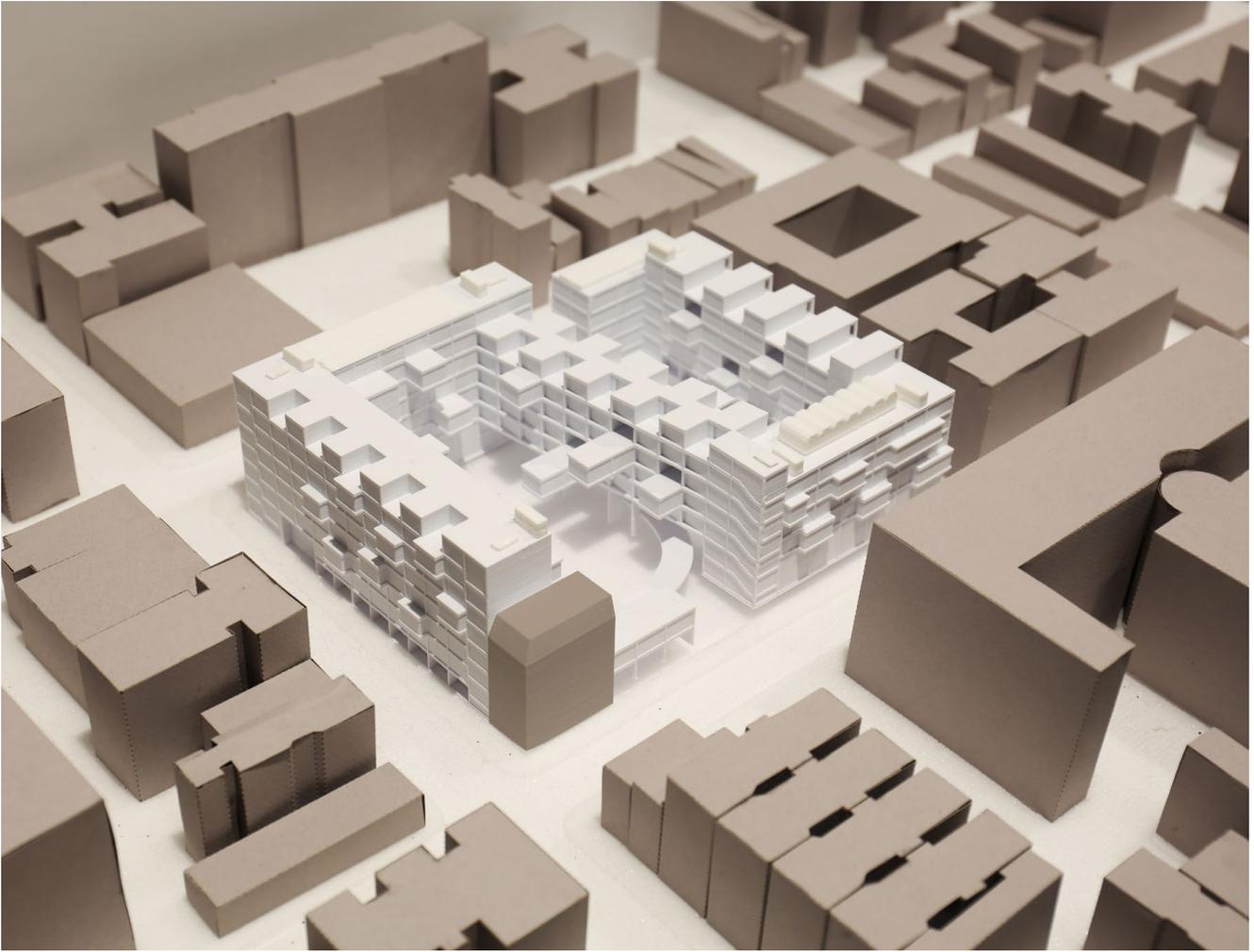
HOME OF GREEN

Location:
South Bronx, NYC
Program:
Affordable Housing

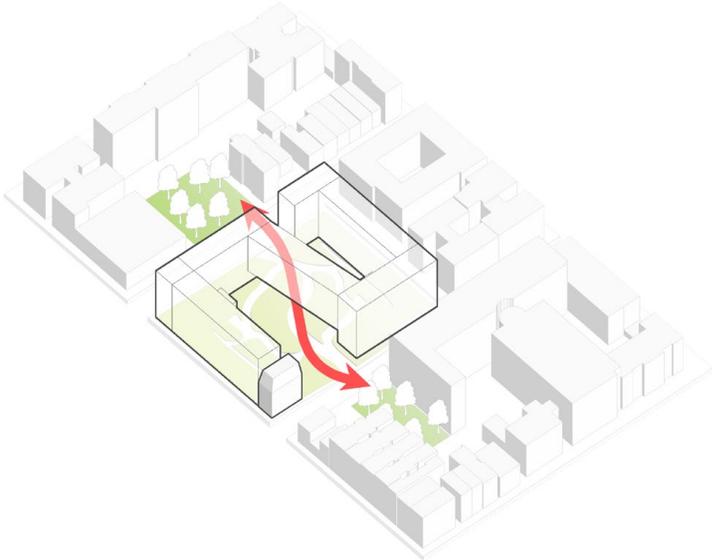
The project aims to reshape the public green spaces and reintroduce urban density to a South Bronx neighbourhood. The affordable housing complex of 294 units promotes collaborative production and sustainable living by opening up a flexible structure for future extension of community gardens.

Besides groups of the compact units are the elongated shared balconies which bring people right into the center of the courtyard, providing generous space for planting and cooking for all residents. Our design responds to a lot of local opportunities, including Bronx Documentary Center, a local landmark and cultural center and two existing gardens. "Share and grow" is the theme our project would bring to the local community.

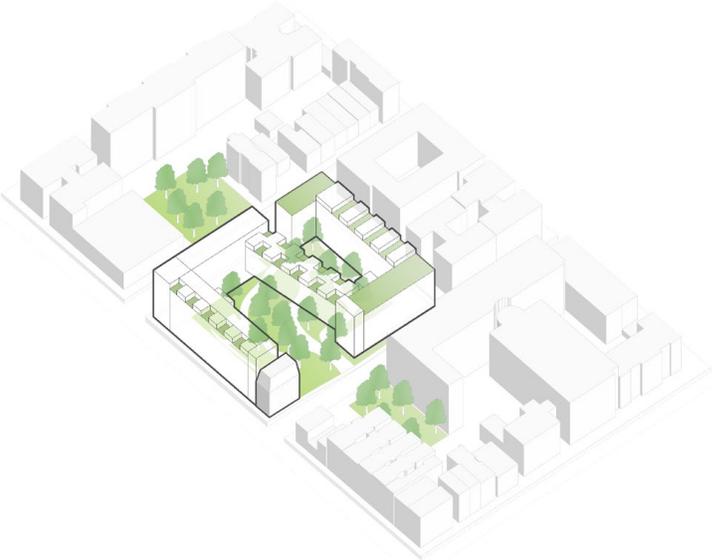




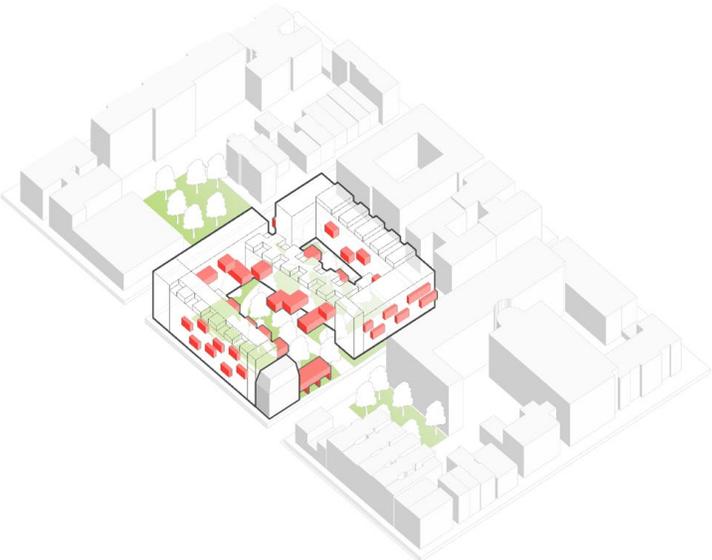
At Home of Green, the units are arranged compactly along the perimeter of the block, wrapping around two fully planted courtyards opening towards the two existing gardens. Pedestrian alleys weave through the landscape, providing access to the public programs on the ground level as well as a path through this urban block. The whole building complex is organized by a 15 feet structural grid, economic and flexible for construction and organization.



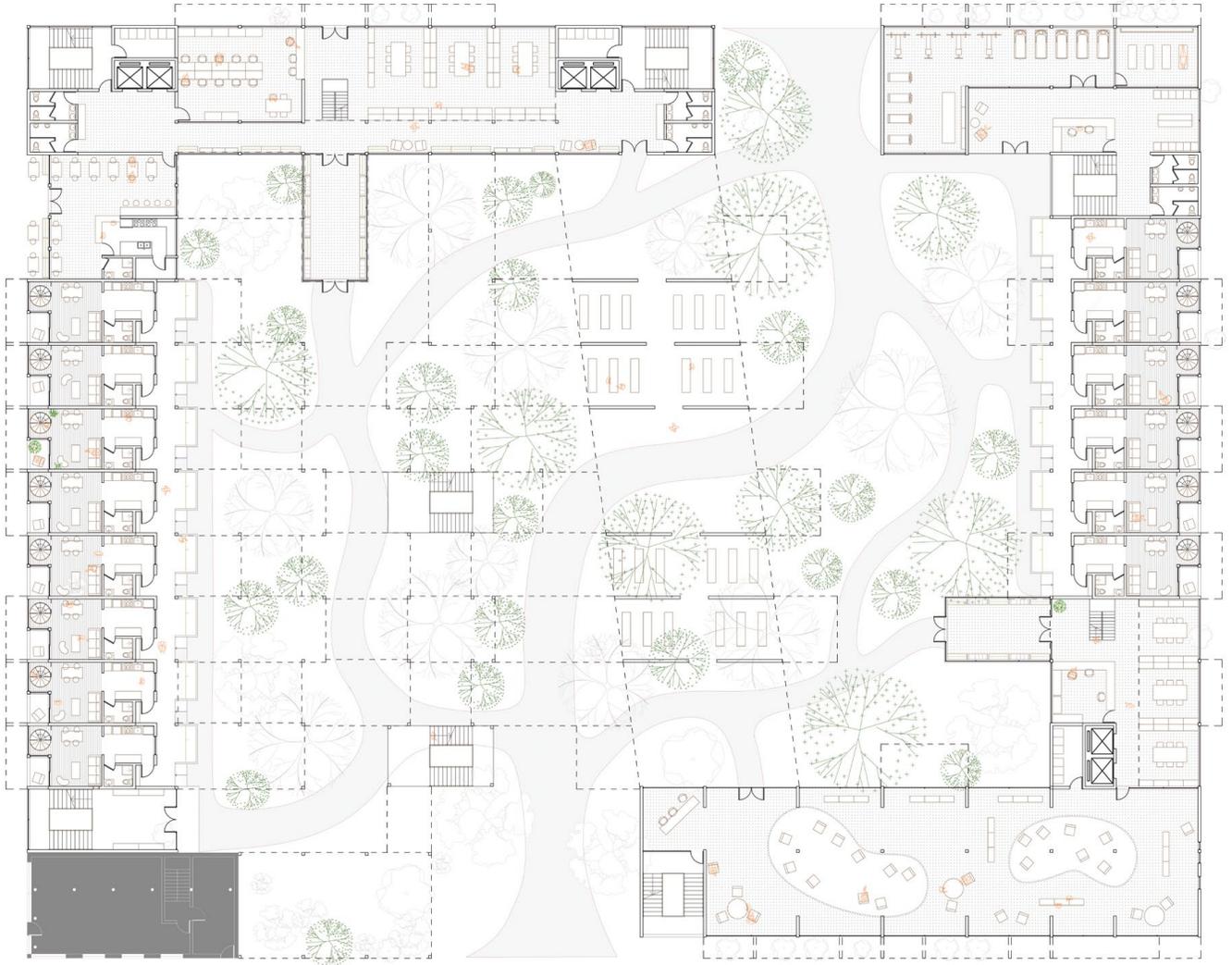
Connect



Plant



Expand



Ground Floor Plan



1 HOME BY GREEN/South Bronx Affordable Housing

Rooftop Pool

Greenhouse

E 152nd St Garden

Solar Array

Communal Living Room/Balcony

Bronx Documentary Center and Extension (Site)

Lightweight QMU Block

Prefabricated Unit Component

Bronx Documentary Center Extension

Precast Floor Slab

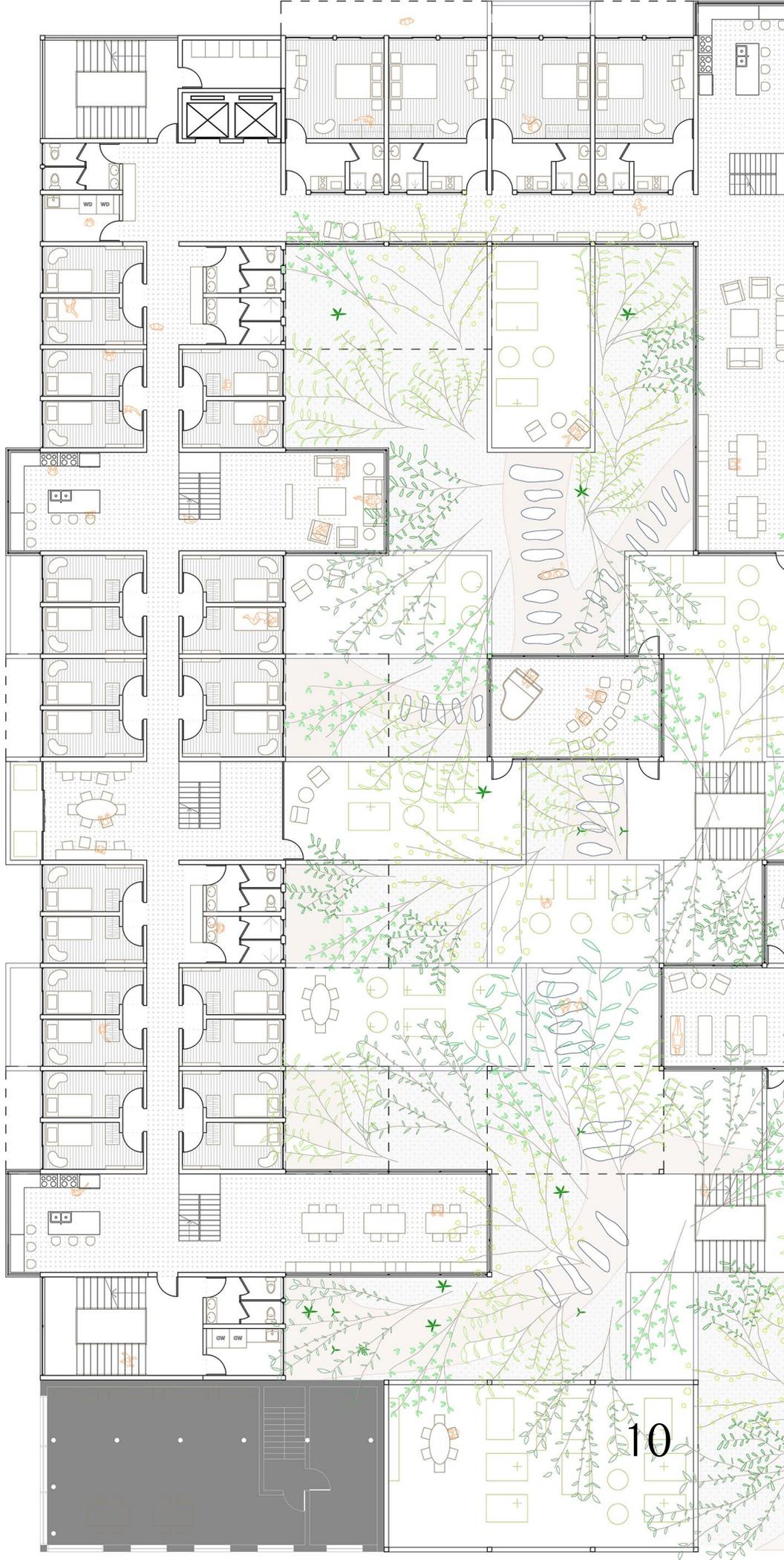
Bronx Documentary Center



Courtyard Perspective

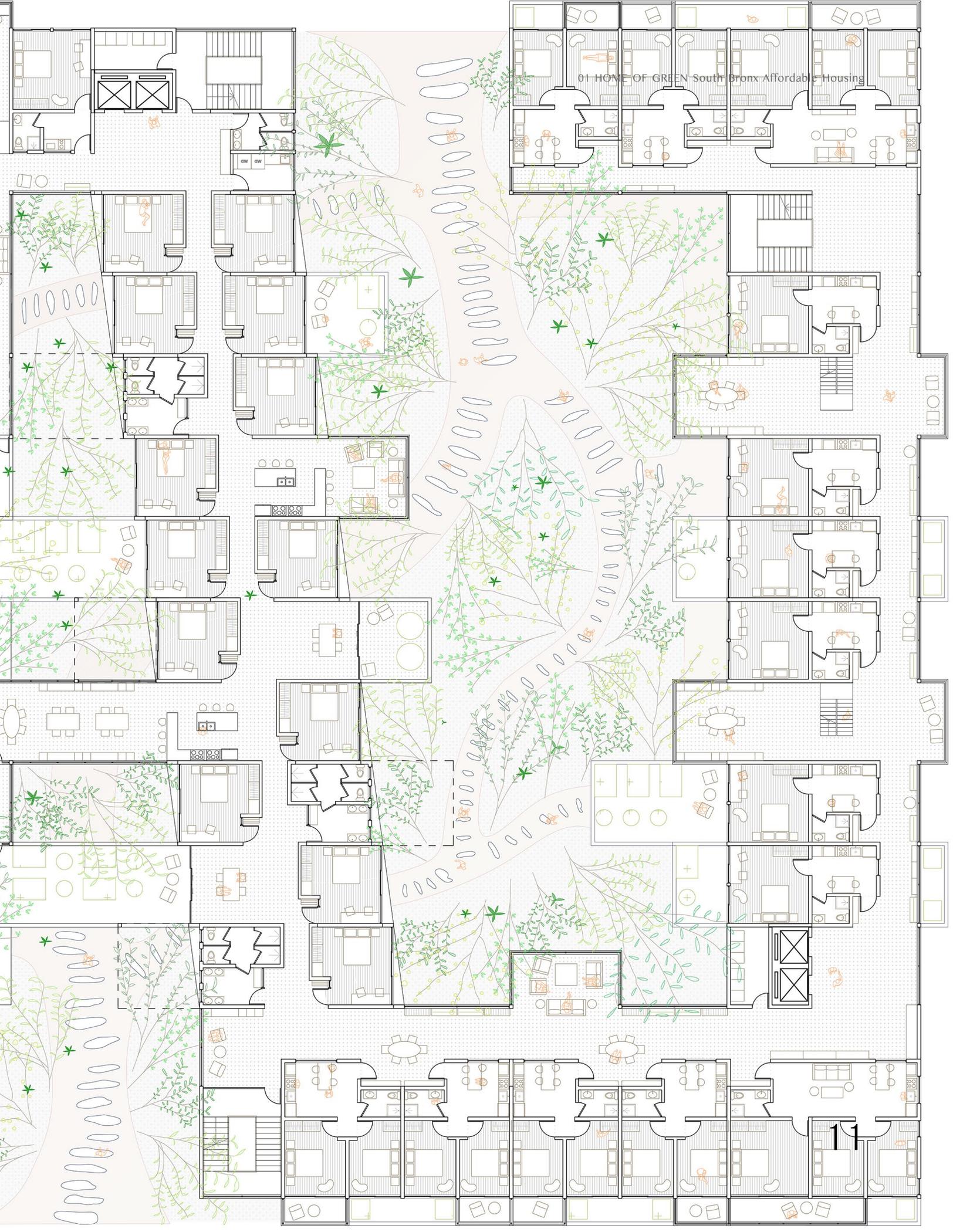


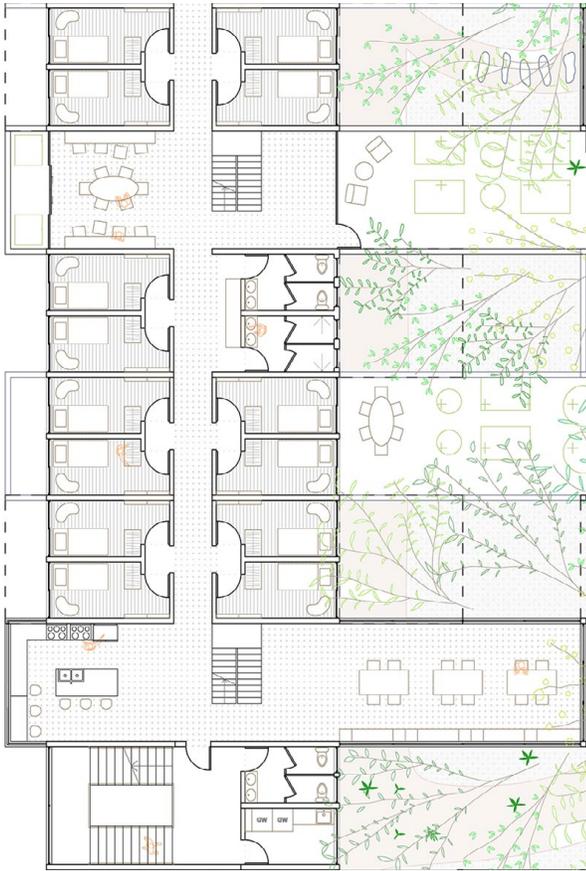
N-S Section



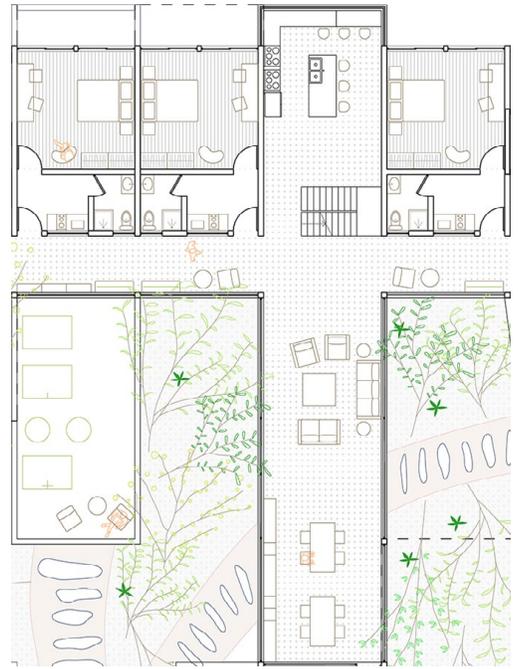
Typical Floor Plan

01 HOME OF GREEN South Bronx Affordable Housing

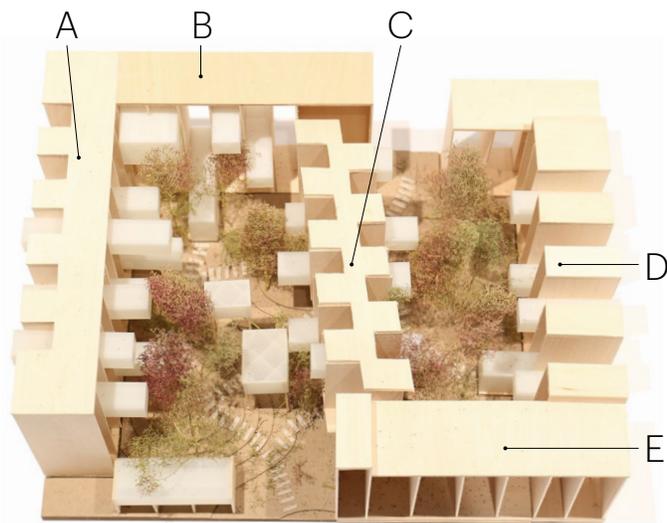


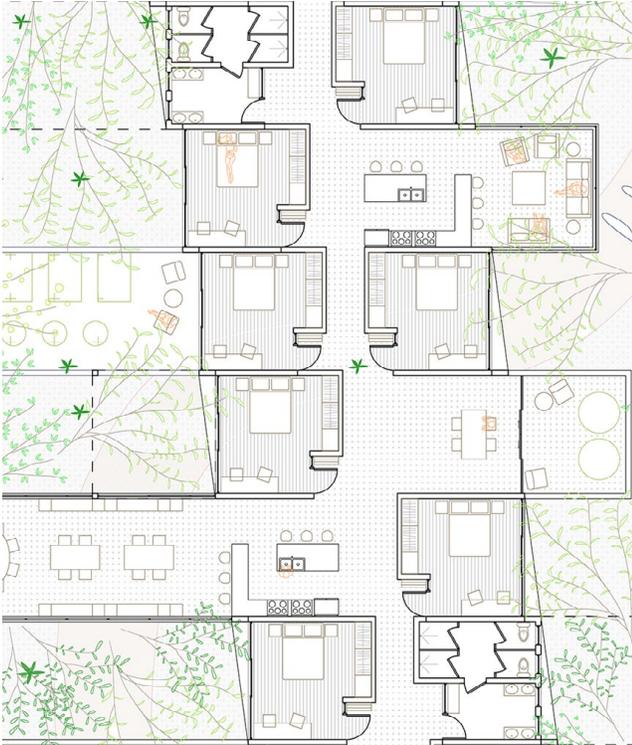


Type A Single Shelter

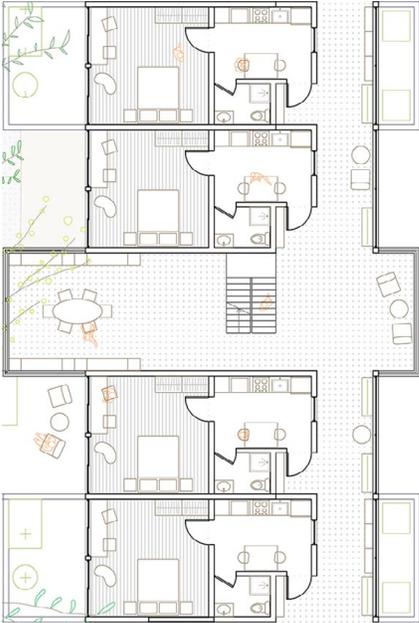


Type B Suite

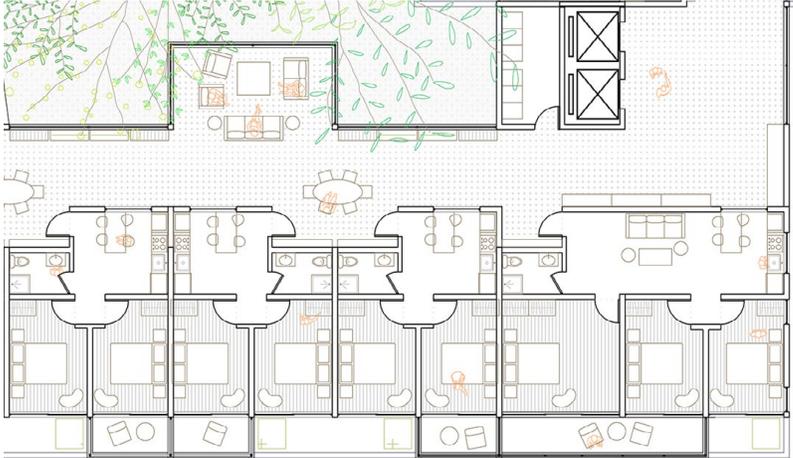




Type C Couple Room



Type D Studio



Type E Family Apartment







Section Model 1'=1/4"





Columbia University GSAPP
Advanced IV Studio 2020 Spring
Critic Adam Frampton
Partner Anoushae Eirabie

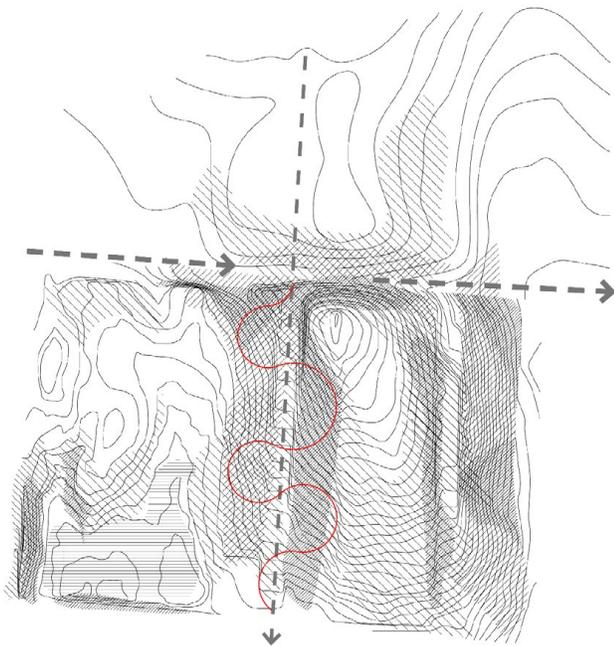
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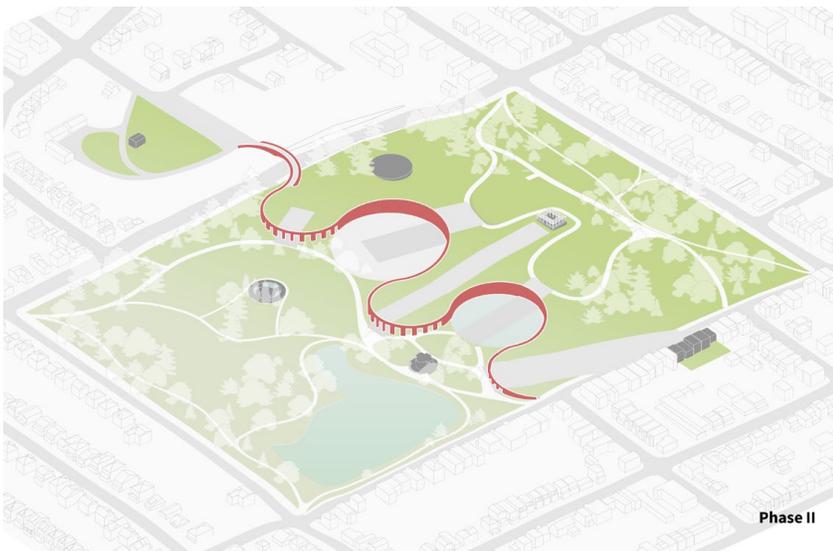
PARK OF WALLS

Location:
Newburgh, NY
Program:
Public Park

For decades, topographical manipulations prioritising cars happened in the Downing Park, a forgotten historical landmark in the center of Newburgh, an upper state city of New York. We boldly transformed the park by reinterpreting the typology of retaining wall. The curved wall radically deals with the problem of separation between east and west side of the park by turning the existing driveway and the steep slopes along it into a series of platforms.

Interweaving high and low, old and new, the intervention blurs the boundary between landscape and architecture, in search of the new definition of the urban park.





Project Phases

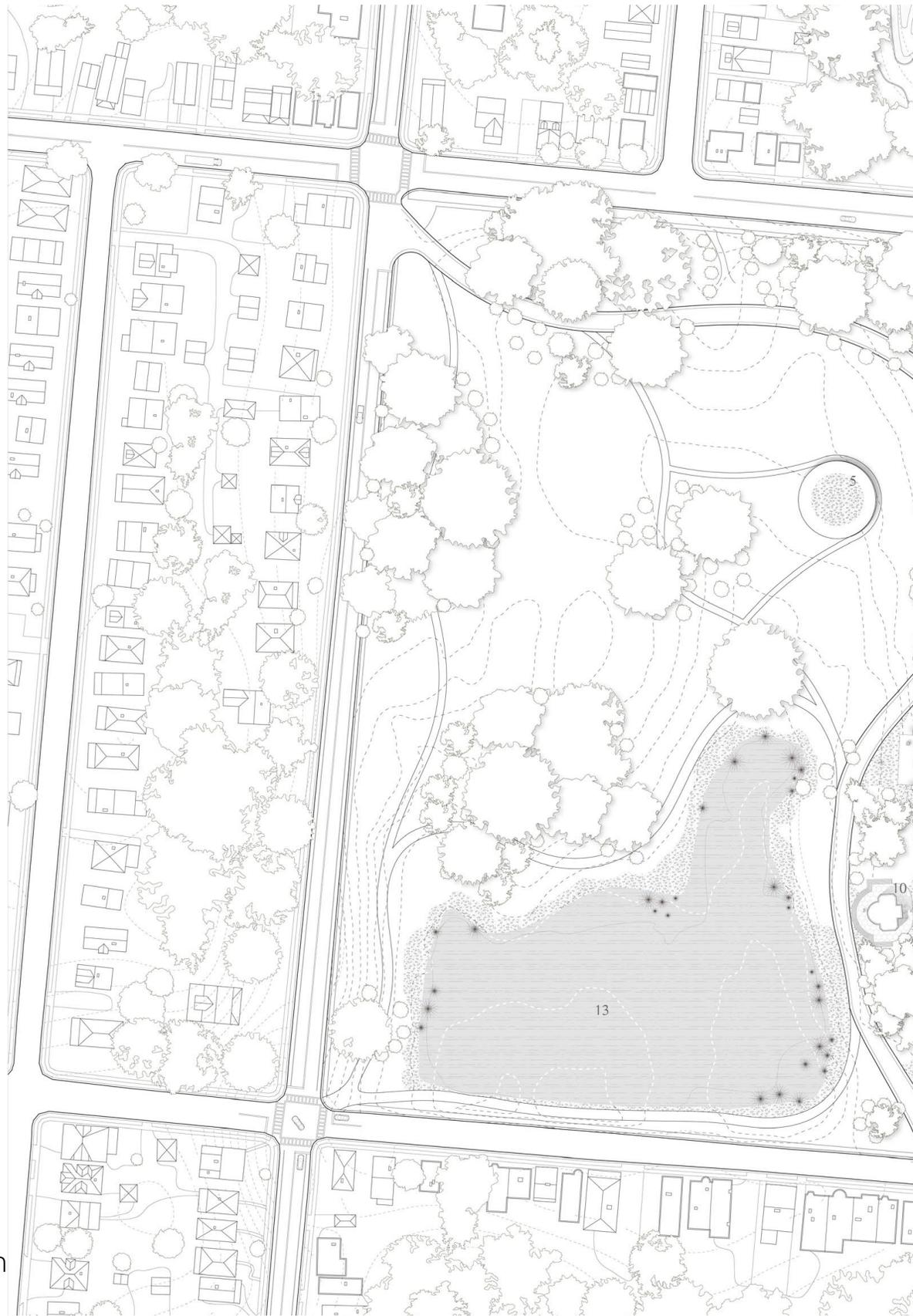


The cut-and-fill operations stitch the two side of the park, cutting out new open air playgrounds as well as building up single floor indoor spaces. The height of the wall changes with the existing topography, becoming as tall as 2-floor high amphitheatre seating and as low as below grade to allow seamless trespass.



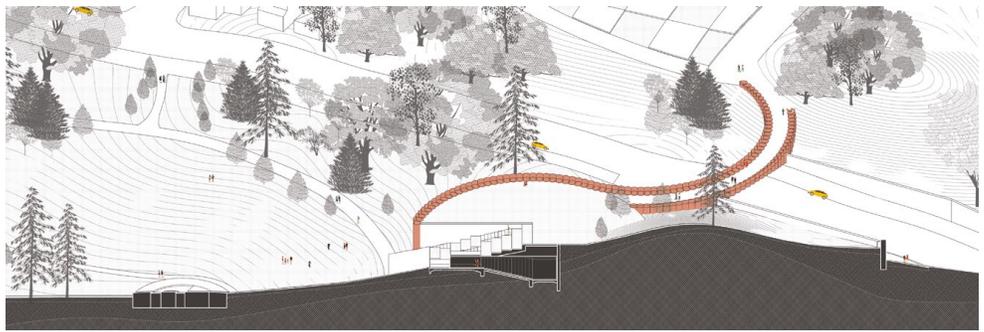


- 1 Urban Farm
- 2 Footbridge
- 3 Screening
- 4 Lookout
- 5 Amphitheatre
- 6 Sunken Stage
- 7 Workshop
- 8 Playground
- 9 The Pergola
- 10 Shelter House
- 11 Fun Pool
- 12 Park Cafe
- 13 Polly Pond
- 14 Terrace Garden
- 15 Service

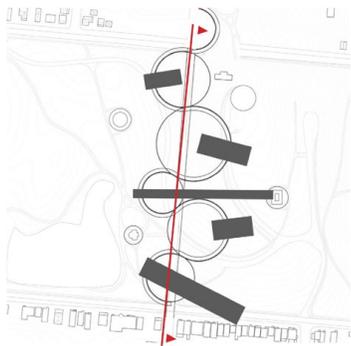


Site Plan

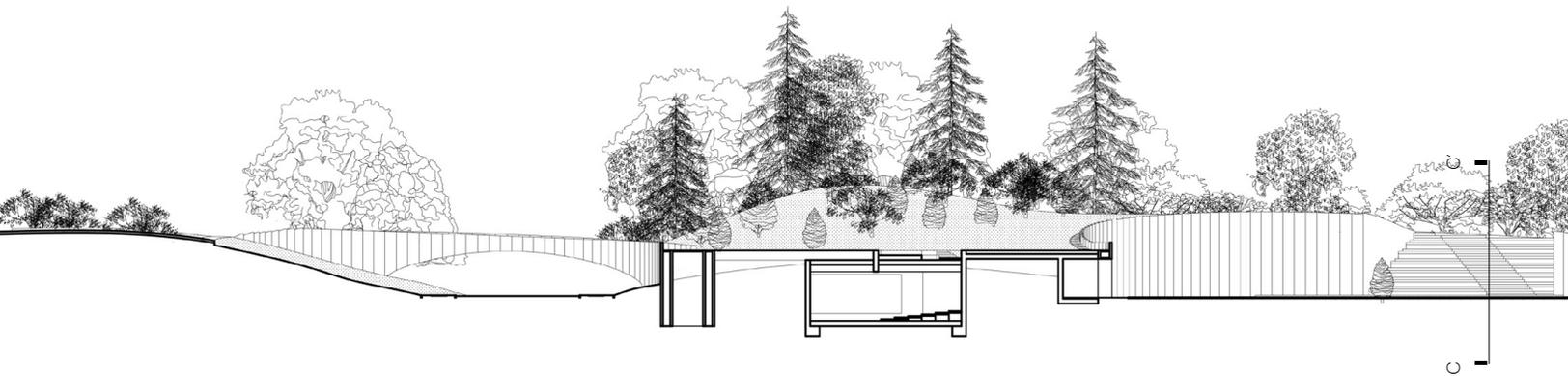


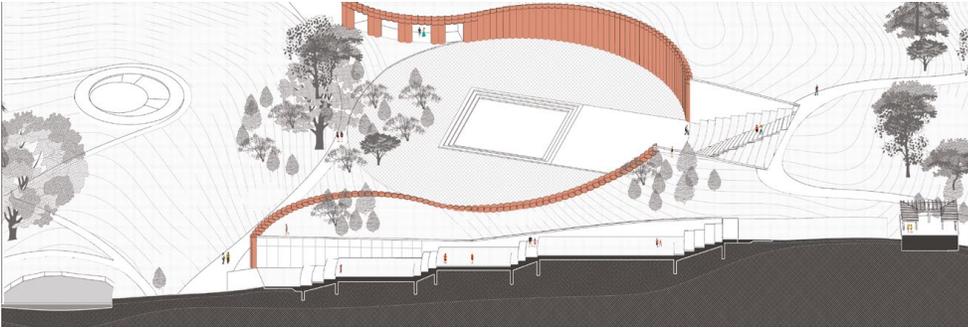


Section CC' Amphitheatre, Screening Room and Footbridge

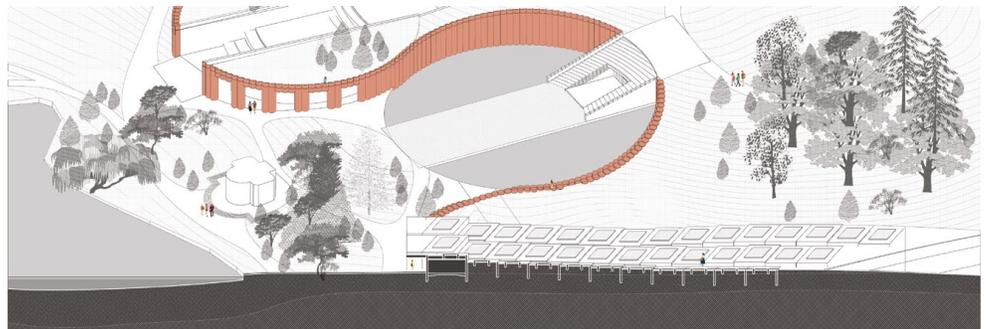


The height differences are celebrated by the grand multi-functional steps and ramps, while the programs of the new stages are curated responding to the existing historical structures on site, including an amphitheatre, a shelter house, a pergola garden, a lookout point, and vacant houses.

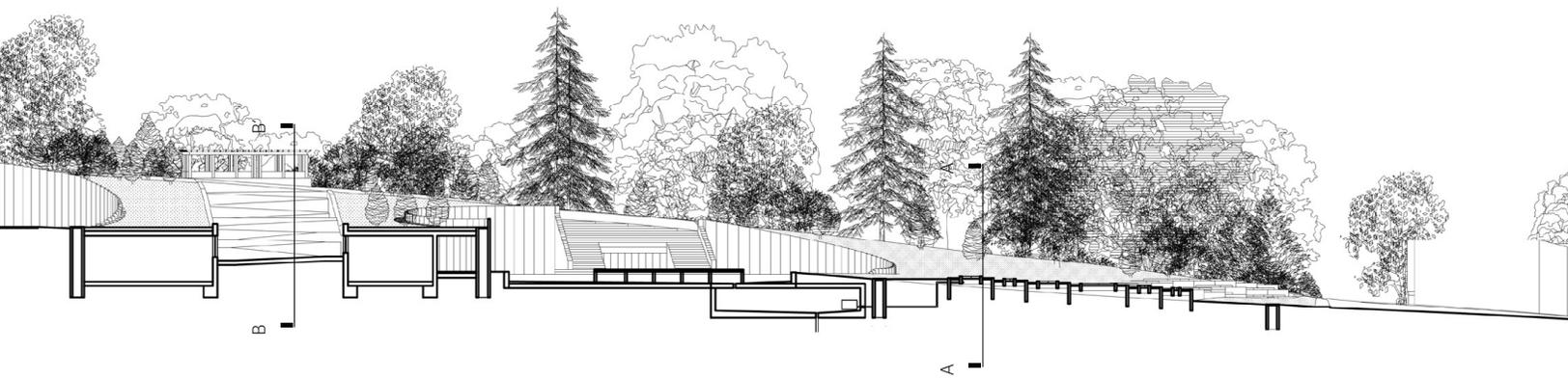


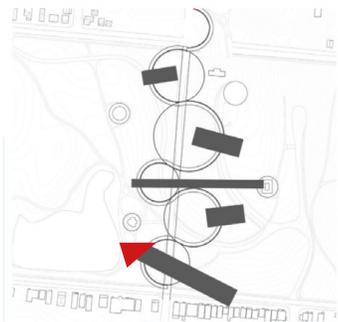


Section BB' Stepped Playground and Pergola

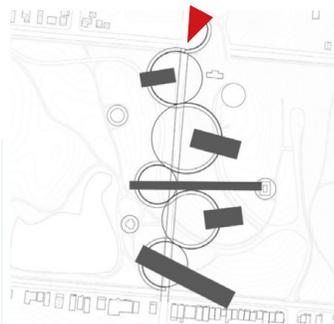


Section AA' Shelter House, Pool, and Terrace Garden

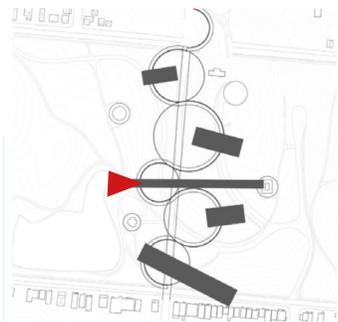




Perspective Fall

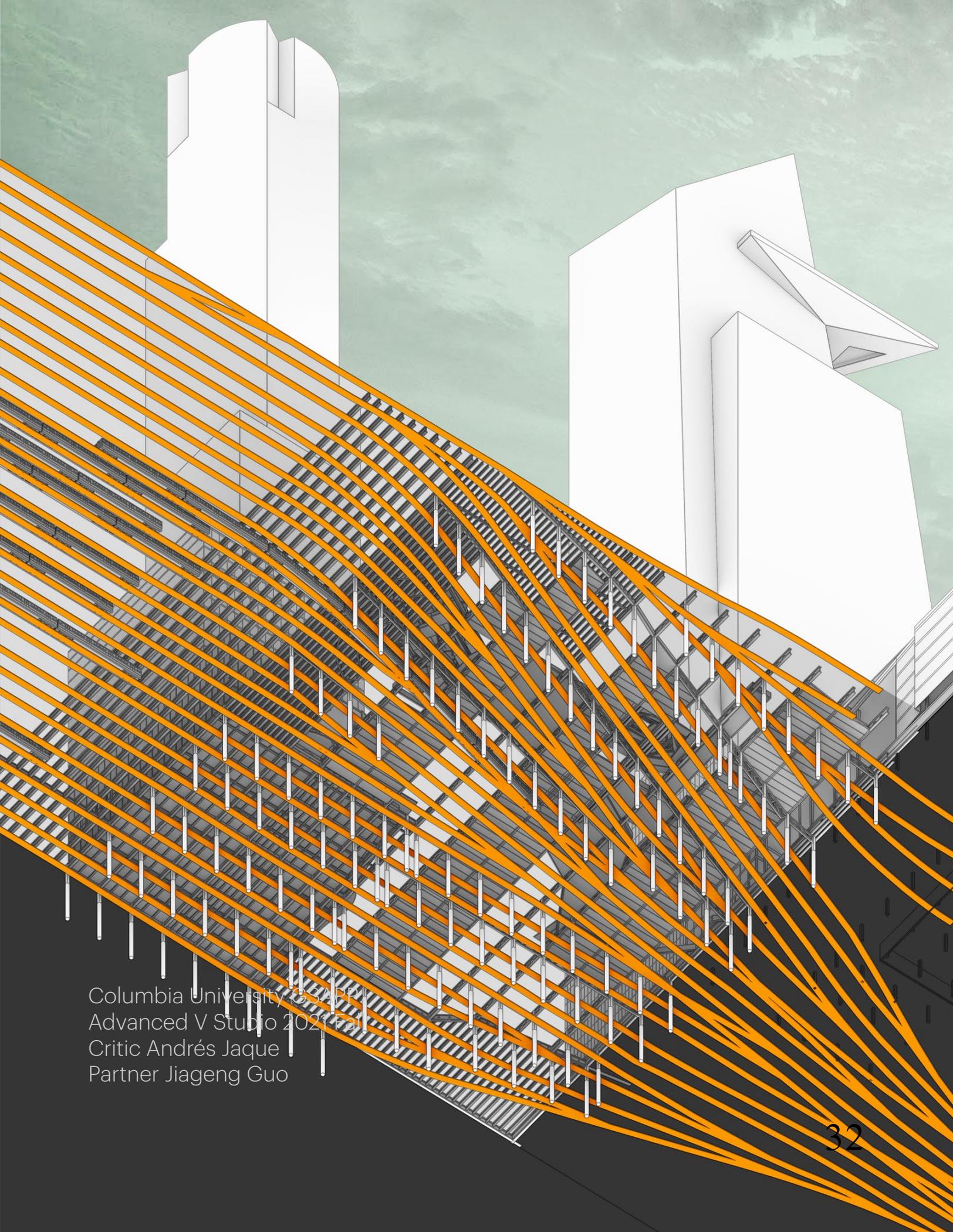


Perspective Spring



Perspective Winter





Columbia University © 2021
Advanced V Studio 2021 Fall
Critic Andrés Jaque
Partner Jiageng Guo

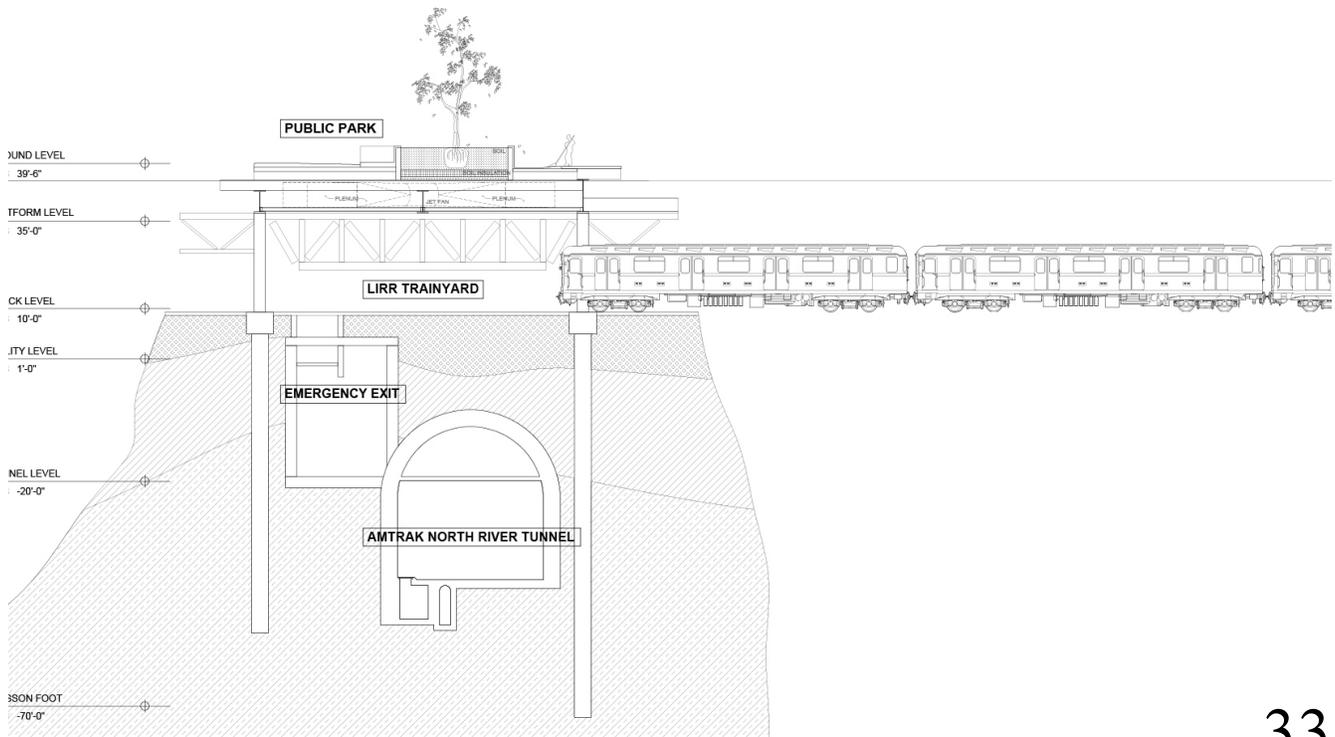
03

IN THE NAME OF HEAT

Location:
Hudson Yards, NYC
Program:
Infrastructure

The most expensive real estate development in the U.S., Hudson Yards, manipulated 6 billion of public funding to build a platform hosting an infrastructure of air conditioning dealing with a huge problem of heat. When the Eastern Train Yard is covered, 150 degrees of heated air from trains accumulates under the platform, while the cooling and maintenance are all at the cost of taxpayers' money.

Our proposal is to remove public funding and initiate a public management of the heat. The intervention does not simply stand on its own as a solution to the overheated platform, nor as a singular concession acknowledging and removing public funding. Instead, the efforts to establish a process of demolition, archiving, reconstructing, and entangling should be seen as a part of a broader restructuring of public engagement in the making of public infrastructure.

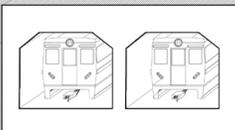
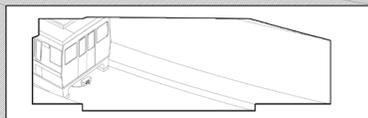
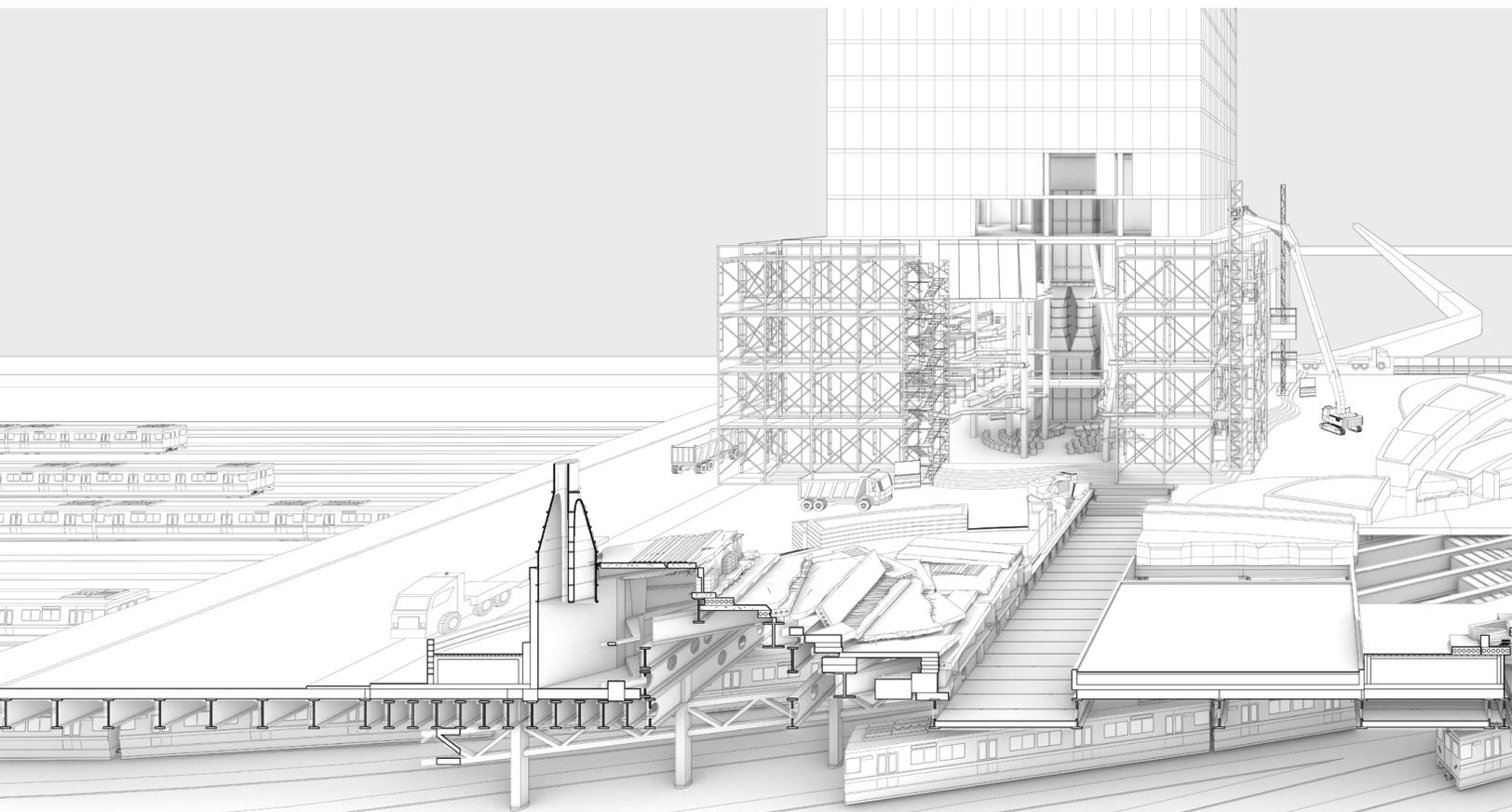


Hudson Yards is made when two modes of exploitation collide, where vertical multiplication of land has to happen on top of a rail yard serving horizontal expansion. A platform is built above, as a “public garden” serving luxury towers and shopping malls.

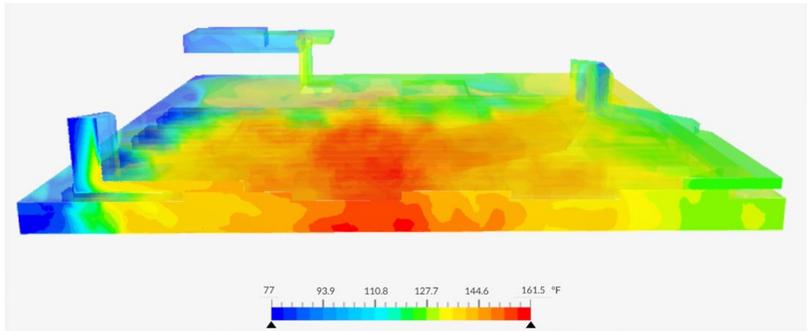
Incoming trains release a huge amount of heat into the rail yard. To insulate and ventilate the yard, 15 aerial engineered exhaust fans, extensive glycol chilling tubes, 6 feet of rigid insulation and 4 feet of structural soil are assembled in a steel platform, mostly at the cost of public funding - \$1.6 billion from EB-5, \$3 billion through ISP, and \$1 billion of city tax break.

We propose to

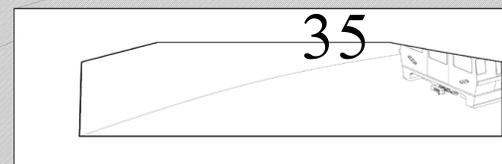
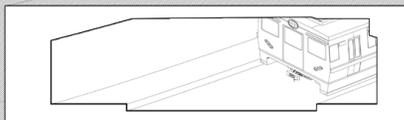
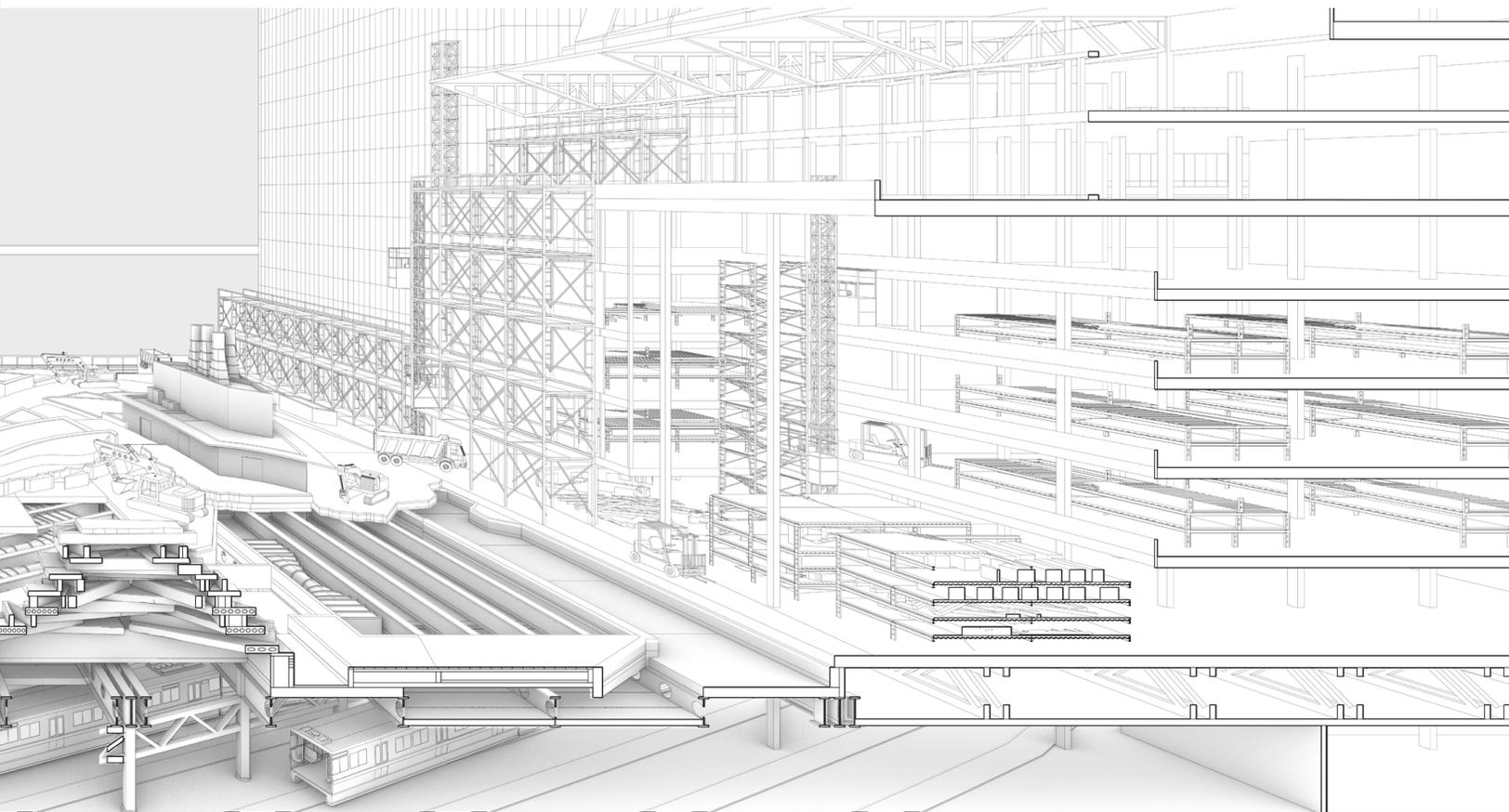
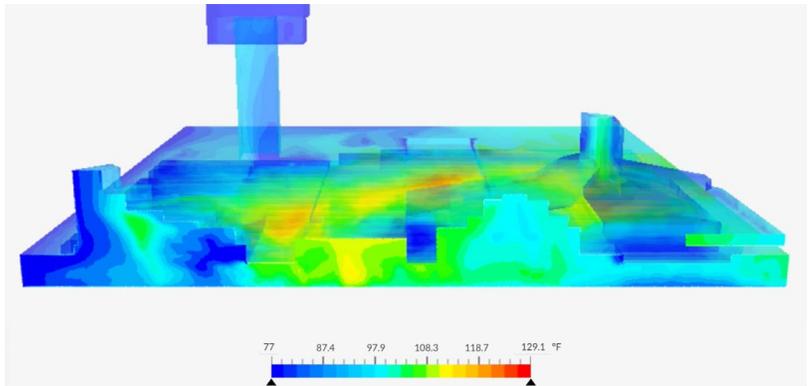
- 1) remove the current MEP system which abuses public funding,
- 2) release the heat through naturally driven stack effect, and
- 3) initiate a public management of the infrastructure.



Before



After



In the name of heat, the surgical demolition plan excavates the existing air infrastructure and turns part of the privatized circulation of heated air into public circulation, which provides 5,000 employment opportunities for the city. The first step is to reclaim the podium of the 35 Hudson Yards, which currently accommodate the air intake system for the platform, re-purpose it as the town hall for public meetings during the demolition process, as well as a temporary shelter for workers. The deconstruction work involves archiving the dismantled structure and materials in the by then vacant shopping mall, where a public management of deconstruction wastes is promoted.

Bottom:
On-site Material Gallery
Middle:
Recycled Material Form
Right:
Town Hall/Shelter

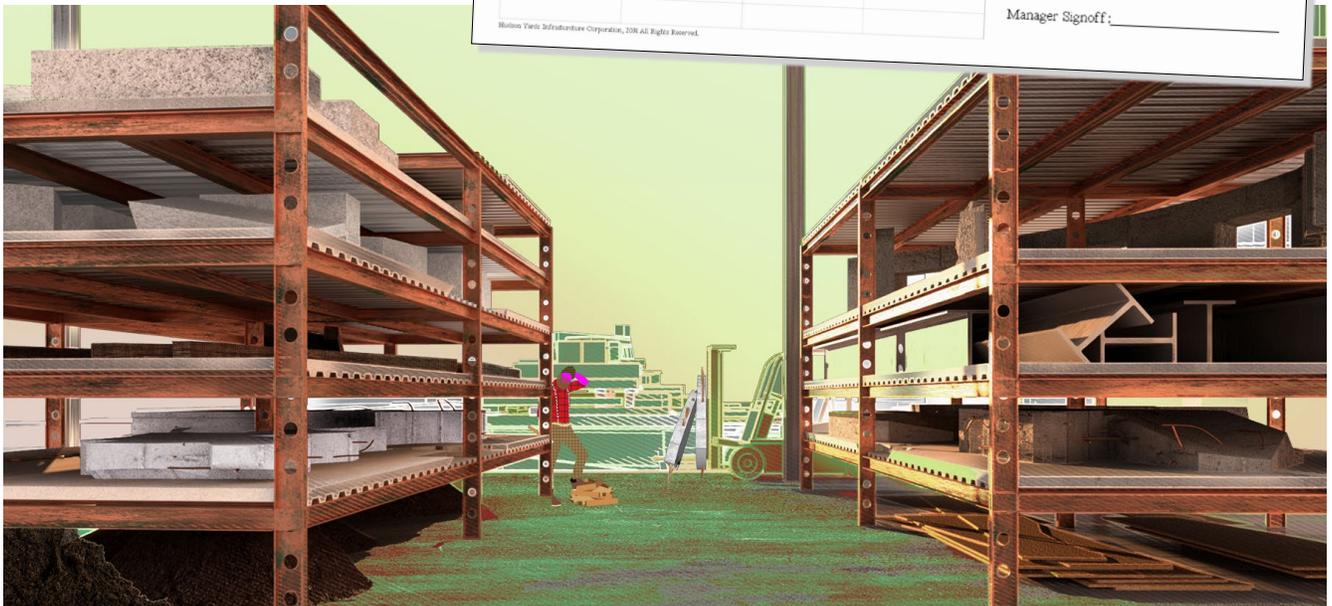
HUDSON YARDS MATERIAL REQUISITION

1	2	3	4
5	6	7	8
9	10	11	12

Example Assembly

Date Required: _____
 Requestor Signoff: _____
 Manager Signoff: _____

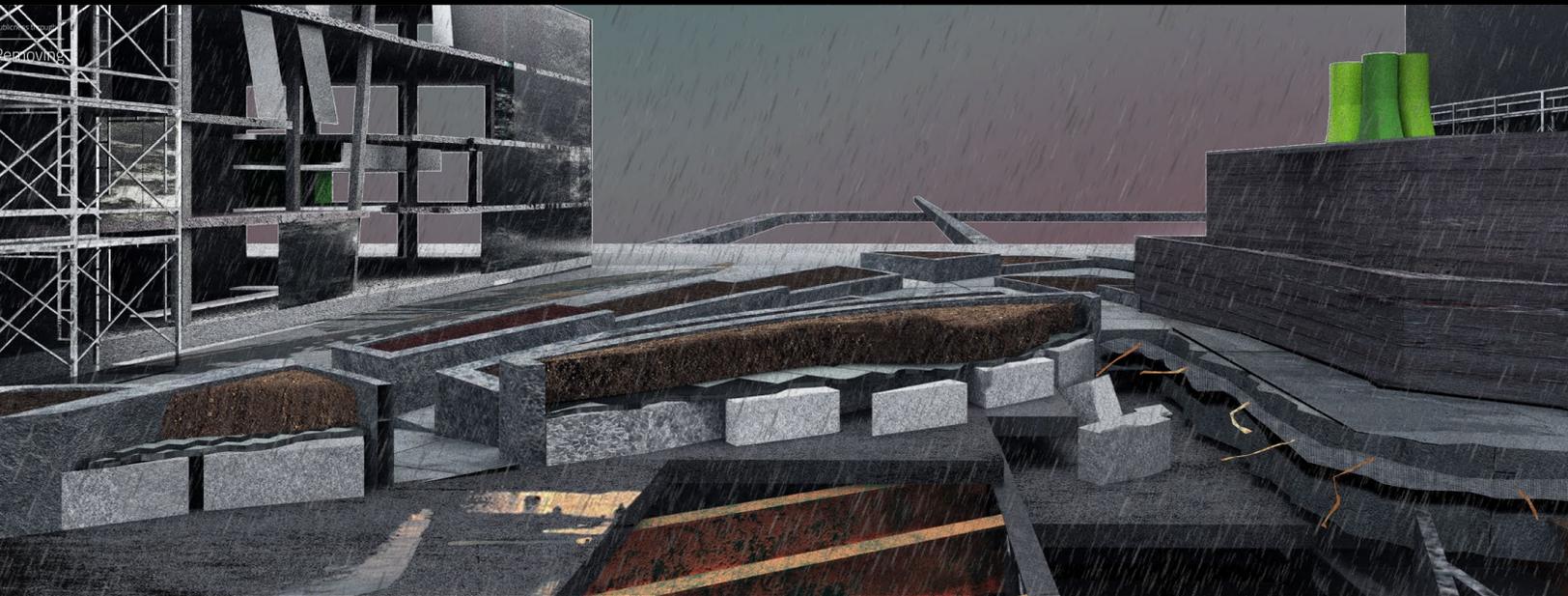
Hudson Yards Infrastructure Corporation, 2018 All Rights Reserved.





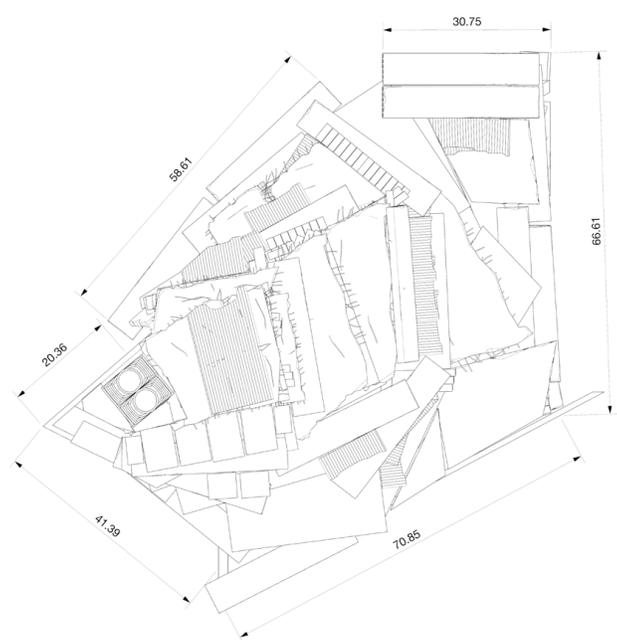
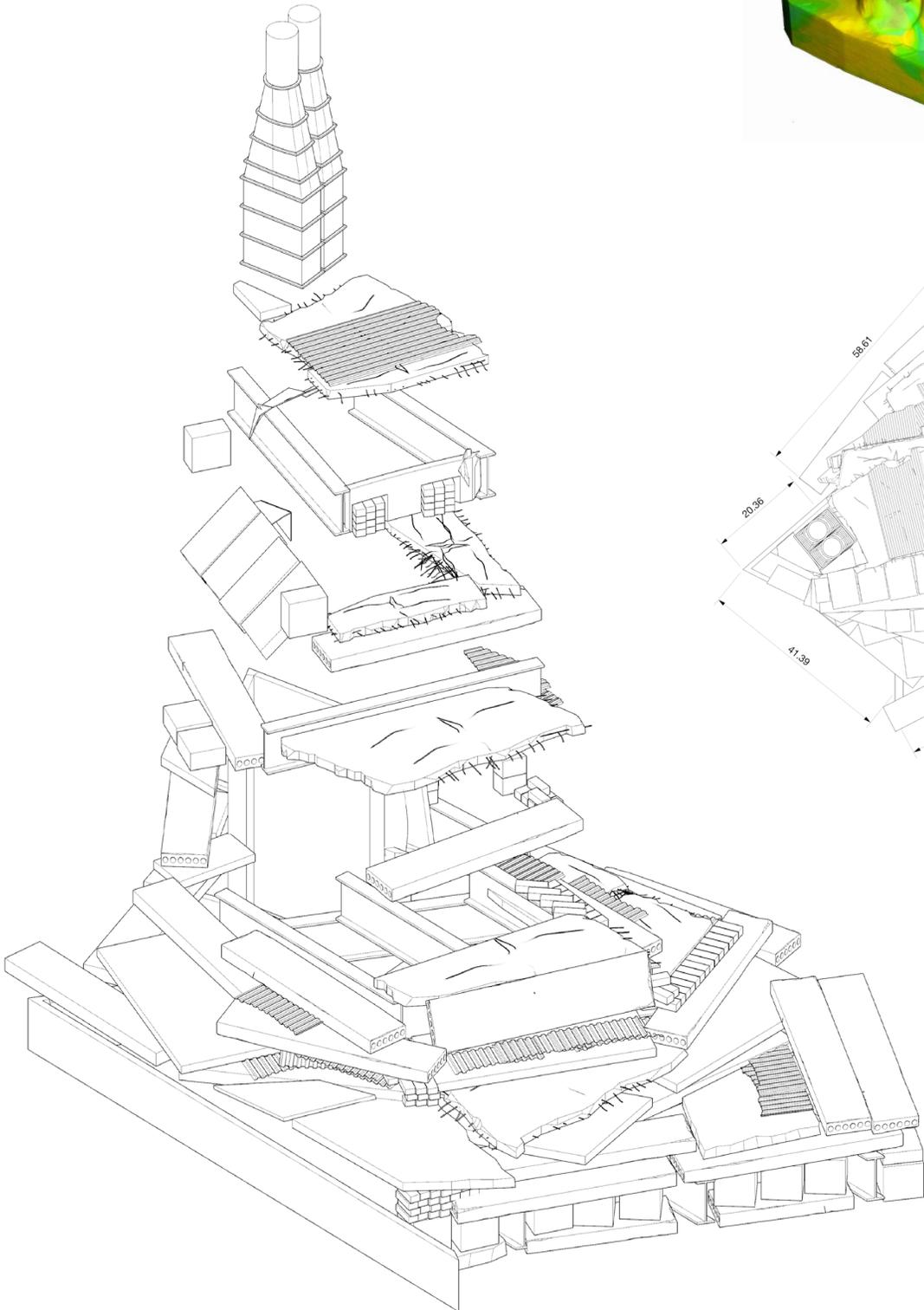
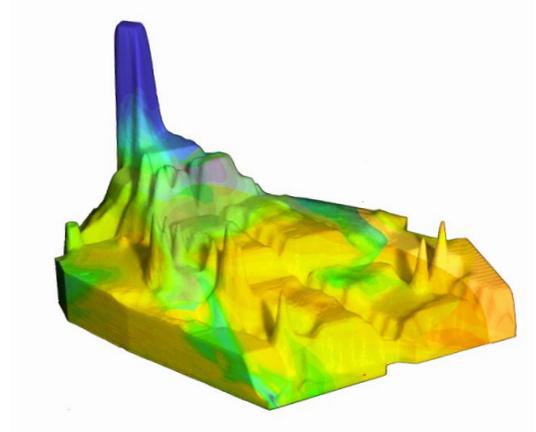
Community meeting: 2015 07.01
What to do with rest of I-beams?
"head to..."
"have..."
"ambly..."
"of Pet..."





Existing Air Tower Under Deconstruction

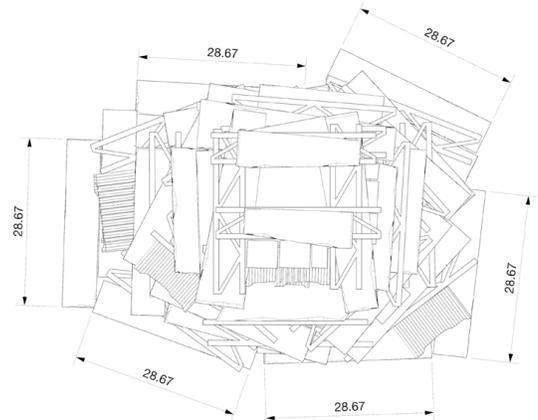
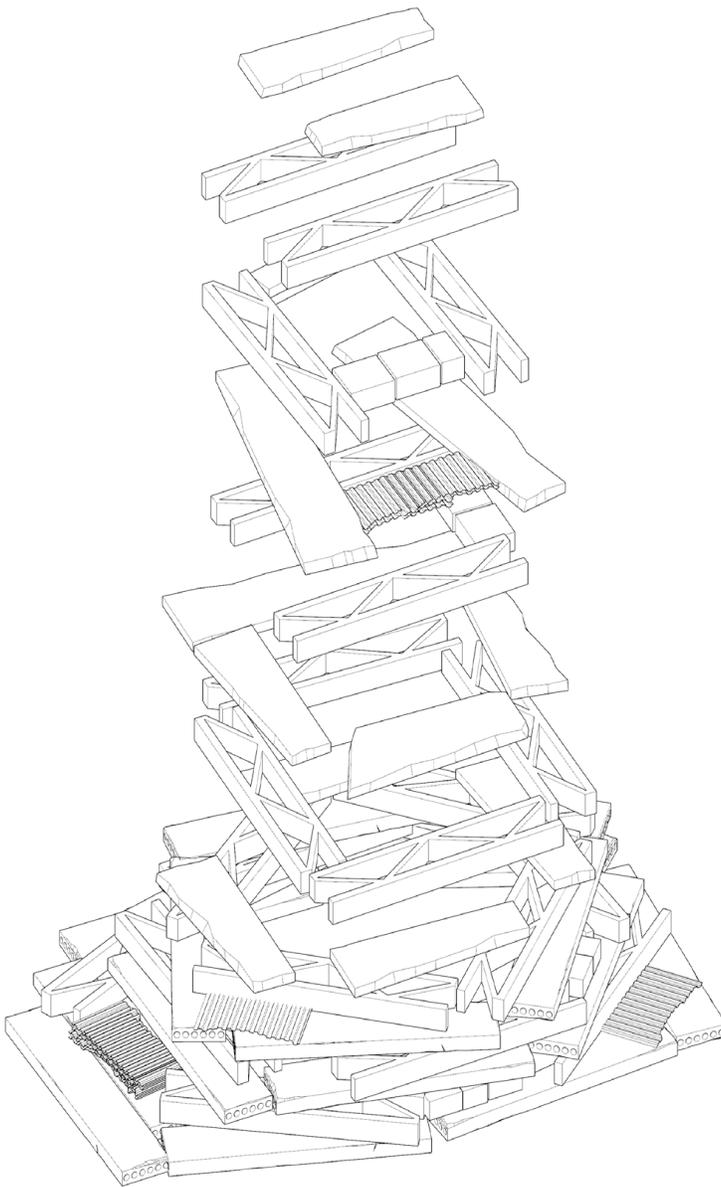
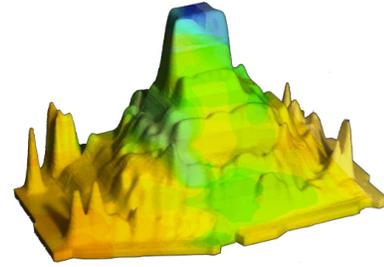
West Exhaust Tower



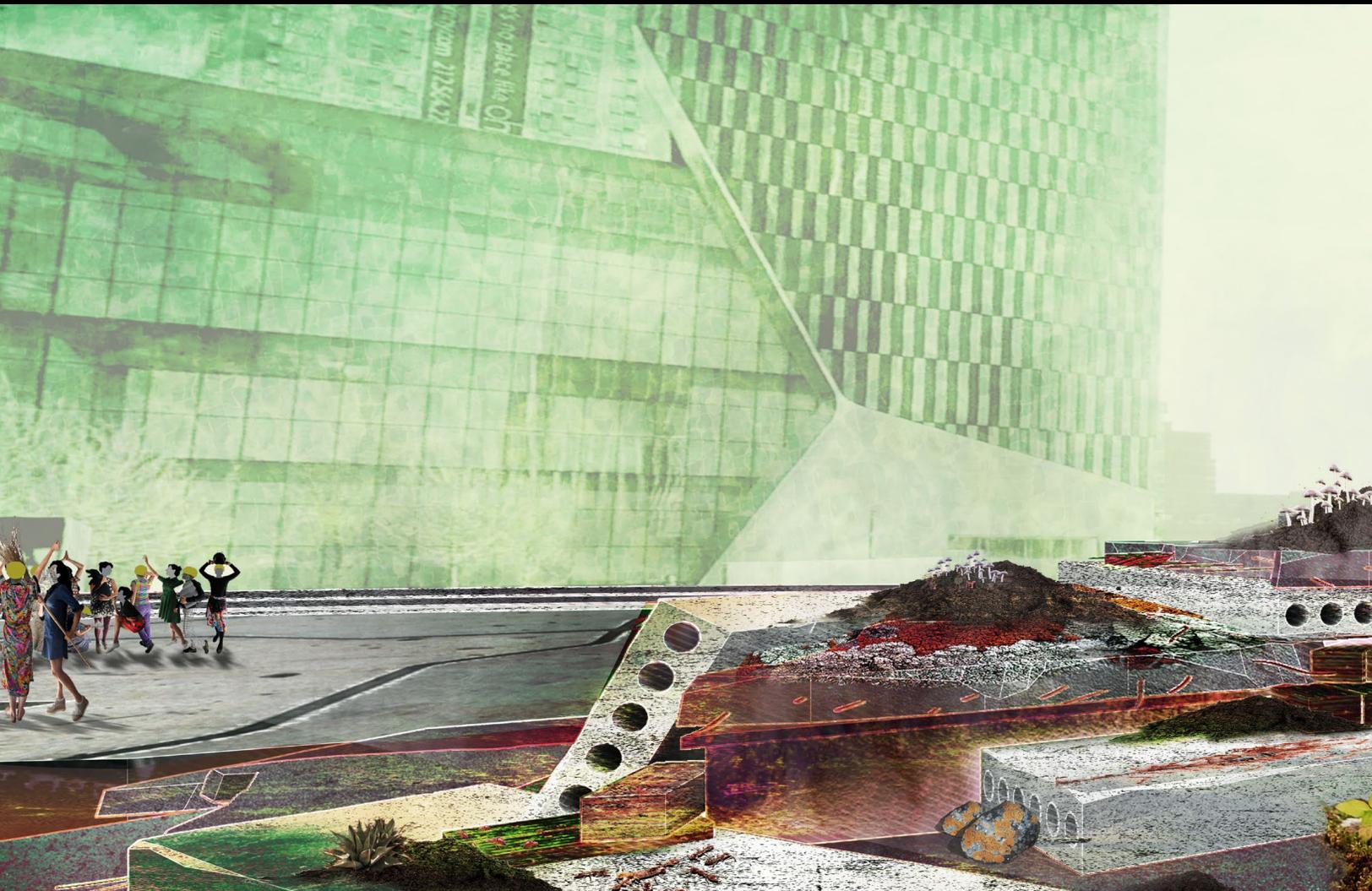


Central Exhaust Tower View from Underside

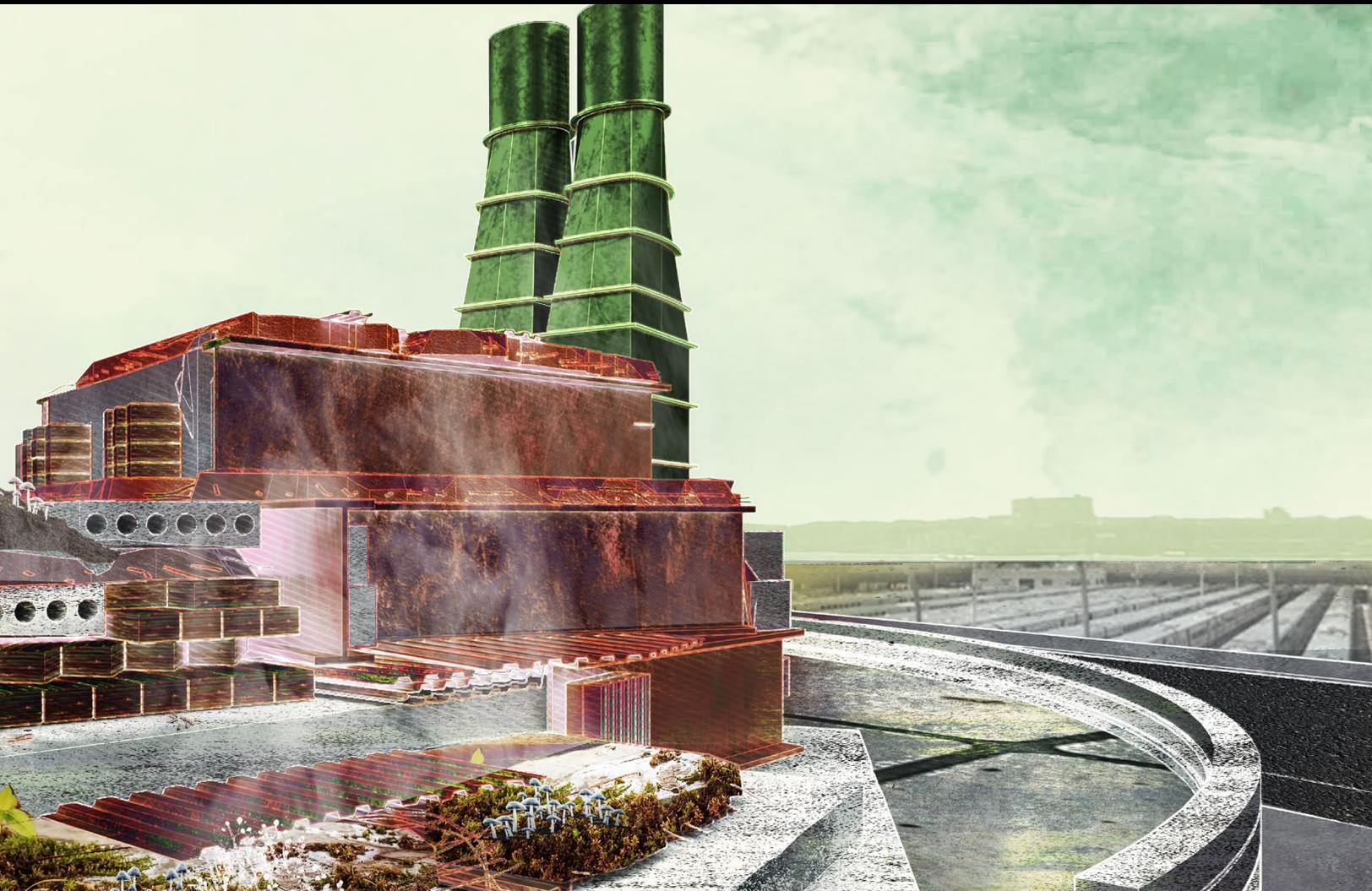
Central Exhaust Tower



New air towers will be built 100% using materials recycled on site, in the form of a hollow hill with a reversed fan on top to facilitate the stack effect. The “air mountains” will become the bases for the accumulation of not only heat but also soil, water and insects, which entangles alternative life forms coexisting with heat and toxicity.



West Exhaust Tower Perspective





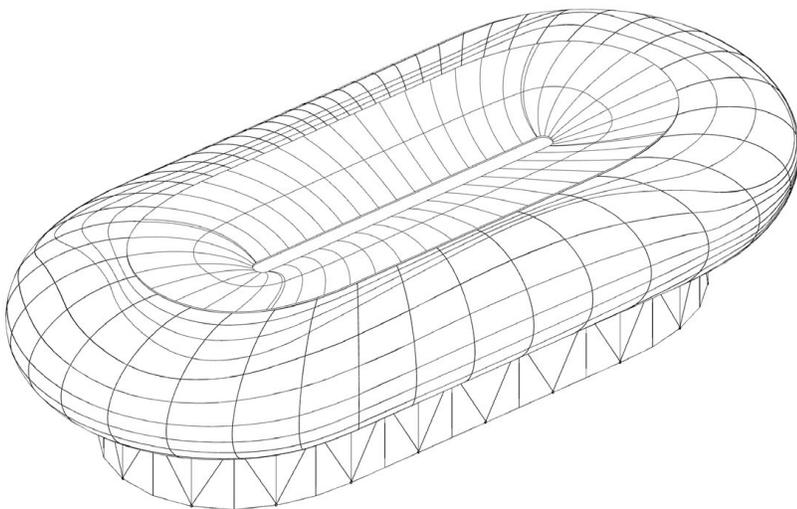
Columbia University GSAPP
Advance Studio VI 2022 Spring
Everything Must Scale: Removal of Motion
Critic Michael Bell
Individual Work

04

LIGHT WORK

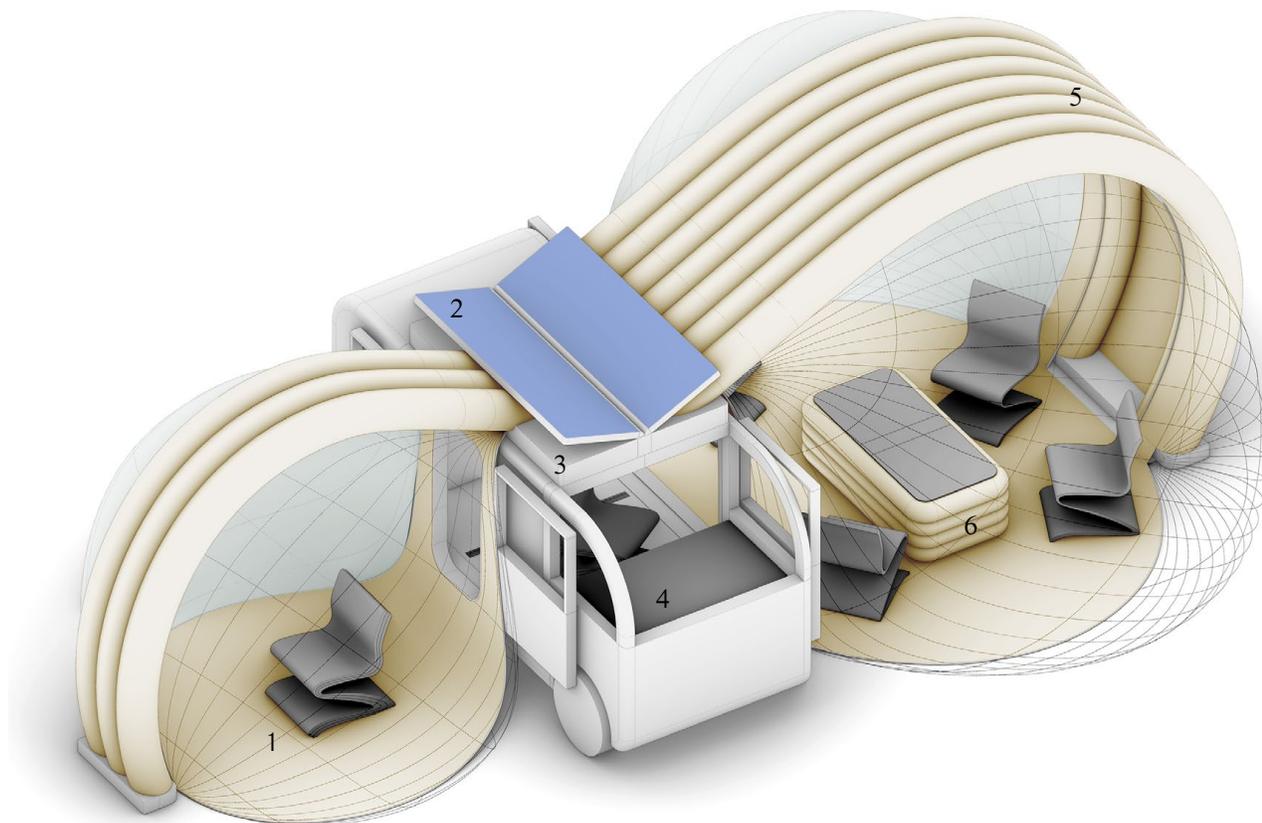
Location:
Distributed
Program:
Temporary Work Space

“LightWork” is a network of lightweight distributed work spaces in the future. If remote working can bring more comfort and efficiency at a lower cost, it will fundamentally remove the demand of two things: parking lots and office tower. How might we reclaim the outdated parking and office infrastructure for a flexible remote workspace that can bring people closer to nature? If the mechanical and electrical system inside a vehicle can serve more than itself, it could become part of an off-grid energy and information system, unlock the possibility of working anywhere. Having the support structure 90% made of air, actual footprint 10% of the floor area, the proposal is an alternative building solution against gravity that leaves minimal impact on the earth.



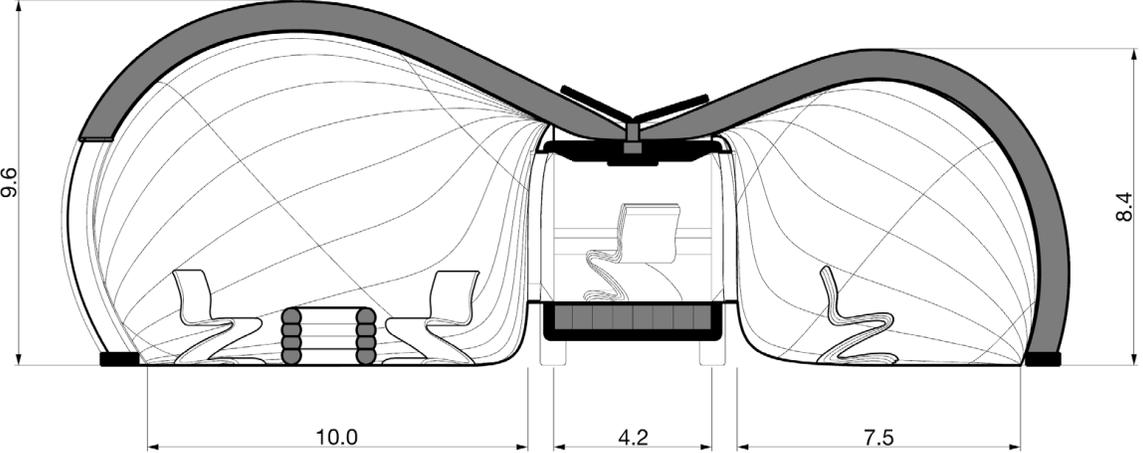
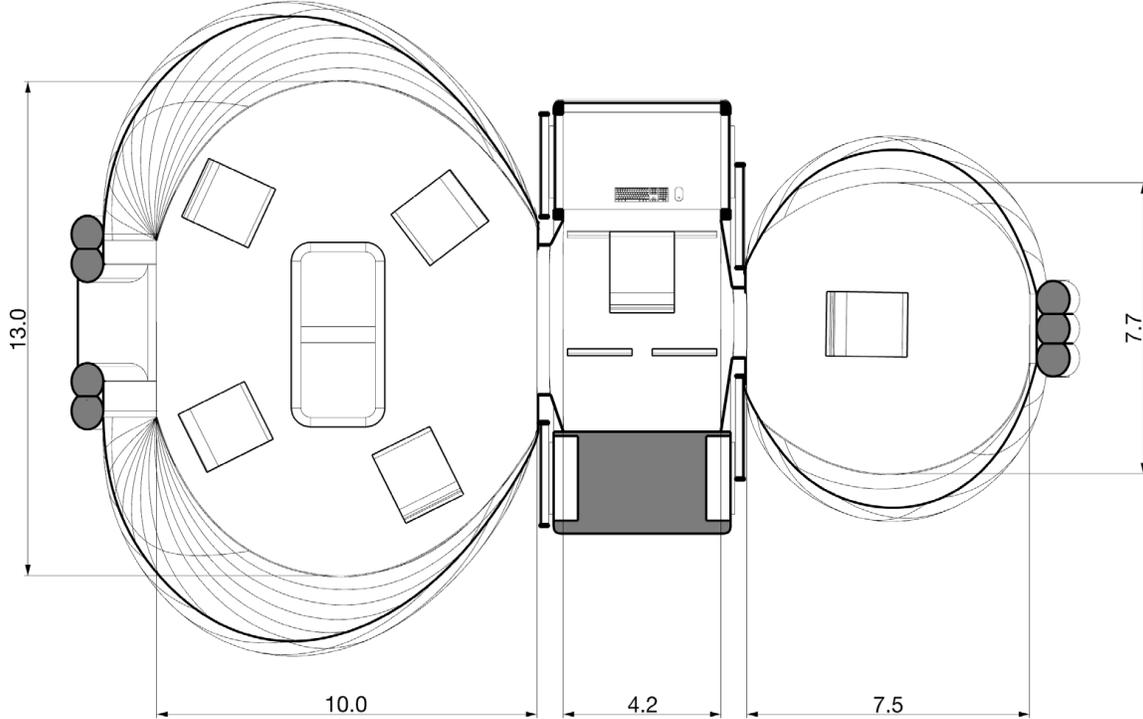




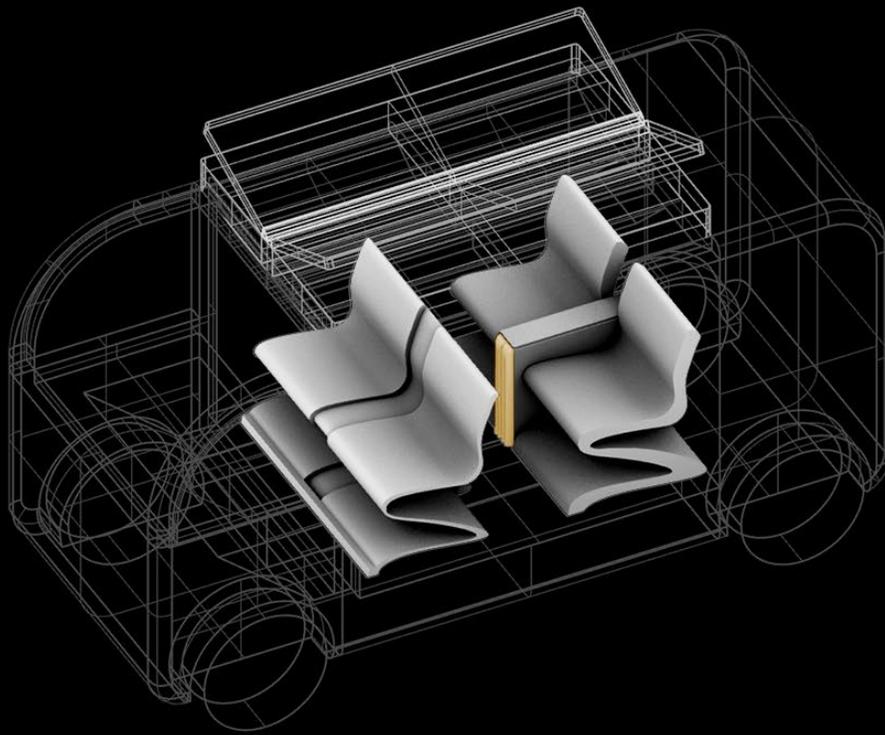


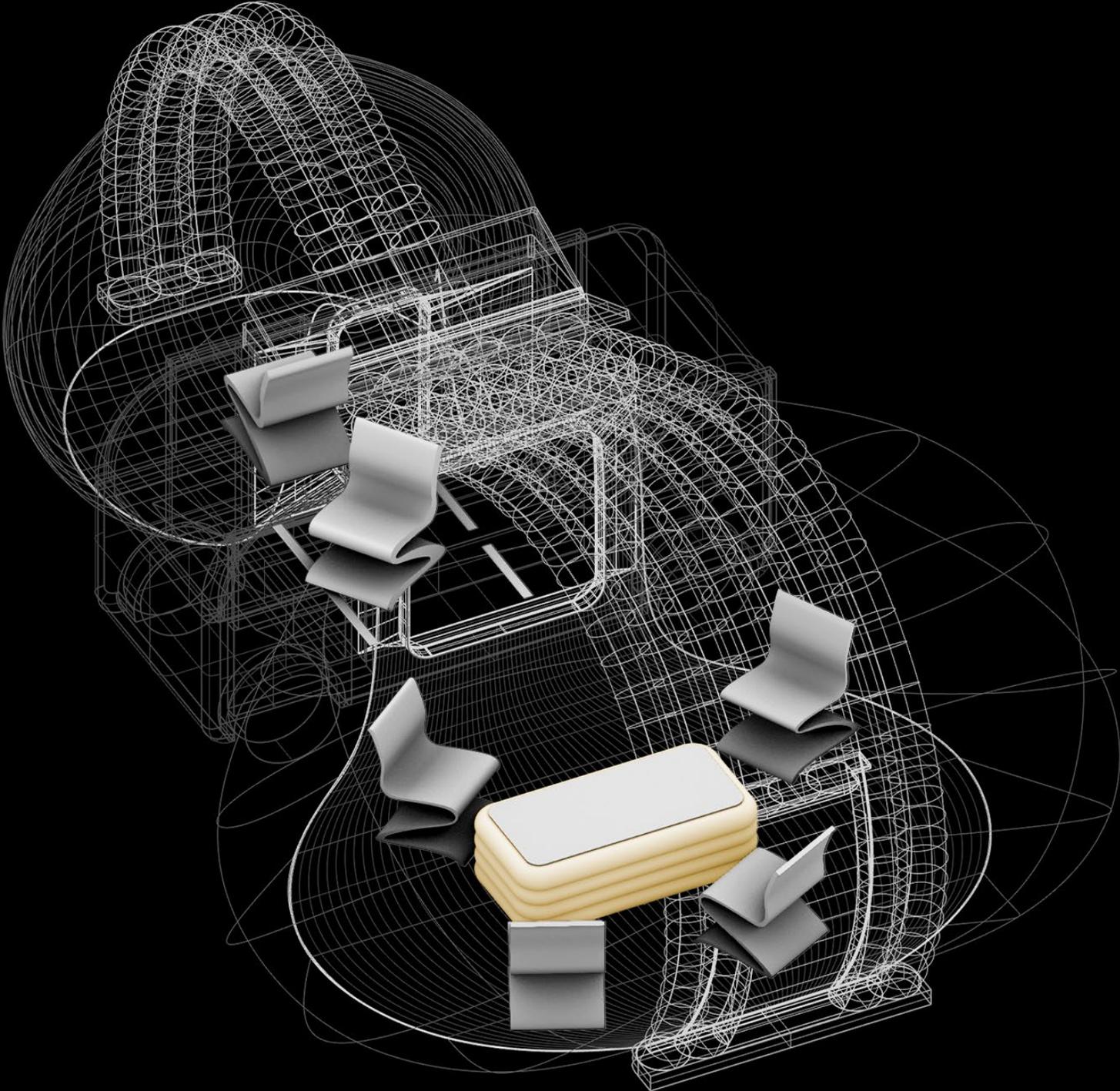
- 1 360 Projection Pod
- 2 Solar Panel
- 3 Mechanical Pack
- 4 Central Desk
- 5 Inflated Column
- 6 Meeting Pod

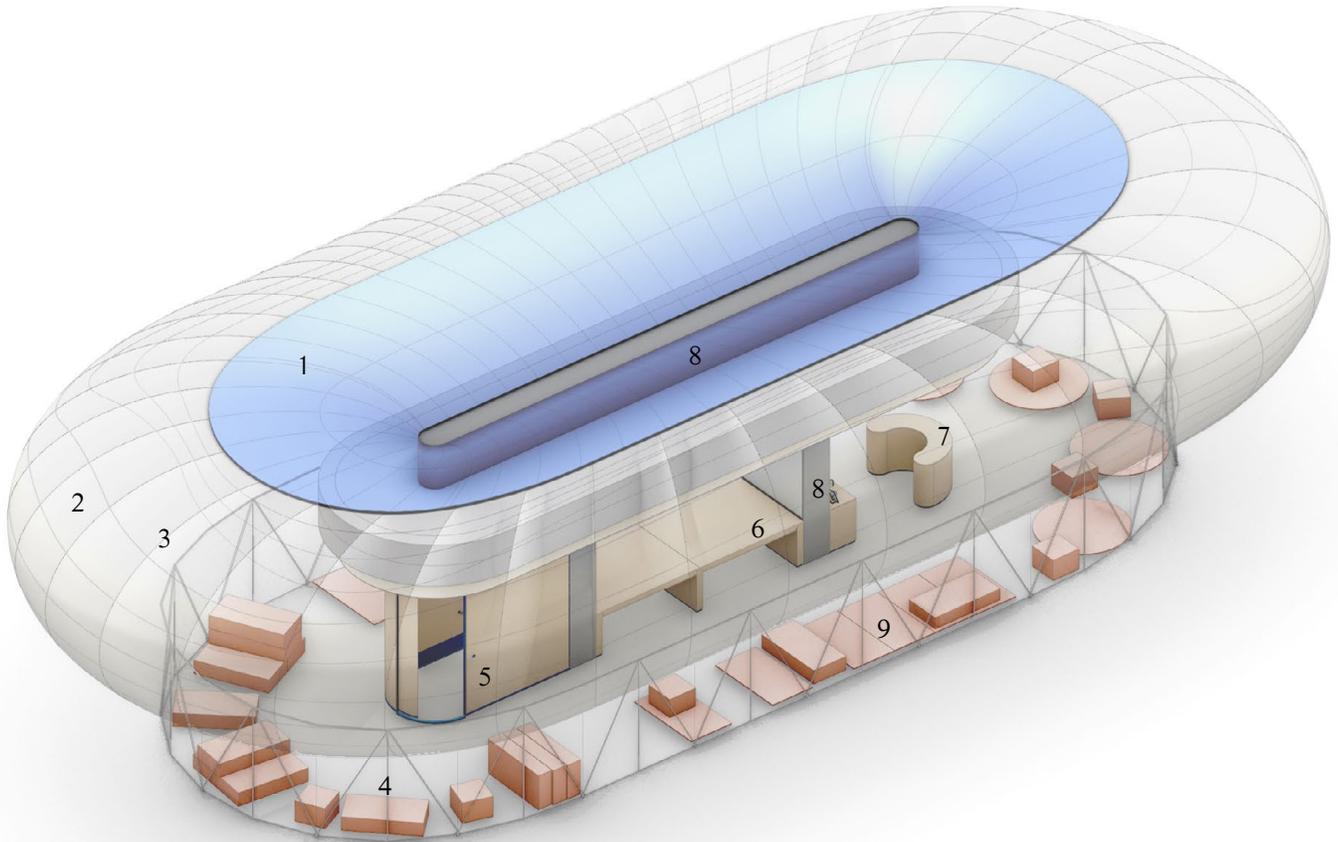
Work Pod



Dimensions

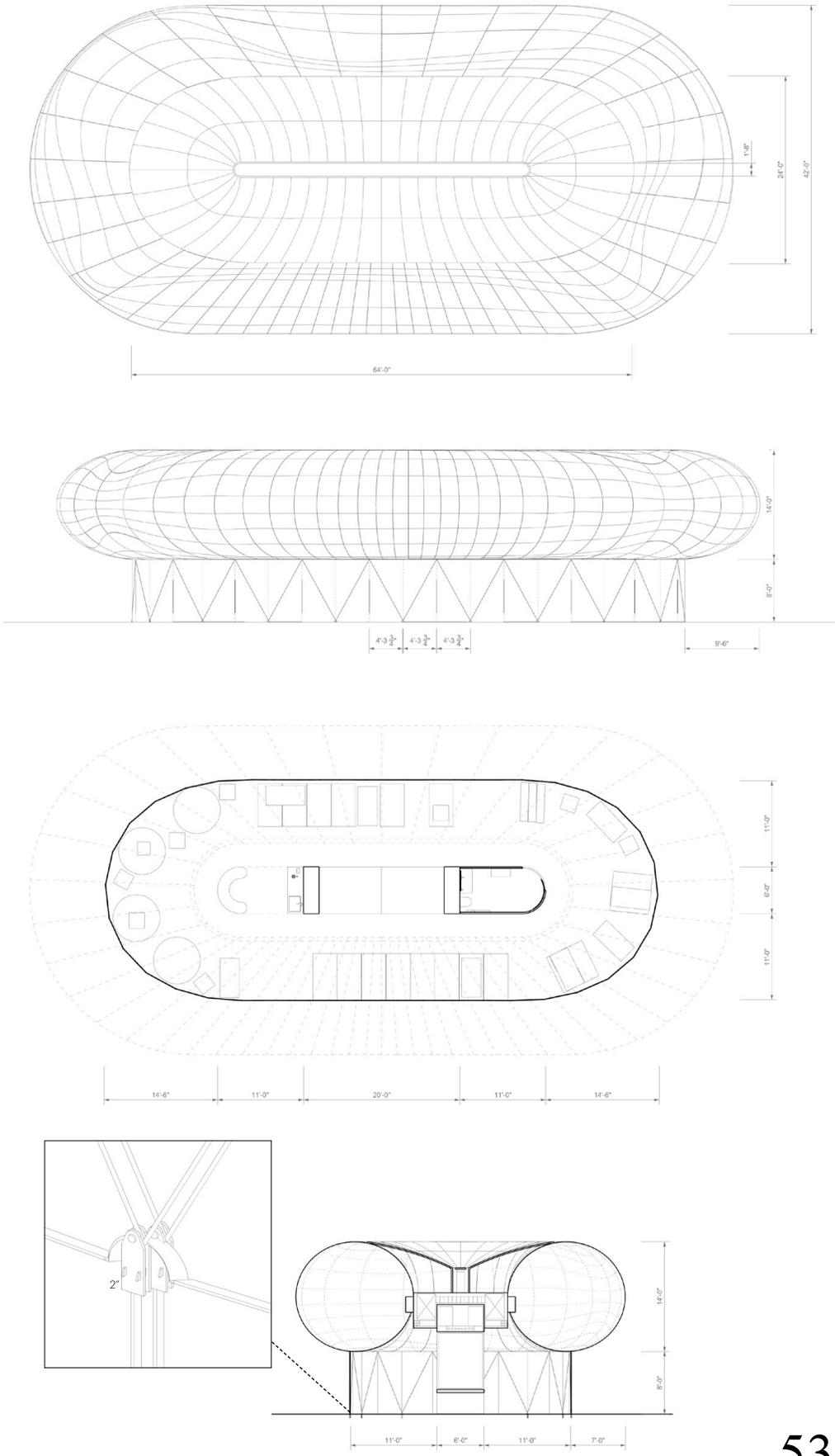




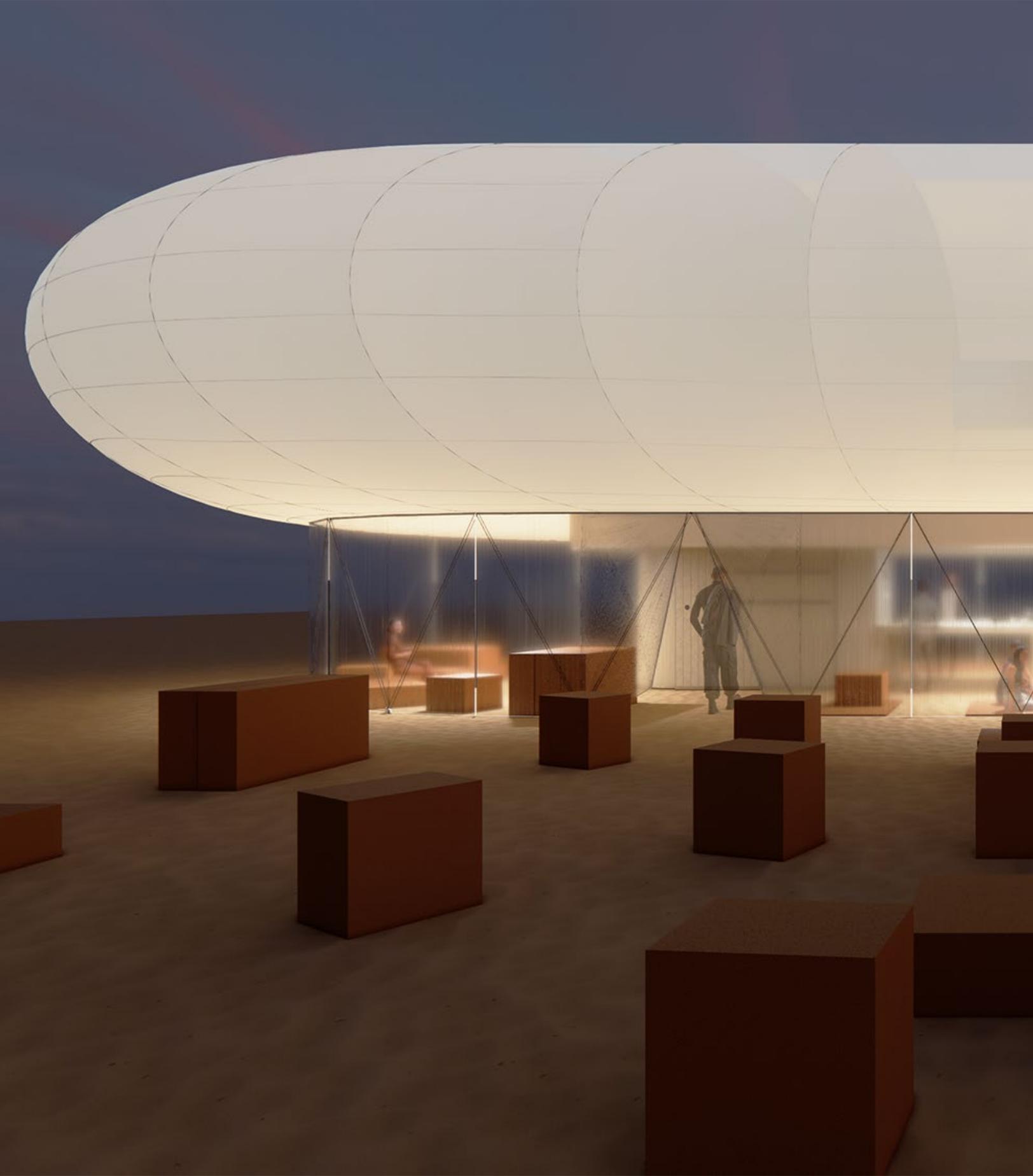


- 1 Solar Membrane
- 2 Translucent ETFE
- 3 Opaque Rigid PVC
- 4 Translucent Curtain
- 5 Restroom
- 6 Board Table
- 7 Coffee Bar
- 8 Mechanical Pack
- 9 Work Picnic

Work Station



Dimensions



Exterior Perspective Night



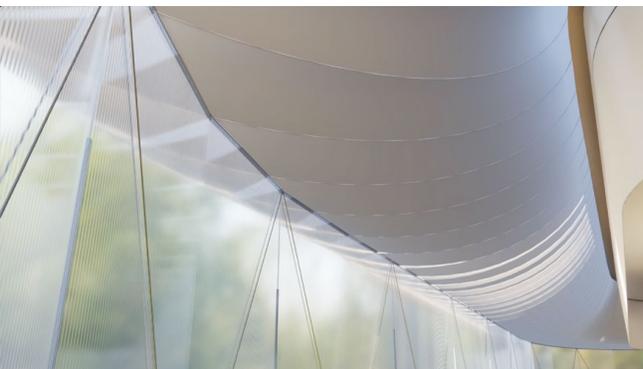


Interior Function Zones

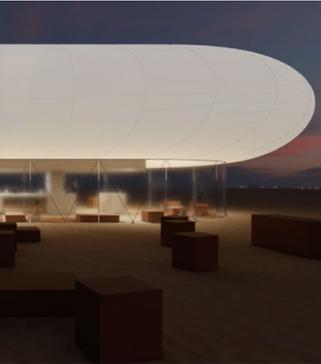
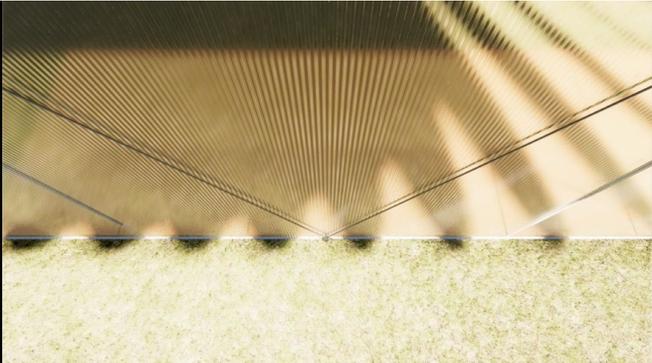


LightWork

Work Pod



Video Storyboard

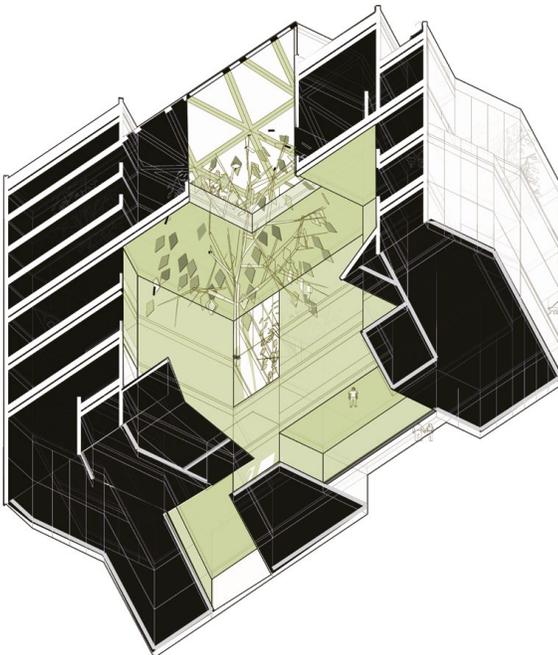


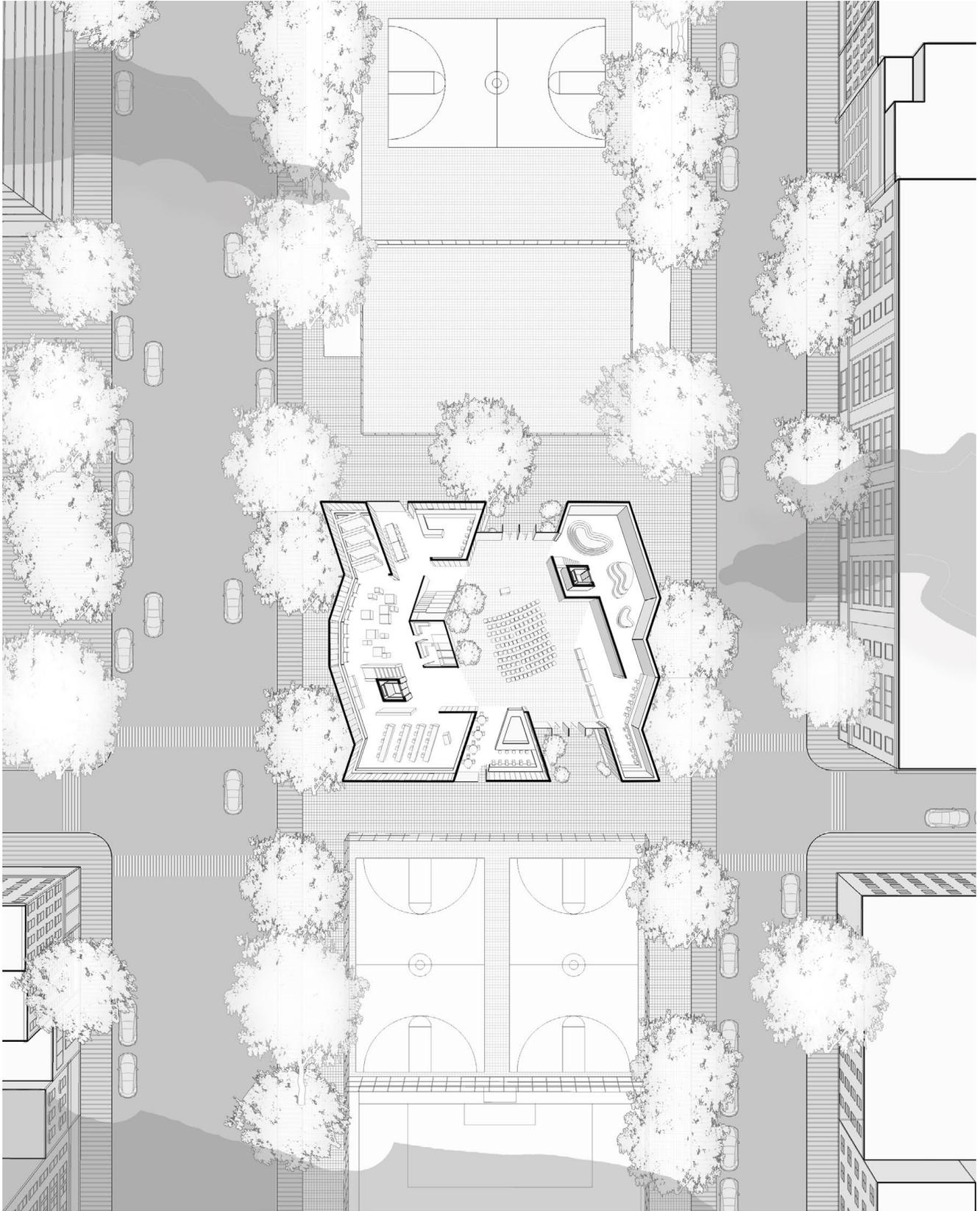


Columbia University GSAPP
Core II Studio 2019 Spring
Critic Mimi Hoang
Individual Work

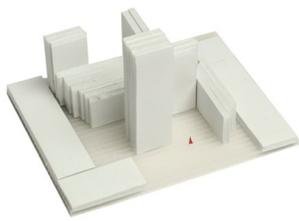
Location:
Bowery, NYC
Program:
Public Library

In this increasingly digitalized world, public spaces for people acquiring and exchanging information face-to-face is more important than ever. Library, as one of the oldest social institutions for knowledge sharing, is now expected to offer educational experiences richer than books, and spaces not only for reading alone. I conceived the library as a mini-city for people not only read, but also live, where users from different community groups are free to stay and communicate. Given the site of Roosevelt Park, a public field runs right in the middle of different neighbourhoods, it is a great opportunity to build a library to capture the invaluable culture of diversity around. Balconies, terraces and rooftop gardens on all levels, together with the central indoor courtyard, make the library become a permeable city.



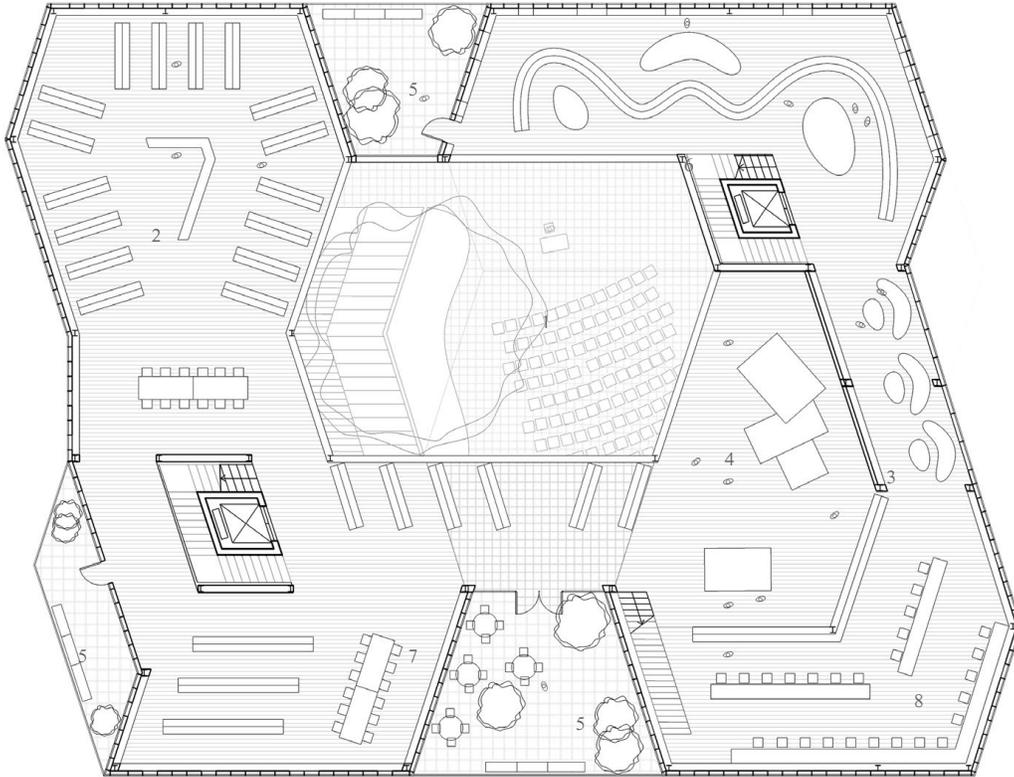


Site Plan Perspective



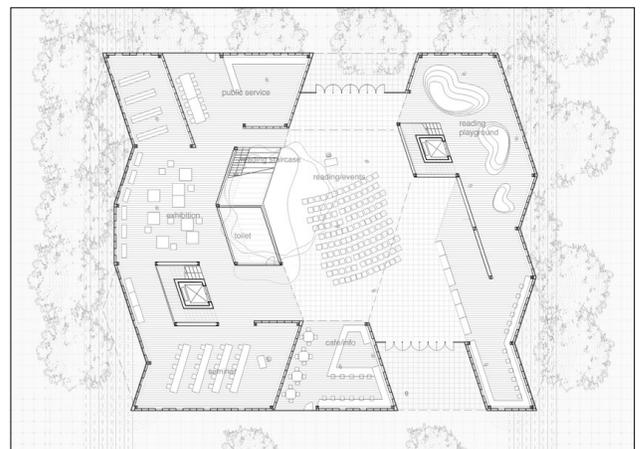
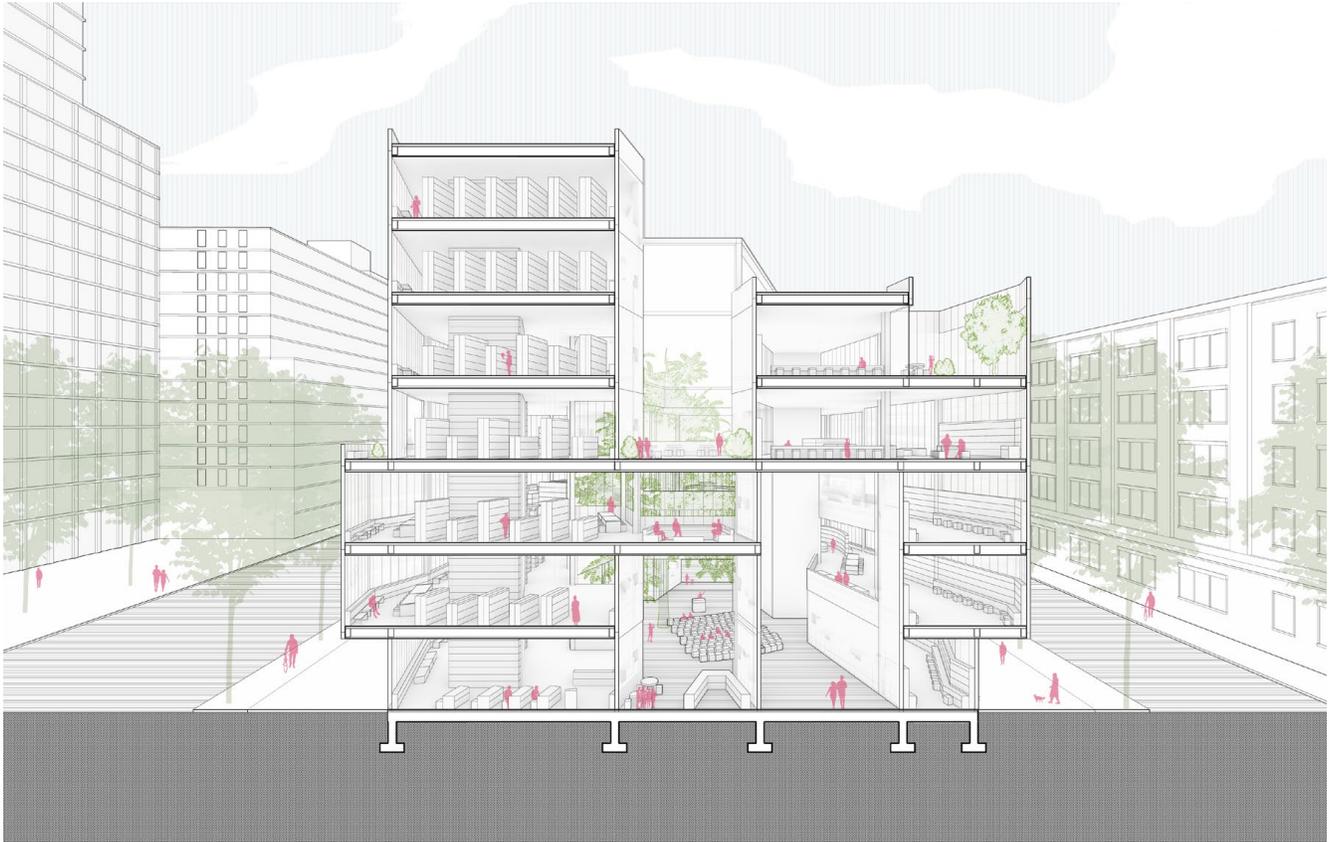
The architectural operation of folding increases exposure, creating in and out spaces interacting with surroundings in different ways: terraces of different heights extending the inner rooms to the outside, while the central atrium invites in natural light and street life.

Concept Models

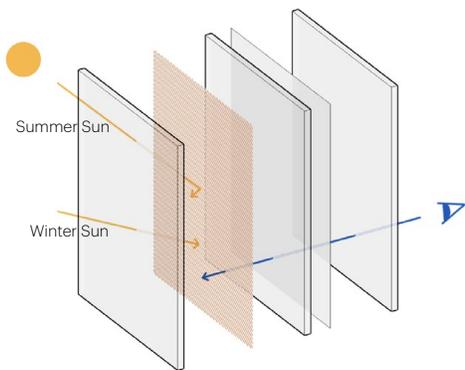


Typical Floor Plan

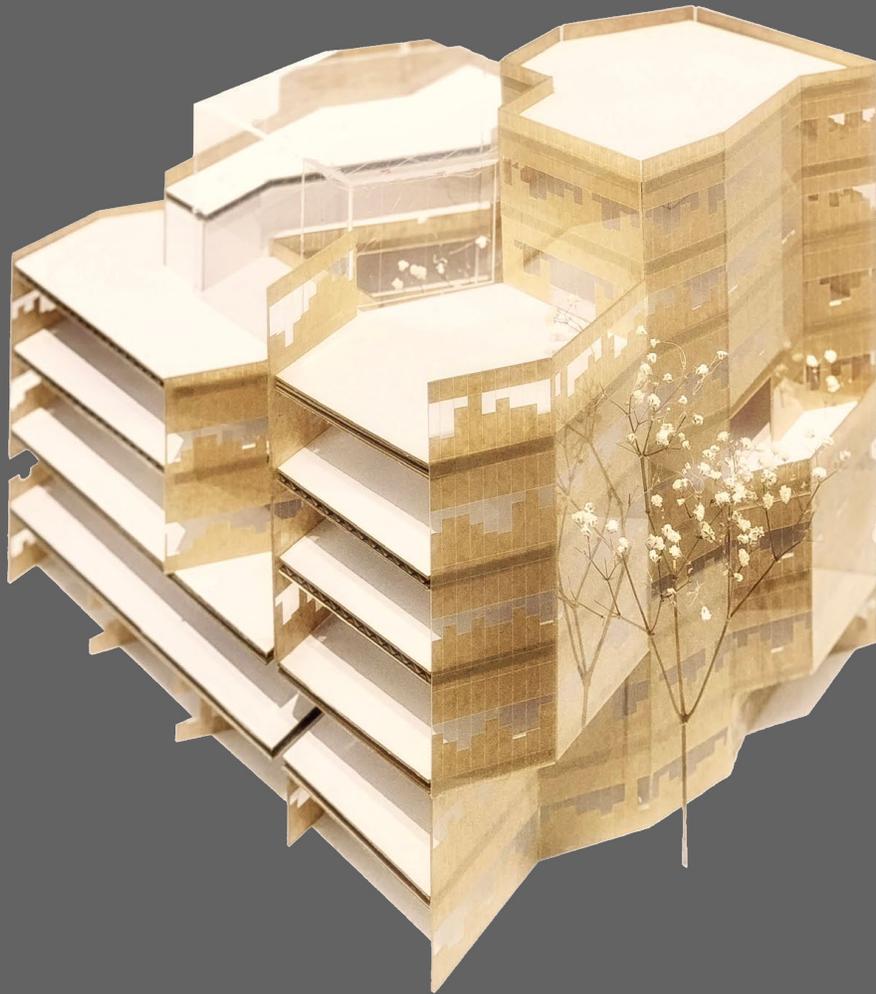
- 1 Atrium
- 2 Archive
- 3 Lounge
- 4 Event Room
- 5 Terraces
- 6 Family Reading Room
- 7 Group Reading Room
- 8 Digital Reading Room



Top: N-S Section
Bottom: Ground Floor Plan



The building envelope is a triple-layered glazing system of 1.2m wide by 4m high units, which consists expanded copper mesh held between two outer sheets of clear low-e glass. The copper mesh can significantly reduce glare and heat during the daytime while allow natural light in and great view out. At night, the effect is reversed.



Final Model 1' = 1/8"

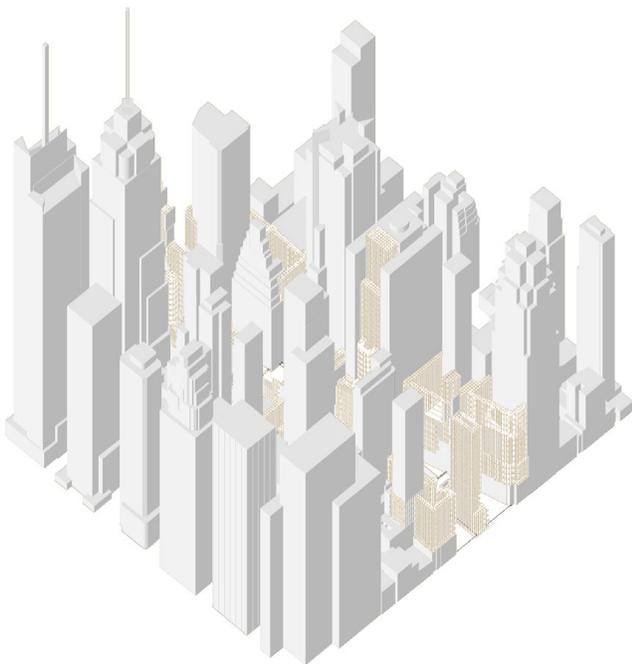


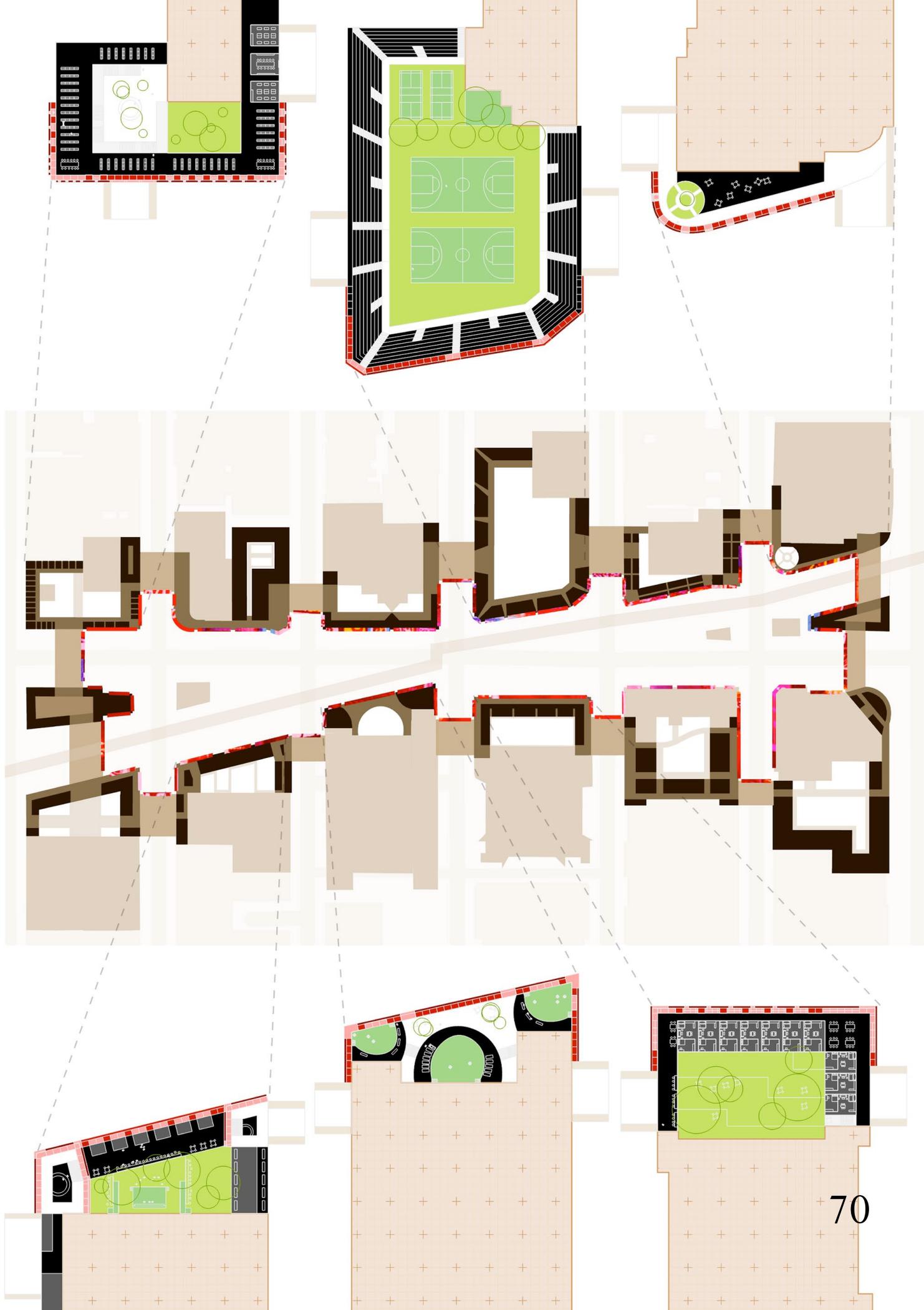
Columbia University GSAPP
Core I Studio 2018 Fall
Critic Benjamin Cadena
Individual Work

SQUARE OF BILLBOARDS

Location:
Times Square, NYC
Program:
Roofscape Transformation

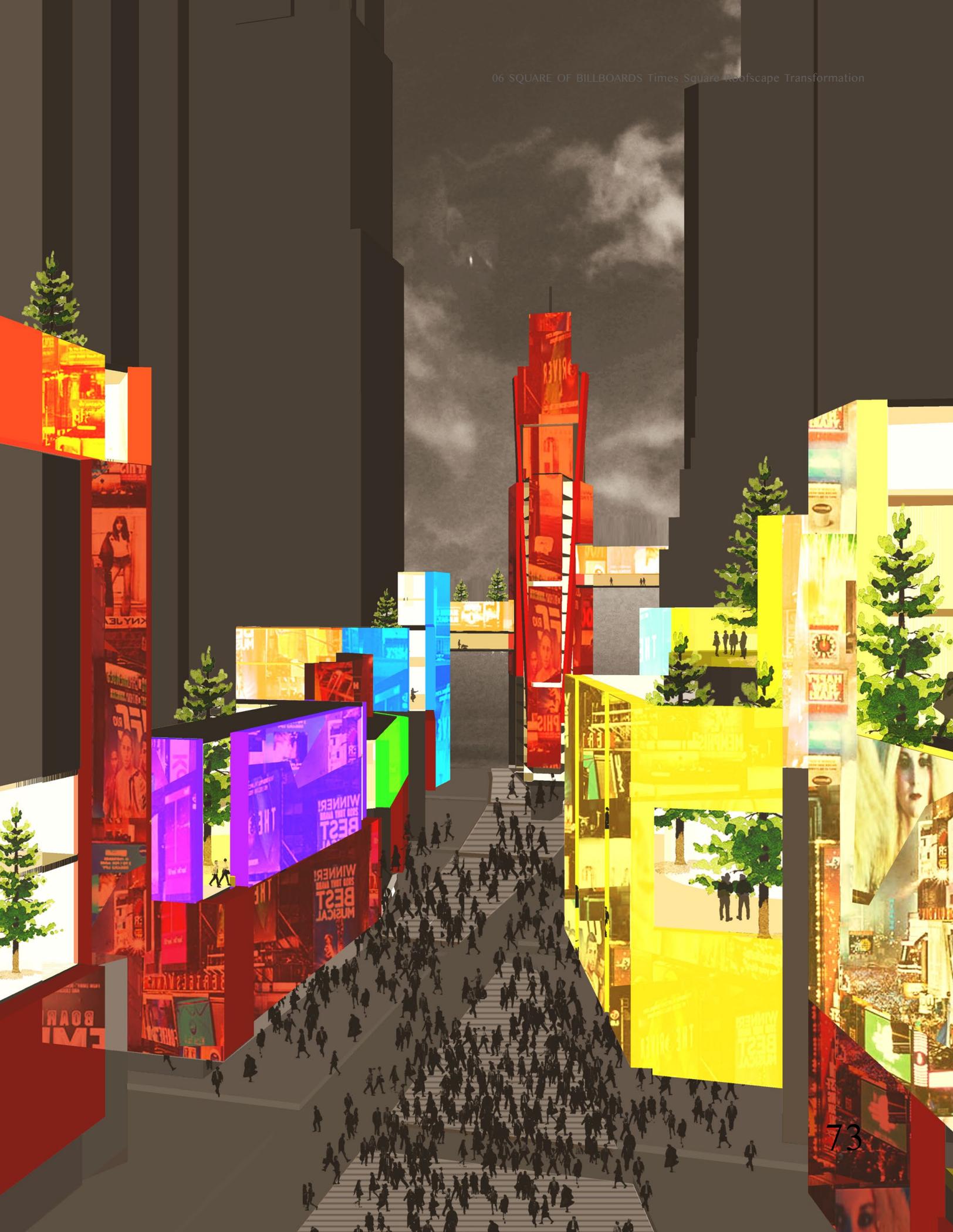
Billboards have become part of the basic infrastructure in metropolitan cities like New York. On Times Square, those overwhelming digital billboards have completely changed the urban landscape, occupying and polluting the public airspace with thousands so-called “green” LED bulbs shining twenty-four hours a day. The city is, actually, not as dense as it is appearing to be - behind the tall billboards, there are many leftover empty spaces on the podiums of the skyscrapers. More accessible than the rooftop gardens which are usually exclusive, the space behind billboard exists on a relatively low level of the city, allowing it a good potential to be transformed into public green space that is extremely scarce in this highly commercial area.











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