

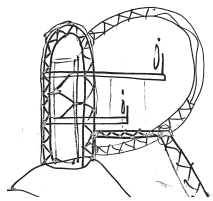
SEBASTIAN SALAMANCA

ARCHITECTURE PORTFOLIO

IOWA STATE UNIVERSITY 4TH YEAR

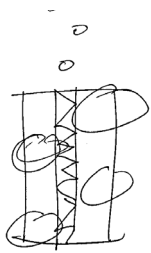


creative, forward thinking design.



O.R.B

organic filtering center
pg. 3



SPROUT

nyc housing
pg. 8



PAPER TOWN

multi-generation housing
pg. 12



PERSONAL

selected works
pg. 16



sebastian salamanca

seb.salamanca1@gmail.com | iowa state university | 4th year

experience

may '25 – aug '25

hord coplan macht

architectural intern | baltimore, md

- + produced RFP graphics for affordable housing studio
- + conducted punch lists weekly for senior living campus
- + participated in o.a.c meetings for senior living studio

jan '25

skimore owings & merrill

winter shadowship | chicago, il

- + educated on different disciplines such as computational, urban, and architectural
- + exposure to advanced tools and softwares for best practice

may '24 – aug '24

bbs architects | engineers

architectural intern | des moines, ia

- + participated in client meetings to develop refugee center during S.D phase
- + developed Revit models from existing documents

nov '22 – apr '24

center of building energy research

research assistant | ames, ia

- + created thermal models for HVAC simulations
- + modeled rooms for fluid dynamic simulations
- + assisted in writing presented at ASHRAE 2024 winter conference

reference

design principal, hord coplan macht

esra martin

e : emiller@hcm2.com

d: +1 443 278 7179

education

aug '22 – may '27

iowa state university

bachelor of architecture

skills

modeling

rhino 3D

revit

grasshopper

climate studio

graphic

enscape

adobe suite

nanobanana

bluebeam

soft

initiative

leadership

team work

reliability

recognitions

dec '25

401 studio prize – 1st
"O.R.B"

oct '25

acadia computational award – 2nd
"paper town"

jun '25

international lv competition – finalist
"prototyping resilience"

jan '25

301 studio prize – 1st
"kin"

leadership

noma

student leadership committee dec '25 –

nomas

co-president may '25 –

treasurer aug '24 – jun '25

public relations chair aug '23 – jun '24

straata : student publication

editor/curator aug '24 –

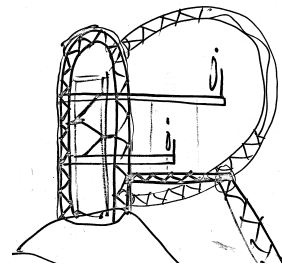
department of residence

resident advisor aug '23 –

HOW CAN ARCHITECTURE ACT AS A LIVING MACHINE?

O.R.B

4TH YEAR STUDIO PRIZE - 1ST PLACE



STUDIO : 4TH YEAR COMPREHENSIVE
LOCATION : AMES, IA
COLLABORATOR : CARMEN ARAIZA

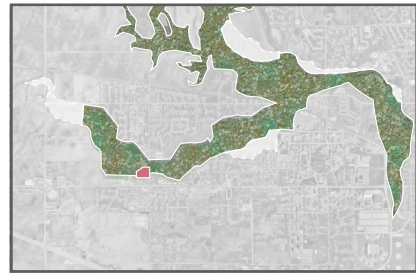
O.R.B responds as a machine that acknowledges the shrinking footprint of Munn Woods in Ames Iowa. In response, it proposes a **filtering system** designed to **intake contaminated organic materials** and **purify them through natural filters** and sievers inspired by agricultural irrigation systems. By redefining **waste as a productive resource**, O.R.B positions itself as an active participant in the site's ecological repair. Elevated above the landscape to minimize ground disturbance, the structure fosters community engagement while allowing natural systems to continue uninterrupted beneath it. Ultimately, O.R.B operates as an **alternative model of architecture** where form, function, and environmental responsibility converge to behave as a **living and breathing building**.



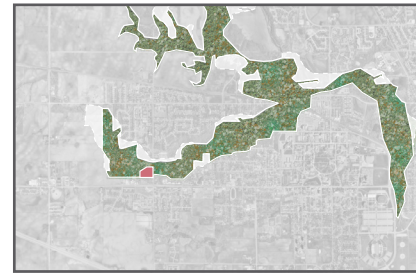
TIMELINE | MUNN WOODS SITE HISTORY



Ames 1900



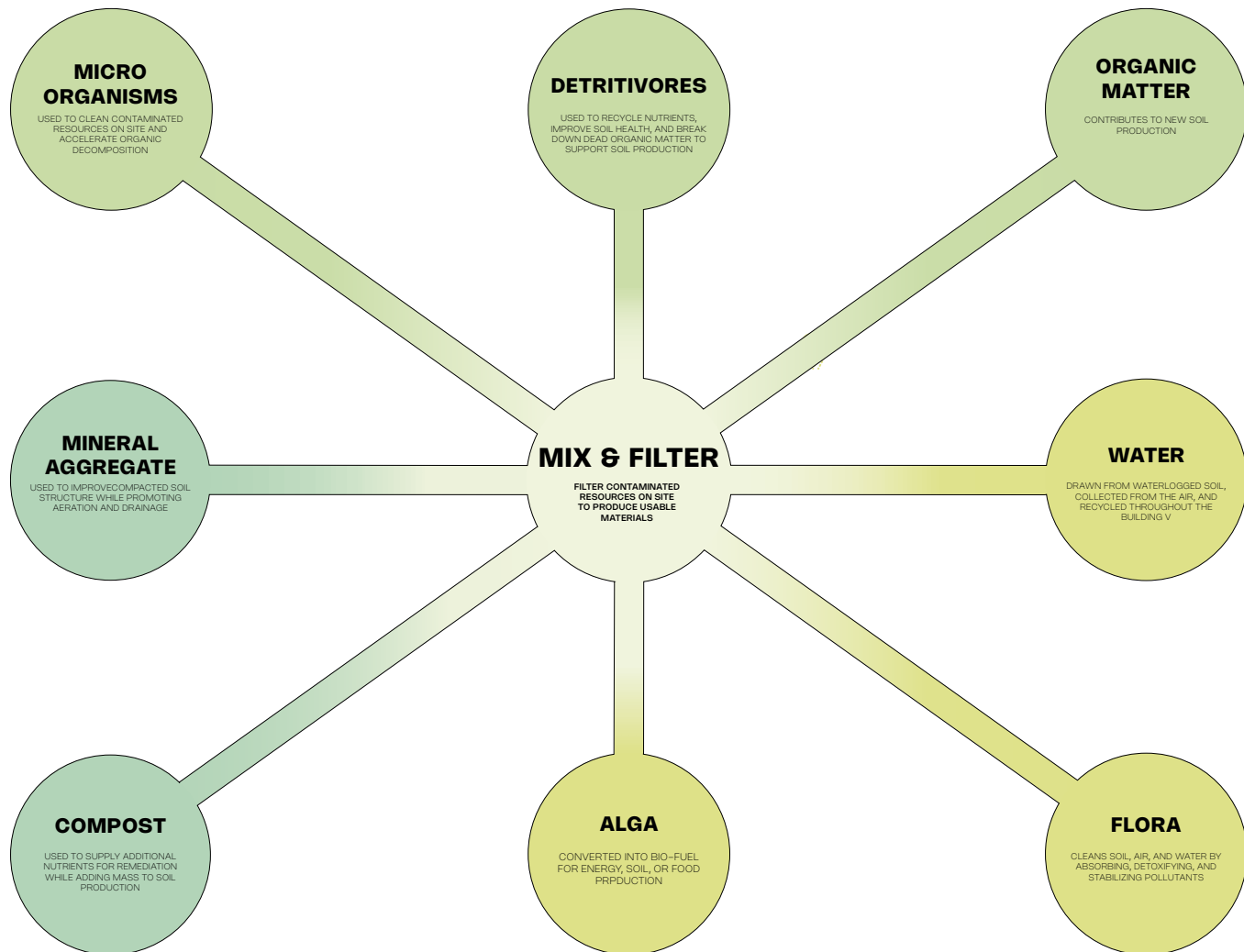
Ames 1950



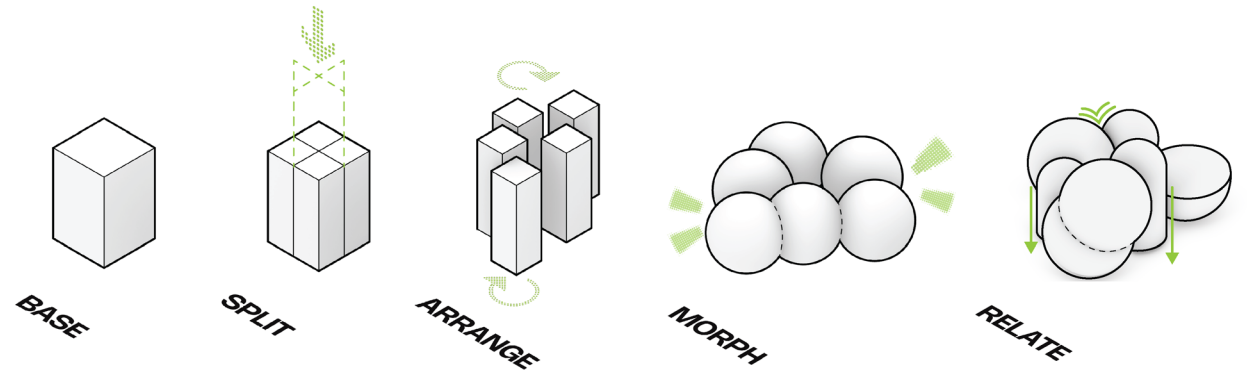
Ames 2000

CONCEPT | FILTERING SYSTEM

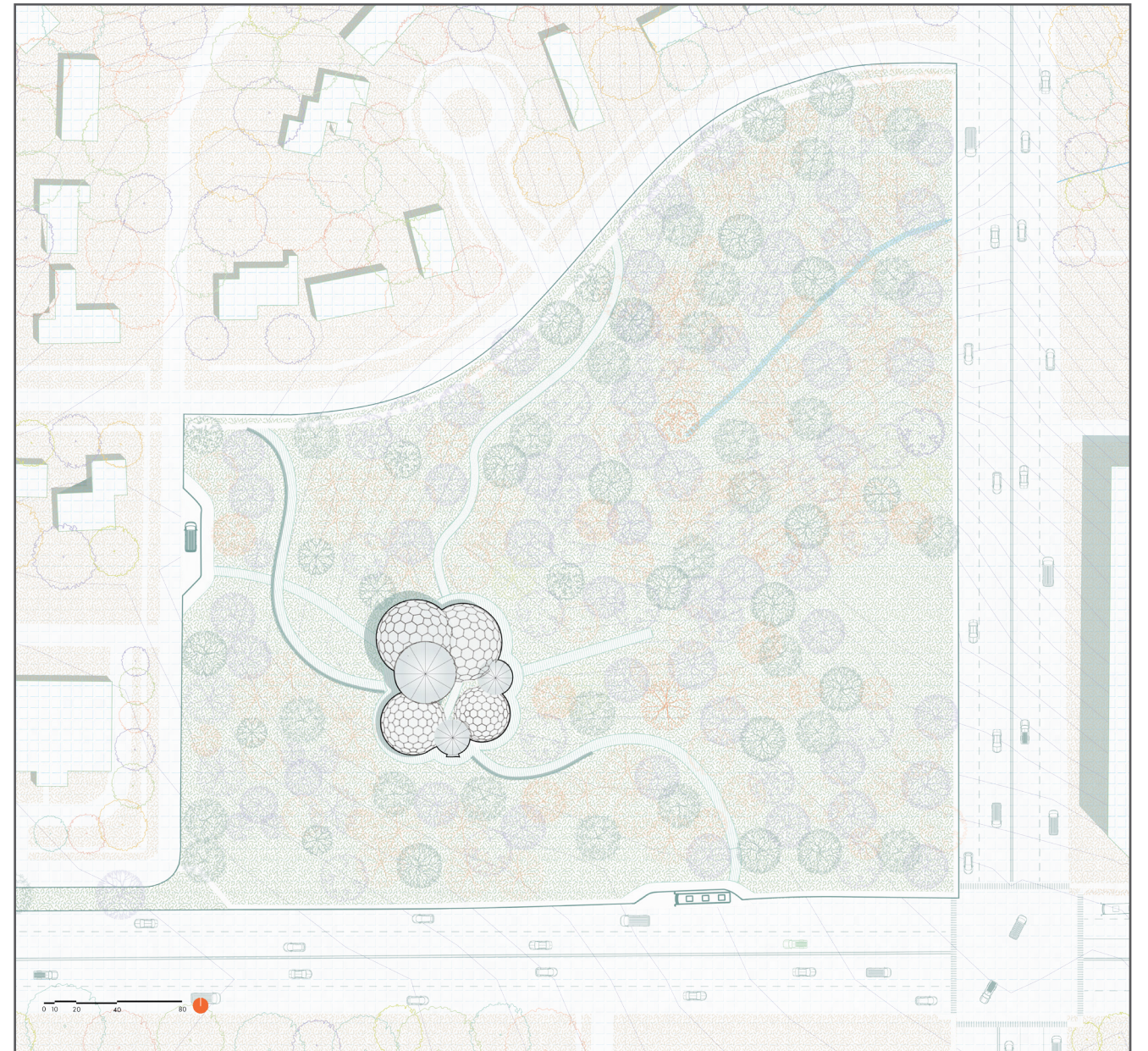
The proposed system **collects contaminated resources and filters them into reusable outputs** such as clean water, biofuel, and nutrient rich compost in an effort to restore ecological value lost during industrialization in the 1900s.



MASSING



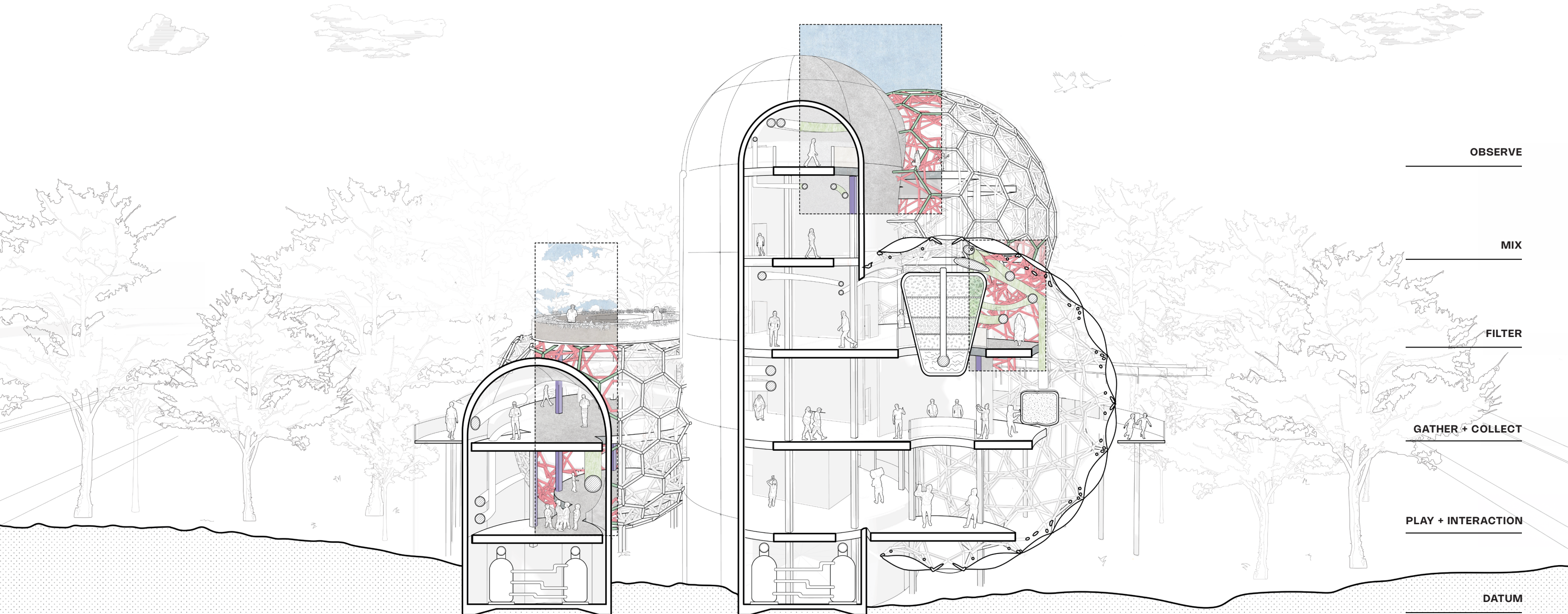
SITE PLAN | O.R.B



O.R.B sits at the ravine's edge, linking the industrial landscape of Ames with Munn Woods. As industrial growth has polluted the site over time through runoff and human activity, **O.R.B responds as a system of purification, filtering soil and water to restore value to the landscape.**

SECTION | NORTH TO SOUTH

O.R.B's reinterprets Iowa's **grain silos into two egress towers.** Our **"breathing" ETFE** skin houses the central mixing and filtering system. **Exposed filtration tubing allows users to learn and engage** with the filtration system directly. Creating an immersive educational experience



OBSERVE

MIX

FILTER

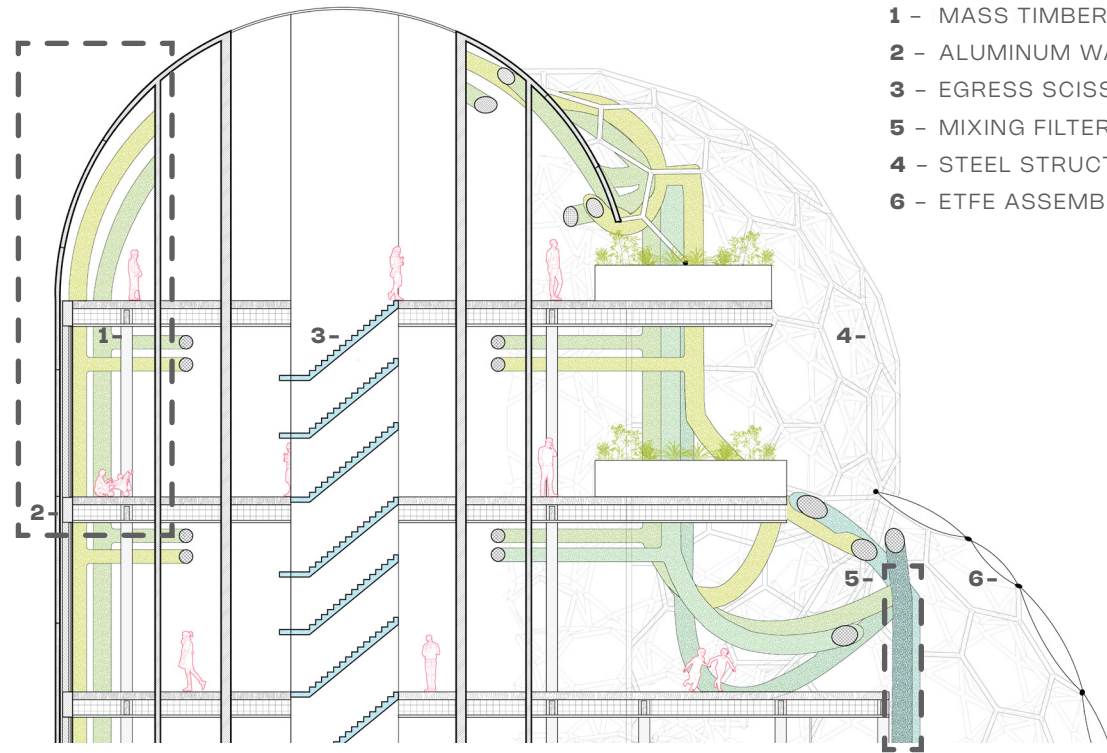
GATHER + COLLECT

PLAY + INTERACTION

DATUM

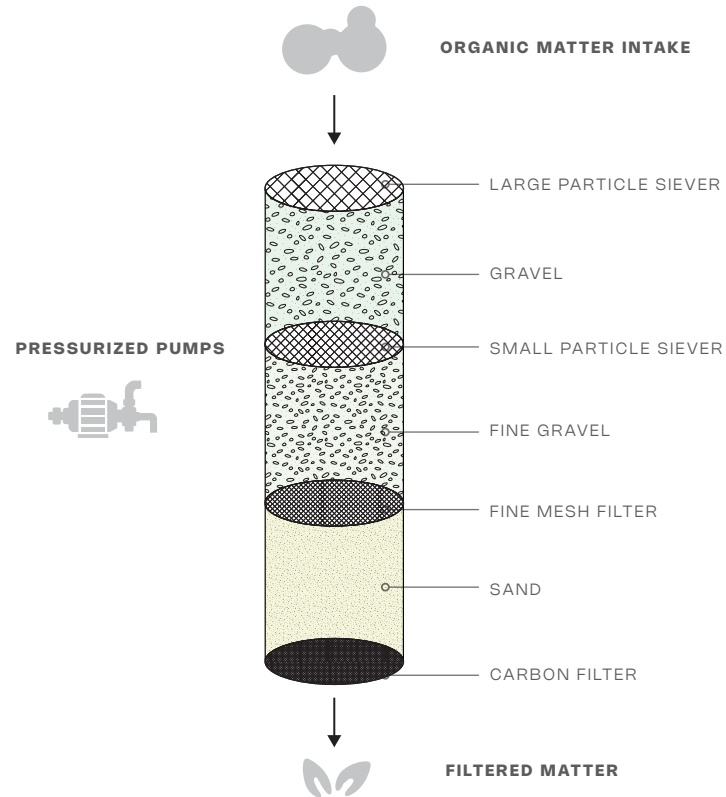


SECTION | DETAILED MODEL SECTION



- 1 - MASS TIMBER ASSEMBLY
- 2 - ALUMINUM WALL ASSEMBLY
- 3 - EGRESS SCISSOR STAIRCASE
- 5 - MIXING FILTER
- 4 - STEEL STRUCTURE
- 6 - ETFE ASSEMBLY

DETAIL | MIXING FILTER CONCEPT



WALL ASSEMBLY | DETAILS

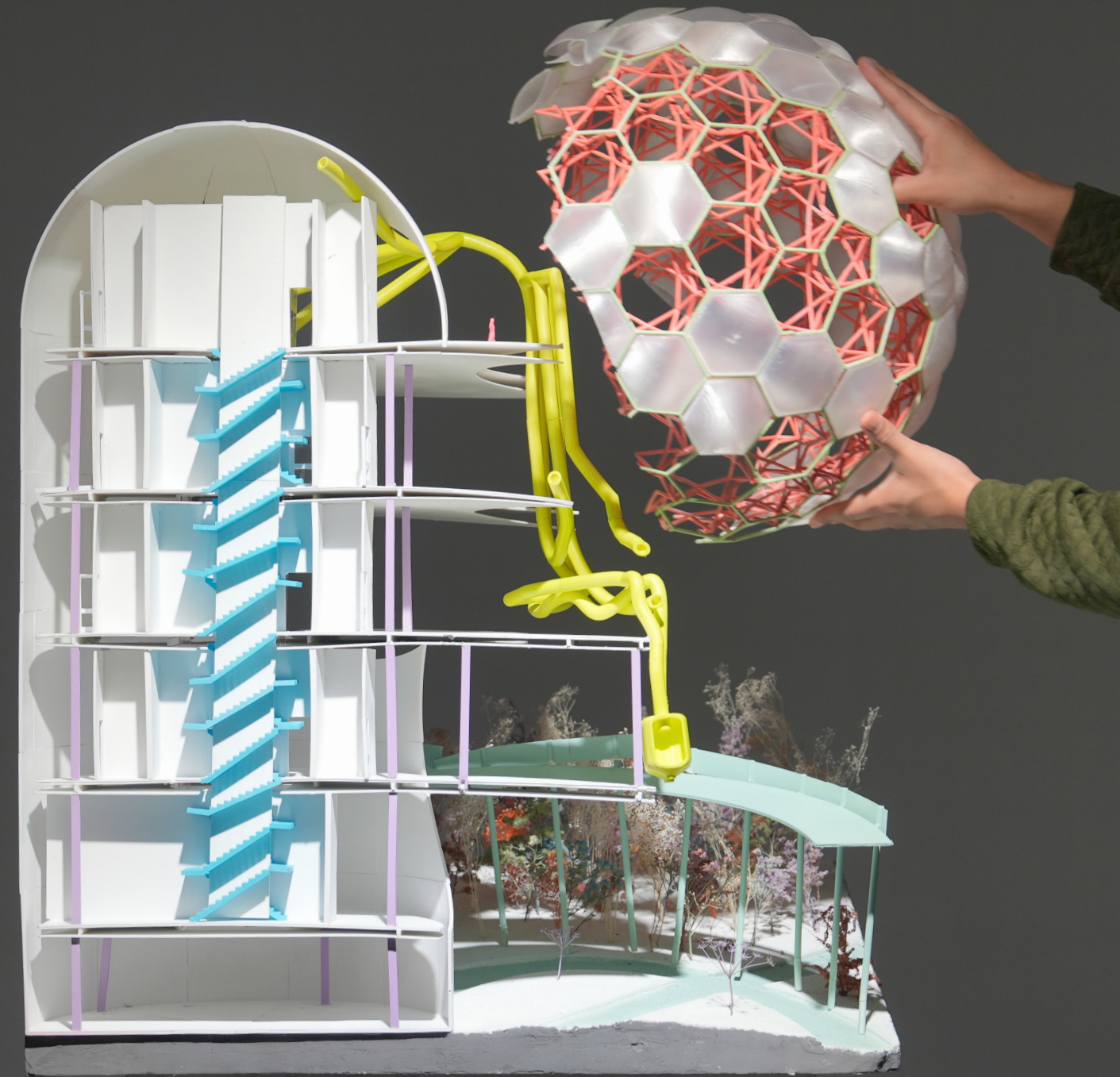
MASS TIMBER DETAIL

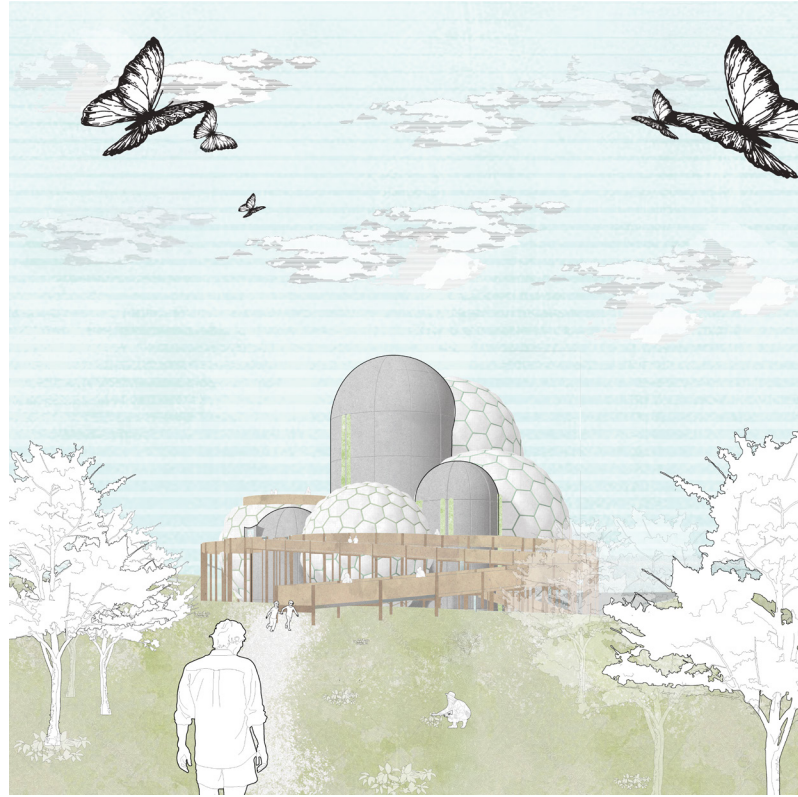
- 6" DOWEL LAMINATED FLOORING
- 3/4" OSB SUB FLOOR
- 1" ACOUSTIC MAT
- 2" ALUMINUM CEILING FINISH
- 6'X18" GLUE LAMINATED COLUMN

ALUMINUM WALL DETAIL

- 4" INSULATED ALUMINUM CLADDED PANELS
- VAPOR RETARDER
- 1" STRUCTURAL STEEL RAIL
- 2" STRUCTURAL SHEATHING
- 5/8" FIBERGLASS SHEATHING
- 2" OVERLAP WATERPROOFING MEMBRANE
- R-19 BATT INSULATION
- 1" AIR GAP
- METAL STUD
- RIM JOIST

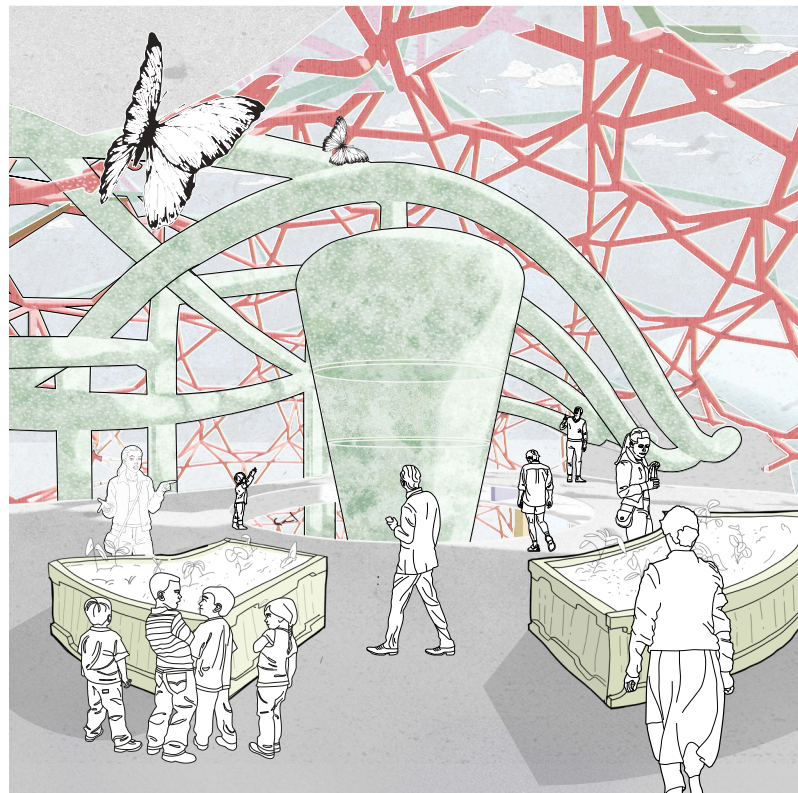
SECTIONAL MODEL | 1/4 SCALE





RENDER | MAIN ENTRY

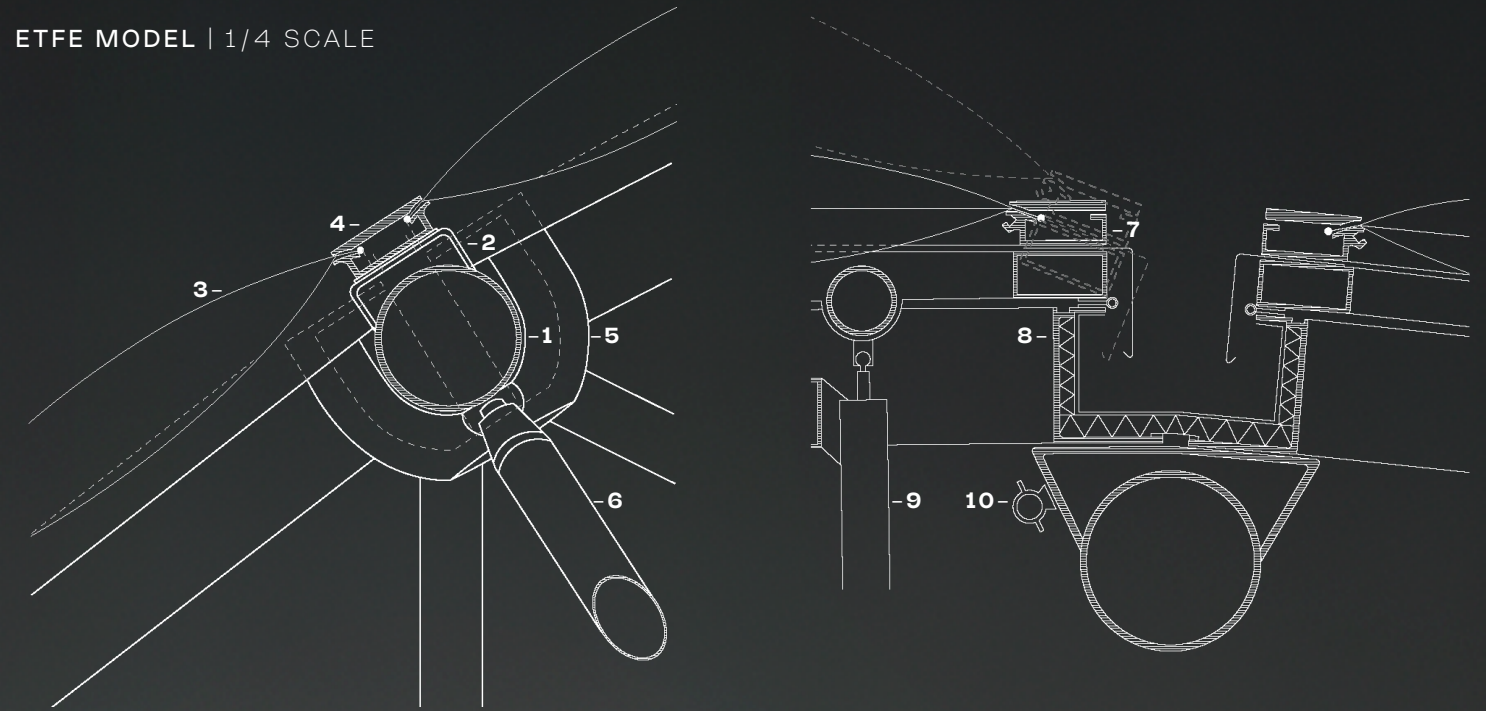
The Entry to O.R.B directs the user through Munn Woods through an elevated pathway. **Emerging users in nature.**



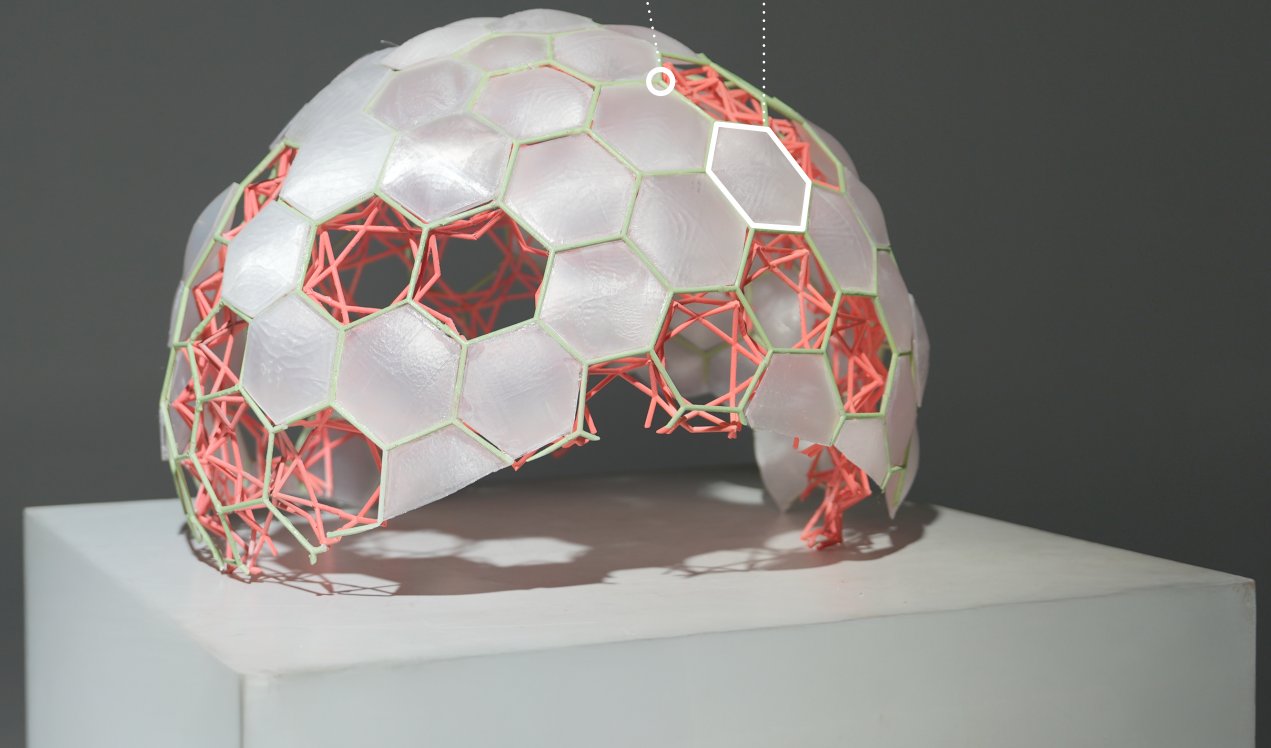
RENDER | MIX AND FILTER STATION

The Mixing and Filtering Station emphasizes O.R.B's role as a living machine, expressed through a **network of tubes that move material throughout**

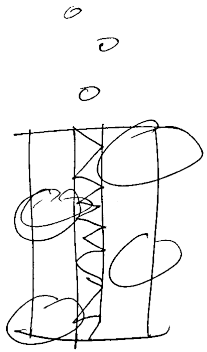
ETFE MODEL | 1/4 SCALE



- 1. 400.6 MM STEEL TUBE
- 2. 6 MM SHEET STEEL BENT TO SHAPE
- 3. 3 - LAYERED INFLATED ETFE CUSHION
- 4. ALUMINUM CLAMPING STRIP
- 5. CAST-STEEL NODE
- 6. 89 MM TUBULAR DIAGONAL MEMBER
- 7. EXTRUDED - ALUMINUM FRAME TO OPENING FLAP
- 8. THERMAL INSULATION, STEEL SECTION ; COMPOSITE SHEET - METAL AND PLASTIC SHEET GUTTER
- 9. PNEUMATICALLY OPERATED CYLINDRICAL OPENING SHAFT
- 10. HIGH PRESSURED AIR-TUBE FOR OPENING FLAP



SPROUT



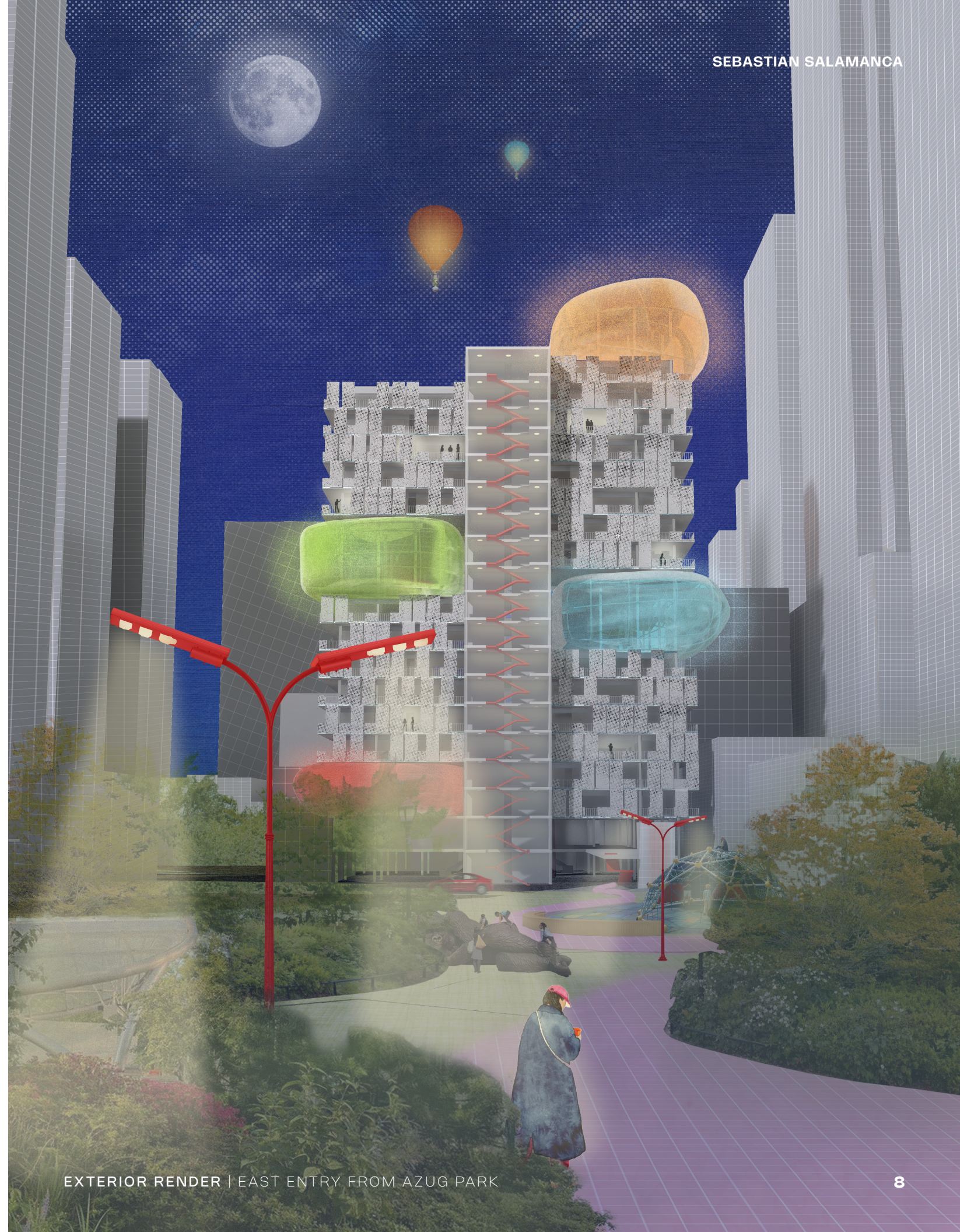
STUDIO : 3RD YEAR HOUSING

LOCATION : HUDSON YARDS, NEW YORK

COLLABORATORS : OLIVIA MAASDAM

Hudson Yards represents a highly commercialized development built for prioritizing **profit over meaningful public benefit**. The entirety of the development detracts from the urban fabric of the existing city, and challenges the notion of inclusive public space.

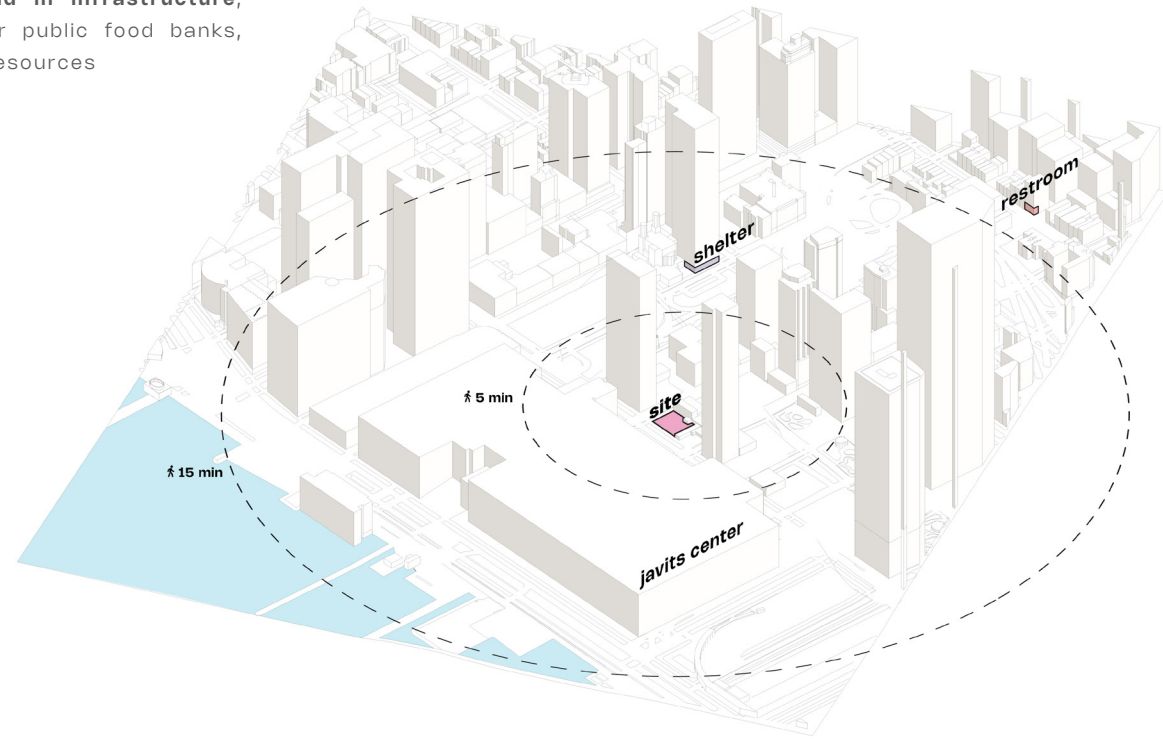
Sprout responds as a **housing project** centered on nourishment, connection, and accessibility. Placed on the high-line of New York City, this housing project creates **organic seed spaces** for residents to gather, grow, and learn. Workshops centered around community craft teach the making of **mobile hydroponic gardens**, which are released into the city, delivering fresh produce to nearby neighborhoods. This system forms external connections at a time when **food prices are climbing and wealth inequality continues to widen**.



EXTERIOR RENDER | EAST ENTRY FROM AZUG PARK

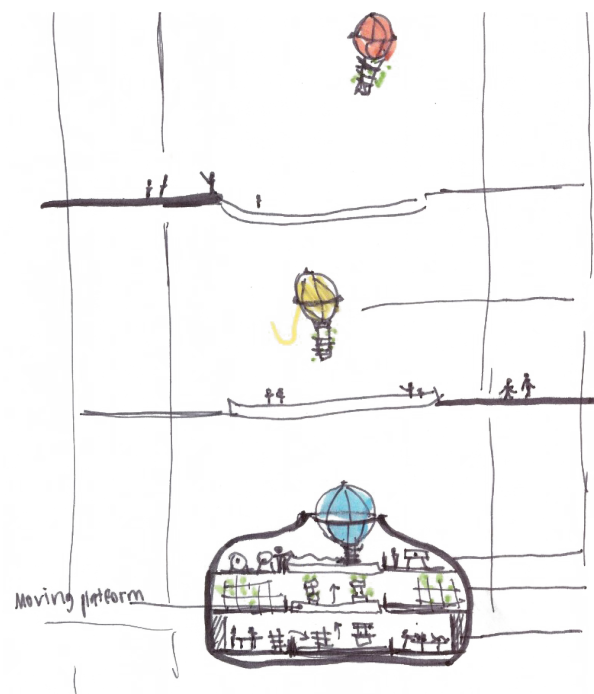
SITE | ANALYSIS

Site analysis of Hudson Yards exposed the **lack of public aid in infrastructure**, with limited space for public food banks, restrooms, and other resources



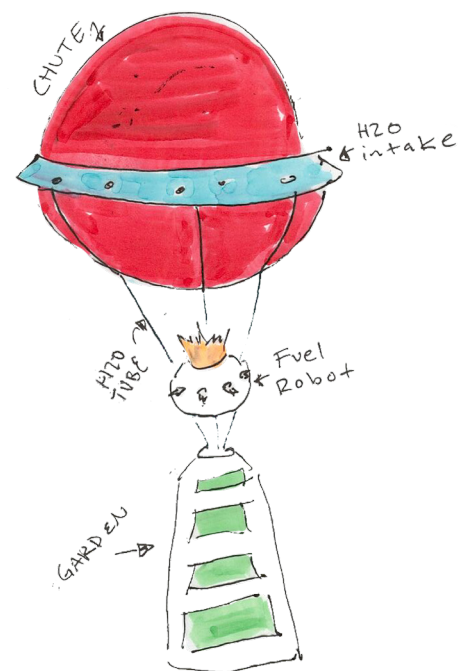
SKETCH | IDEATION

Sketching explored community "seeds" and **mobile gardens SPROUTING** from them

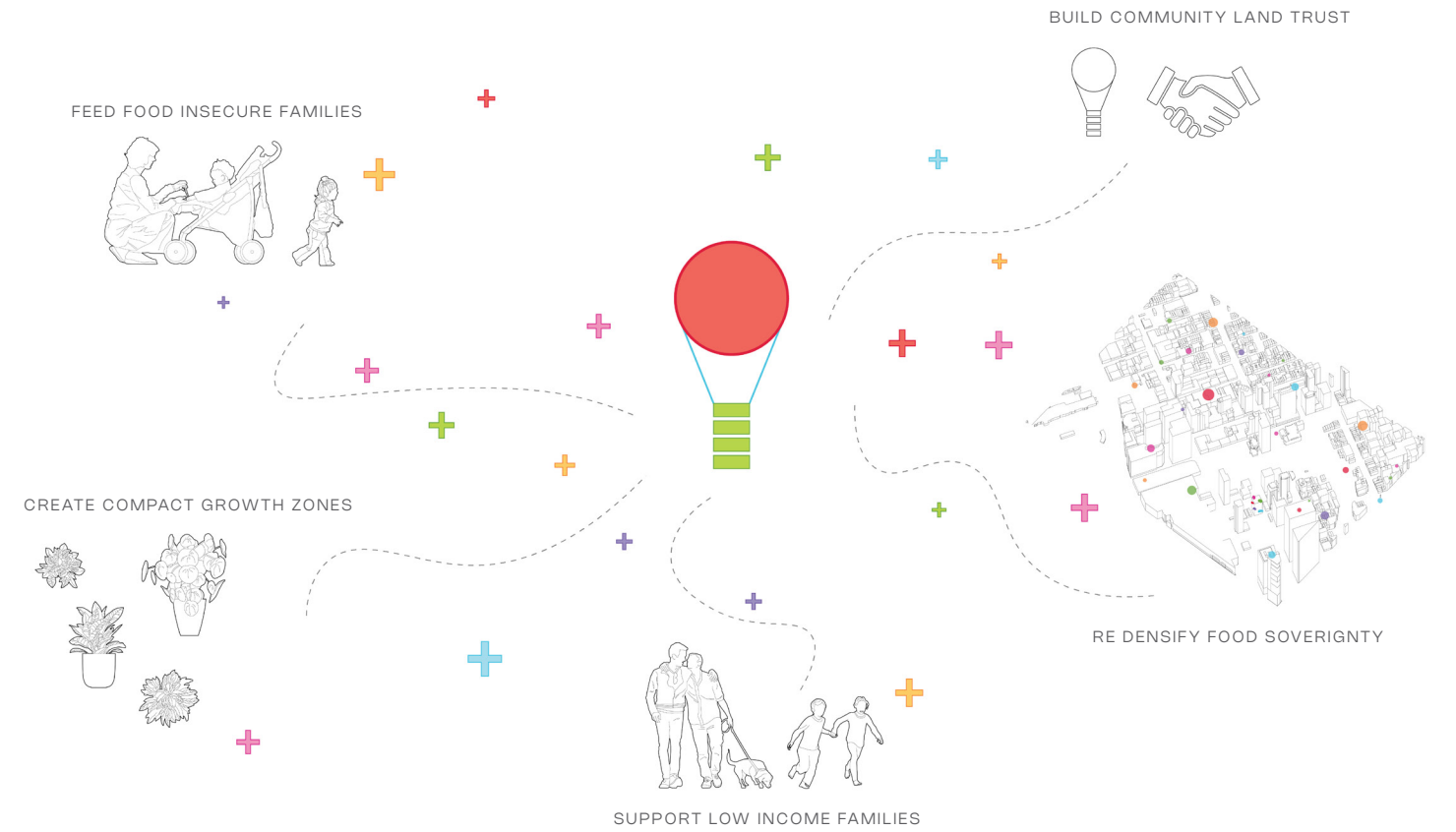


SKETCH | MOBILE GARDEN

We analyzed possible mechanical systems such as water intake and robotic fueling system to integrate.



MOBILE GARDEN | NARRATIVE

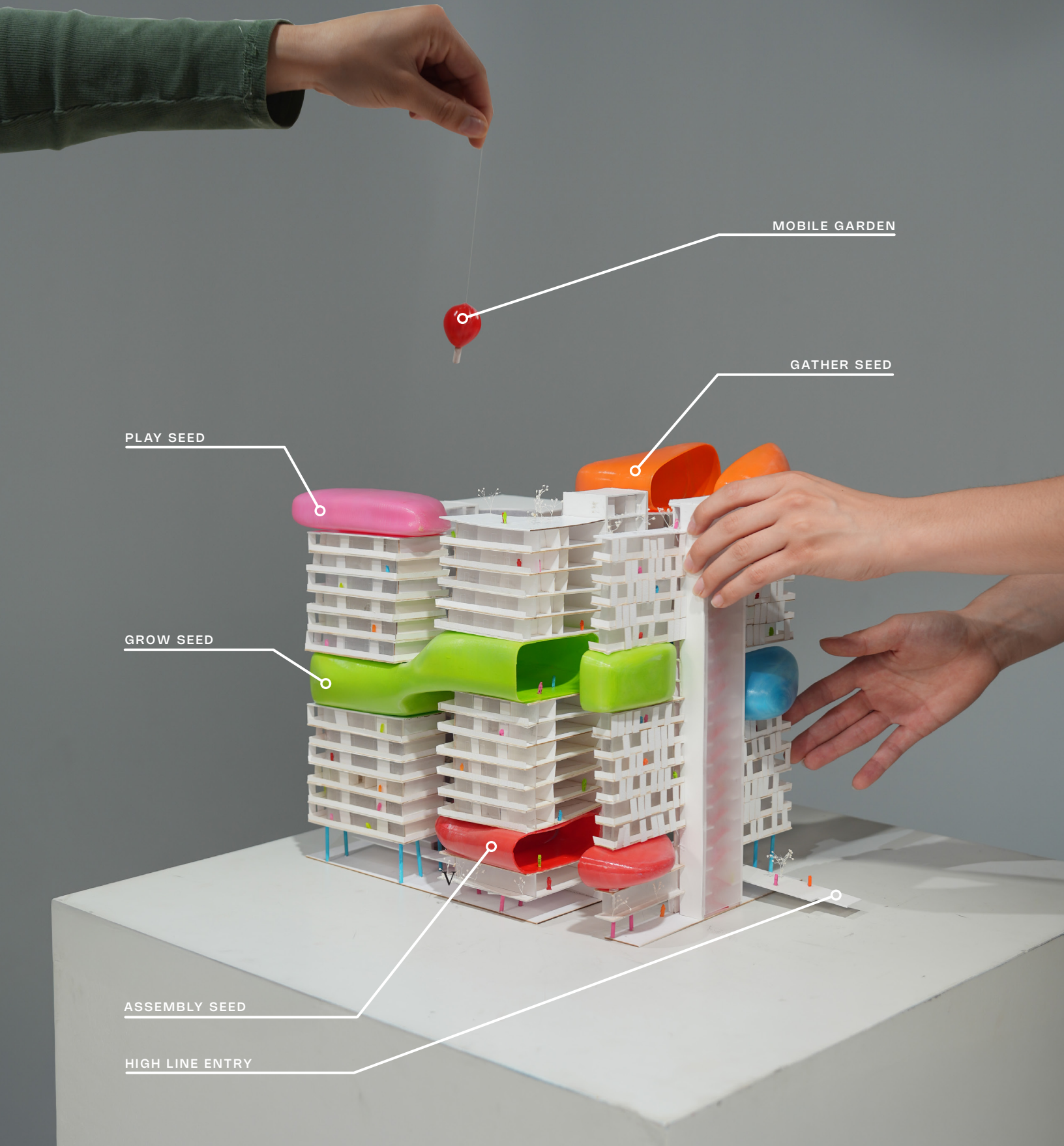


MOBILE GARDEN | COMMUNAL REACH



SPROUT

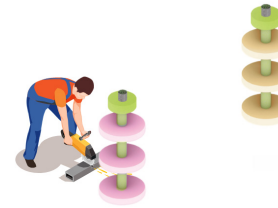
PHYSICAL MODEL | 1/16 SCALE



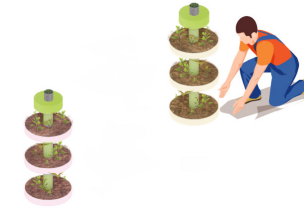
SEBASTIAN SALAMANCA

ASSEMBLY | MOBILE HYDROPONIC GARDEN

STEP 1: ASSEMBLE



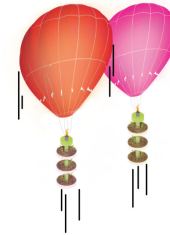
STEP 2: FILL WITH SAPPLINGS



STEP 3: PREPARE ENVELOPES



STEP 4: LIFT OFF!



STEP 5: ABSORB MOISTURE



STEP 6: FEED THE PEOPLE!

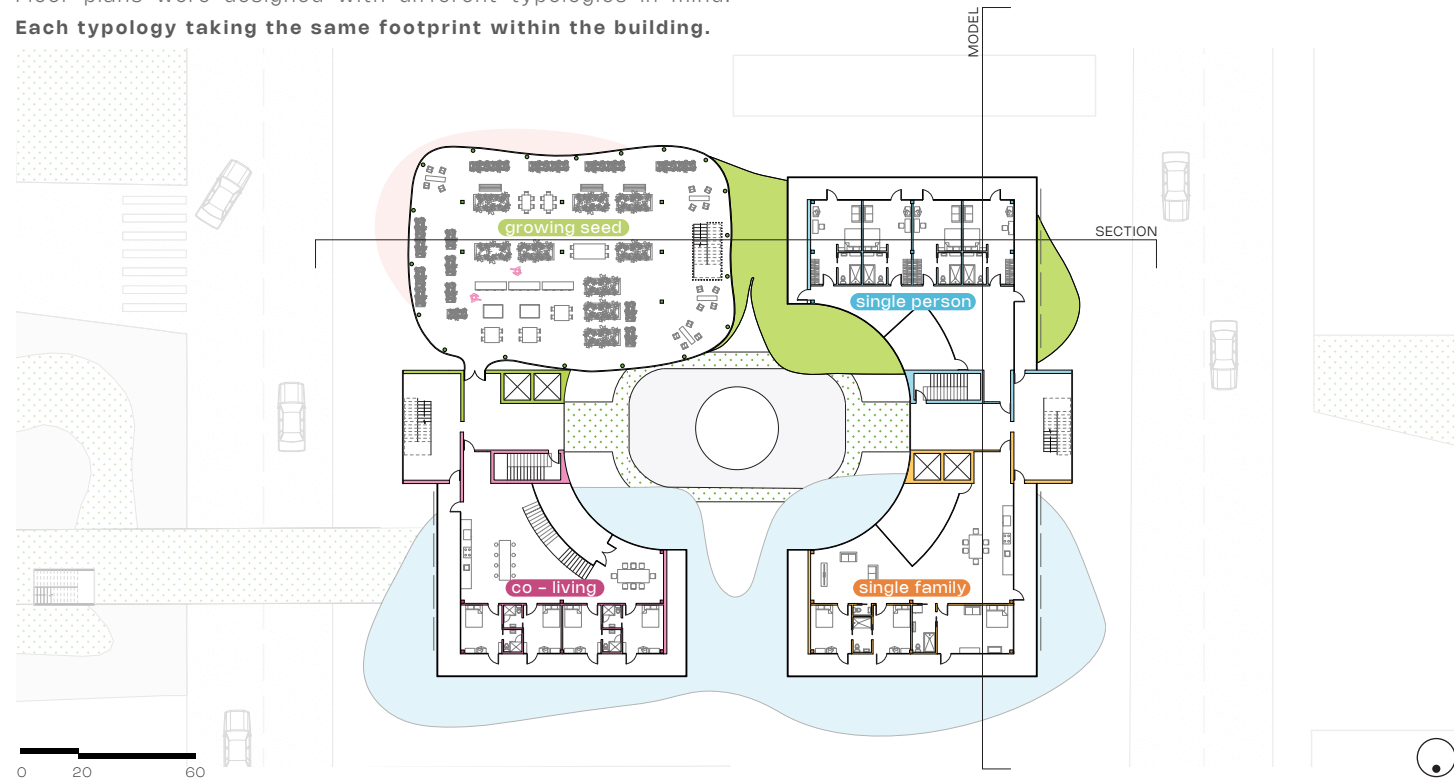


INTERIOR RENDER | COMMUNITY GARDEN GROW SEED



FLOOR PLAN | 11TH FLOOR

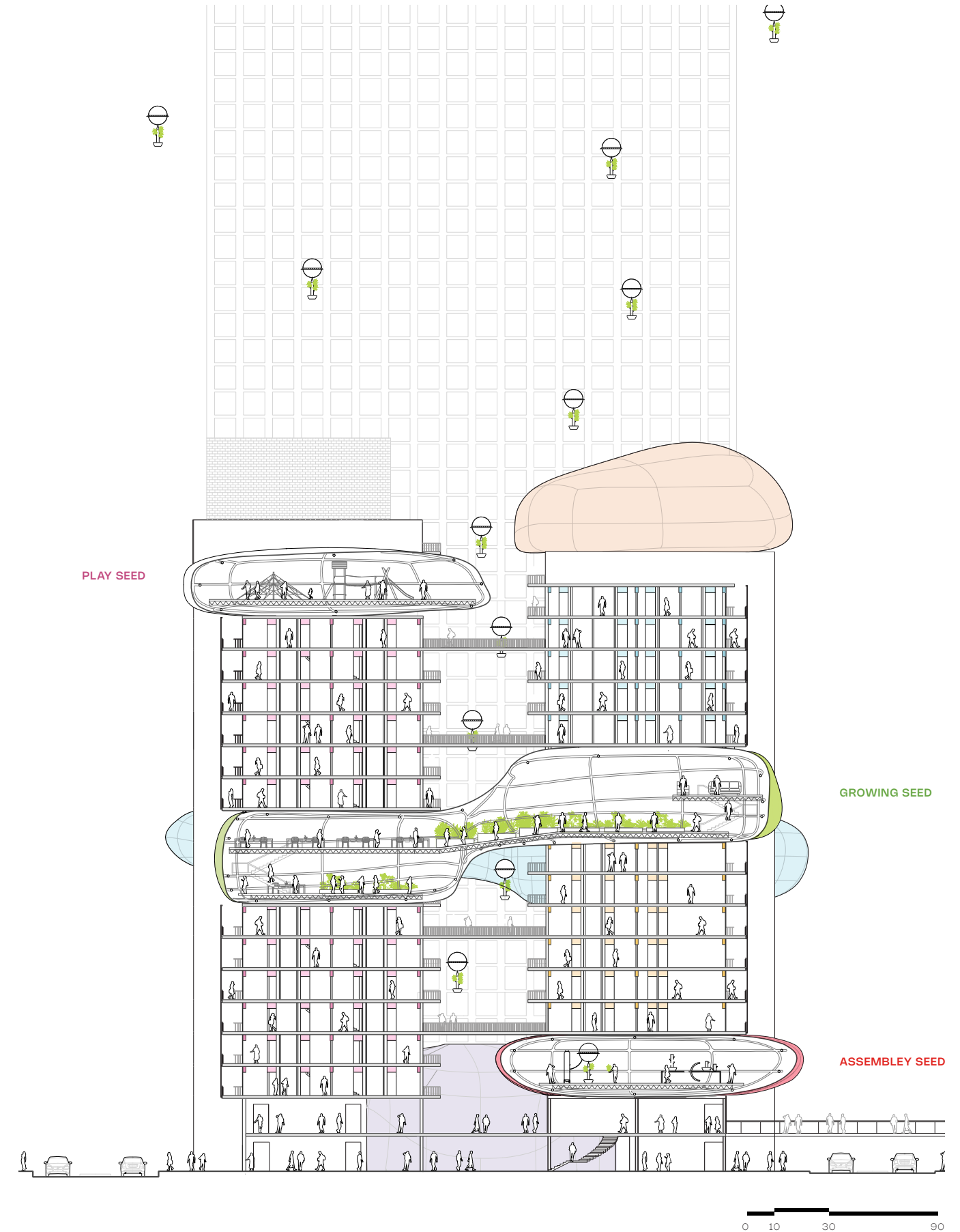
Floor plans were designed with different typologies in mind. Each typology taking the same footprint within the building.



EXTERIOR RENDER | CO - LIVING HOUSING



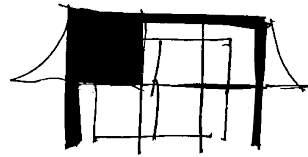
SECTION



HOW CAN MULTI-GENERATIONAL HOUSING PROMOTE OWNERSHIP?

PAPERTOWN

AIA IOWA EMERGING PROFESSIONAL AWARD – RUNNER UP
ACADIA + NOMAS COMPUTATIONAL AWARD – RUNNER UP



NOMAS BGL COMPETITION

ROLE : DESIGN LEAD

LOCATION : KANSAS CITY, MO

COLLABORATORS : DAVID DOAN, OLIVIA MAASDAM, HECTOR MEDINA, GENESIS REYES, TIMI OGUNSOLA

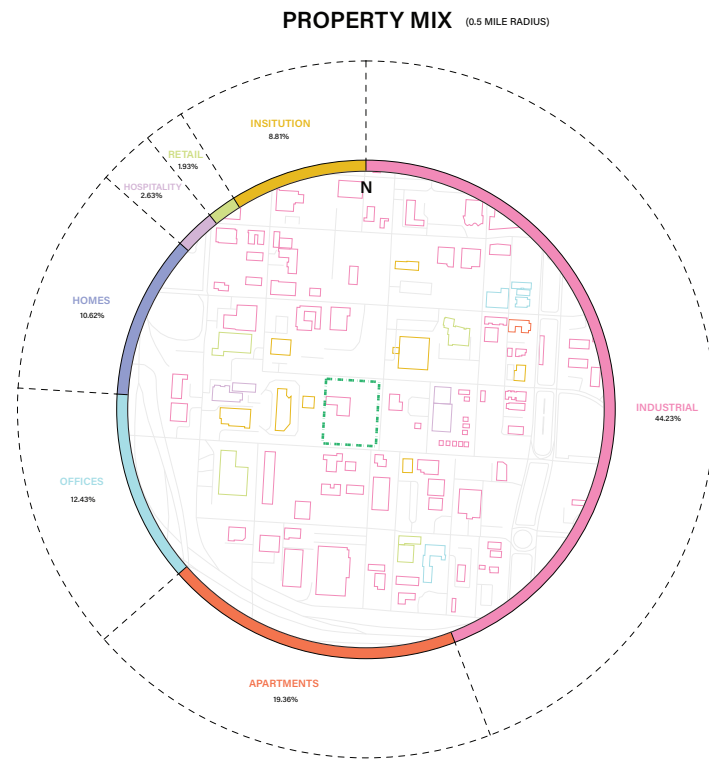
Located in Kansas City, Missouri in an industrial and poverty stricken neighborhood, Paper Town envisions a **circular economy** community where waste becomes potential. **Compost is transformed into paper-like materials**, repurposed into structural panels, insulation, and everyday objects, building a self-sustaining economy rooted in creativity. **Multi-generational homes** are designed to grow with families. **Structural panels made from compost** invite residents to shape and expand their spaces over time. Workshops and gardens throughout the neighborhood connect households through craft, nourishment, and shared authorship. Mass timber structures and integrated ramp ways ensure suitability for all, binding the community through **material reuse** and inclusivity. Paper Town becomes more than housing, it's an evolving ecosystem of making, growing, and rediscovering home.



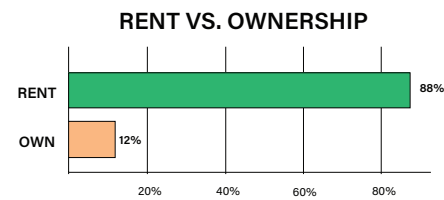
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EXTERIOR RENDER | SOUTH ENTRY

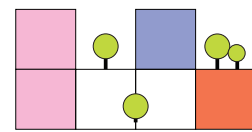
SITE | ANALYSIS



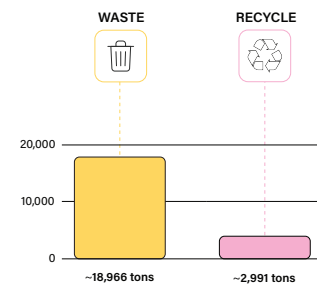
Site analysis of paseo west exposed the abundance of industrial infrastructure, **limiting vital space for affordable homes available to own.** It also revealed how there are 5x more waste than recyclable materials



PLUG-IN LOGIC

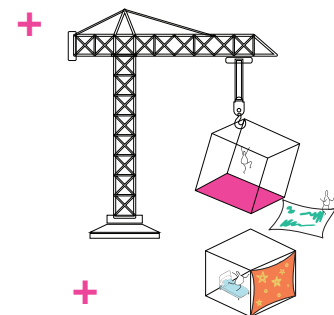


COMPOSTABLE WASTE VS. RECYCLING

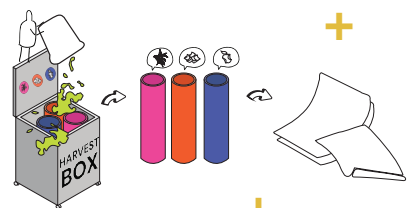


PAPERTOWN | DESIGN FRAMEWORKS

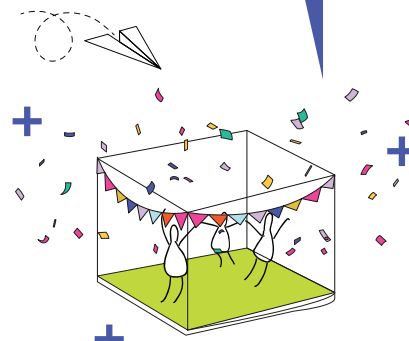
OWNERSHIP



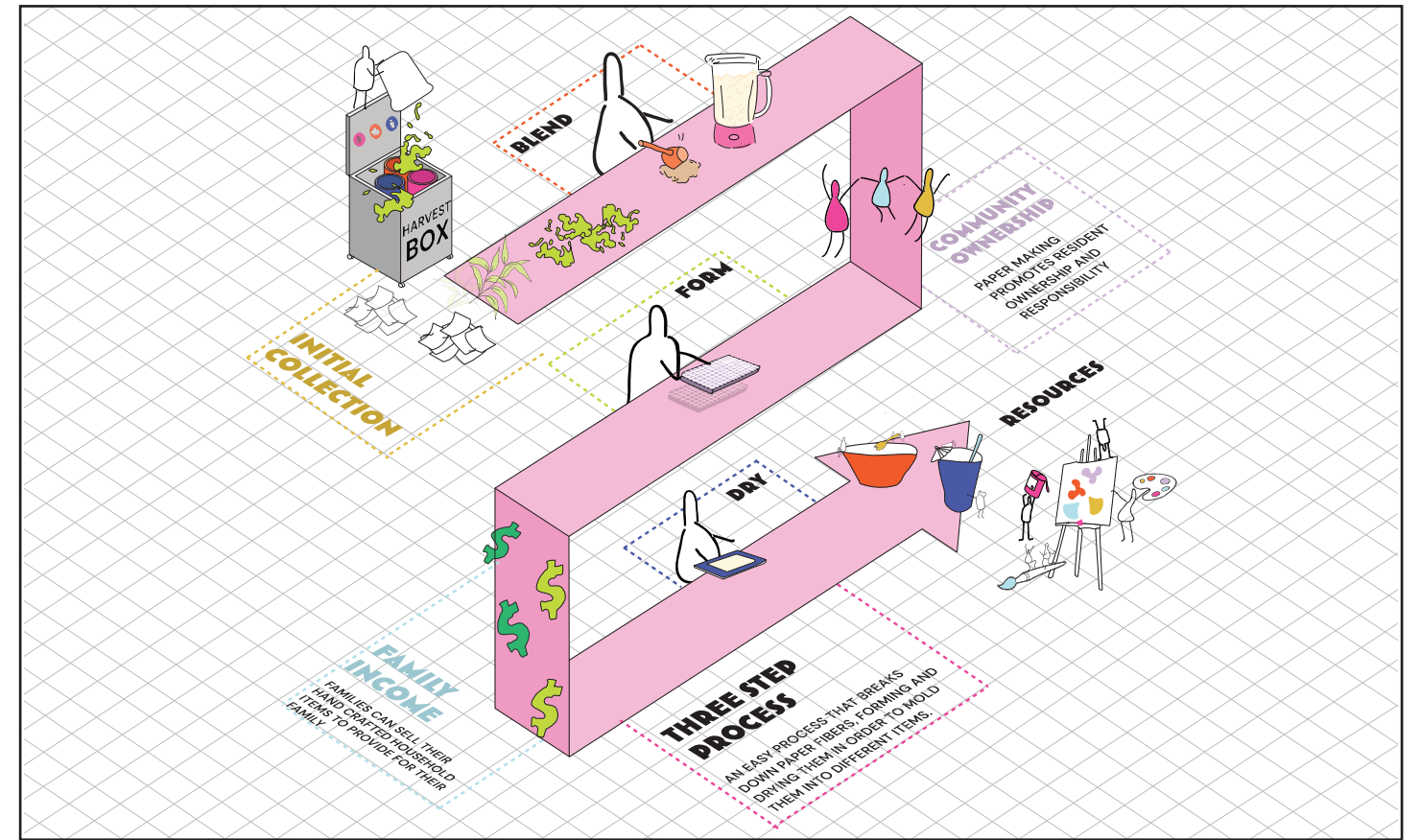
RESOURCES



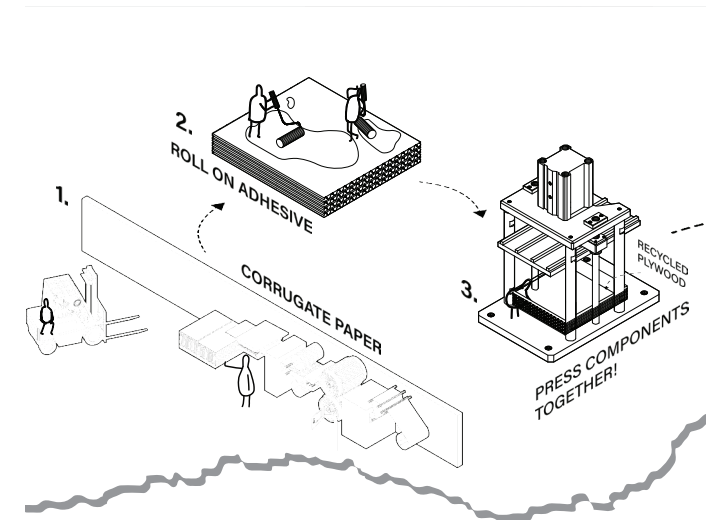
PLAY



COMPOSTABLE WASTE | PAPER MAKING PROCESS

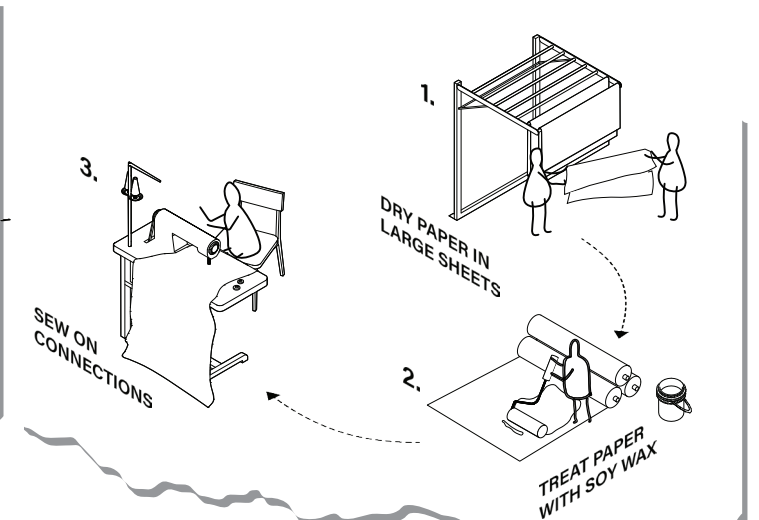


CONSTRUCTION | PAPERWOOD



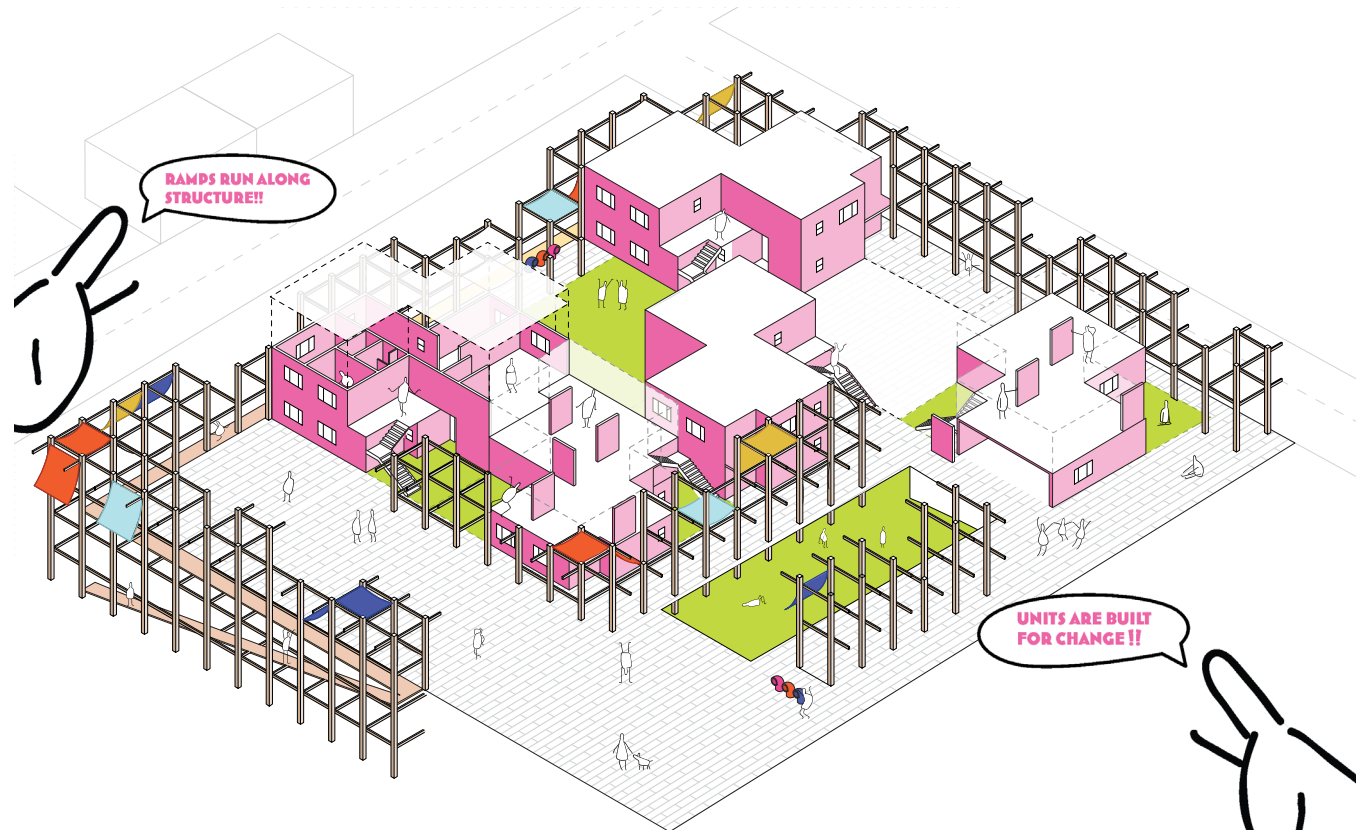
Corrugated paper produced on site would be **processed into recycled plywood** via papertowns workshops, located below multi generational housing units.

CONSTRUCTION | PAPER SCREENS



Cellulose fiber paper produced on site would be treated with soy wax as a protective varnish, then sewed to our **mass timber framing throughout the site**

ISOMETRIC | PINK NEIGHBORHOOD CONSTRUCTION

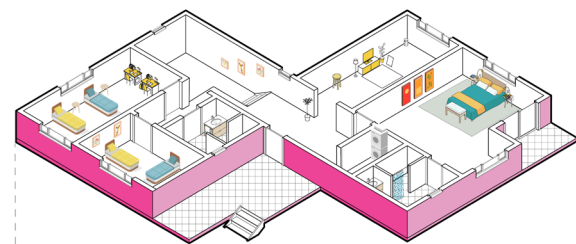


HOUSING | UNIT EVOLUTION LOGIC

Unit evolution is guided by a **plug-in logic**, allowing self directed growth in response to family needs.



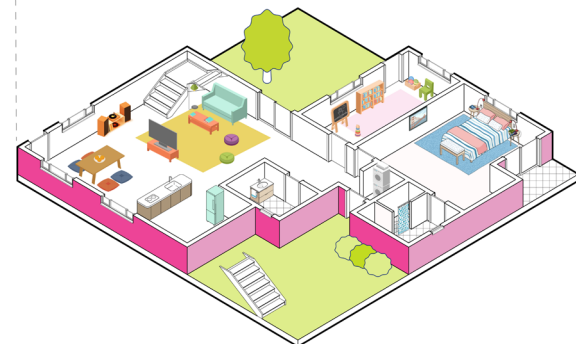
2-3 generations



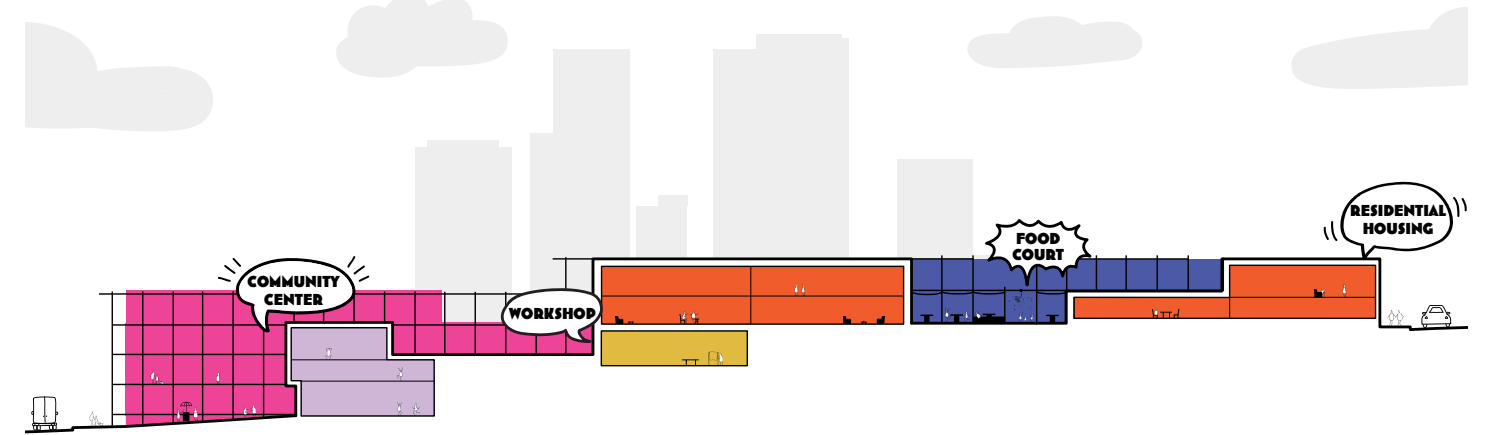
+15 YEARS



1 generation



SECTION | PROGRAMMATIC



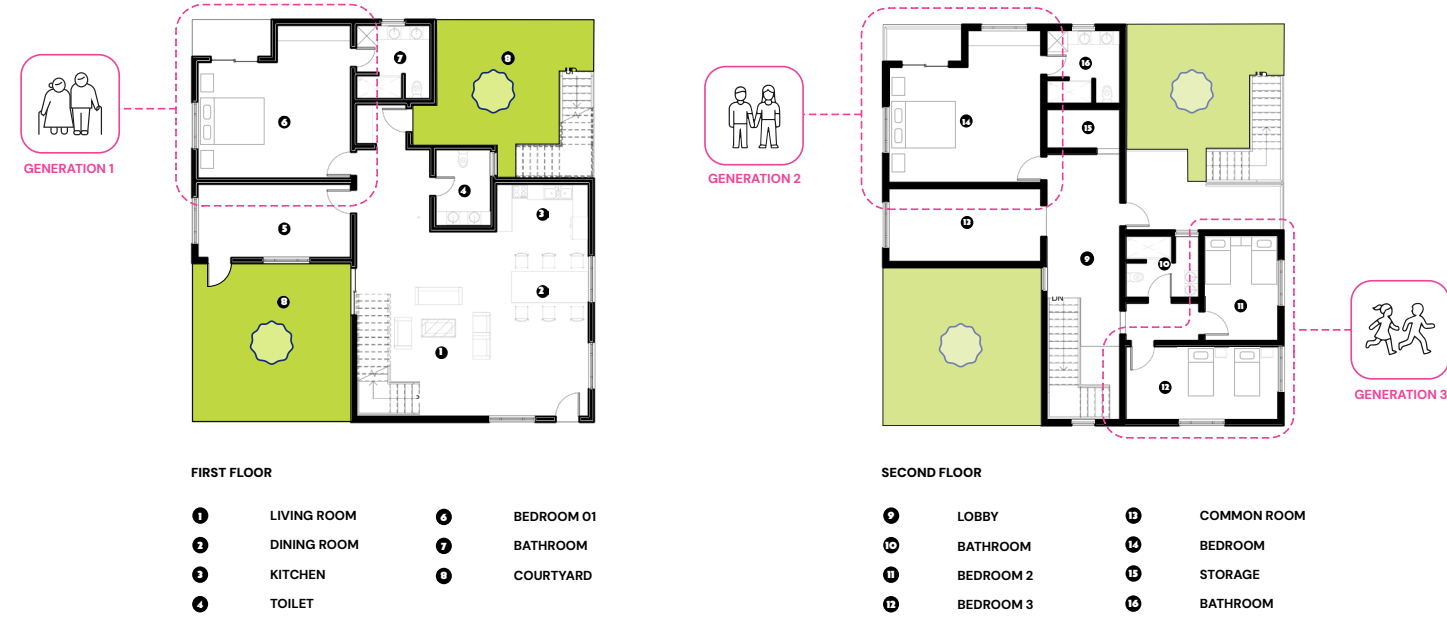
ISOMETRIC | FINAL PROPOSAL



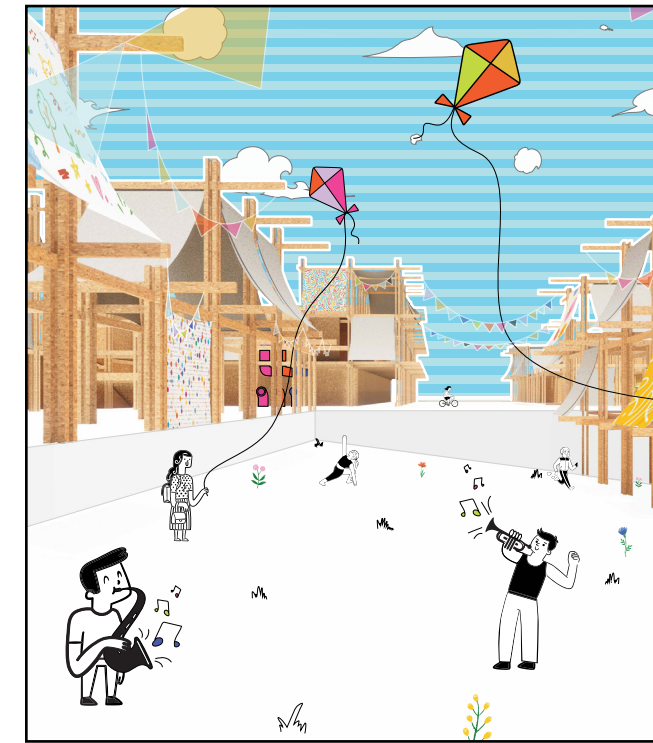
"Neighborhoods" were built around play spaces, as a means to bring community together.

FLOOR PLAN | 1ST & 2ND GENERATION

Designed with future generations in mind, Units can be expanded with materials made on site.



EXTERIOR RENDER | PLAY SCAPE



EXTERIOR RENDER | PAPER FESTIVAL



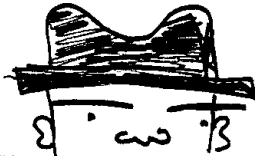
MASTER PLAN



EXTERIOR RENDER | WEST ENTRY



PERSONAL



The following works represent a personal exploration across multiple artistic mediums, serving as a space for experimentation, reflection, and discovery. Each piece is driven by a pursuit of expression and meaning, allowing ideas to emerge through material, form, and process. Art functions as a universal language that communicates beyond words, inviting individual interpretation and emotional response. While not every work will resonate in the same way with every viewer, each carries an impact that extends beyond personal connection,

VALUE | MIXED MEDIA ON 11 X 11 PAPER

Value explores my identity through my Latino heritage, engaging Latino cultural icons as a way to understand the intersections between their histories and my own.



CHICANO | MIXED MEDIA ON 6 X 4 PAPER

Chicano questions my identity as Mexican American, shaped by rising political tensions and the persistent question of which identity I am expected to value more.



SKATE | MIXED MEDIA ON 6 X 4 PAPER

Skate is rooted in growing up on a skateboard, carrying those moments into who I am now.



HORD COPLAN MACHT | RFP PROPOSAL

This is an **RFP graphic** I completed this past summer for a proposed senior living facility in Frederick, Maryland. The project envisions engaging **senior living** that encourages youthful interaction through shared amenities, with new residential units and a clubhouse integrated into an existing school owned woodland.



HORD COPLAN MACHT | INTERN PROJECT

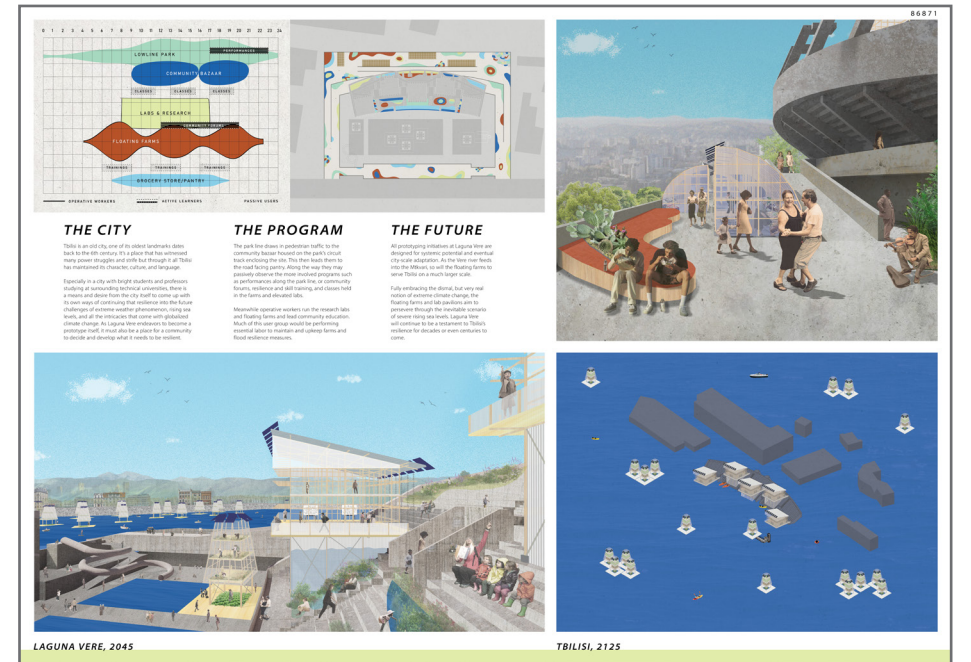
LGV INTERNATIONAL COMPETITION : FINALIST
 COLLABORATORS : EMMA LOHR, LAIQA GITOSUPTRIO

Laguna Vere is an intern project I completed this past summer that reimagines an abandoned pool complex in Tbilisi as a civic landscape that **transforms flooding into a catalyst for resilience and community interaction**. Through adaptive agricultural pools, learning pavilions, and flexible public spaces, the project fosters knowledge exchange, and long term urban resilience.



BOARD 1

BOARD 2





THANK YOU!

SEBASTIAN SALAMANCA

seb.salamanca1@gmail.com