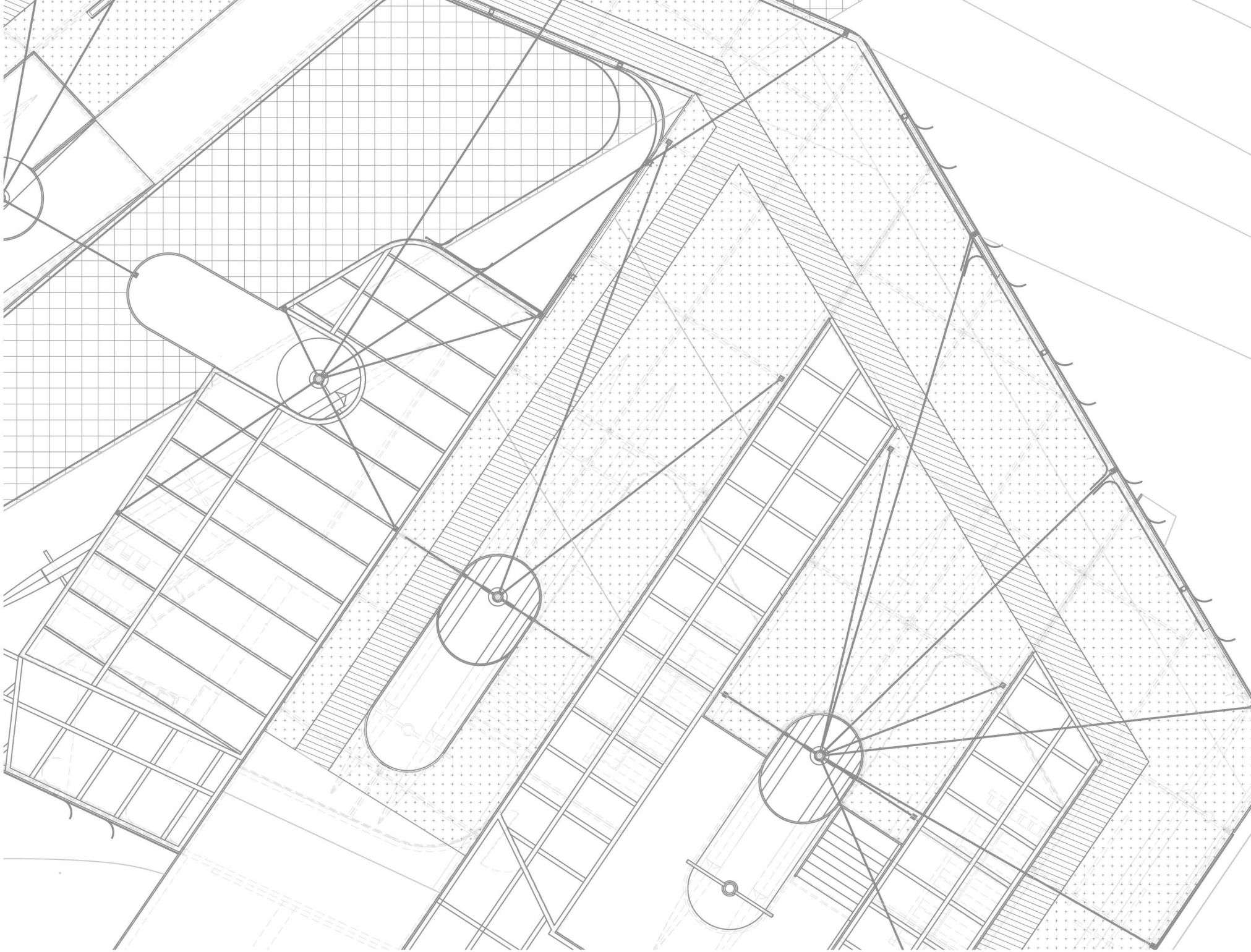
[portfolio 2021]



aaron_miranda

amirand9@pratt.edu

>PERSONAL INFO

Aaron Miranda

amirand9@pratt.edu
949.636.9510
1625 Putnam Ave Apt 5D, Queens, NY 11385
10.23.96

>EDUCATION

Aliso Niguel High School

-2010-2015 3.94 gpa

Saddleback Community College

- 2015-2016. part time 4.0 gpa

Pratt Institute

2016-2021
Bachelor of Architecture. 3.58 gpa

>WORK EXPERIENCE

Laser/ Wood shop Technician

PI-FAB,Pratt Institute, Brooklyn, NY FA_17- SP_19

PI-FAB,Pratt Institute, Brooklyn, NY FA_17- SP_19
Oversaw proper use of fabrication equipment, maintained space and machines, consulted students on model making.

Teaching Assistant

Pratt Institute, Brooklyn, NY
Assisted in helping students develop their design proposals, aided in graphical/ drawing representation and model fabrication. Sat in on reviews.

SP_19 for Design 202
Ajmal Aqtash
aaqtash@pratt.edu

FA_19 for Design 301
Lawrence Zeroth
zeroth@pratt.edu

Architectural Research Assistant

Domestic Variants Research Project, Pratt Institute, Brooklyn, NY
Worked directly with Acting Chairperson of Undergraduate Architecture Jason Lee developing prototype vacation homes for Croatia. The position was a paid part time research position funded by Pratt. The workflow was primarily research, graphical and diagrammatic in nature, investigating inventive ways to expand the architypic gable roof typology.

Fabricator

Center for Experimental Structures, Brooklyn, NY, FA 18- SP21
Participated in a small team of graduate/undergraduate students and metal fabricators from Milgo Bufkin constructing a large scale sculptural instillation for Pratt Institutes sculpture garden. Designed much of the curved sculpture's form work. Worked closely with the parametric designed (grasshopper) digital model. Fabricated portions of the interlocking sculpture. Organized digitally and physically thousands of custom components.

Architect Intern

Andrade Architects, Laguna Beach, CA SU 19
Prepared renders and plans for client presentations. Translated surveyed measurements into digital 2D and 3D form. Worked on high end residential projects at different design phases, from early schematic design, design development, and editing redlined construction documents. Worked closely with structural engineers, editing structural details as well as redlined structural plans.

>AWARDS

Presidential Merit-Based Scholarship

2016-2021

President's List

SP_2017
SP_2018
SP_2019
FA_2019
SP_2020
FA_2020
SP_2021

Dean's List

FA_2016
FA_2017

Michael Hollander Drawing Excellence Award

"Best of 3rd Year" Design 301 drawing competion
nominee and scholarship award winner

UA Advanced Design Studio Distinguished Project

Design 401
"Nomadic Homestead + Transiet Infrasturcture"
for Rendering a Just Transition

Design 403
"Paseo Del Norte Memorial and International Pedestrian Bridge"
for Reforming the Social Space of our institutions

Degree Project Awards Review Honorable Mention

"We Did it Our Way" Detroit, Michigan
With Abhishek Thakkar

>Skills

Software

Rhino
AutoCAD
Revit
Grasshopper
Photoshop
Illustrator
InDesign
V-ray
Maxwell
Enscape
Twinmotion
Premier
Simplify 3d

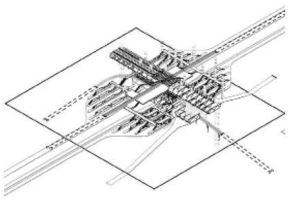
Fabrication

Lasercutting
3D Printing
Woodshop
Foam cutting

>INTERESTS

Cycling '
Cartography
Motor sport
Sci-fi
Backpacking
Social history
Public Transit
Urban Infrastructure
Geography
Affordable housing
Public land
Macro Economics

1



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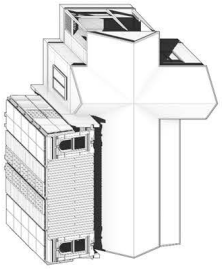

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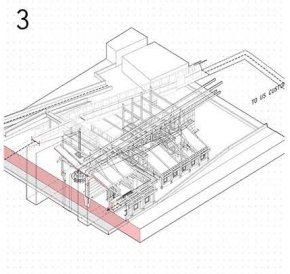

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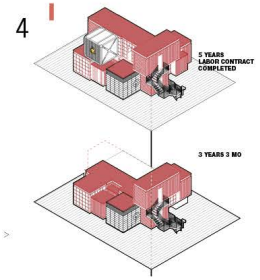

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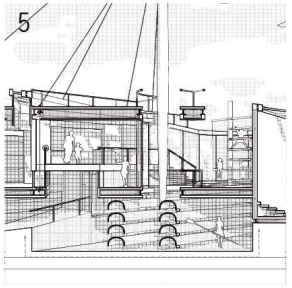

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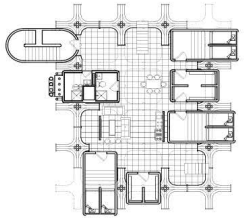

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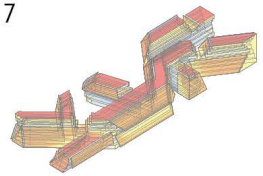

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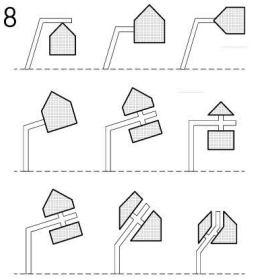


>COMPETITION

1 LAX 2100

>ACADEMIC

2 We Did it Our Way Degree Project

3 Paseo Del Norte International Memorial

4 Nomatic Homestead + Transiet Infrastructure

5 Columbia University Rowing Faciliy

6 Machine Living: St. Francis Dormitory

7 Solar Sculpting: High Energy Builing Forms

>WORK

8 Domestic Variants: Mushroom Houses

9 One Sided Minimal Surface Structure

>LAX 2100<

With Spencer Thorton and Kyle Recker

In an attempt to both eliviate the traffic problems that plague the current lax as well as the spike in demand that will insue as the city continues to grow and air travel becomes more accessable, LAX 2100 takes an agressive and layered approach to the cities and airports transit systems to create as seamless and linear experience as possible.

While Los Angles is currently undergowing a public transit renissance, with 3 new metro lines currently under construction, and 3 more confirmed for the next few decades, it is unlikely that these moves toward mass transit will completley cleanse the city of its massive car reliance and car infrastructure. With this in mind the new proposed LAX attempts to create a form of hybrid infra-structre that combines the airport facilities with highway, metro, bus, and air tram infrastructure.

One key inefficencey with the current LAX layout was its double layer traffic loop system that created choke points and traffic jams as employees, drop off passengers, and arrivals, all shared portions of the road system. The loop system also feed them back into the main city roads at the same point, and created tight, inneffcient movement. No main public tranit line or high frequencey bus round also exhasturbated the car reliance and traffic issues of the airport.

The main drop of and check in zone, professionally refered to as the head house, is the embodiment of this hybrid, with the formally street level Century Boulevard in inglewood being re designed as a wide elevated highway system, with the cities recently proposed Crenshaw/ LAX metro line running along side it, for maximum accessibil-ity by various means. The headhouse is a layered sys-tem of open air highways suspended between enclosed security and check in spaces with the main central space with the standard food court and travel shops occuying a transparent space in the center where the kinetic move-ment of tranit is visible around you. From there a second-ary train system known as the Air Tram takes travelers to their various terminals. The pick up zone and baggage claim are also completly removed from the roads system for drop off, with a similar approach, with a road system and train sytem directly running through it, for maximum ease and efficency of movement.

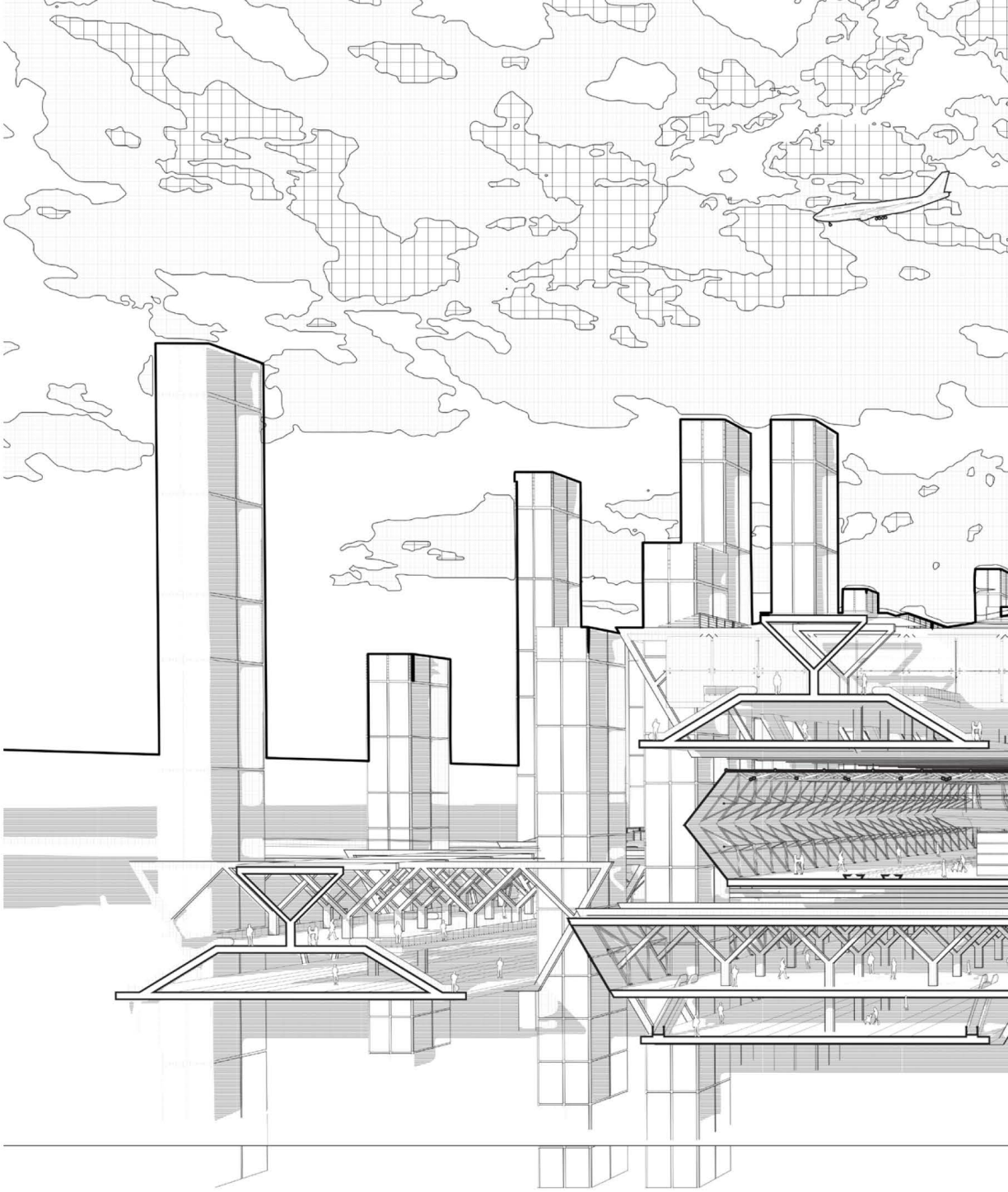
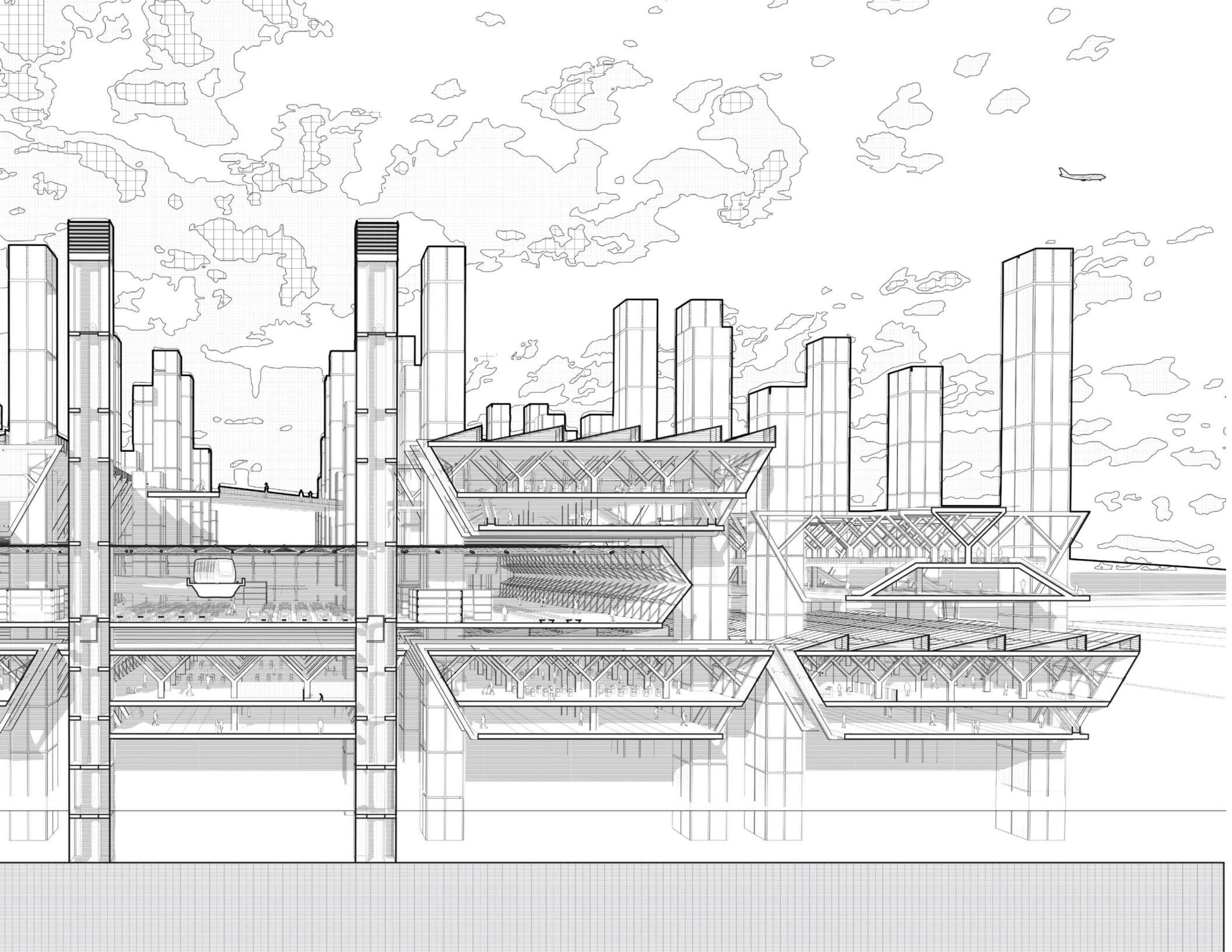


fig 1.1 headhouse section



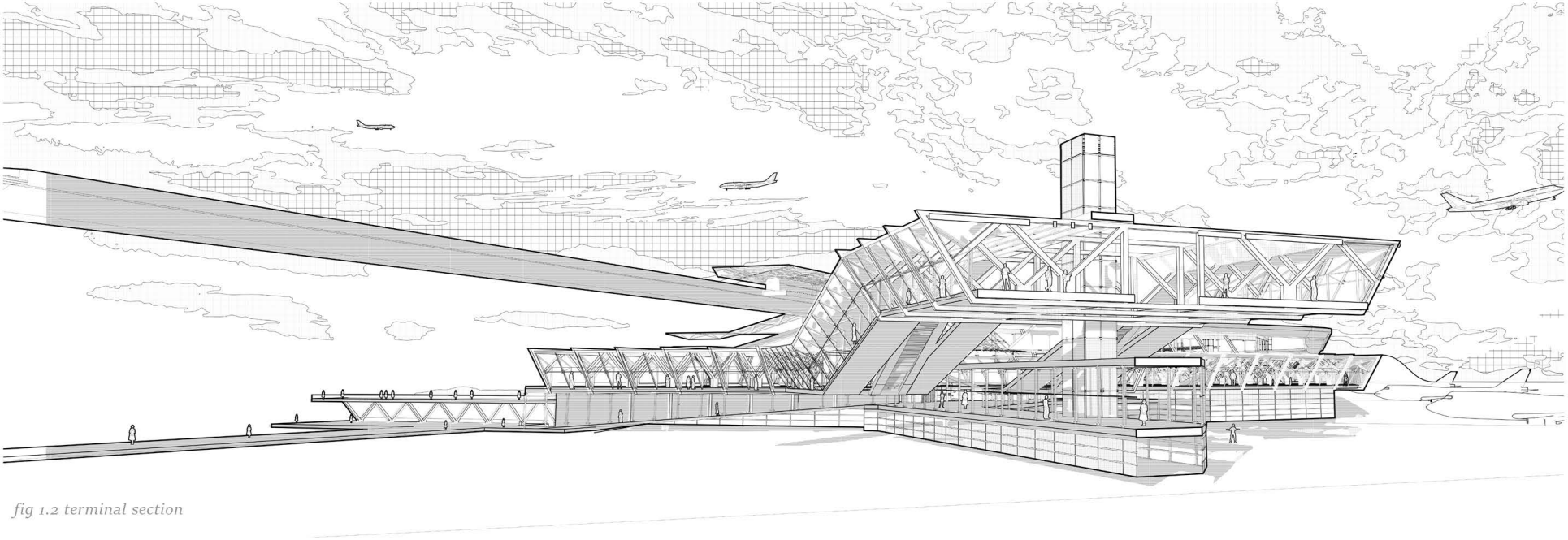


fig 1.2 terminal section

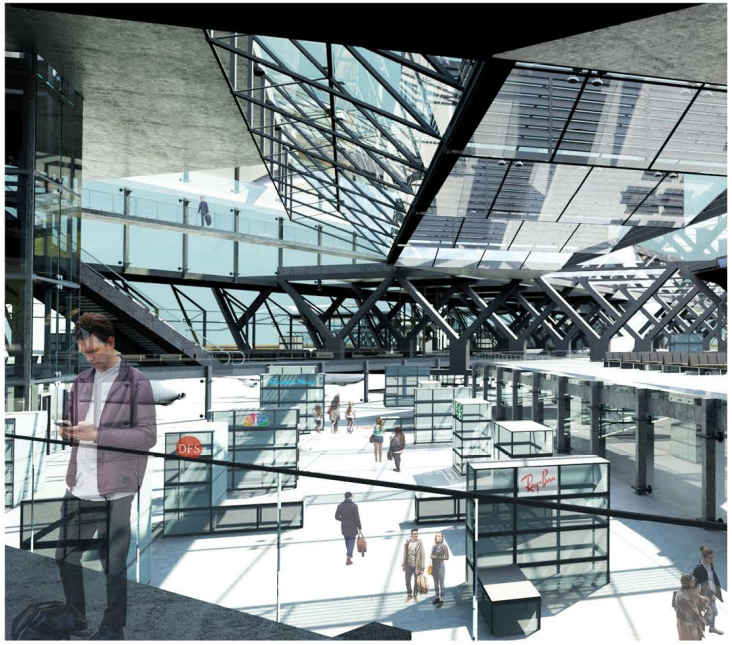


fig 1.3 terminal lobby

fig 1.4 terminal aerial

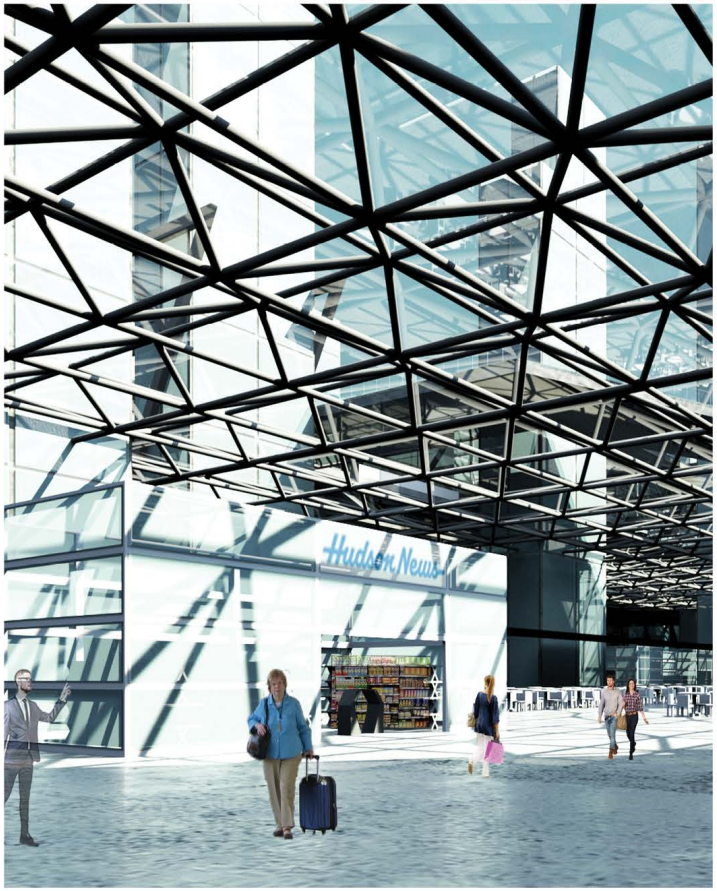


fig 1.5 headhouse interior

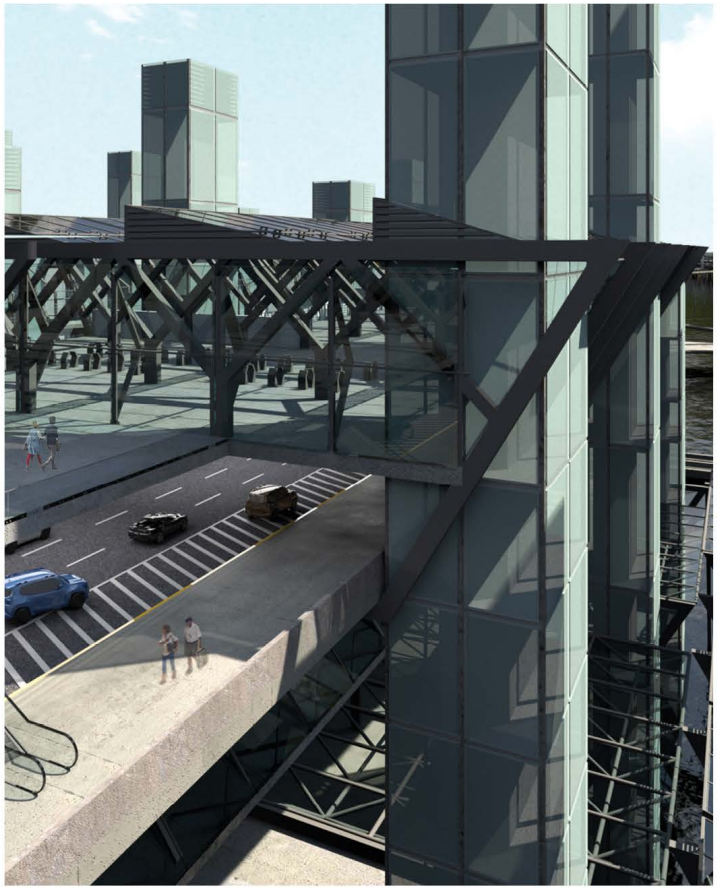


fig 1.6 arrival drop off zone

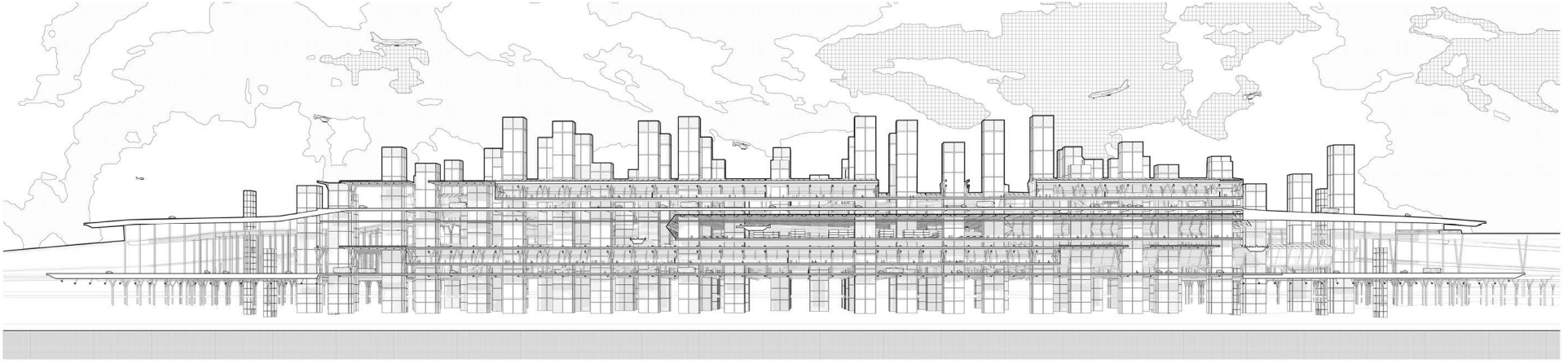


fig 1.7 headhouse long section

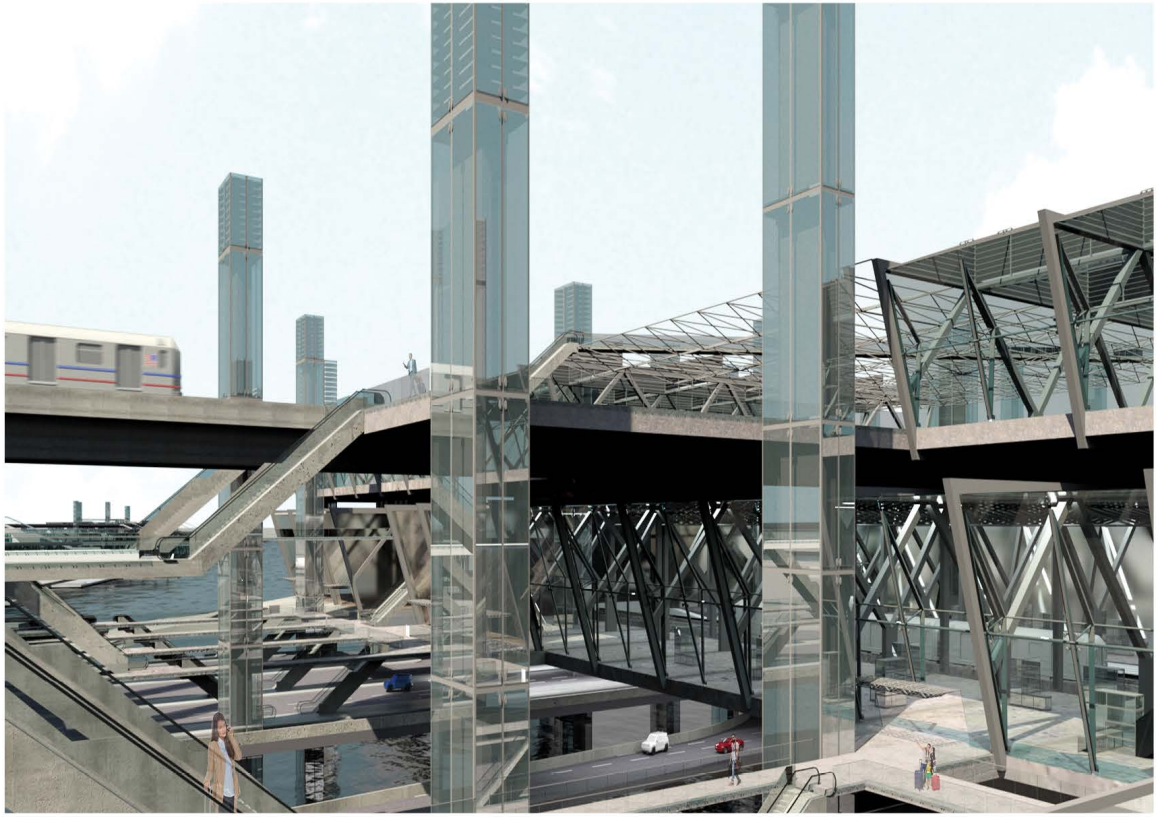


fig 1.8 baggage claim/ arrival

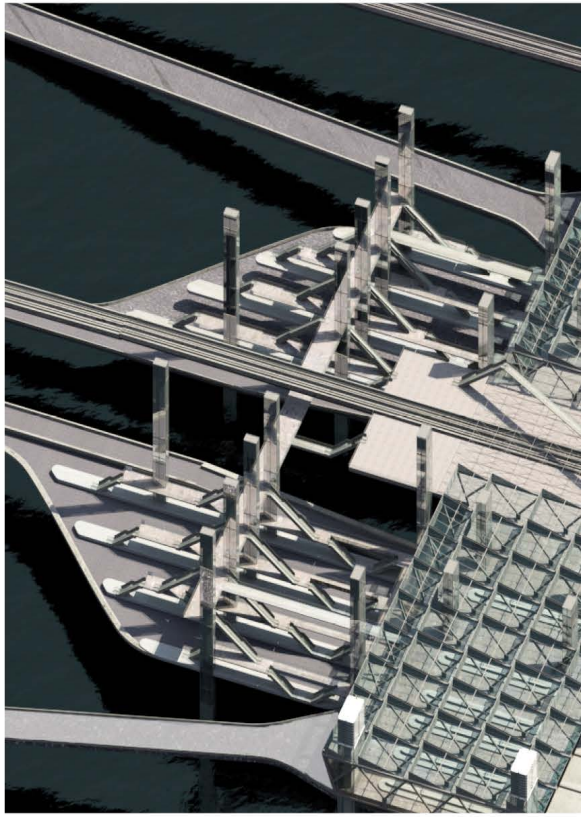


fig 1.9 baggage claim/ arrival

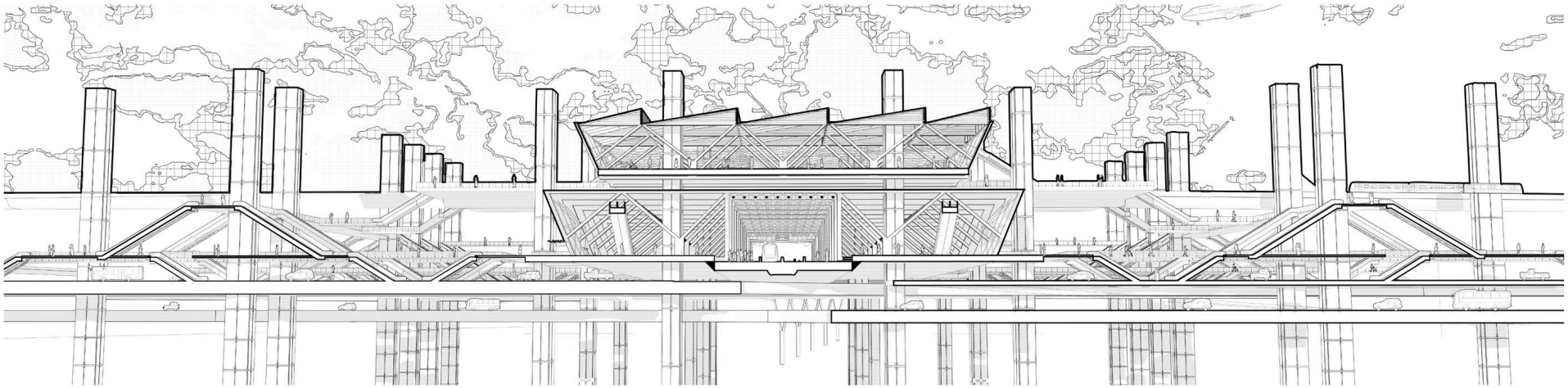


fig 1.11 baggage claim section

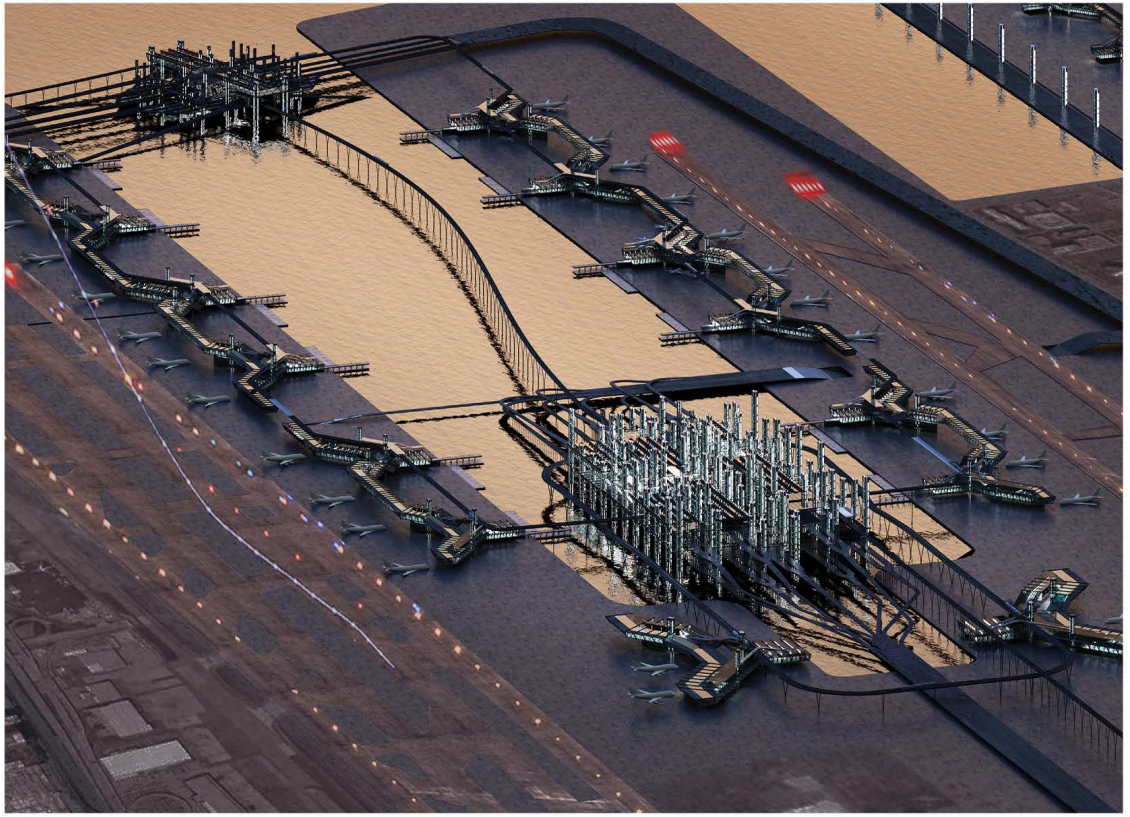


fig 1.10 lax aerial

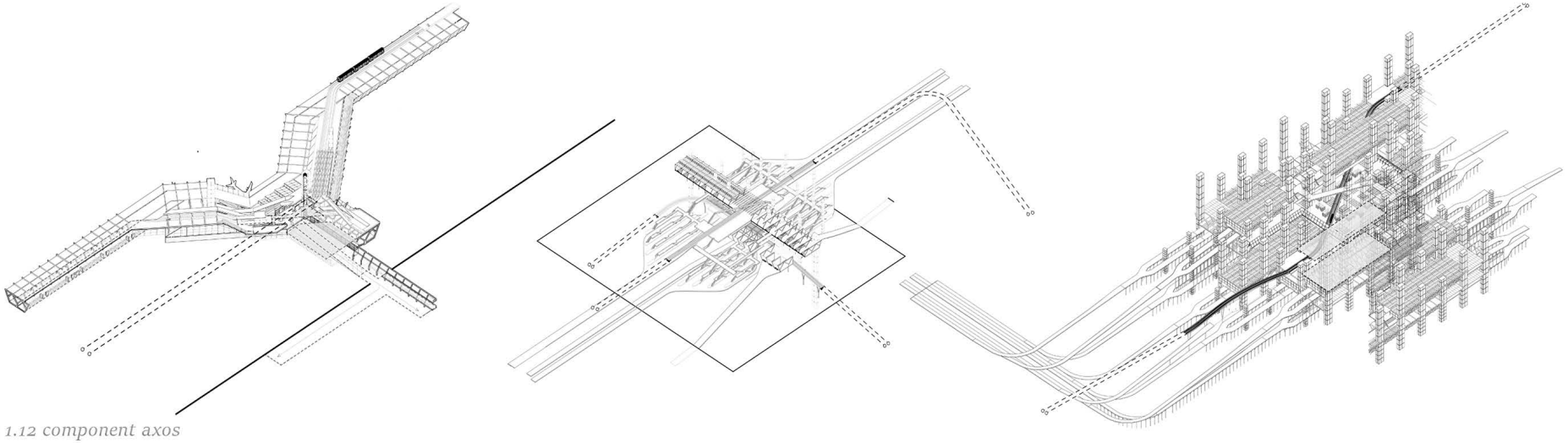


fig 1.12 component axos

>We Did It Our Way<

With Abhishek Thakkar

Detroit has too much land for too few people. The project is a design mechanism that invigorates bottom-up urban development as a way to retool Detroit's deteriorating urban fabric that uses the city's overabundance of land and unclaimed material as a basis of expansion and new construction.

What we are proposing is a programme for community growth that corresponds to the desire of the individuals that compose it, and involves their own labor in order to push forth a generative economy.
Thus our proposal emerges from the voluntary investment of the community's own labor and its enthusiasm and ambition to improve their urban conditions and lives.
Detroit is its own largest landlord, with plenty of its suburban outskirts and single family zoned areas being a mix between empty parcels, owned homes, and abandoned homes in varying conditions that are in de facto ownership of the municipal government. Within this context of widespread poverty and unemployment in the city, many of the more desperate residents have developed their own subculture of scrapping and dismantling unclaimed homes, and selling these materials in a well established system of illicit markets.

By transforming these assets from a collection of unused and deteriorating spaces hoarded by the municipal government into a set of public materials that can be commandeered by the citizens of the city, a new informal system of labor and exchange can emerge if this land can be distributed to individuals.

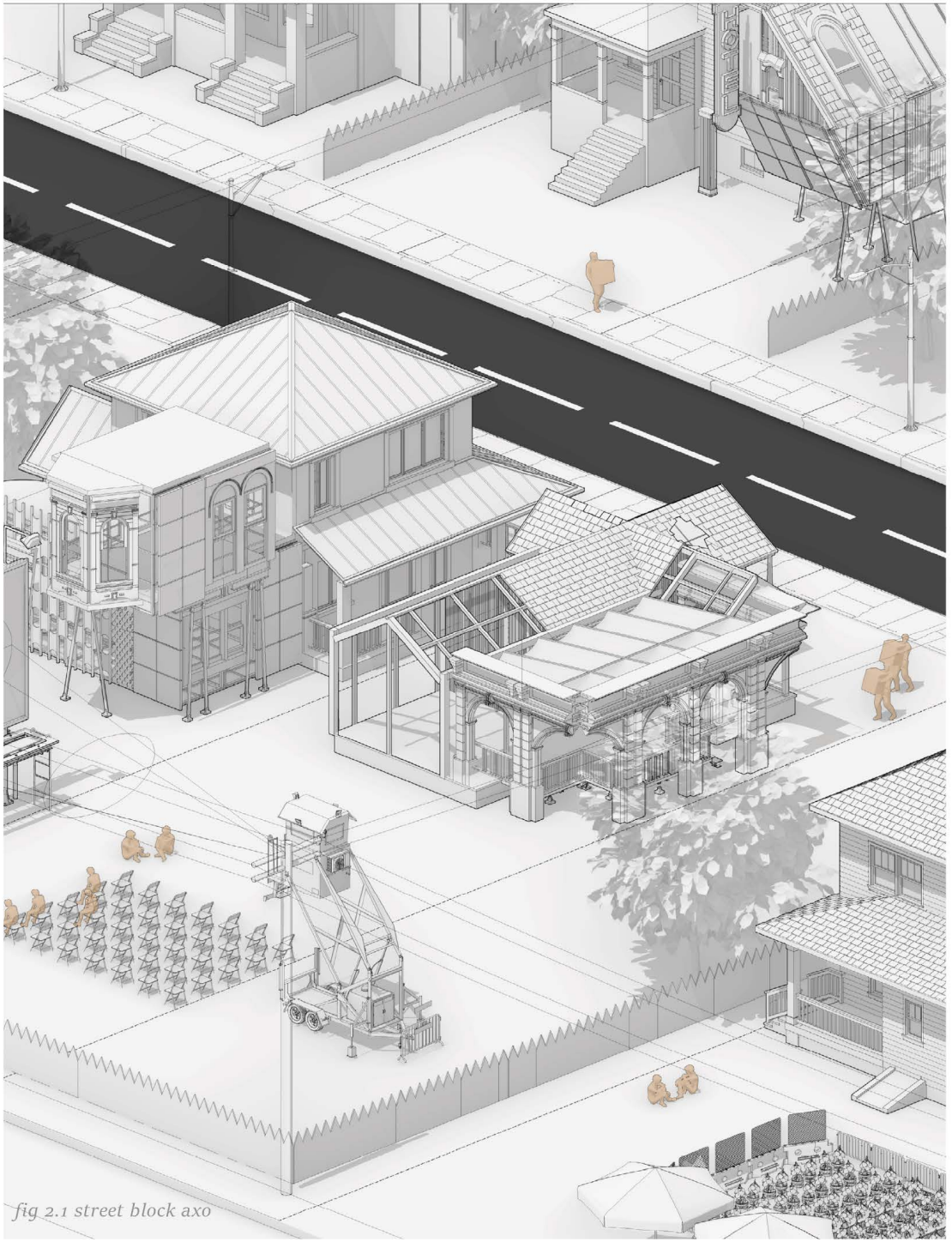
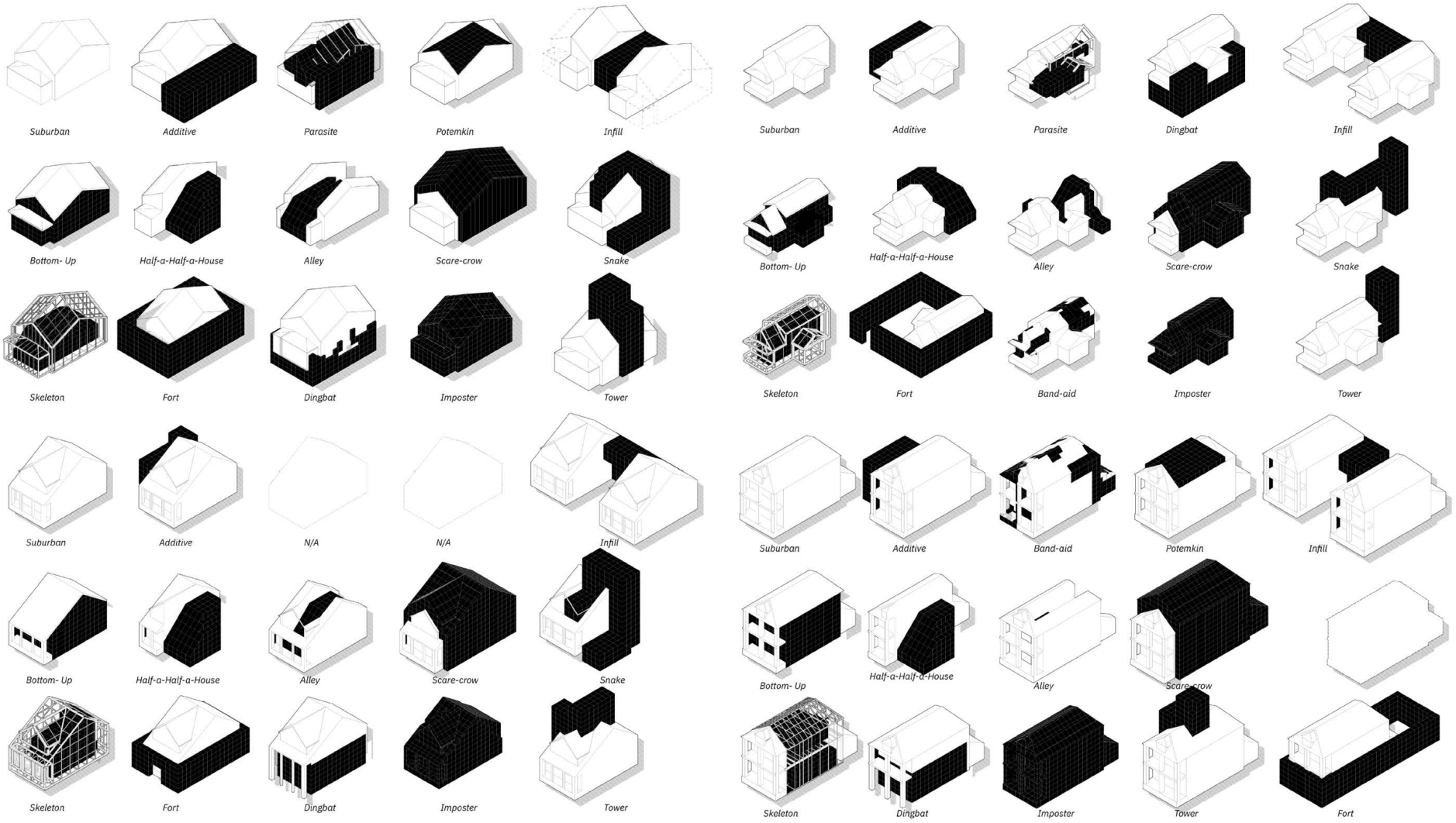


fig 2.1 street block axo

fig 2.2 home typology "characters"



The people of Detroit don't have the economic means to invest in their own communities and homes. Economic activity and potential growth is stopped in its tracks by the lack of capital investment average citizens of the city can provide. But the city can provide access to its vast collection of foreclosed parcels, homes, factories, and commercial spaces.

By transforming these assets from a collection of unused and deteriorating spaces hoarded by the municipal government into a set of public materials that can be commandeered by the citizens of the city, a new informal system of labor and exchange can emerge where land and material can be sold, combined, and reconfigured.

Suburban Home

Scrap Interventntion

HOW TO DO IT YOUR WAY

A GUIDE TO SCRAPPING AND MATERIAL REUSE

MANUAL PROVIDED BY THE DETROIT LAND BANK AUTHORITY

DISCLAIMER: only scrap in DLBA designated sites or land owned by yourself our your family. Scrap and expand with all safety measures in place. DLBA and the City of Detroit is not responsible for any personal injury, loss of property, or loss in property value that may result from these actions.

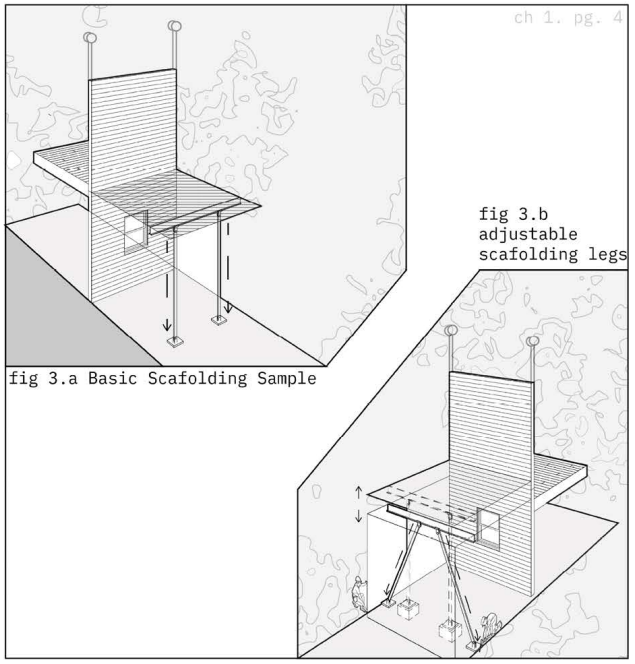


fig 3.a Basic Scafolding Sample

fig 3.b
adjustable
scafolding legs

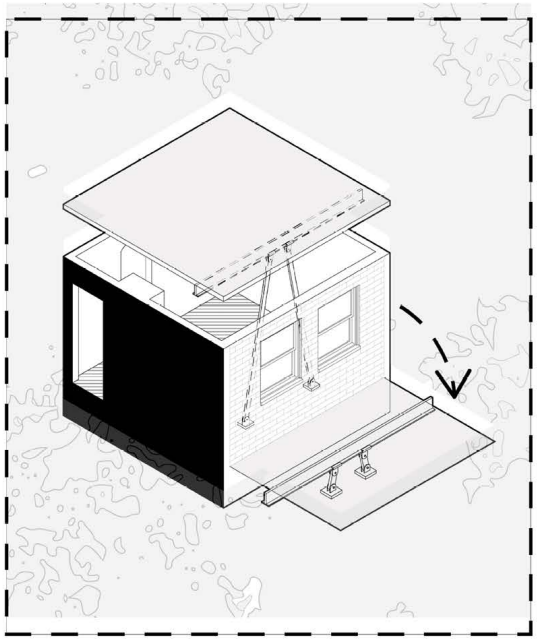


fig 2.a temporary support to tear down load bearing wall

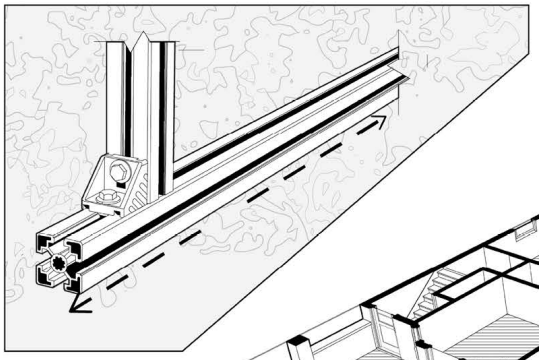


fig 1.a alluminum structural framing system

fig 1. expanding your brick duplex

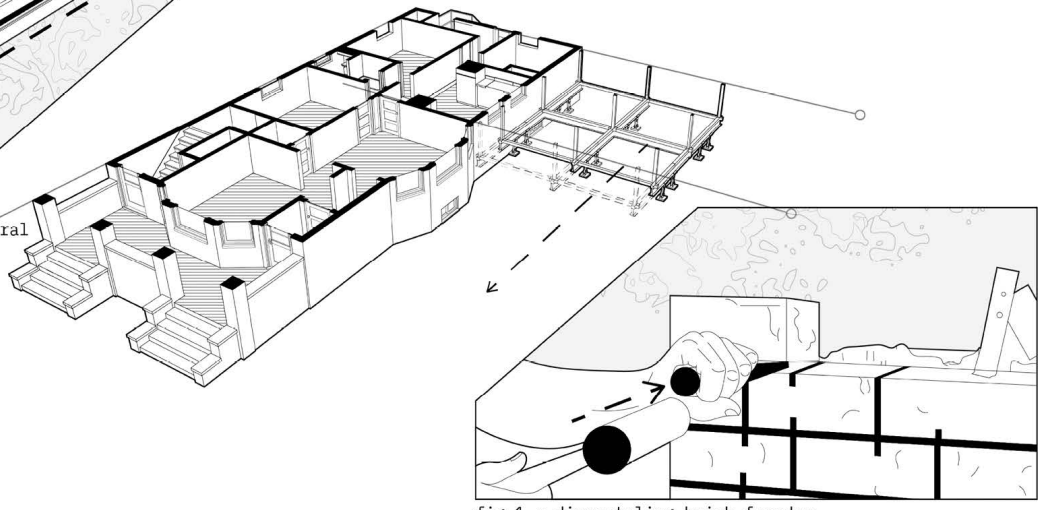


fig 1.c dismanteling brick facades

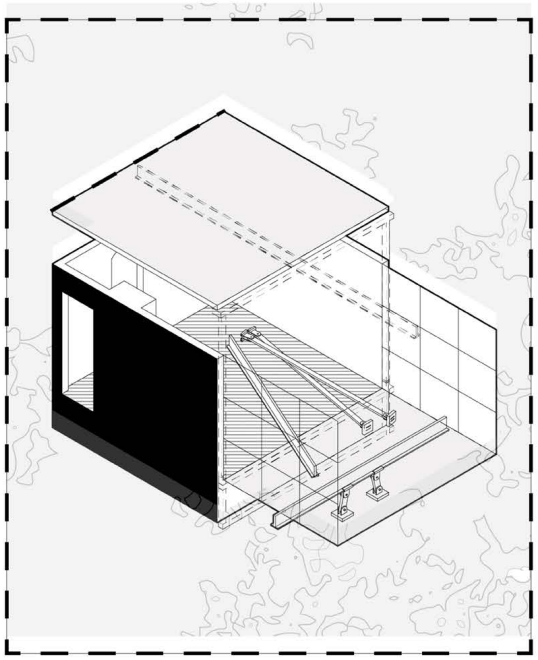


fig 2.a expanding home footprint

fig 2.3 Material Reuse/ Scrapping Manual Exerpts

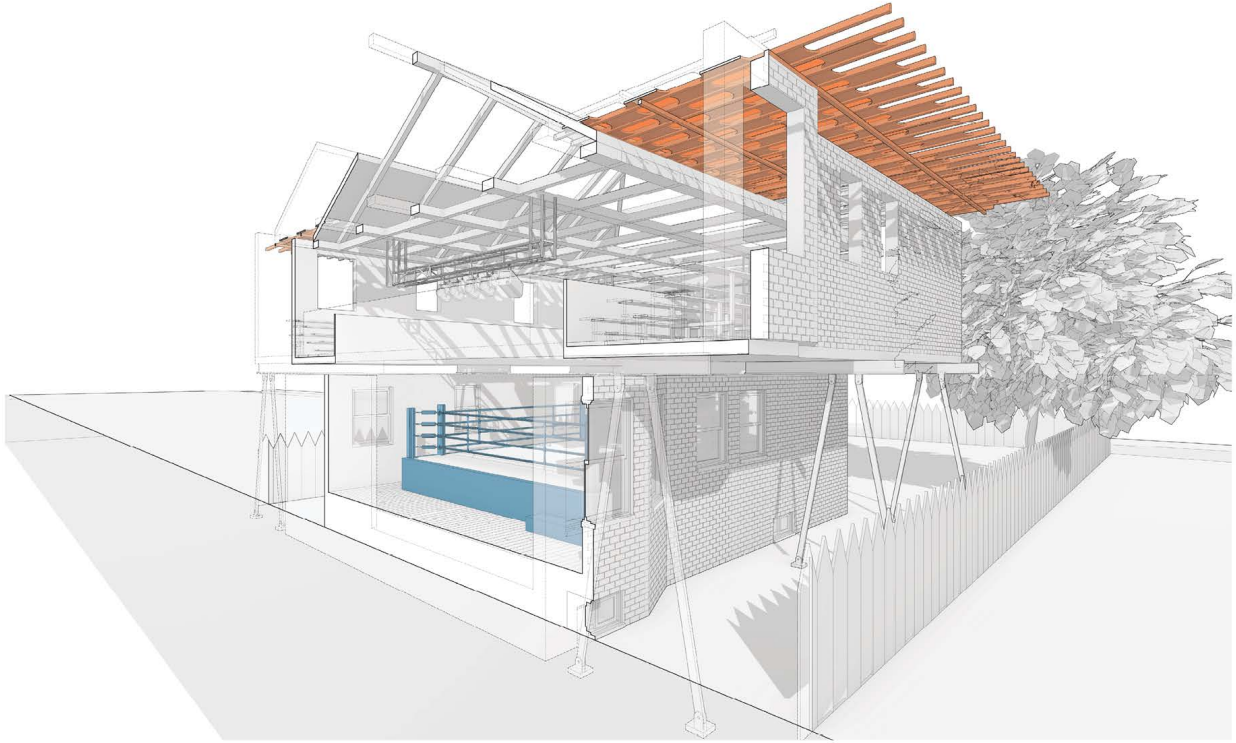


fig 2.4 fight club

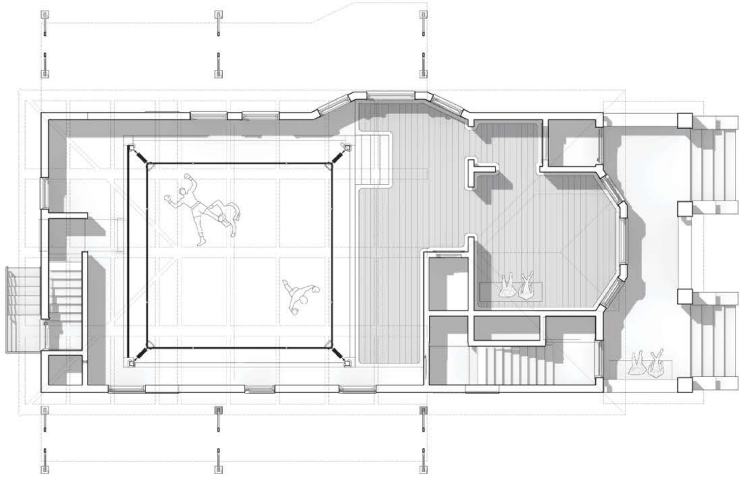


fig 2.5 boxing house ground plan

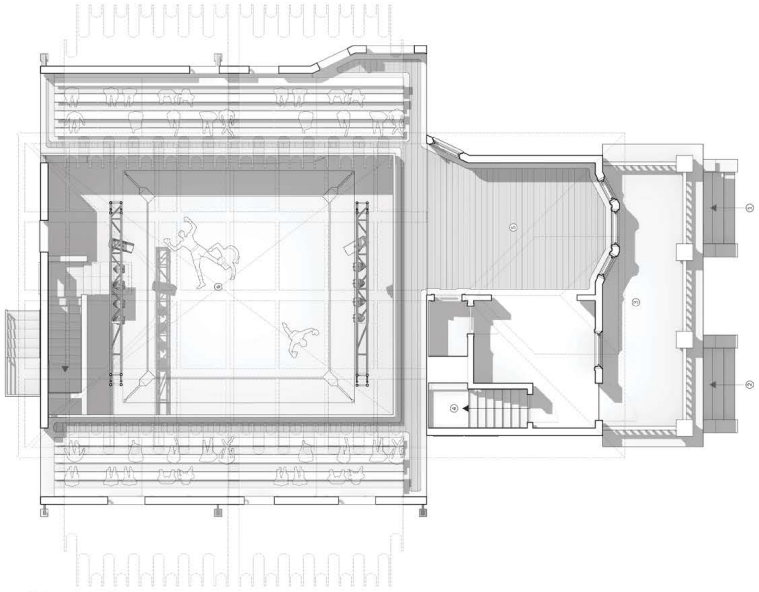
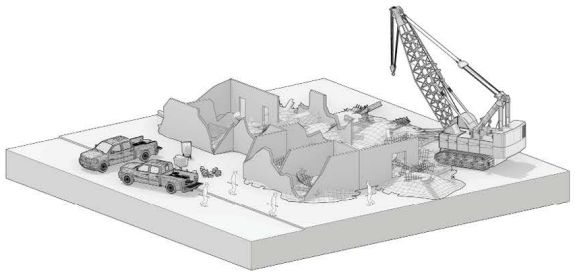
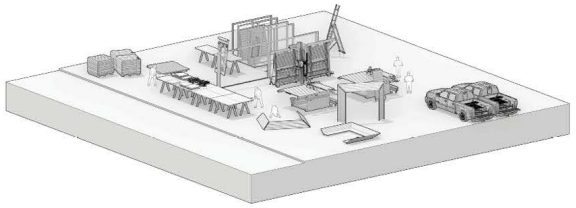


fig 2.6 boxing house upper plan





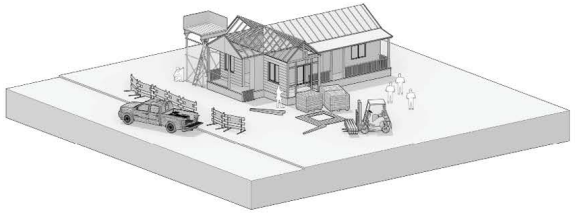


fig 2.7 parcel proccess

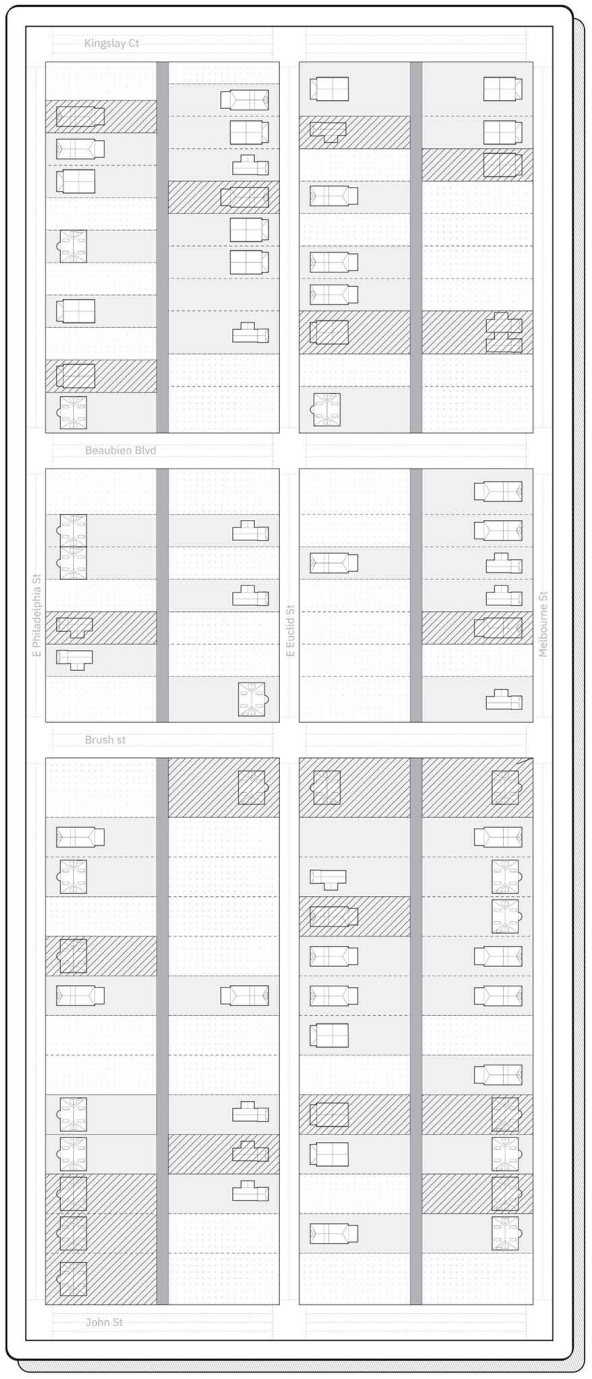
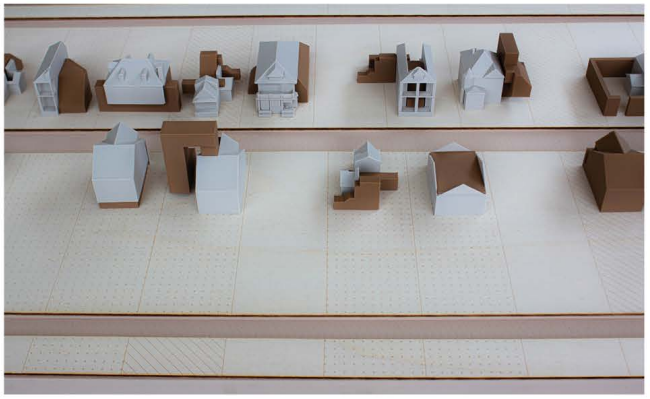
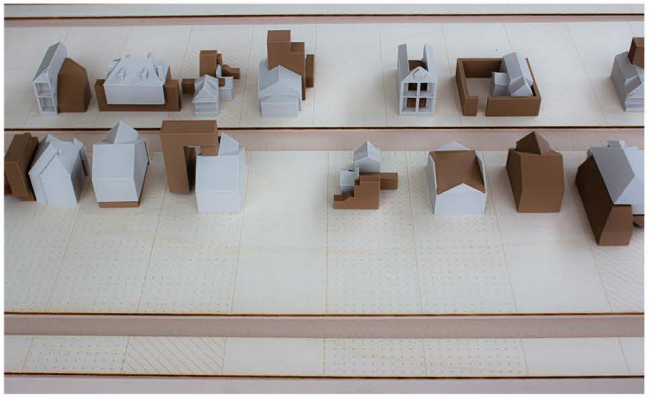


fig 2.7 detroit block site plan (left) before (right) after





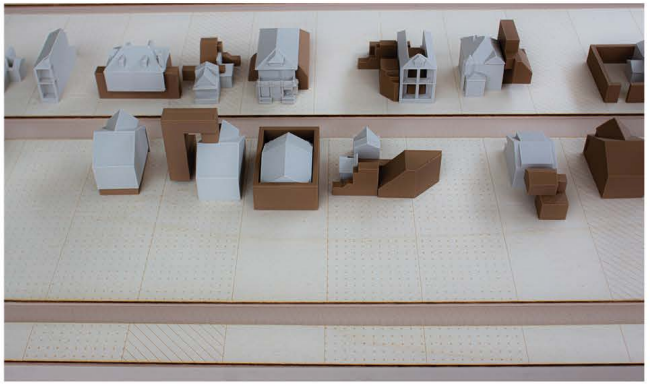
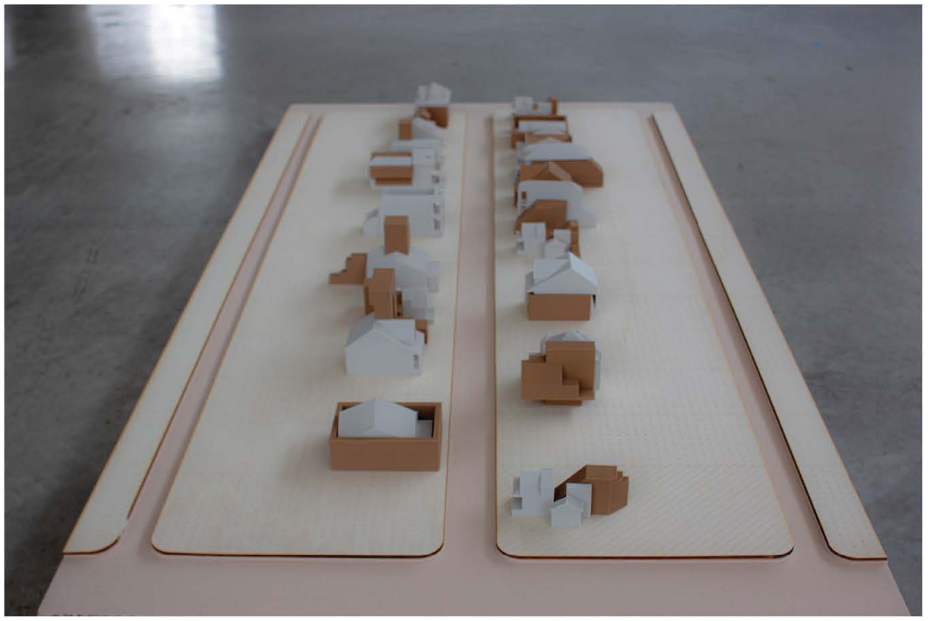


fig 2.8-10 “game board” site model



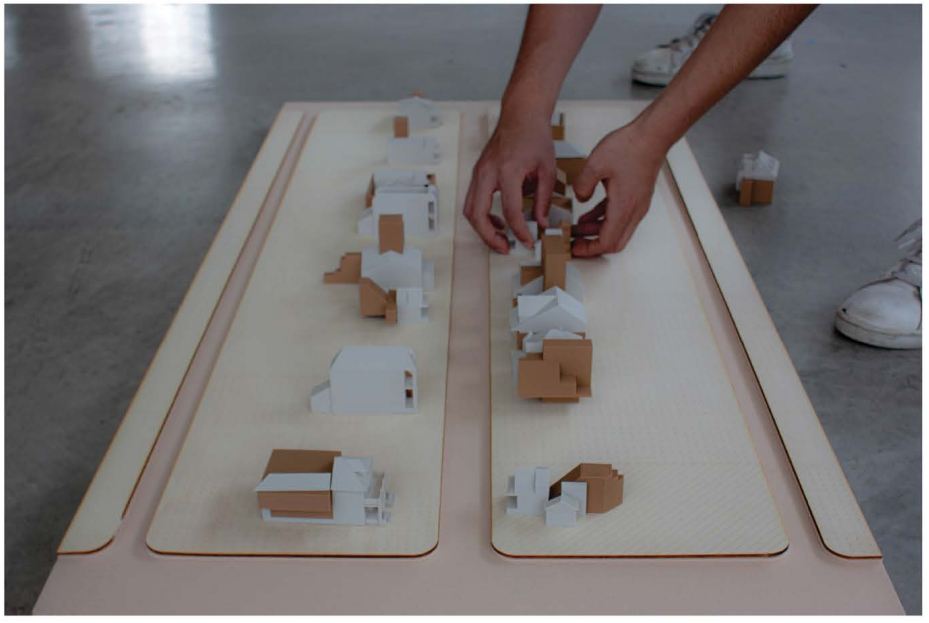


fig 2.11-12 “game board” site model

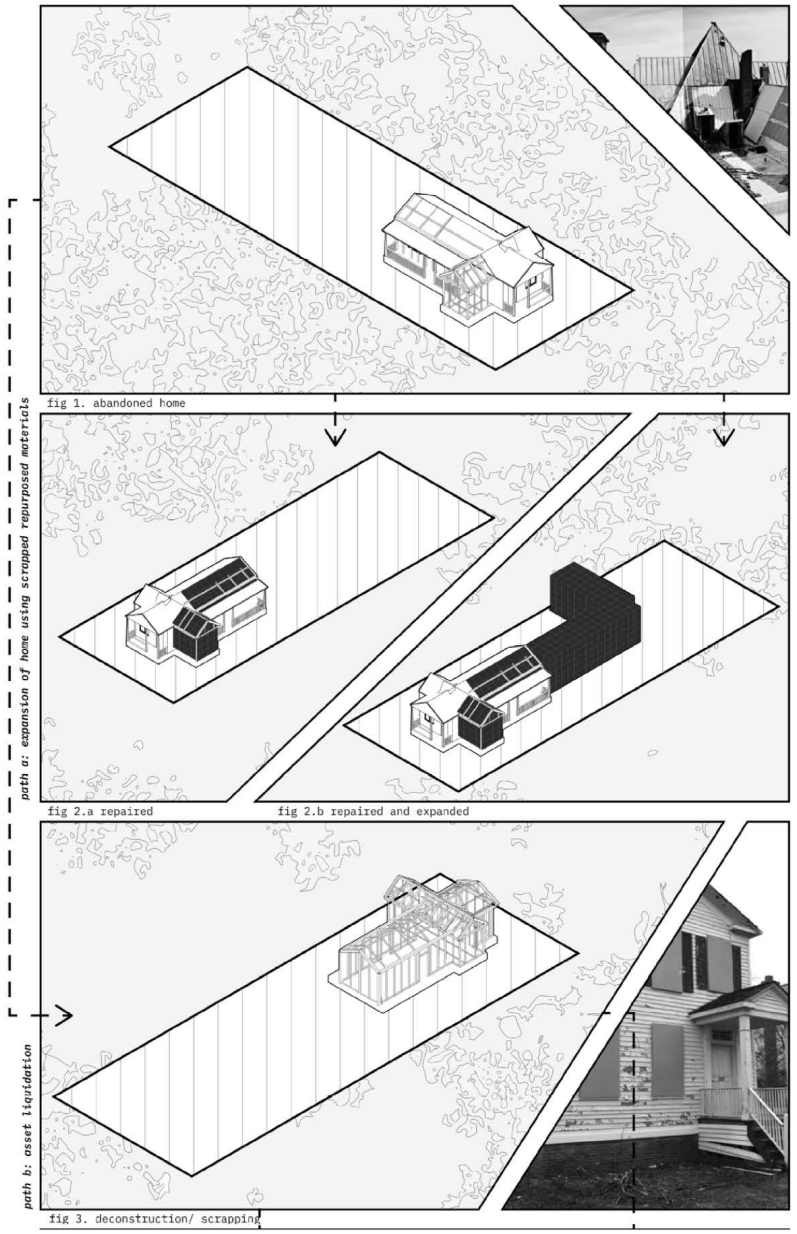
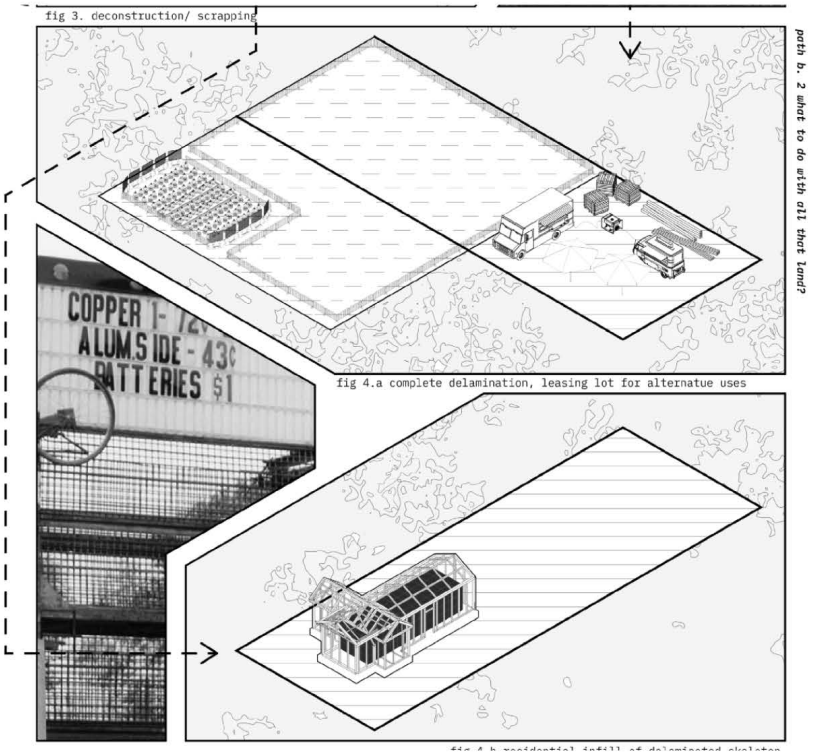


fig 2.13 scrapping+ expansion/ land use posibilities of blighted home



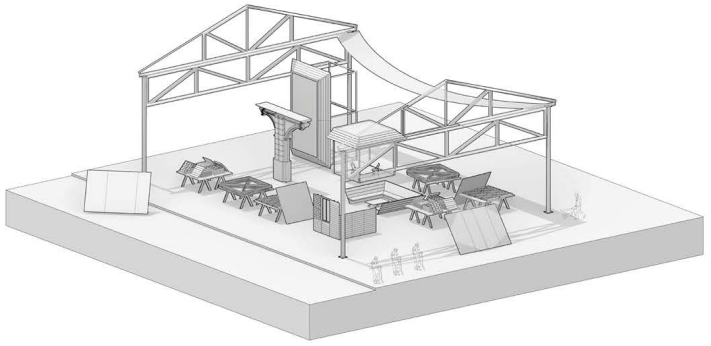


fig 2.14 informal materials market

fig 2.15-17 Romdane family home physical model

fig 2.18-19 squash court home expansion

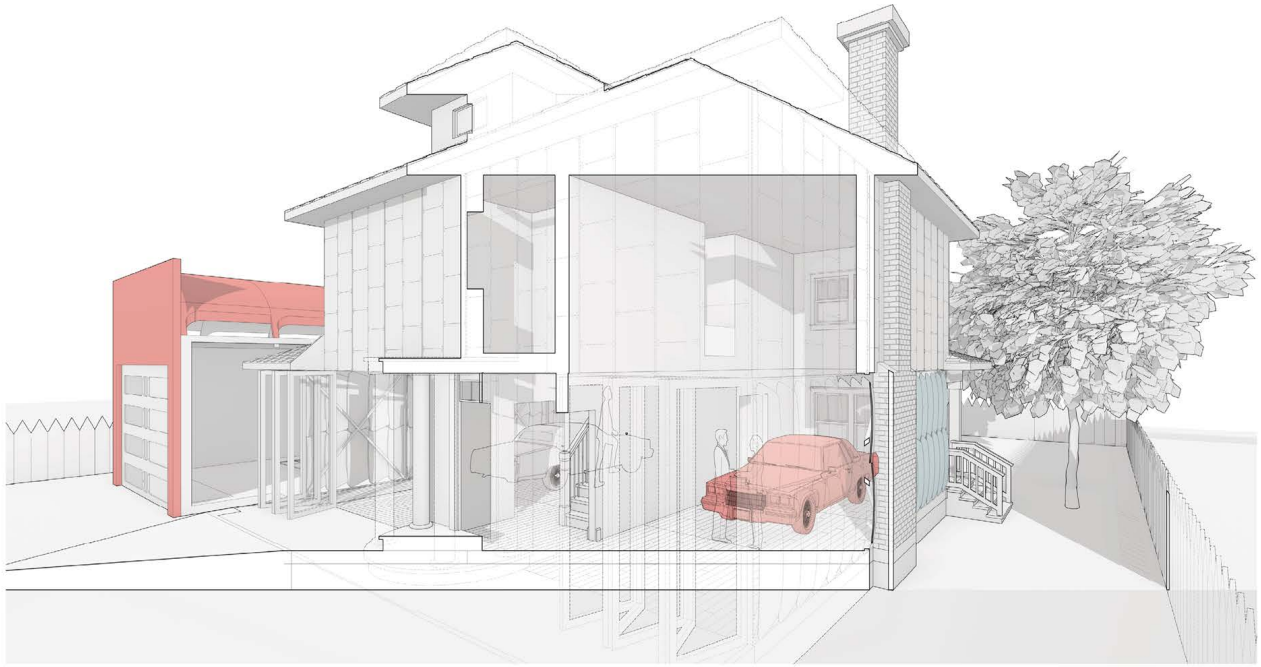
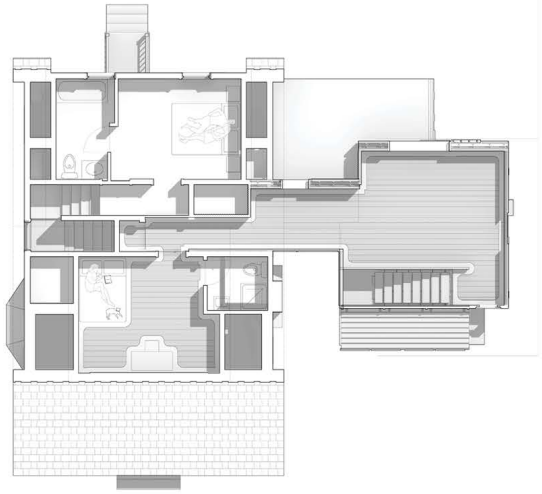


fig 2.20 Brush St Body Shop section

fig 2.22 Stephens' Bed & Breakfast street perspective



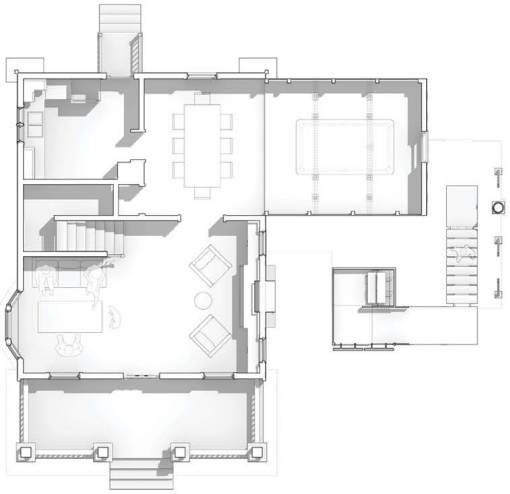


fig 2.21 Romdane Family Home plans

HIGH FINANCIAL CAPITAL

ALREADY OWNS A LARGE ATTRACTIVE HOME IN GREAT CONDITION

HAS THE SKILLS AND UNDERSTANDING ON HOW TO RUN A SMALL BUISNESS

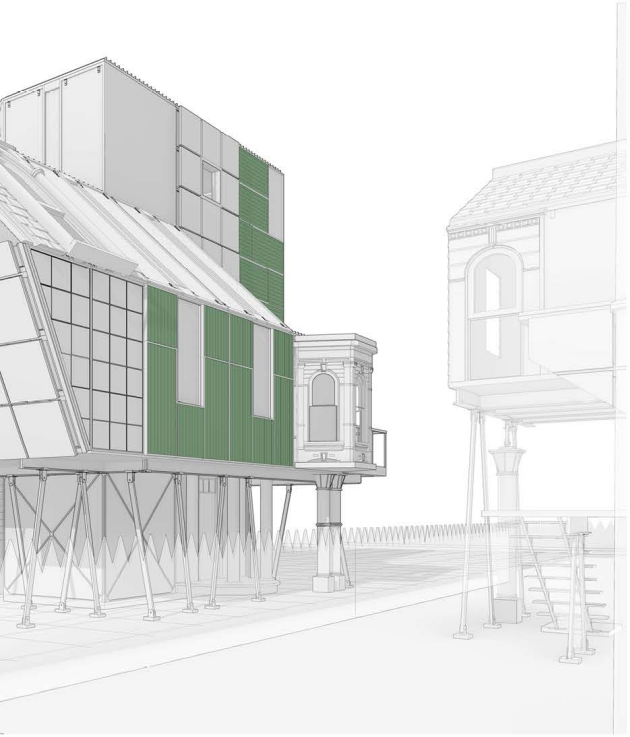
FAMILIAR WITH DETROITS SERIVE AND SMALL BUSINESS SECTOR

PEOPLE PERSON WHO LOVES THE CITY AND ITS RESIDENTS

WILLING AND ABLE TO RISK A MODERATE AMOUNT OF INVESTMENT CAPITAL

BRINGS NEW COMMERCIAL ACTIVITY TO THE CITY THAT IS ACCESSIABLE/ AFFORDABLE TO ITS RESIDENTS

Retired schoo
Friday/ Saturd
transfering here
and its people thr
victorian home and h
use the new land use
hotel as a new semi act
and commercial activity i
new exiting changes happen
people wanting to afforably



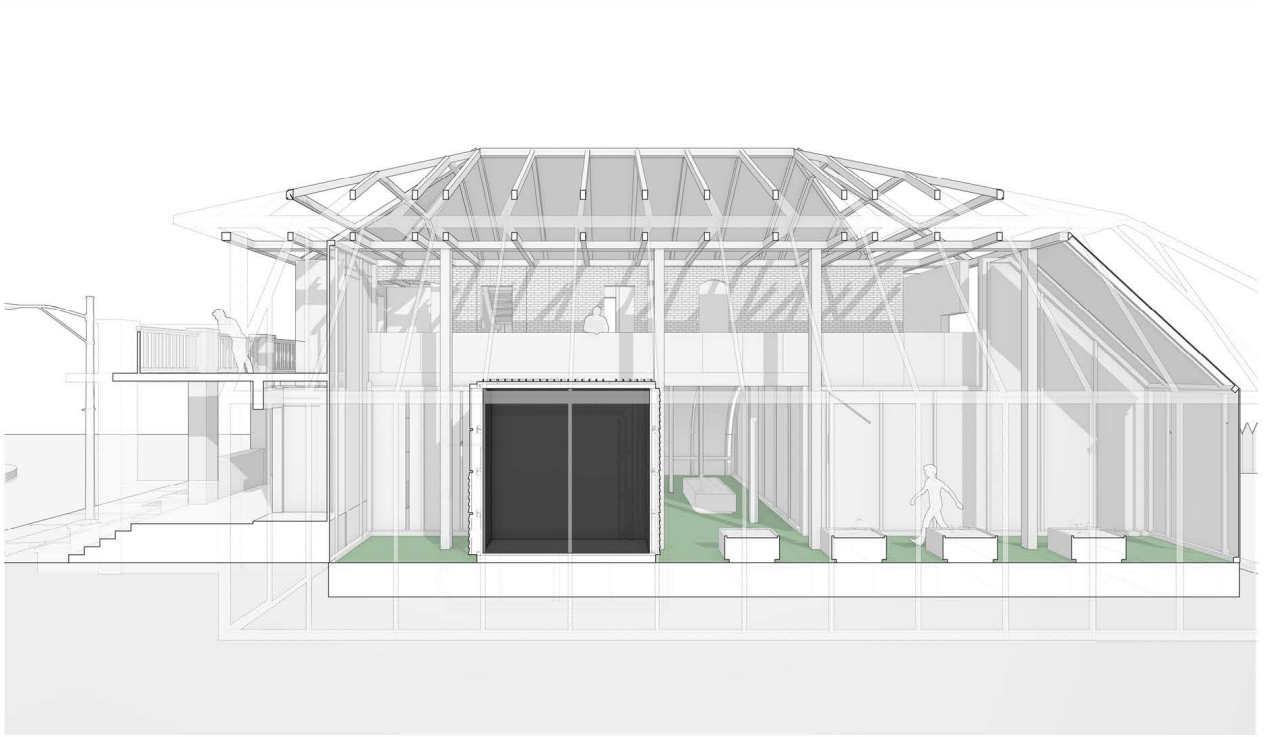
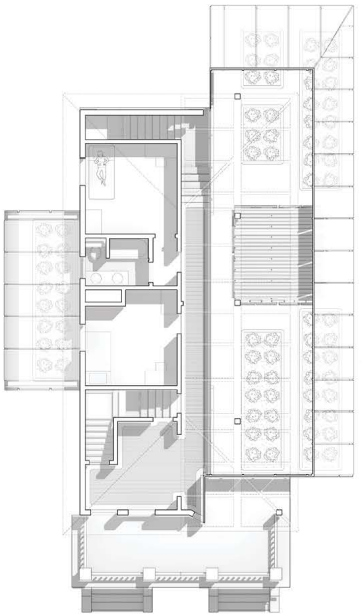


fig 2.23 Coy Home + community greenhouse section

ol teacher and current owner of the Raven Lounge (only open
ay) Tommy Stevens has live in Detroit for 40 years after
to be a public school teacher, falling in love with the city
rough all of its ups and downs. Owning an already spatious
having a good amount of initial capital Tommy has decided to
and zoning laws to affordable expand his home into a 5 unit
ive business venture (just as he likes it). Brining new life
into a previously sparsely populated neighborhood. With the
ing in the cities urban fabric there may be a new market for
visit the new motor city.



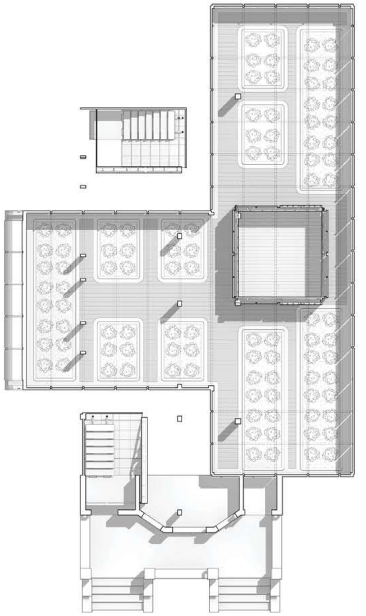


fig 2.24 Coy Home + community greenhouse plans

>PASEO DEL NORTE MEMORIAL + INTERNATIONAL PEDESTRIAN BRIDGE<

In 1917 the United States opened its first controlled border crossing along the southern border between El Paso and Juarez jusiified by the anxietes of the Mexican Revolution, World War 1 and racial mixing. The Paseo Del Norte crossing used misery and humiltation as its deterence to the movement of mexican nationals, creating a mandetory sanitation check point where the scape goat of lice and typhoic were used to force migrants to bathe in karosene, shave their heads, burn their clothing, be coated in pestices, and be subject to random searches of head and genital hair to pass through.

The Paseo Del Norte Memorial and International Pedestrian Brdige is intented to be a space that recons with the forgotton history of the site. Built on the site of the old border crossing (now a parking lot for US Customs and Border Protection's current operation), the complex uses the demoised shed and truss bridge as the main formal inspiration, rececitating in part what has been intentionally buried. Across the complex commemorative marks pay respect to specific moments of brutality and inhumanity in the sites history, such as the jail holocaust which killed 27 mexican nationals, the bath riots that saw the public execution of 3 mexican nationals, or the mysterious disaperences of mexican civil rights leaders in the complexes jail cells. With the history reflected on this site being a trama that is shared between communities seperated by a national border the space is intented to be a shared international complex with access and moments of remebrence on both sides of the rio grade, while also contructing a new conventional international pedestrial bridge that inauspicuiously hangs over the old shed sight as a reminder that much of the same struggles persist.

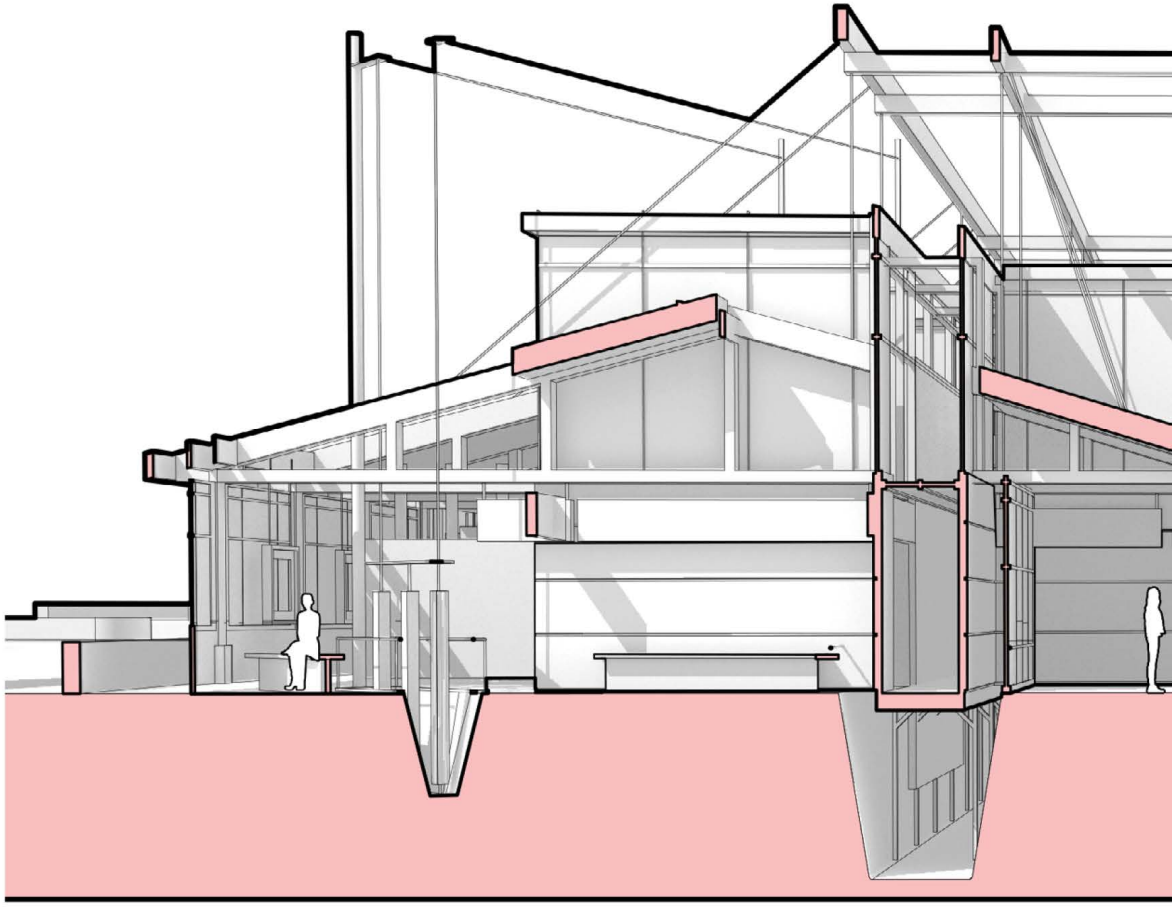
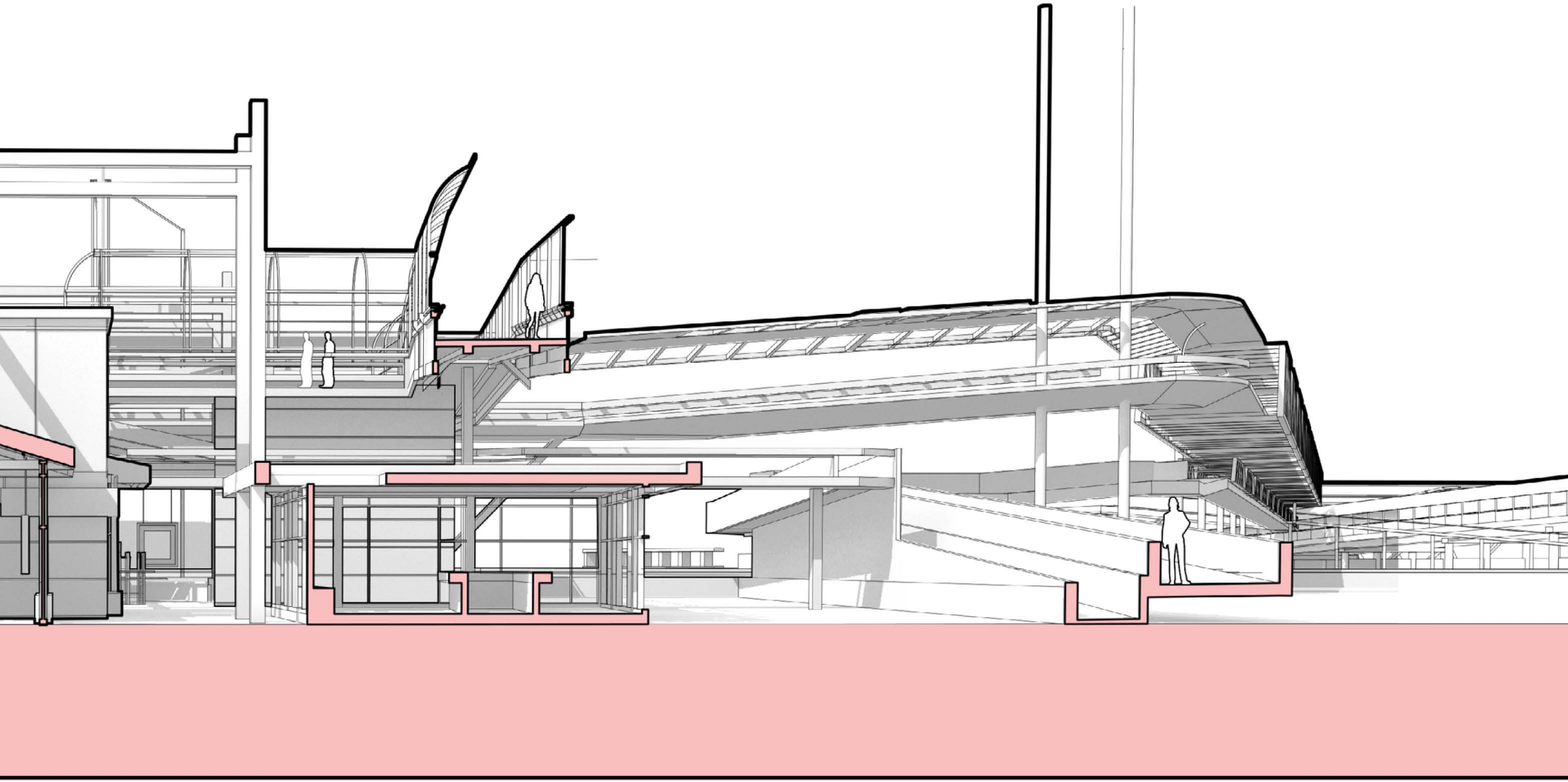


fig 3.1 memorial section



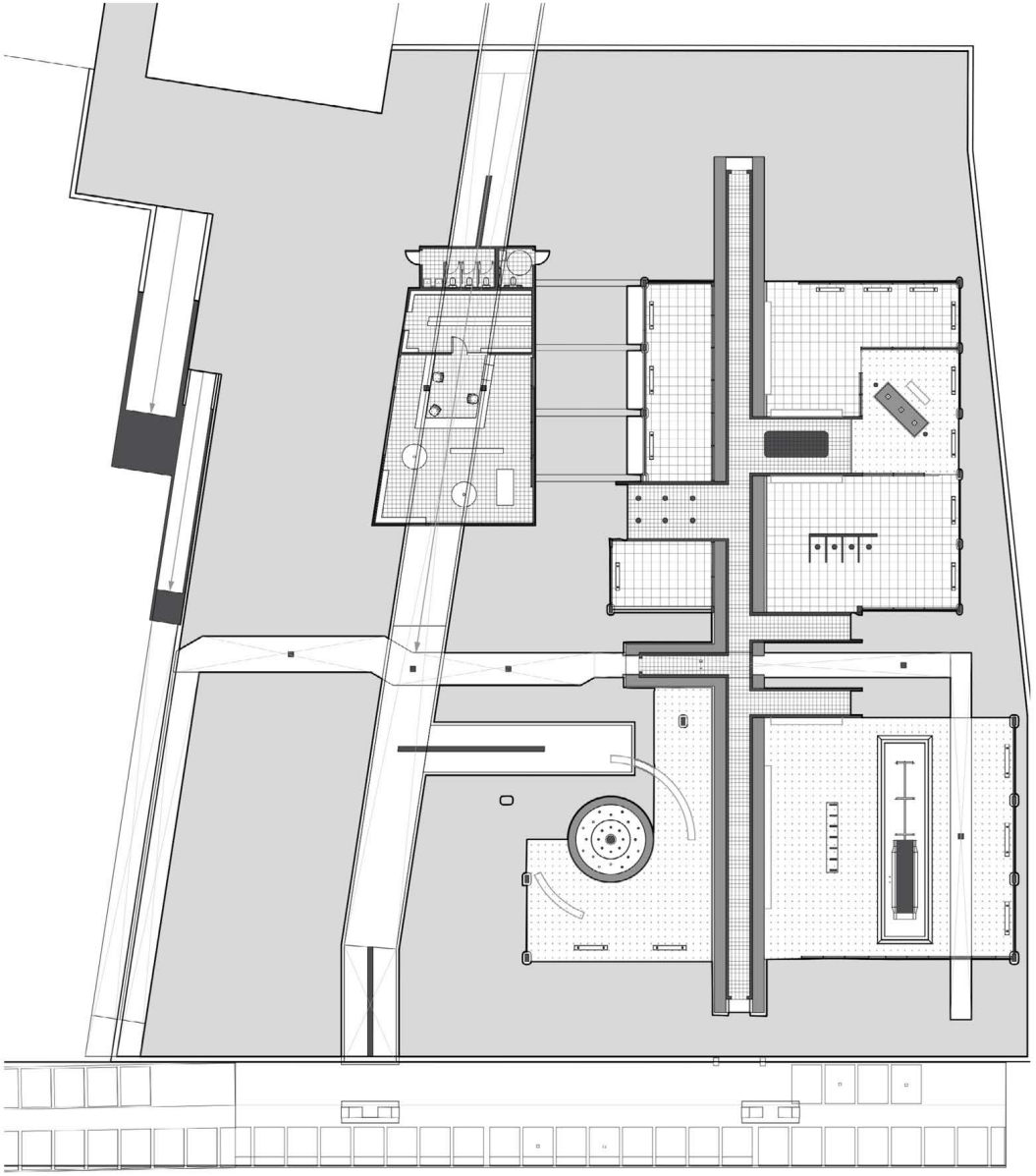


fig 3.2 memorial plan

El Paso

United States

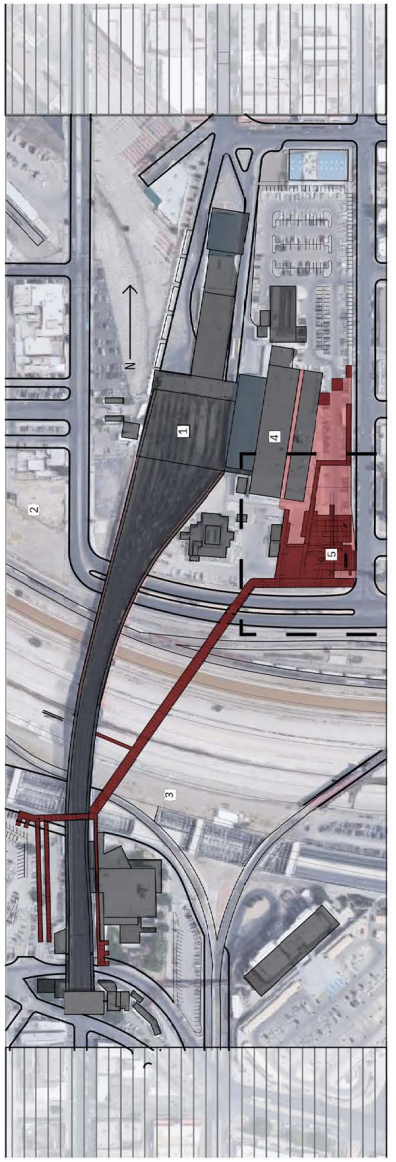


fig 3.2

fig 3.3 site plan

Cuidad Juarez

Mexico

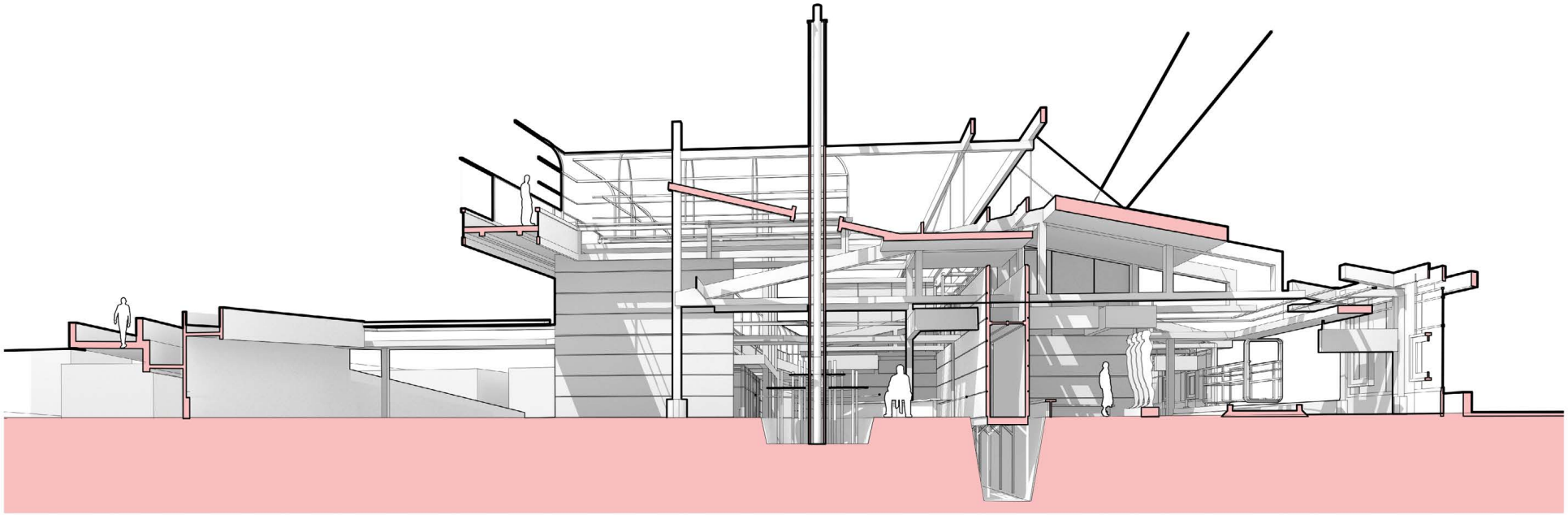


fig 3.4 memorial section

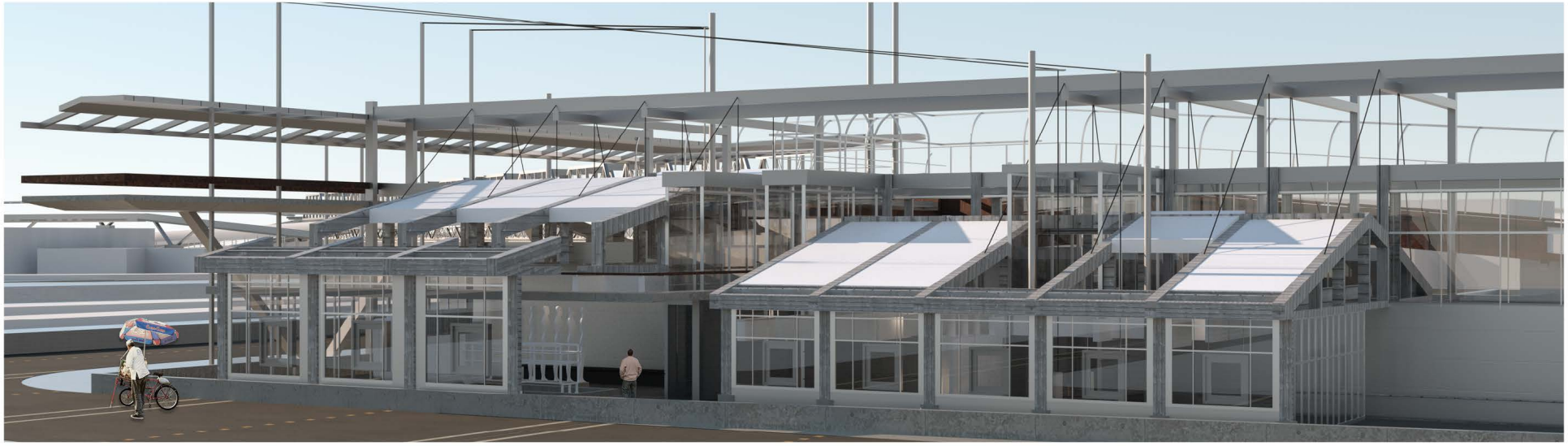


fig 3.5 memorial street render

fig 3.6 memorial complex render

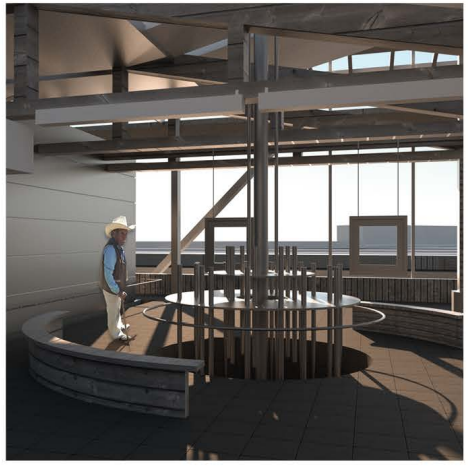
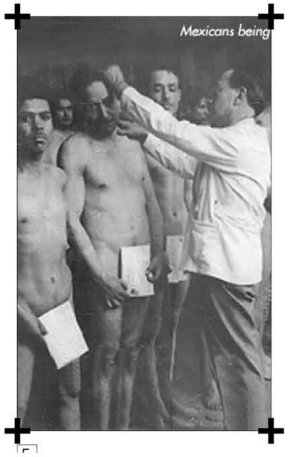


fig 3.7 jail holocaust memorial



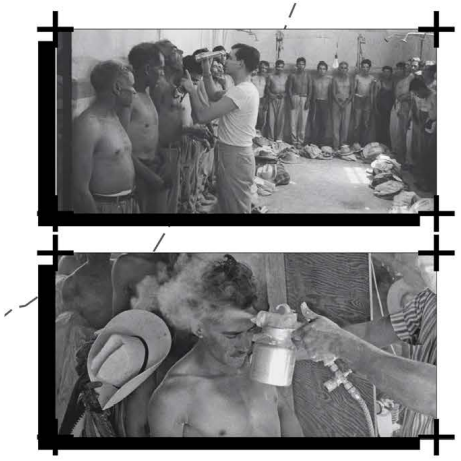
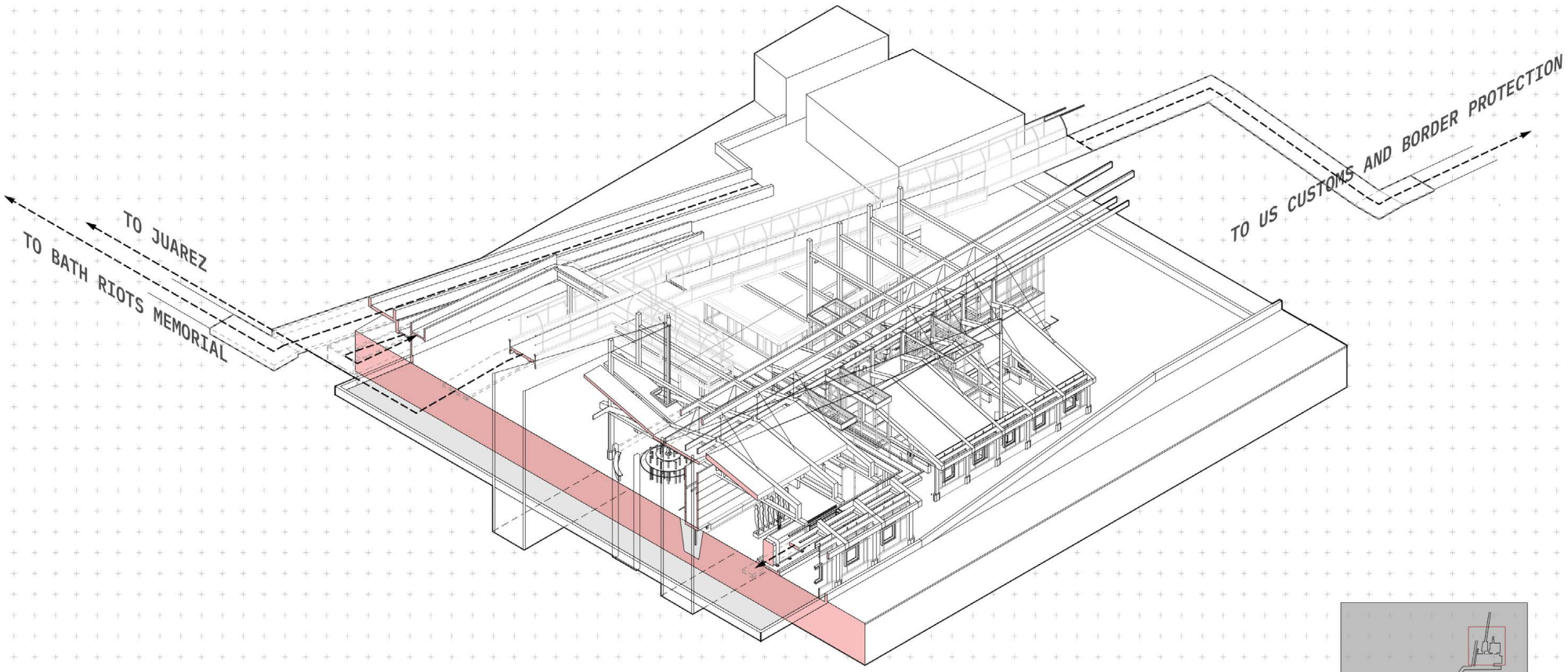


fig 3.8 bath riots memorial



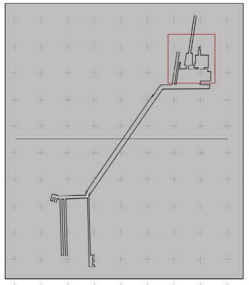


fig 3.9 site circulation diagram

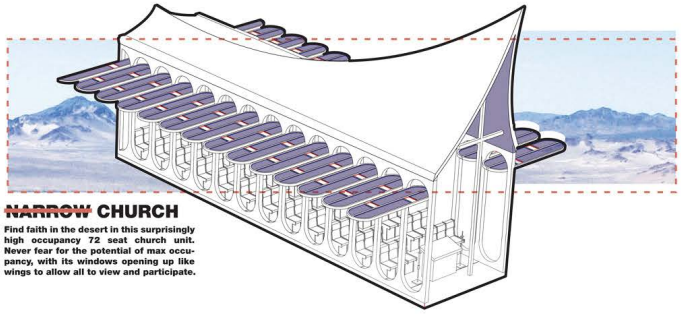
>Nomadic Homestead + Transiet Infrasturcture<

Current rail labor practices leave little opportunity for social/economic mobility. With the requirement to be continually away from home, housing options are reduced to out of pocket motels or undesirable occasionally built cramped dormitory style migratory housing with few basic amenities. The purpose of this proposal is to create a new form of migratory housing with the ability to be rapidly deployed and move along the rail route as its being constructed to allow rail labor to actually own and occupy their own property that has the ability to be to be customized, expanded, constructed, and reconstructed since all components fit within the dimensions of a flat bed rail car.

By creating movable settlements of upwards of 1000 laborers, the opportunity is opened up to have a large private sector presence to provide goods, services, and leisure, while growing the economy in a similar set of truck stop towns, and small rural communities. These, along with other small town infrastructure like post offices, churches, community center, fitness center and the like, create a thriving community that has the ability to function and operate on an impermanent basis in these rail labor based nomatic settlements.

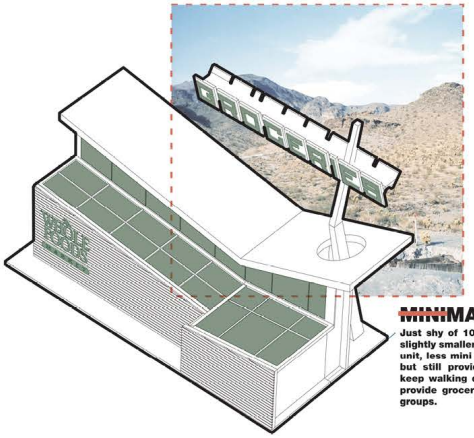
In the long term the purpose of this new labor, and ownership of a portable housing unit system is to build long term equity to the workers even past the date of rail completion. Much like the Homestead Act's of the 1850's and 60's that encouraged settlement of the west and Great Plains in exchange for farming output and construction of a permanent settlement, new high speed rail labor would be placed under a new reverse homestead act, where working for a high speed rail project for a set amount of time would grant the laborer ownership of the housing unit along with land ownership in urban areas near new high speed rail stations, which now have elevated property value. The housing units have the ability to reconstruct themselves into a more vertical form sustainable for urban living.

fig 4.1 colage render



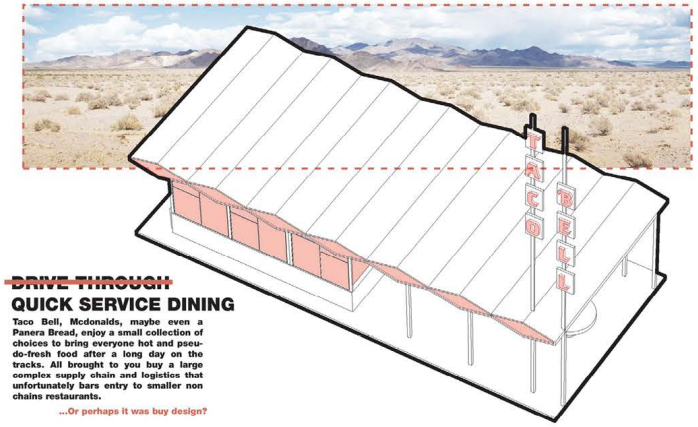
~~NARROW~~ CHURCH

Find faith in the desert in this surprisingly high occupancy 72 seat church unit. Never fear for the potential of max occupancy, with its windows opening up like wings to allow all to view and participate.



~~MINI~~MART

Just shy of 1000 square feet, acts as a slightly smaller counterpart to the market unit, less mini than a convenience store, but still providing the basics. Used to keep walking distance to groceries low/ provide grocery needs for smaller labor groups.



~~DRIVE-THROUGH~~ QUICK SERVICE DINING

Taco Bell, Mcdonalds, maybe even a Panera Bread, enjoy a small collection of choices to bring everyone hot and pseudo-fresh food after a long day on the tracks. All brought to you buy a large complex supply chain and logistics that unfortunately bars entry to smaller non chains restaurants.

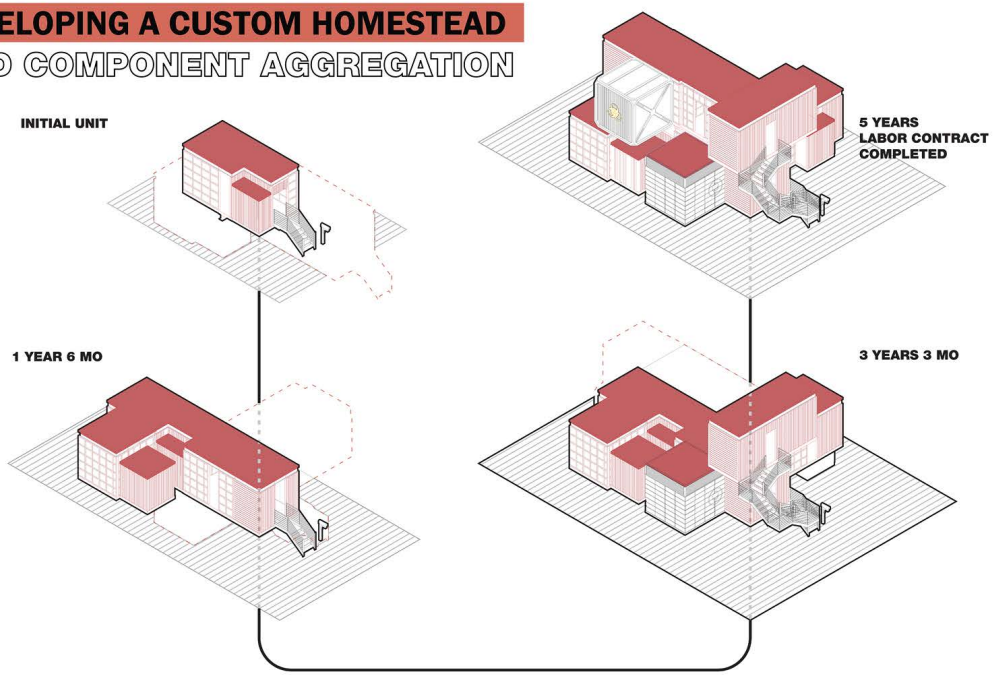
...Or perhaps it was buy design?

DEPLOYABLE SHARED AND COMMERCIAL SPACES

+ COMMUNITY COMPONENTS

DEVELOPING A CUSTOM HOMESTEAD

+ 3D COMPONENT AGGREGATION



Component aggregation is limited by a maxiumum build area to manage spacing between units during construction, as well as after the rail line completion when united are reaggragated to a vertical typology.

Although the laborers are living alone for the durration of their contracts, since this home becomes their own asset, they can add additional bedrooms, bathrooms, and closests as a speculation of their needs down the road, or potentially to maximize resale profits.

DEVELOPING A CUSTOM HOMESTEAD + 2D AGGREGATION

>Columbia University Rowing Facility+ <

For a large majority of it's existence, Columbia University has had an unstable, and unsavory relationship with its immediate neighbors in Harlem. And as Columbia continues to expand its campus and private landholdings in northern Manhattan, many of the area's residents are openly up in arms against the school, labeling it a force of gentrification and displacement that has ruined their communities with the heavy hand of the Ivory Tower caring little about their working class neighboring residents. Perception was a crucial aspect for this extension of Columbia's current athletic complex on the northern tip of Manhattan, and with current political pushback against the now being constructed Manhattaniville campus extension close buy reaching a boiling point, designing a new rowing athletic complex that would be seen as a net positive for the community was the key driving factor.

Being asked to implement a public program of our choosing with excess space left on the site, the decision was made to add Pre-k for all school, a newly established public education program that had no presence in the immediate area, and provides direct to the working class families of the community while being relevant to columbia as an educational institution.

The organization of the project is founded on the concept of extending components surrounding the site directly into the project as a symbolic gesture for the complex being open, acessiable, and for the public, with a canal injecting itself into the center of the project, and earth from the hill behind spilling into the accessiable roof. Interior organization is splitinto two distinct circulation and structural systems to keep both the spaces for the rowing athletes and pre-school attendees in constant near contanct and dependence but never direct access. Most rowing facility components are suspended on large tension masts placed on monents where both program functions intersect, while pre-school classrooms and auxiliary components are placed on raised/leveled earth in a tradtional compression structure. The facade of the project is composed of mirror coated metal cladding and glass to project its transparency and reflection of the surrounding site in various manners.

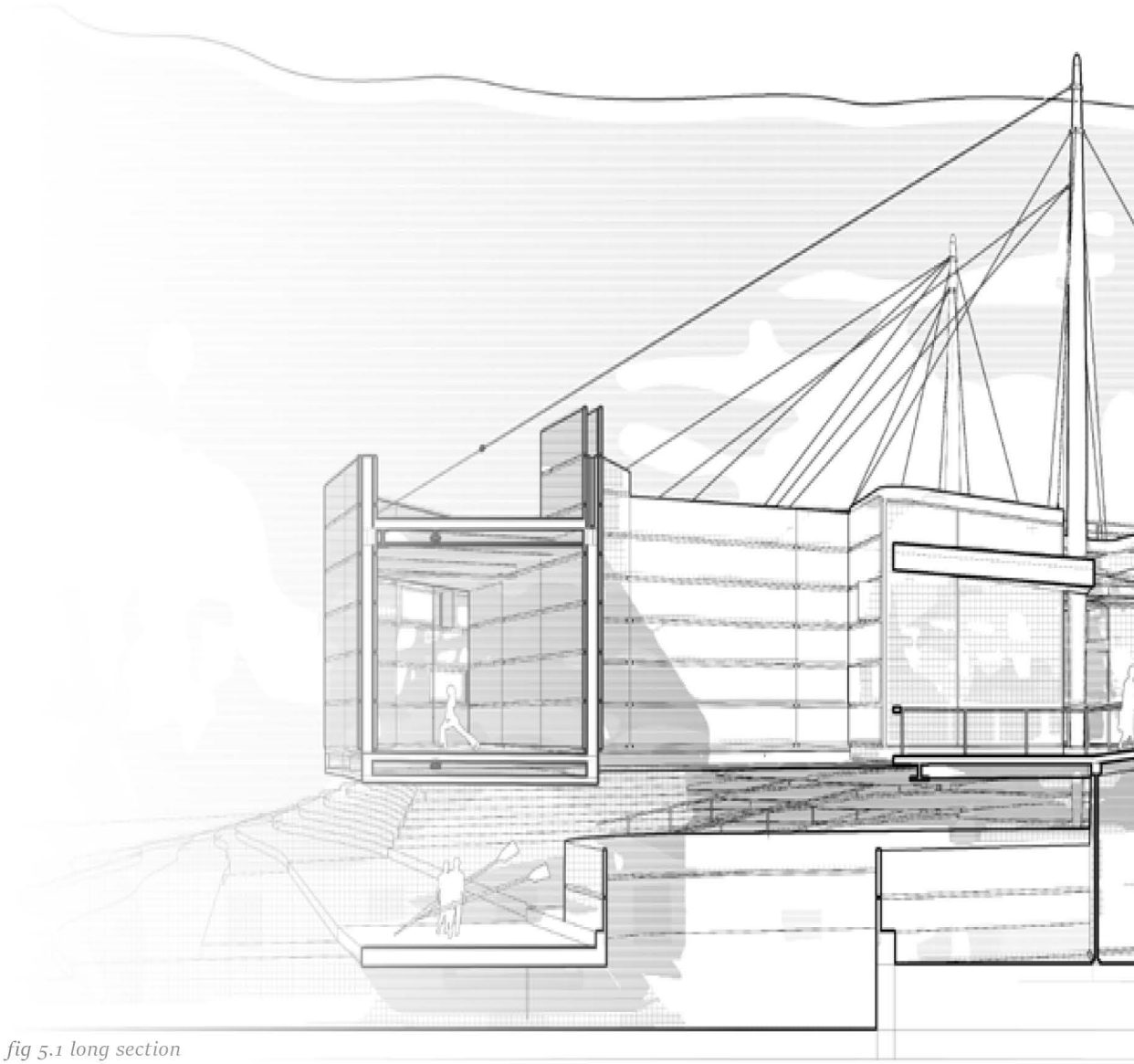
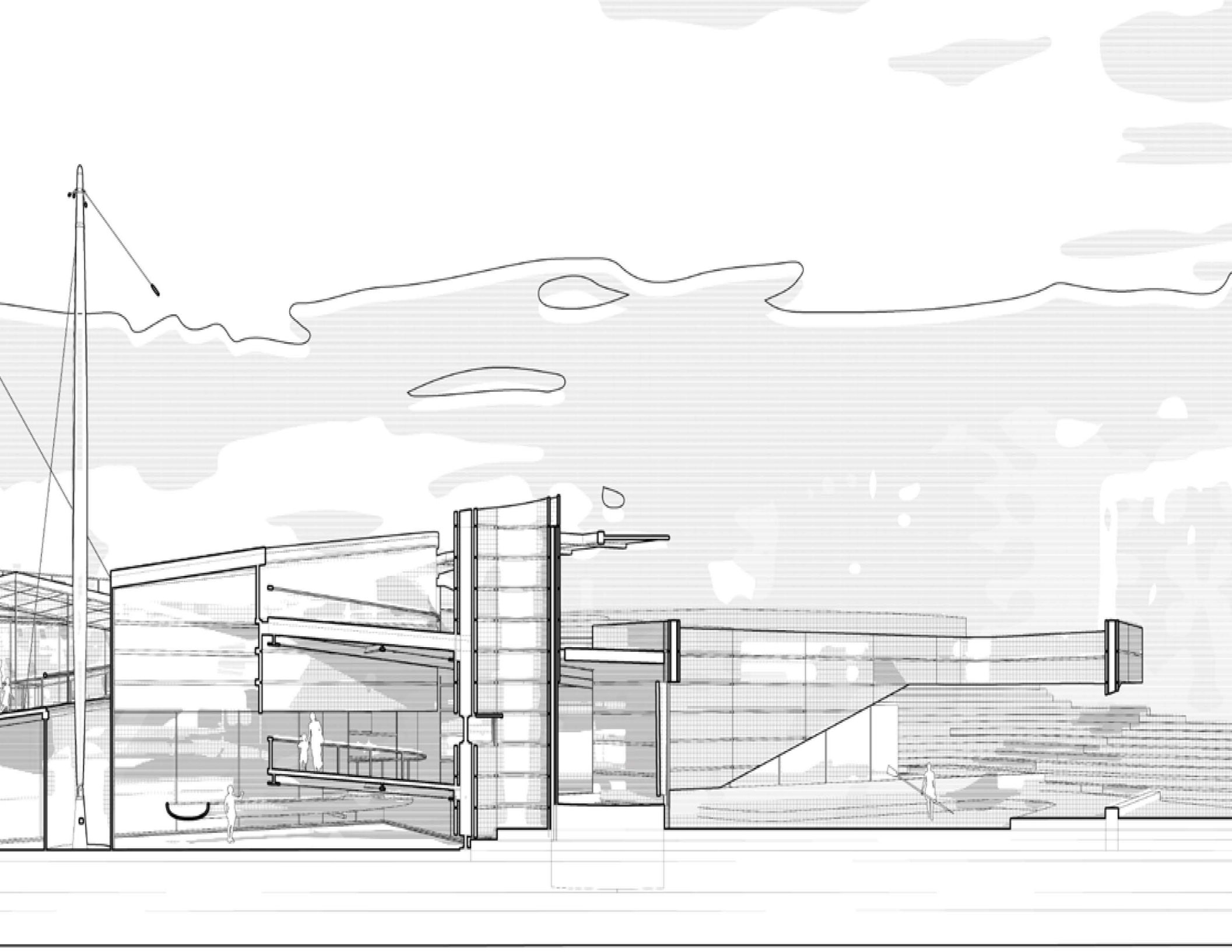


fig 5.1 long section



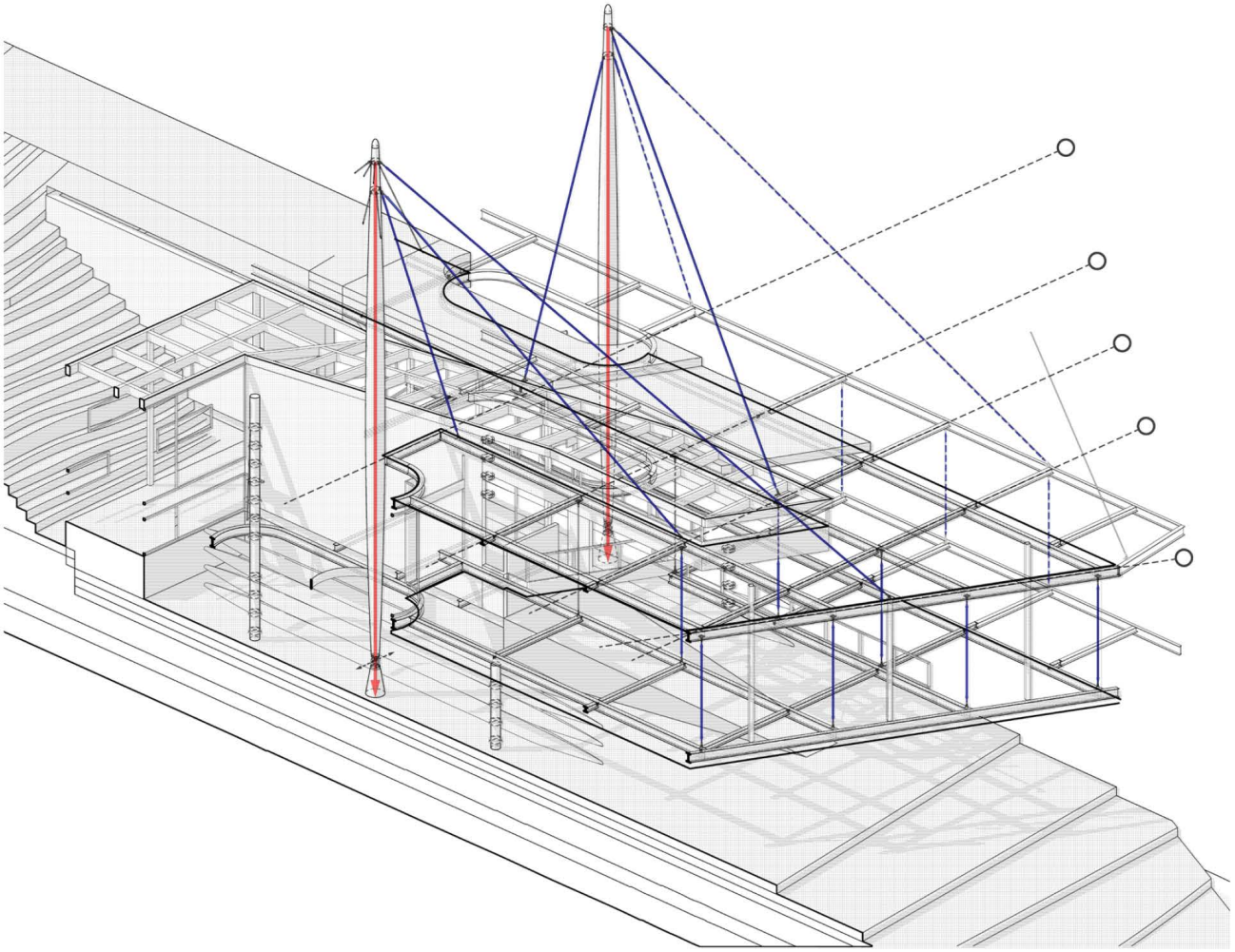


fig 5.2 structure diagram

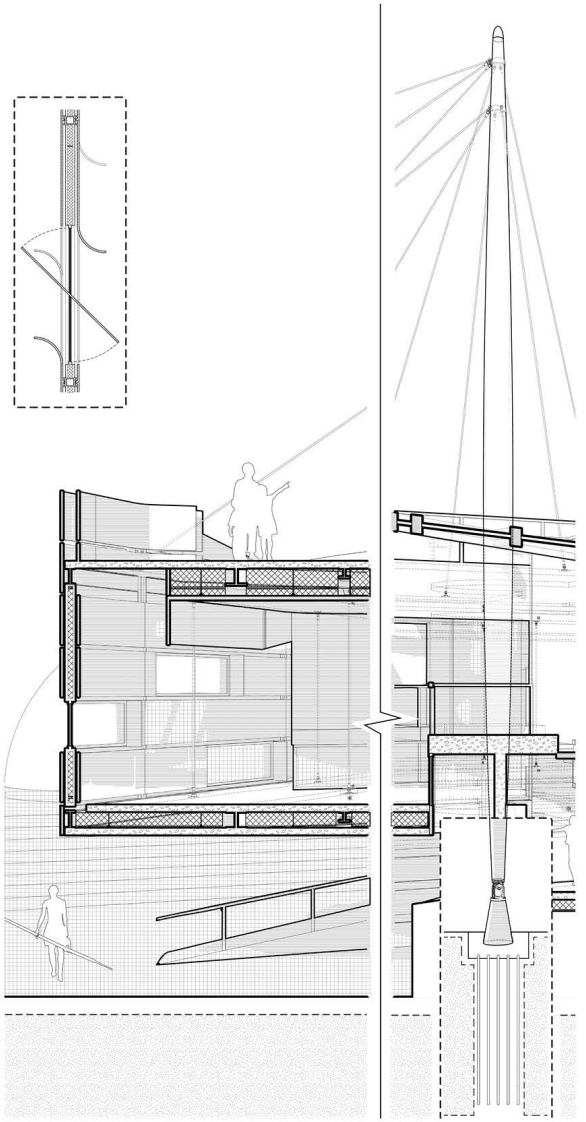


fig 5.3 detail section

fig 5.4 detail vignettes

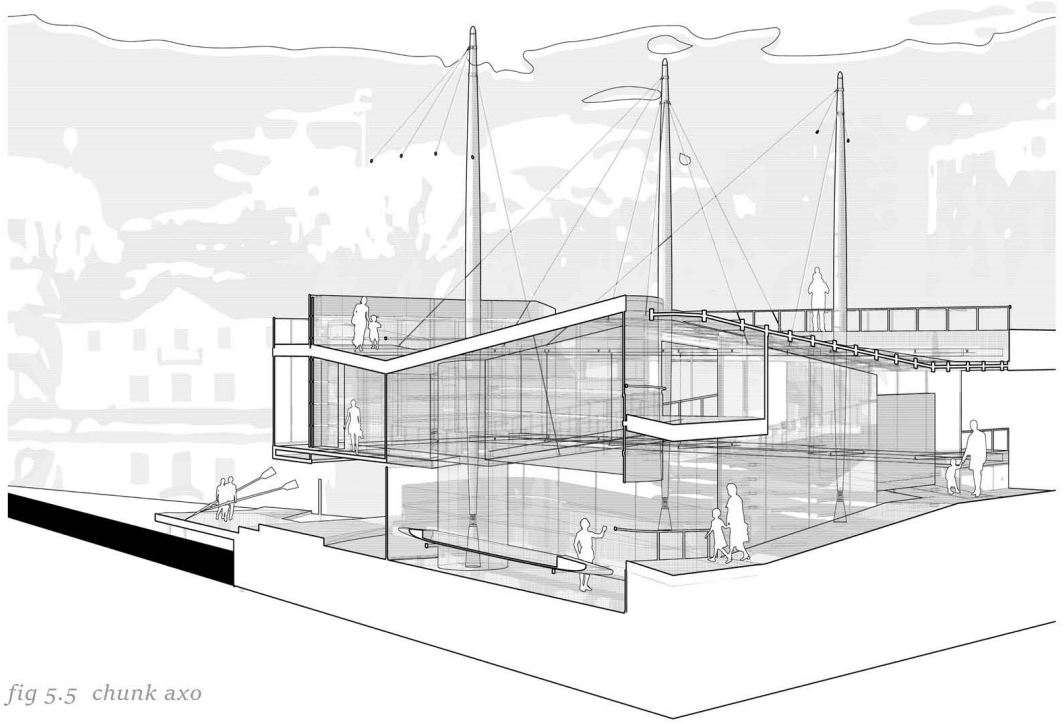


fig 5.5 chunk axo

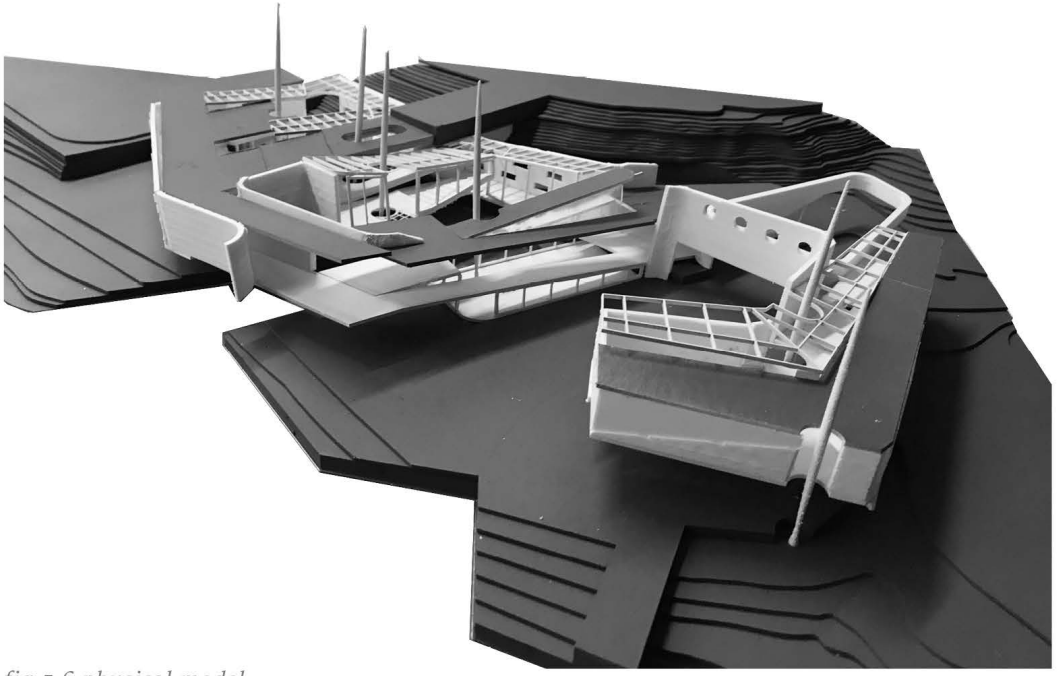


fig 5.6 physical model

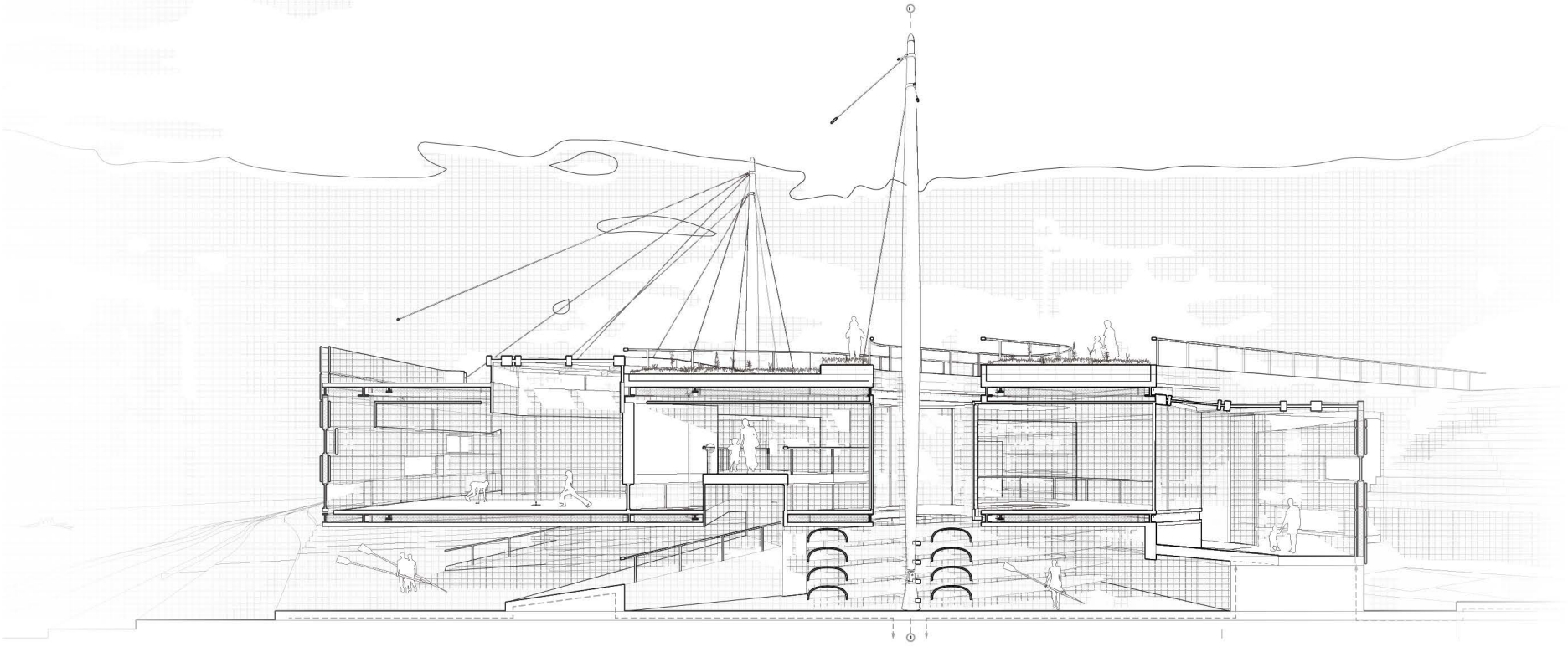
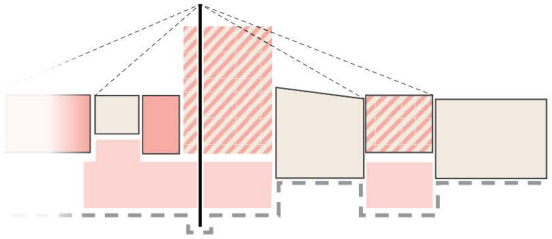


fig 5.7 long section



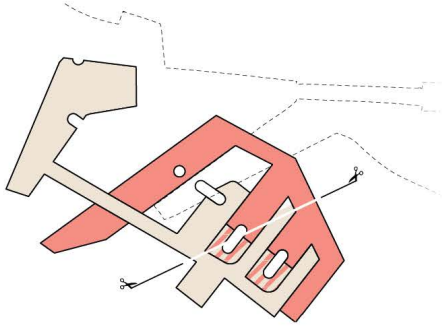


fig 5.8-9 program and structure diagram
beige= pre-k + community rowhouse
pink= rowhouse

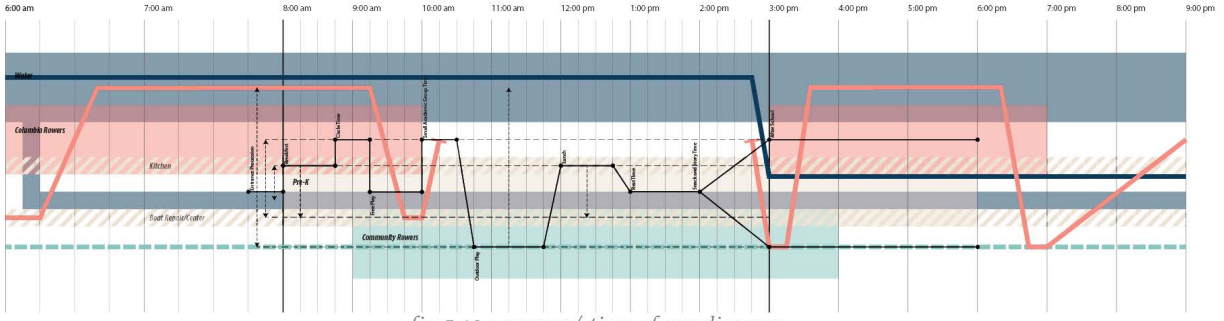


fig 5.10 program/ time of use digaram

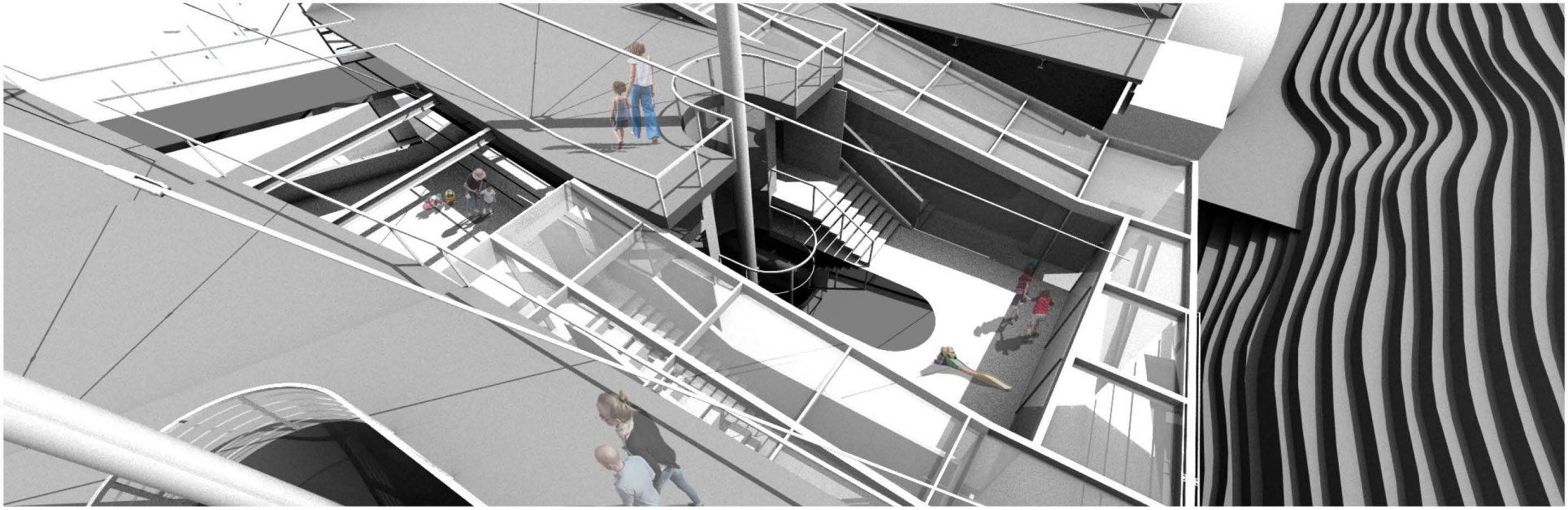


fig 5.11 rooftop render

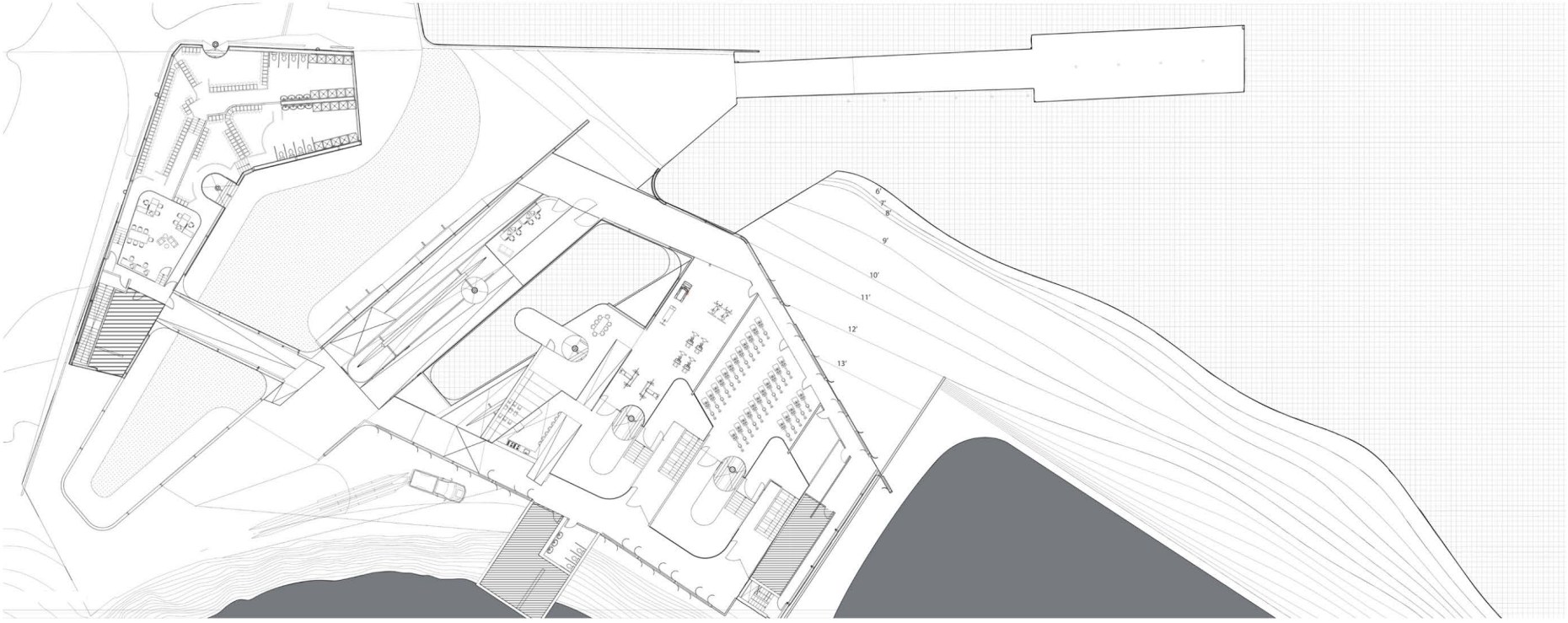


fig 5.12 upper floor plan

>Machine Living
St. Francis Dormitory<

Located adjacent to the Brooklyn waterfront, with the site in the shadows of the Brooklyn Bridge, but being owned and operated by St. Francis College, the 150 bed dormitory proposal allows for a rare opportunity to cross pollinate ideas of urban, student, and religious living contexts. The site itself contains a pre-existing building that is protected under NYC Landmark Preservation committee, but still available for use.

The final proposal of the building was intended to create dense, communal living for freshman residents, creating clustered, tower like stacks of dorm units all arrayed around shared kitchen and living spaces in their centers. Organization is based on standardized joint that creates a repeating grid structure allowing for pre fabrication, and flexible re organization and customizability due to standard parts. Each floor is unique in its layout, and each layout has some varying amount of density, amenities, and shared spaces allowing each space to feel personable to that small community while retaining some sense of individuality.

Due to the density of the dorm units, much of the rest of the site, including the existing building, is utilized for publicly accessible social programs that align with traditional catholic altruistic ideology, with the dorm housing a small chapel at its center, along with a food bank, needle exchange, volunteer center, and give/take library. The ground floor is left nearly untouched allowing for it to act as a public courtyard space that extends itself to the busy and highly trafficked Brooklyn Bridge Park, and surrounding, heavily foot trafficed and tourist dense neighborhood.

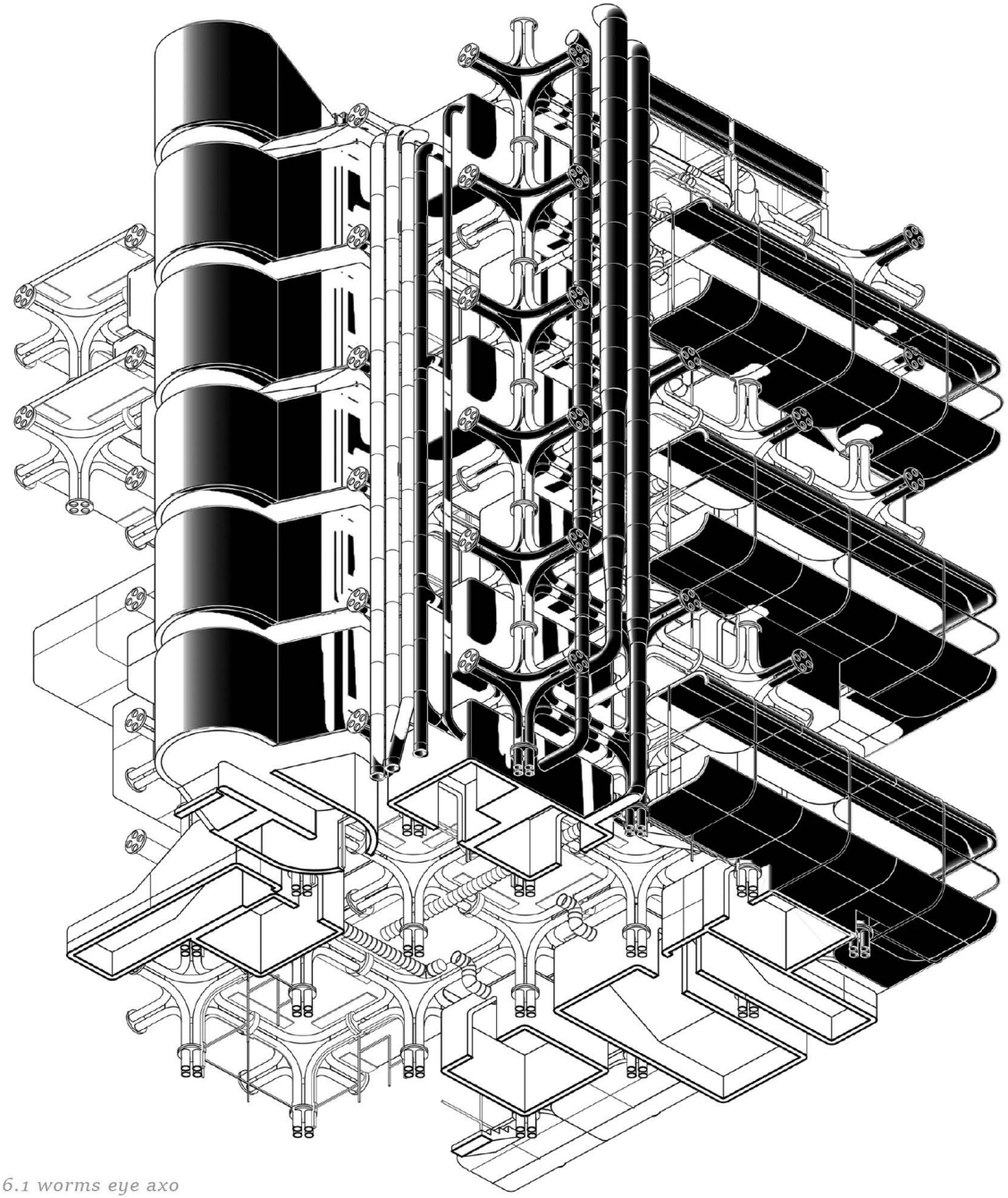


fig 6.1 worms eye axo

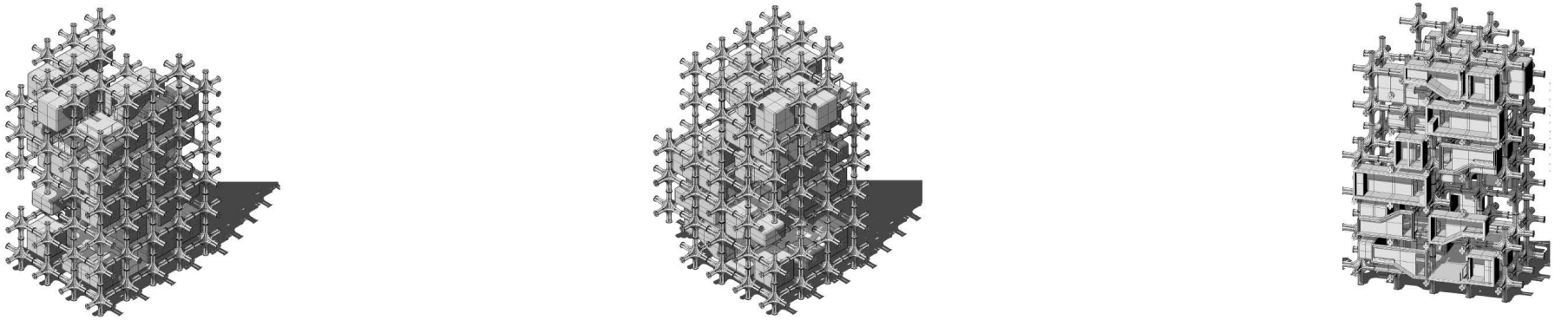


fig 6.2 structure/ room aggregtions

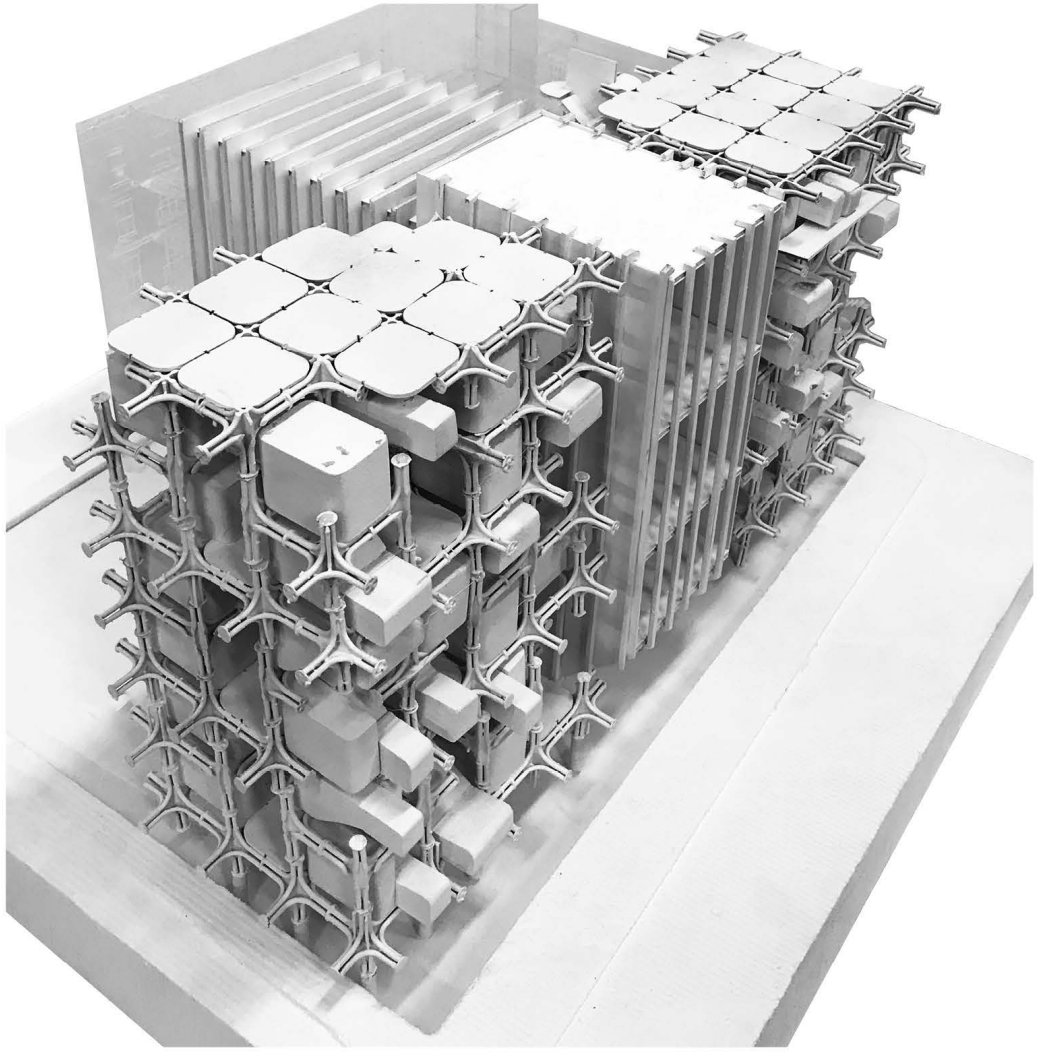


fig 6.3 phyisical model

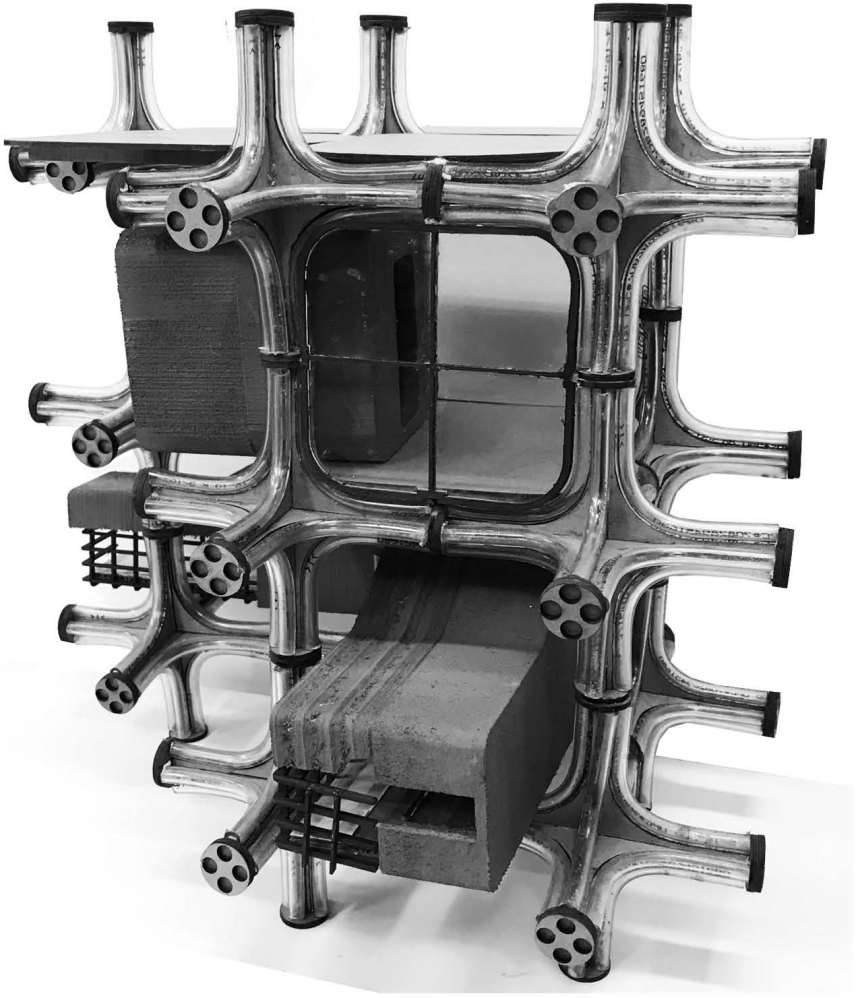


fig 6.4 detail chunk model

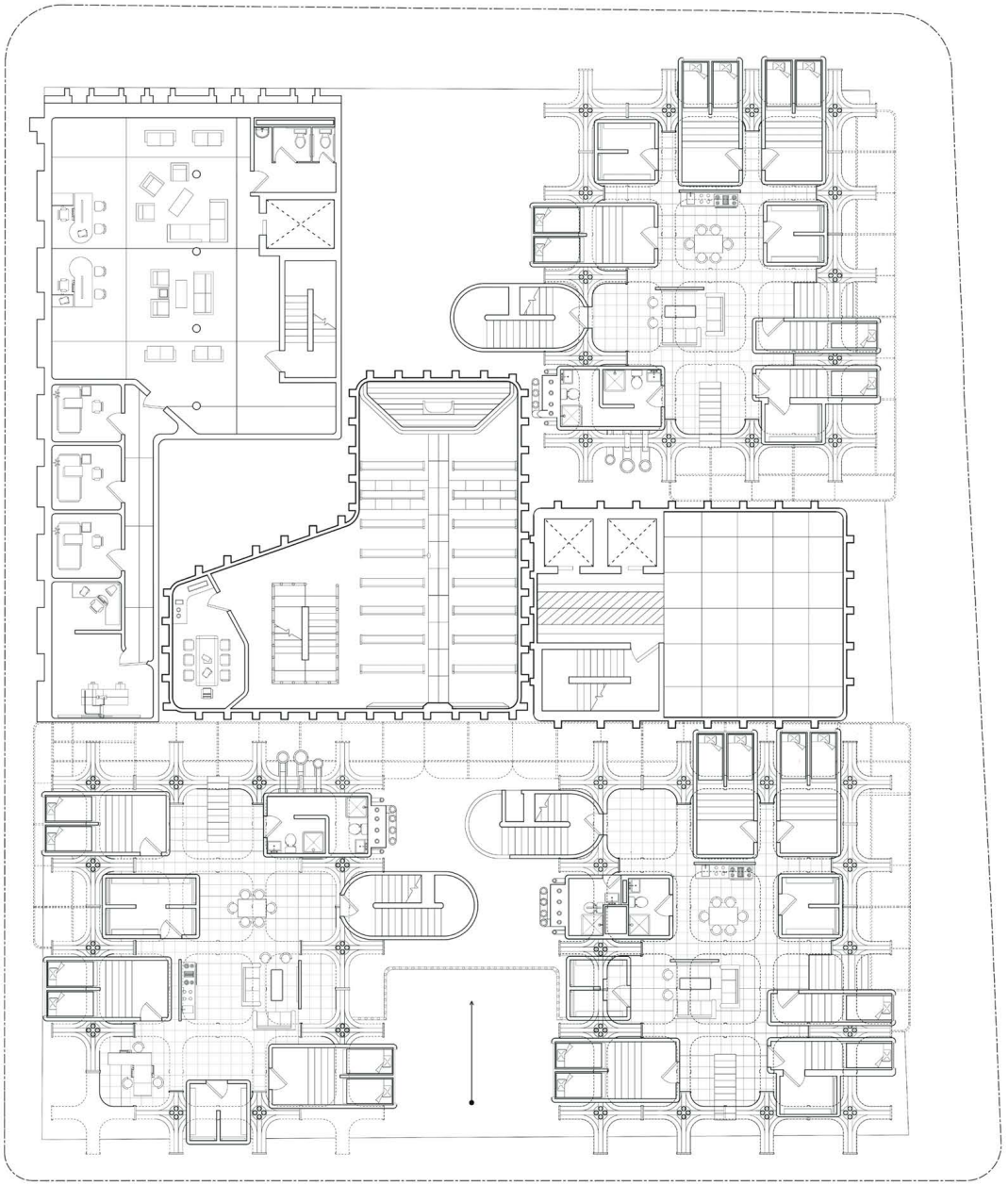


fig 6.4 floor plan 4

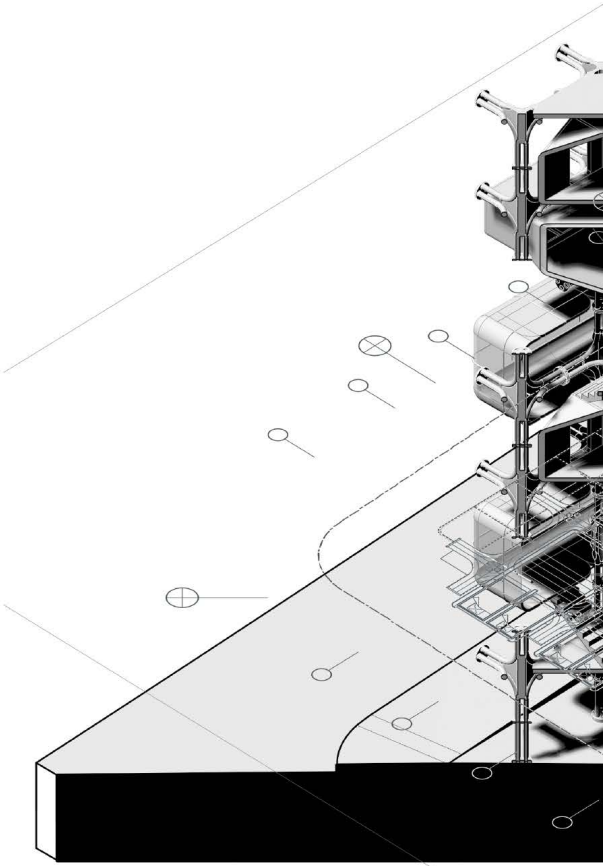
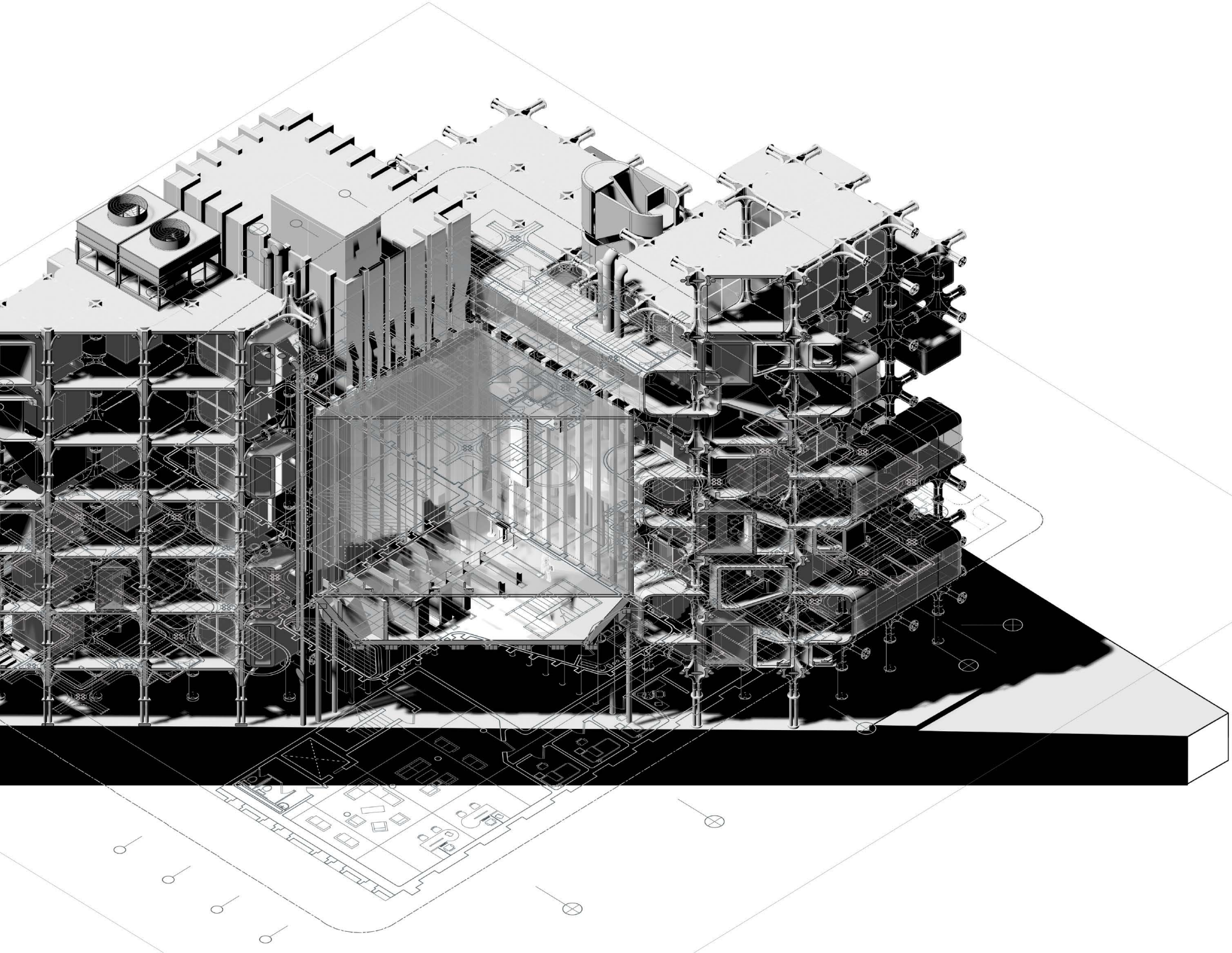


fig 6.5 axo section



>Solar Sculpting: High Energy Building Forms<

This studio will investigated the relationship between the building shape and energy performance in a mid-rise block scale housing prototype in NYC. Resolution of the building form and surfaces including setbacks, cantilevers, cavities, and slanted faces. The eventual goal was to differentiate between areas of the envelope that are suitable for solar collectors, opaque cladding, shading devices, patios and openings for natural light and ventilation. My approach was to investigate staggered, overhang intensive massing strategies that combined stepping patterns along with elongated and intersecting profile extrusions to create a collection of bar building typology formations.

All decisions were guided by a desire to create distinct stepping back portions of the building mass that could focus on solar capture, and overhung portions intended to create shaded spaces and balconies that could allow for easier cross ventilation and less energy consumption. Through constant testing and feedback through radiation analysis and various massing strategies, combined with FAR measurements, interior daylighting conditions, open space ratio, and radiation/ floor area eventually yielded more efficient block scale building masses.

The Façade portion of the project is intended to be a cage like, double skin façade structure that allows for an active outdoor balcony experience. Solar panels are arrayed along the cage in various densities that is reflective of the amount of solar radiation hitting the surface, with high amounts resulting in a high density of panels, and low amounts of radiation being lower density, allowing more light to enter in, and visibility outward. The system could be seen as a secondary shield system that wraps and protects the massing at its hottest portions, and collecting more than enough energy to power the residents based on standard energy consumption rates. Bellow the pv panel façade, glazing ratios are also reflective of radiation, with the coolest and hottest portions of the building having the least amount of glazing for heat retention and heat prevention efficiency.

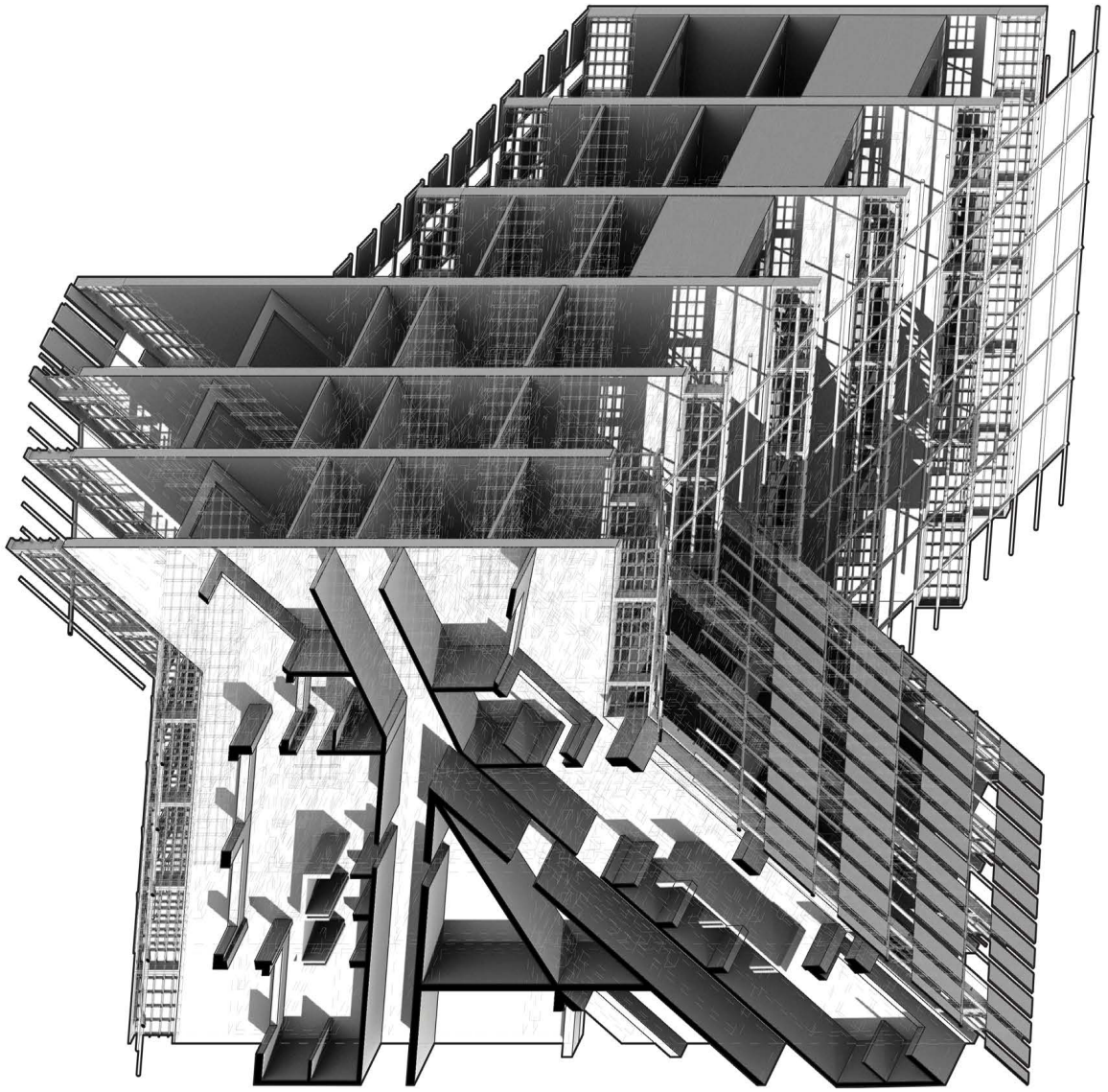
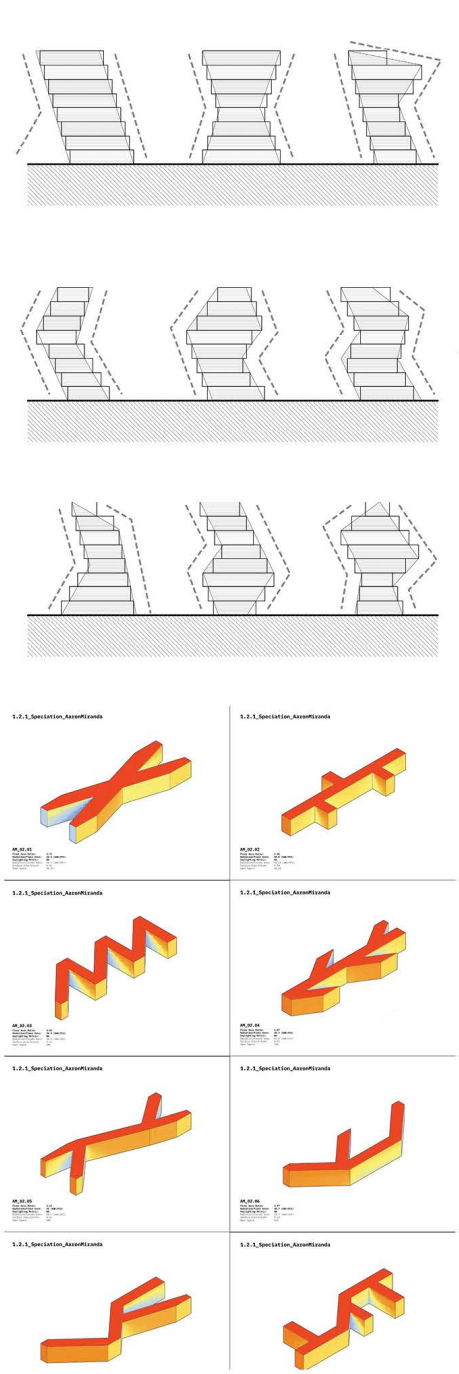
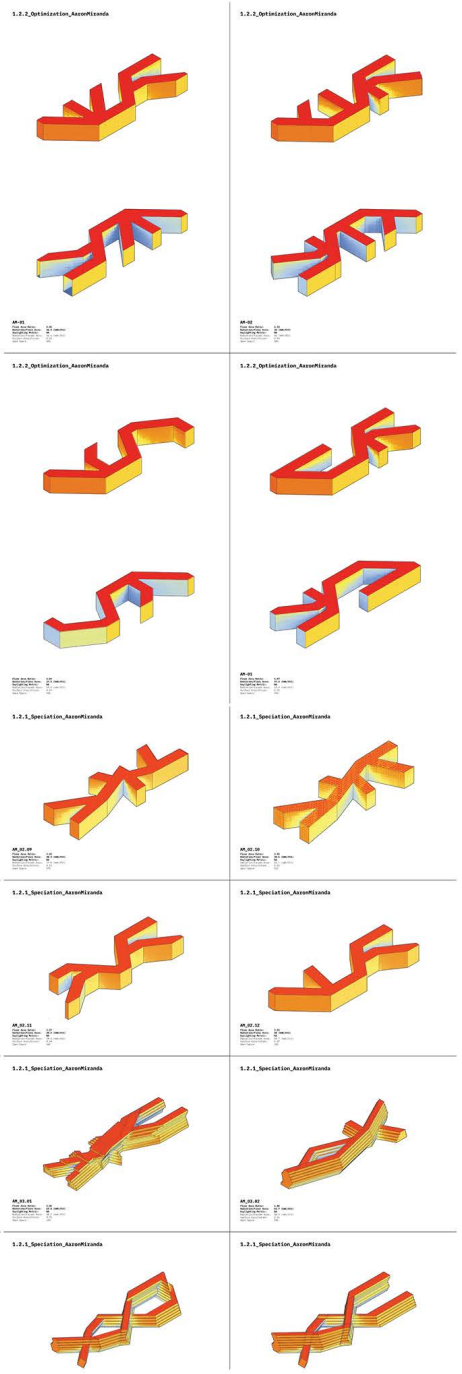


fig 7.1 worms eye axo





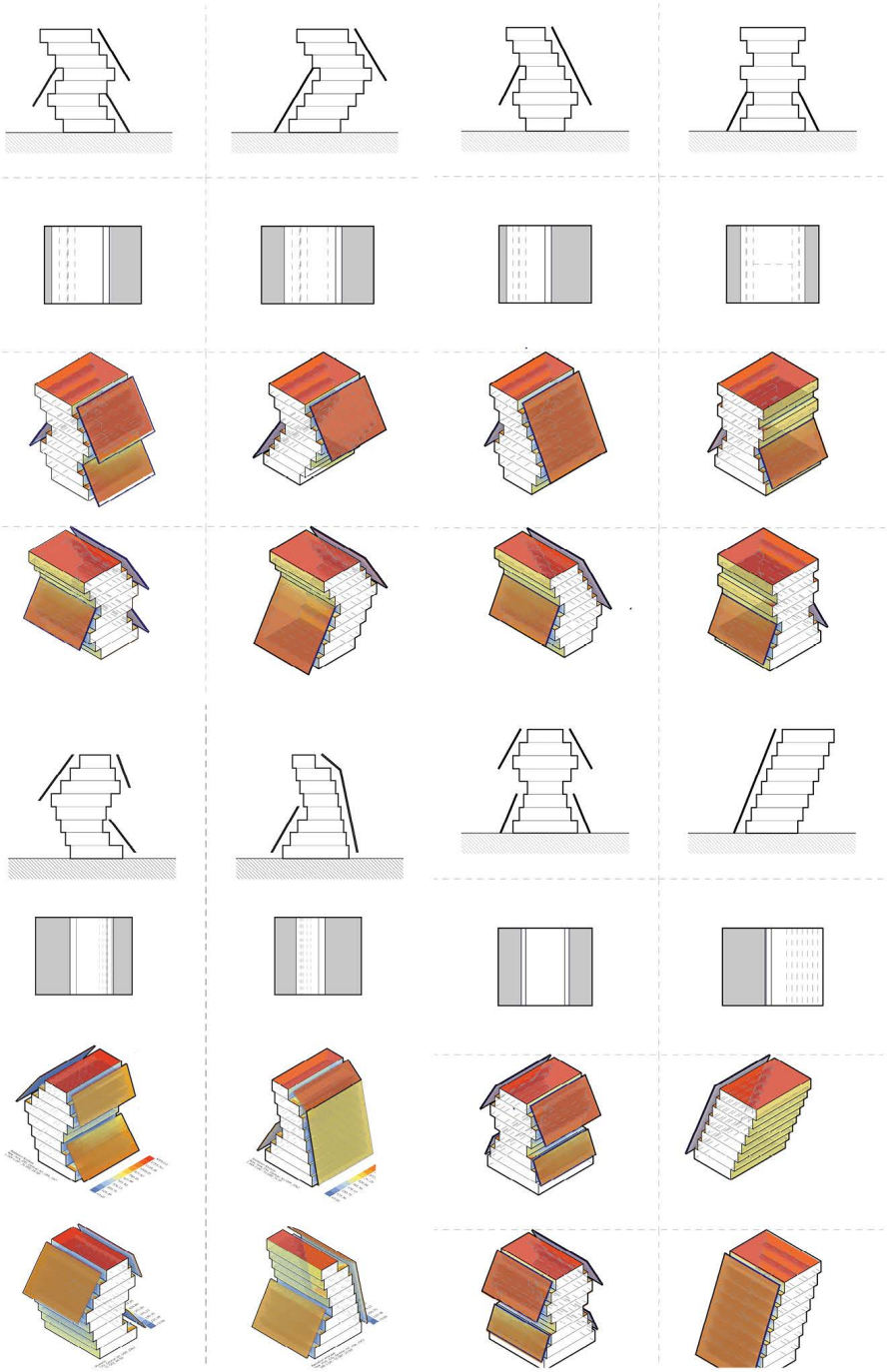


fig 7.2 (top left) stepping aggregations

fig 7.3-5 block scale radiation analysis

fig 7.6-9 stepping aggregations radiation analysis

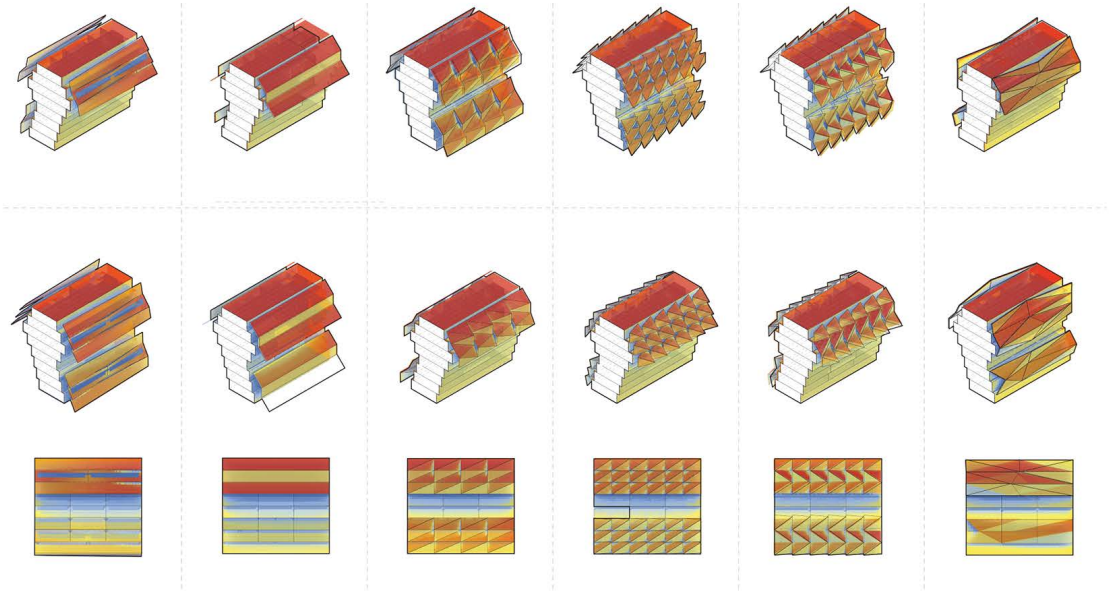


fig 7.10 facade articulations radiation tests

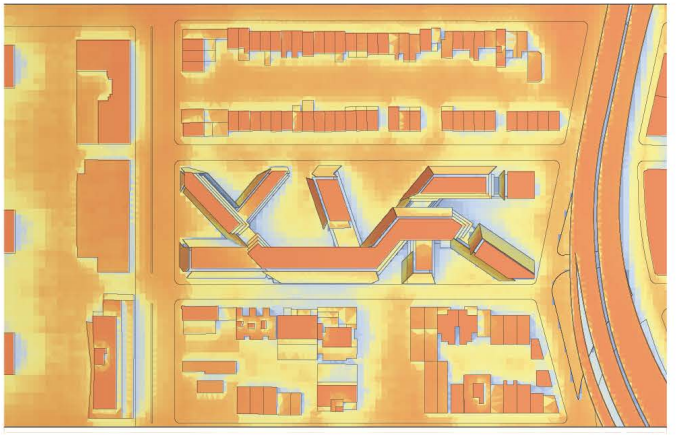


fig 7.13 site radiation map

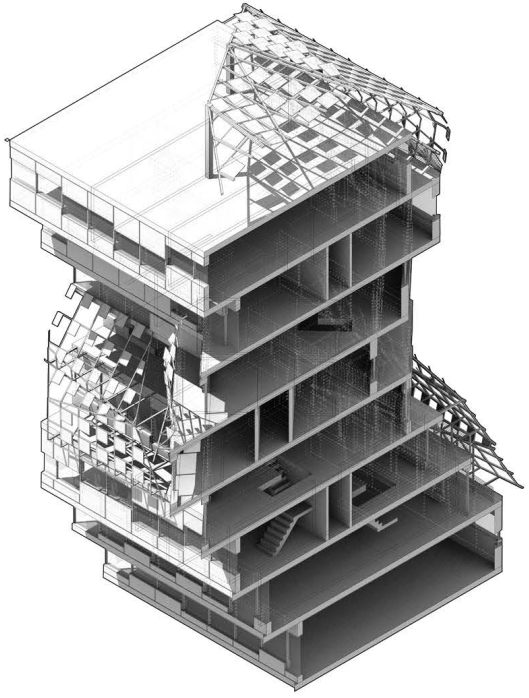


fig 7.11 chunk axo

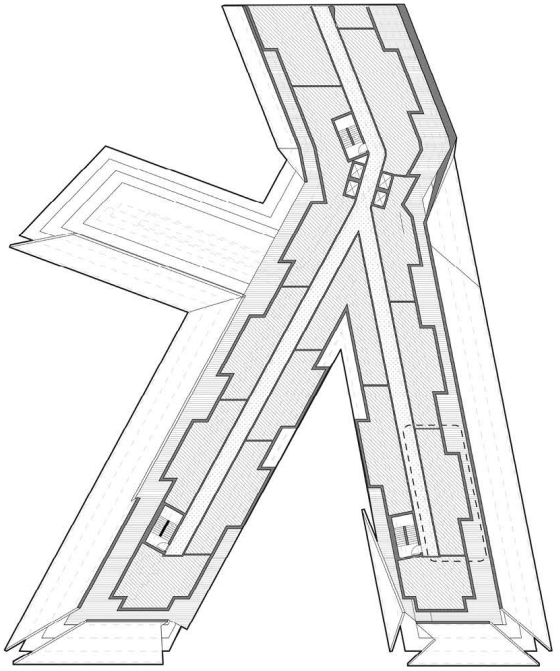


fig 7.12 plan

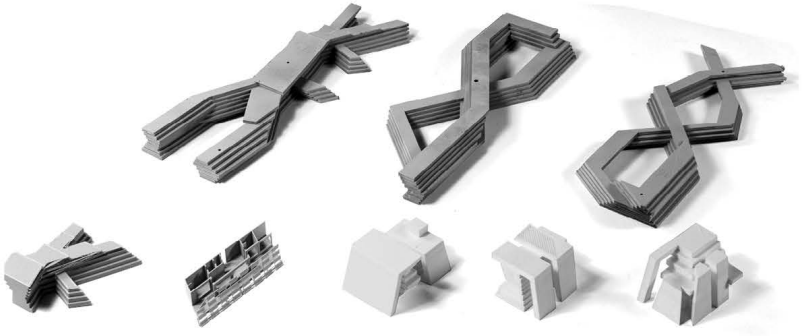


fig 7.14 massing models

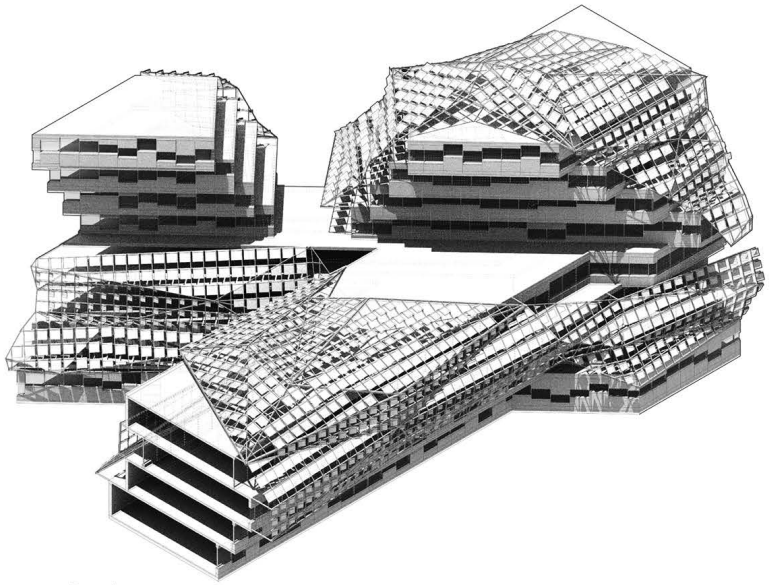


fig 7.15 chunk axo

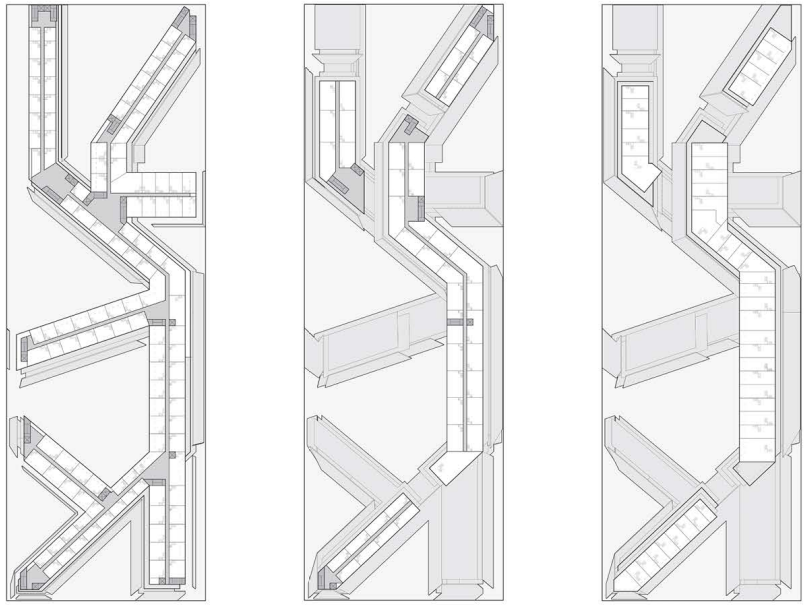


fig 7.16block plans

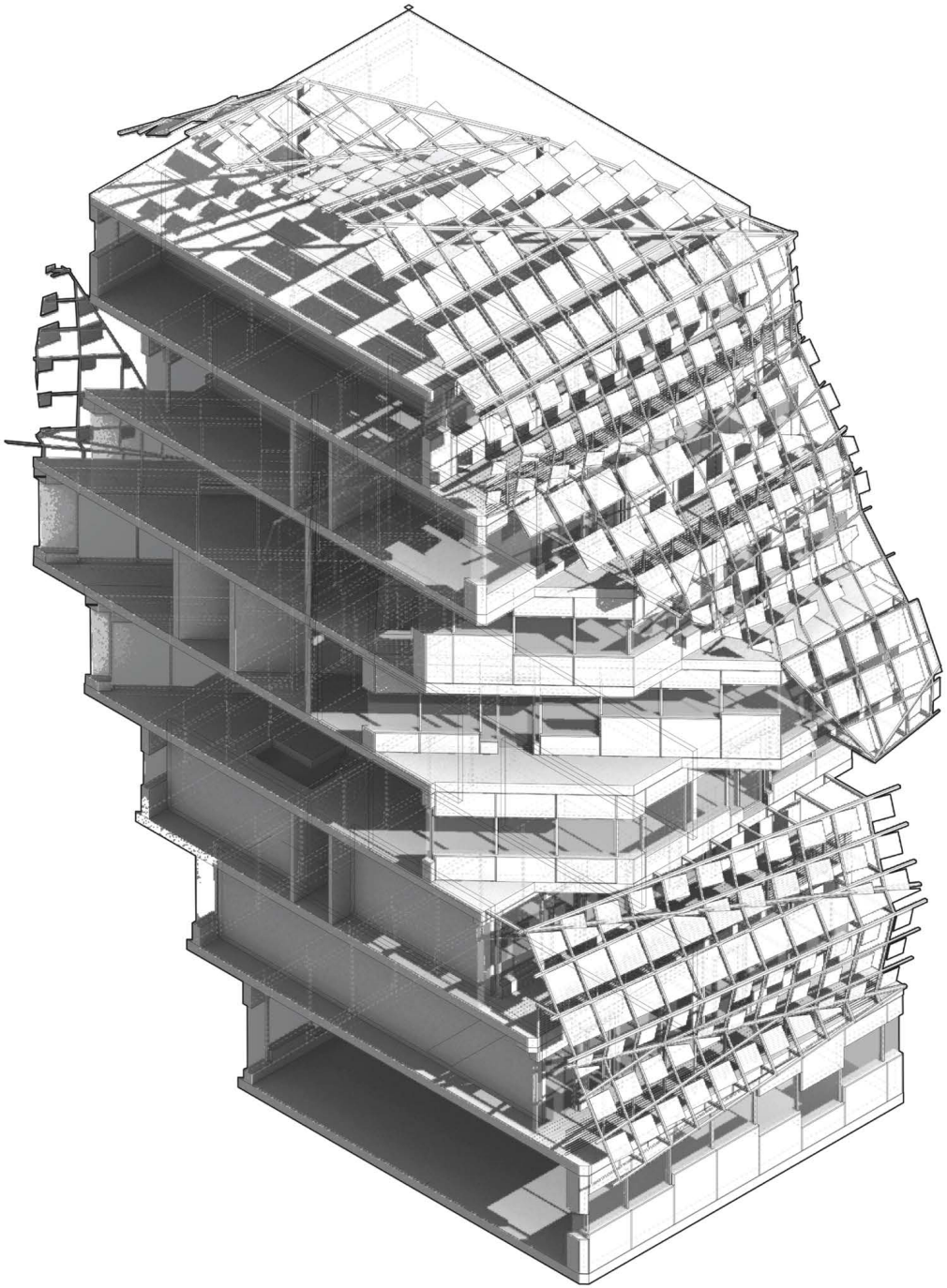
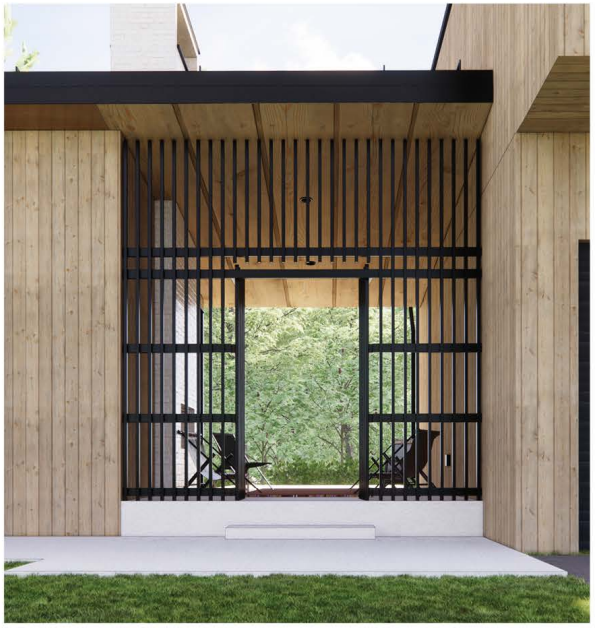


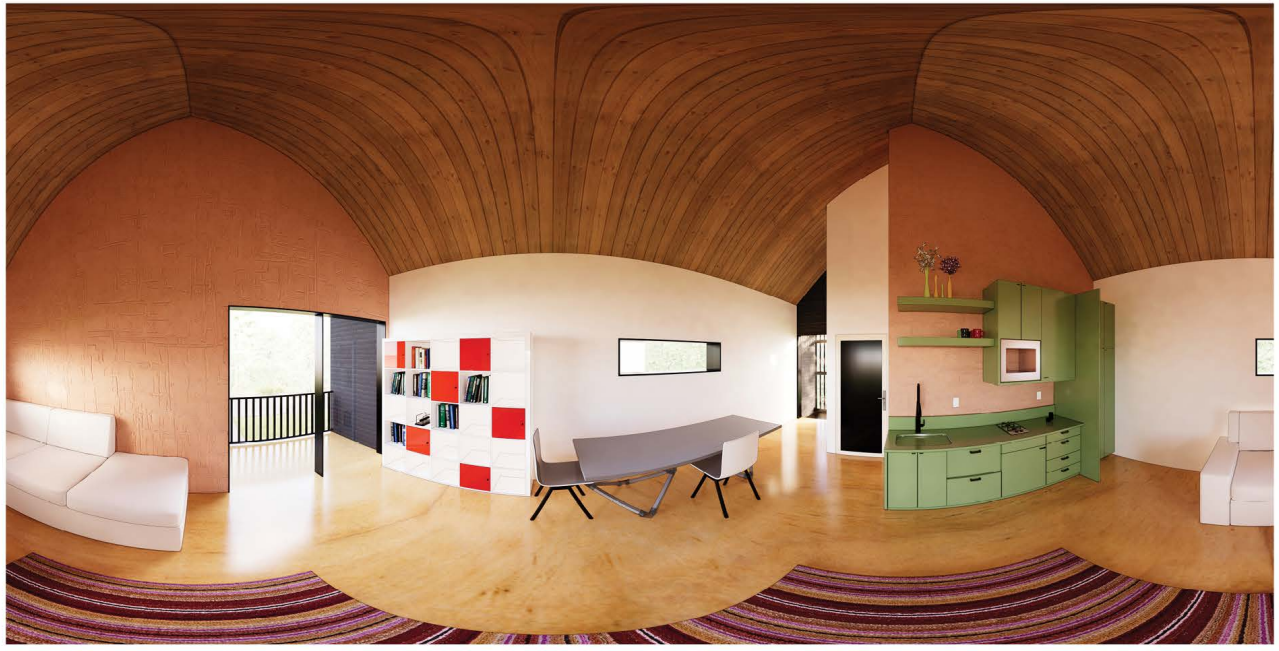
fig 7.17 chunk axo

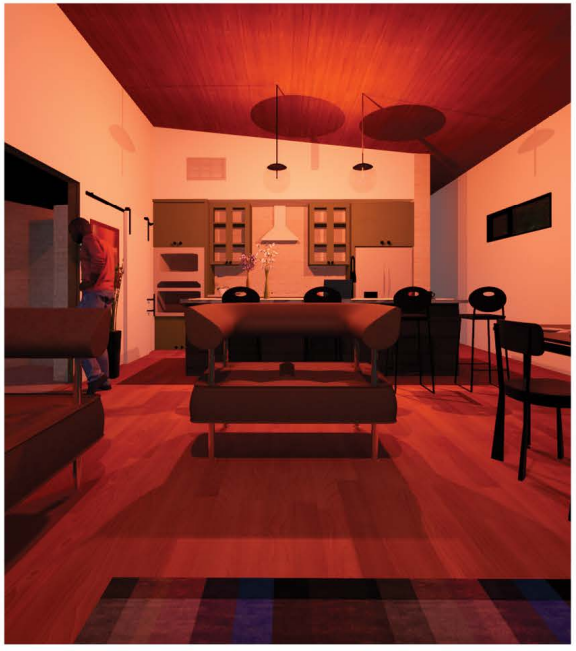


original home is "Twin Peaks" by Workaday Design
Whitefish, MT
Digital Model by Aaron Miranda

int. fig 1-8 4k renders made in enscape & twinmotion

int fig 5-6 360 vr images





3d vr web browser image can be found here:

Short film exploring home can be found here:

made using twinmotion +premier

>Domestic Variants: Mushroom Houses<

Part of an ongoing series of research titled "Domestic Variants", the purpose of this research topic is to explore potential schemes for seasonal vacation homes along the coast of Croatia in a variety of urban and topographic contexts. The houses presented are intended to be "mushroom" houses meant to have a thin footprint placed between preexisting homes in medium density coastal villages, since buildable land along the coast is often limited due to the rough and steep landscape.

Formally the porotype homes are derived from a series of formal studies attempting to compensate between a traditional gable roof home profiles with the need to have a narrow, tapered mass with a top heavy form. As part of a greater series, there is a need for a heavy wall component that acts as an organizational tool, formal tool, and circulatory system for the home to be centered around. This vertical wall element was initially based on gable roof patters and standard stepping patterns but was made to have a give/take feedback loop with the earlier derived forms with both forces exerting pressure on one another and partially distorting one another in the process, creating an opaque/ transparent relationship in the process.

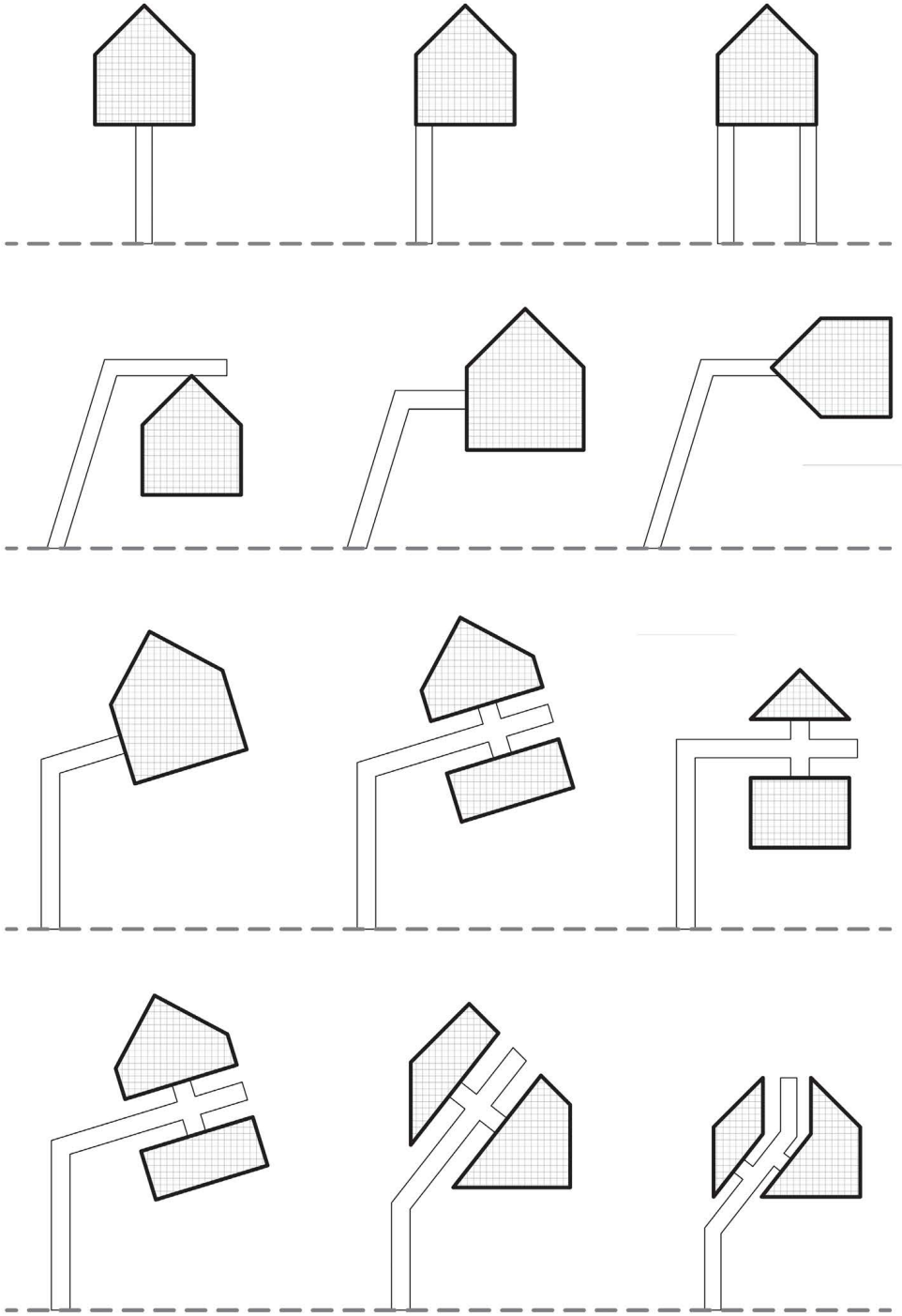


fig 8.1 lifted gables

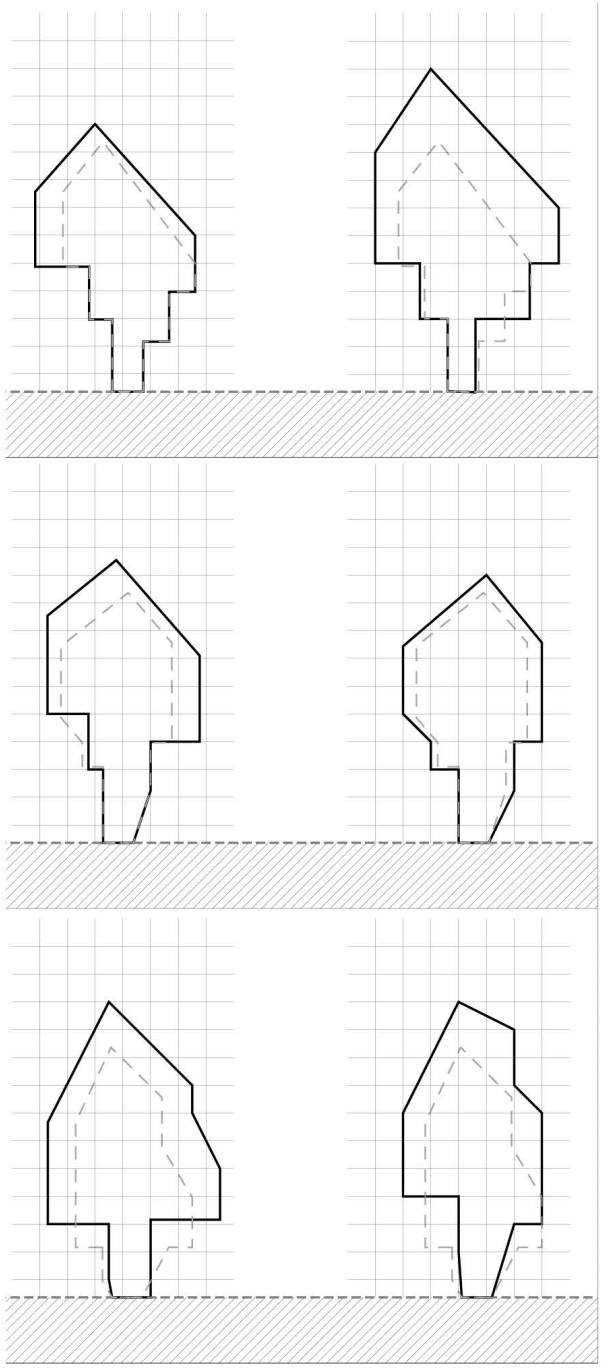


fig 8.2 gable mushroom profiles

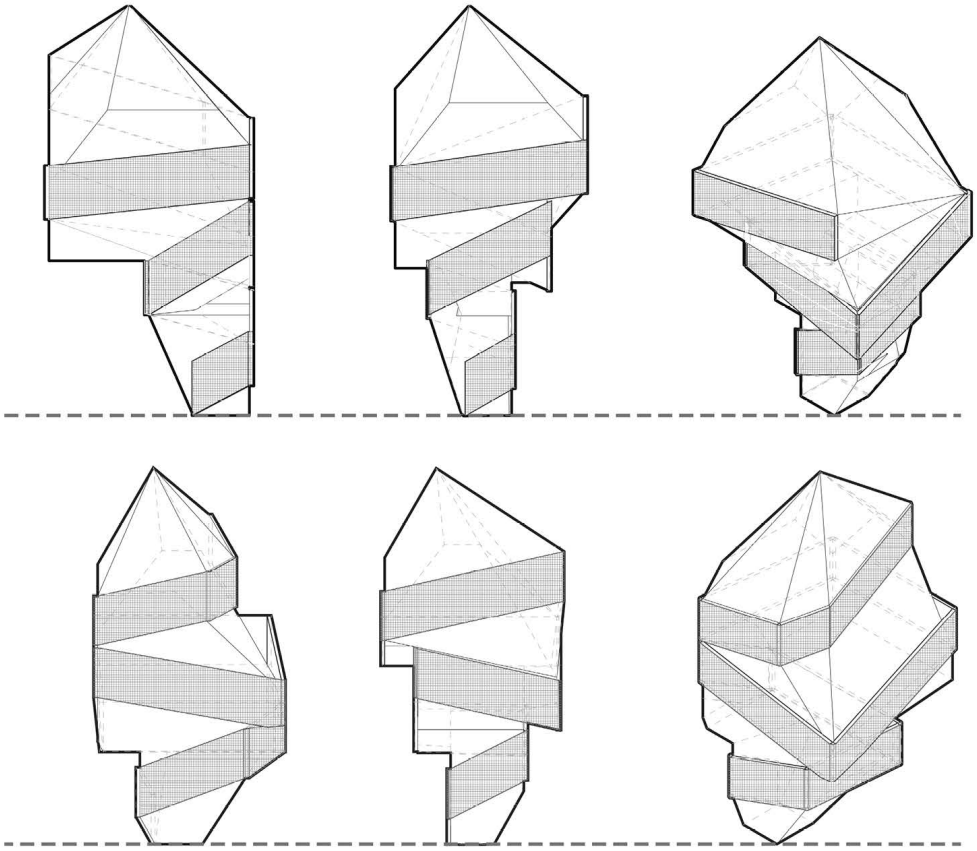


fig 8.3 massings

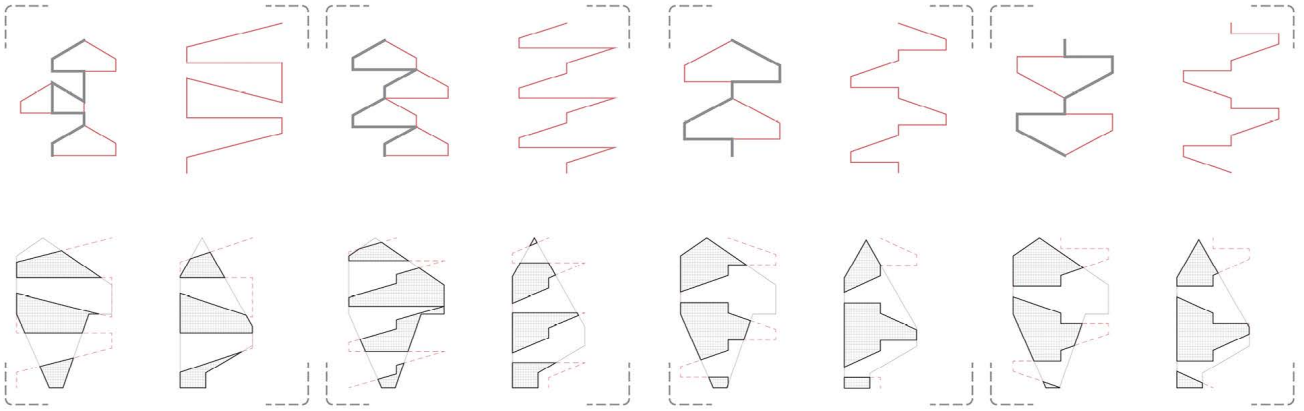


fig 8.4-5 opacity paterns

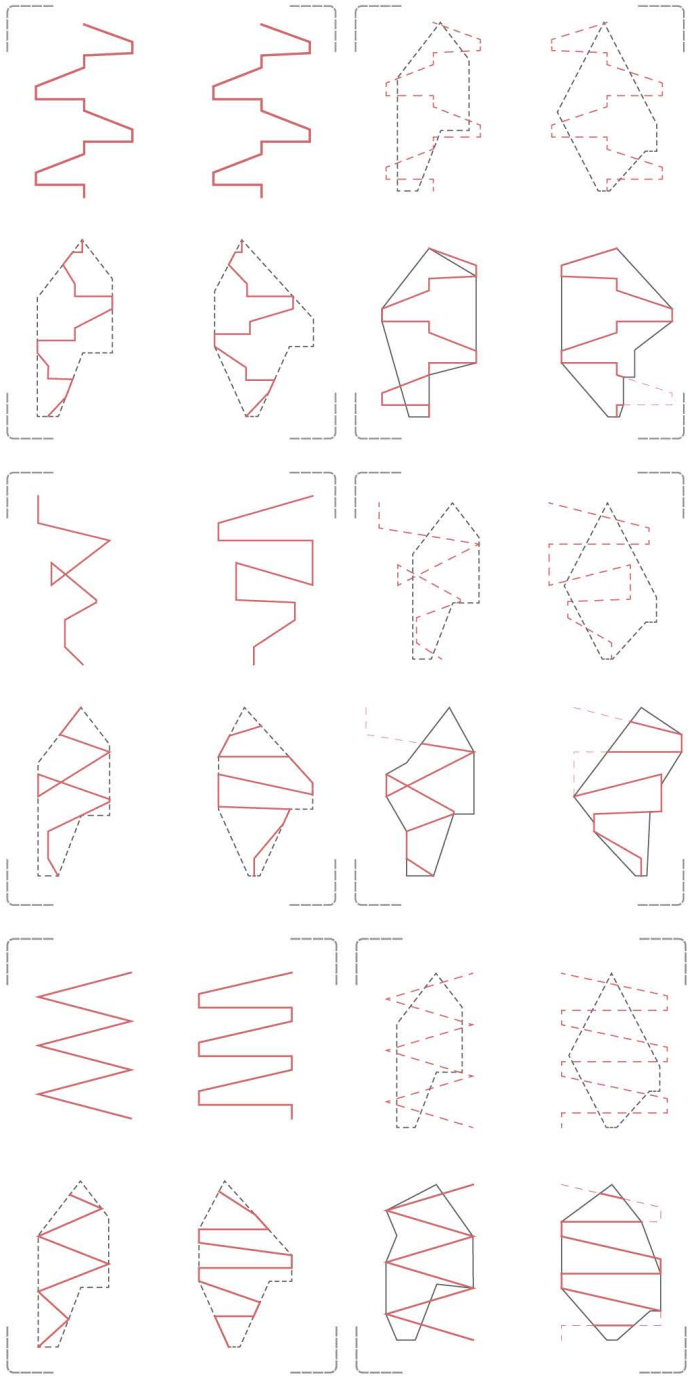


fig 8.6 augmented profiles study

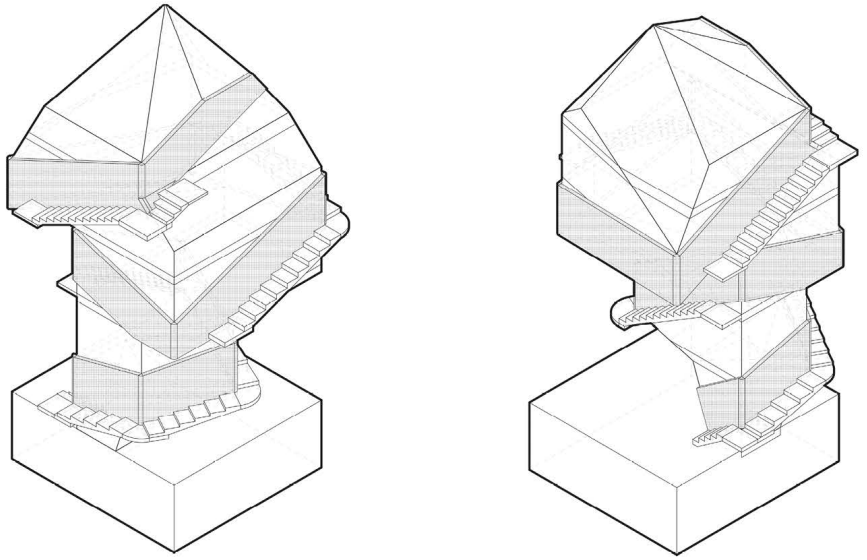
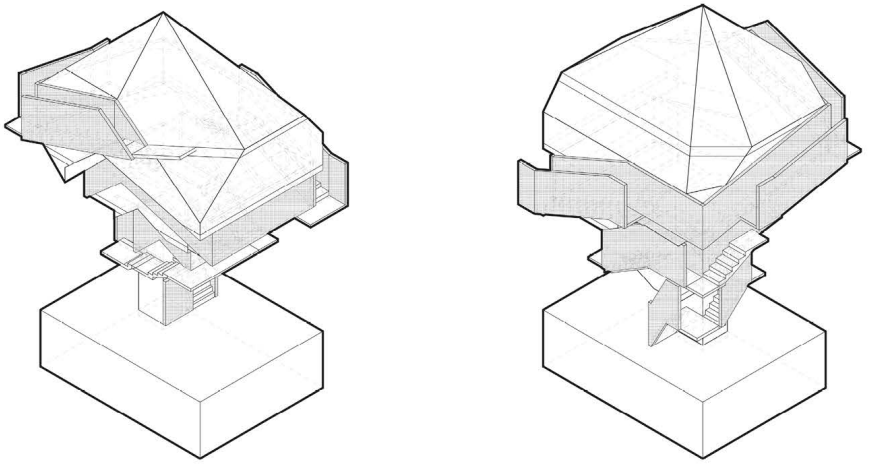


fig 8.7-8 massings with floor to floor circulation



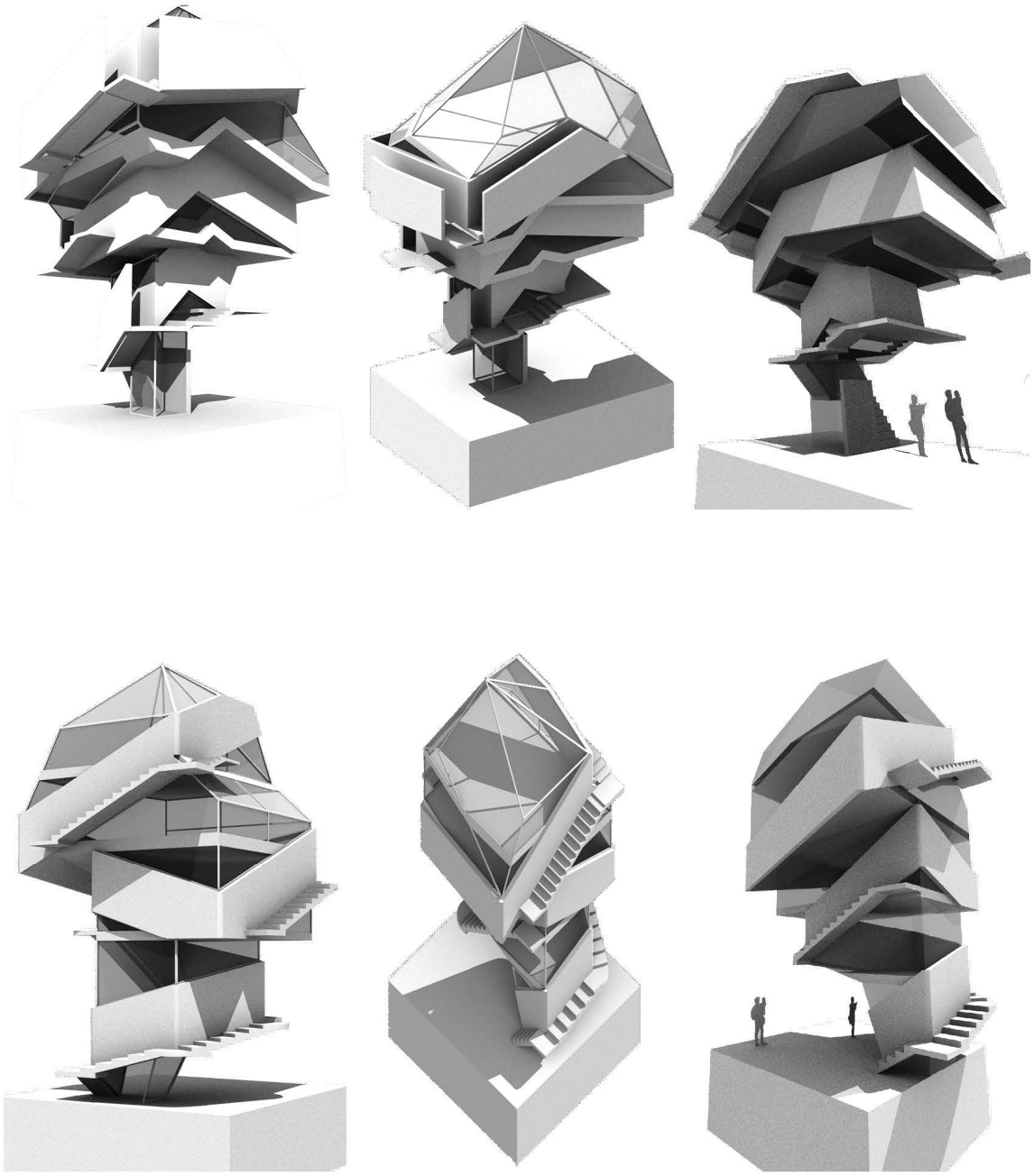


fig 8.9-10 mushroom homes a & b

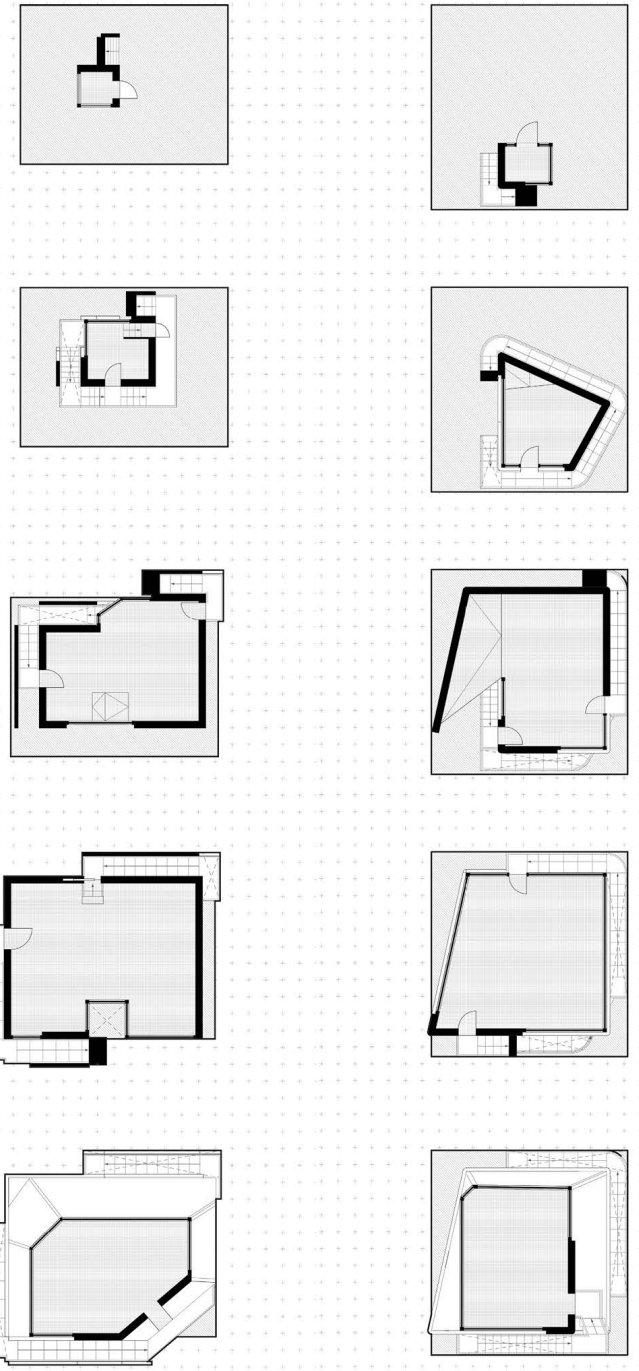
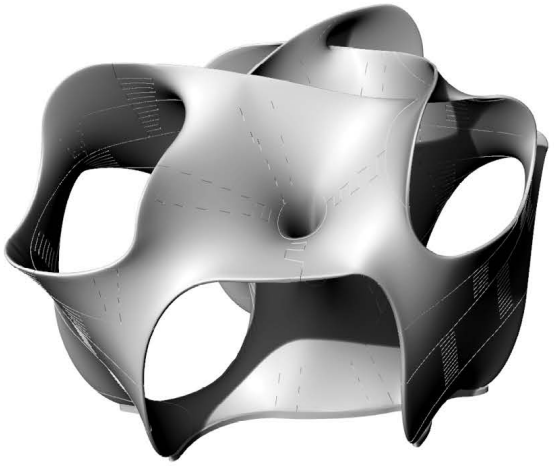


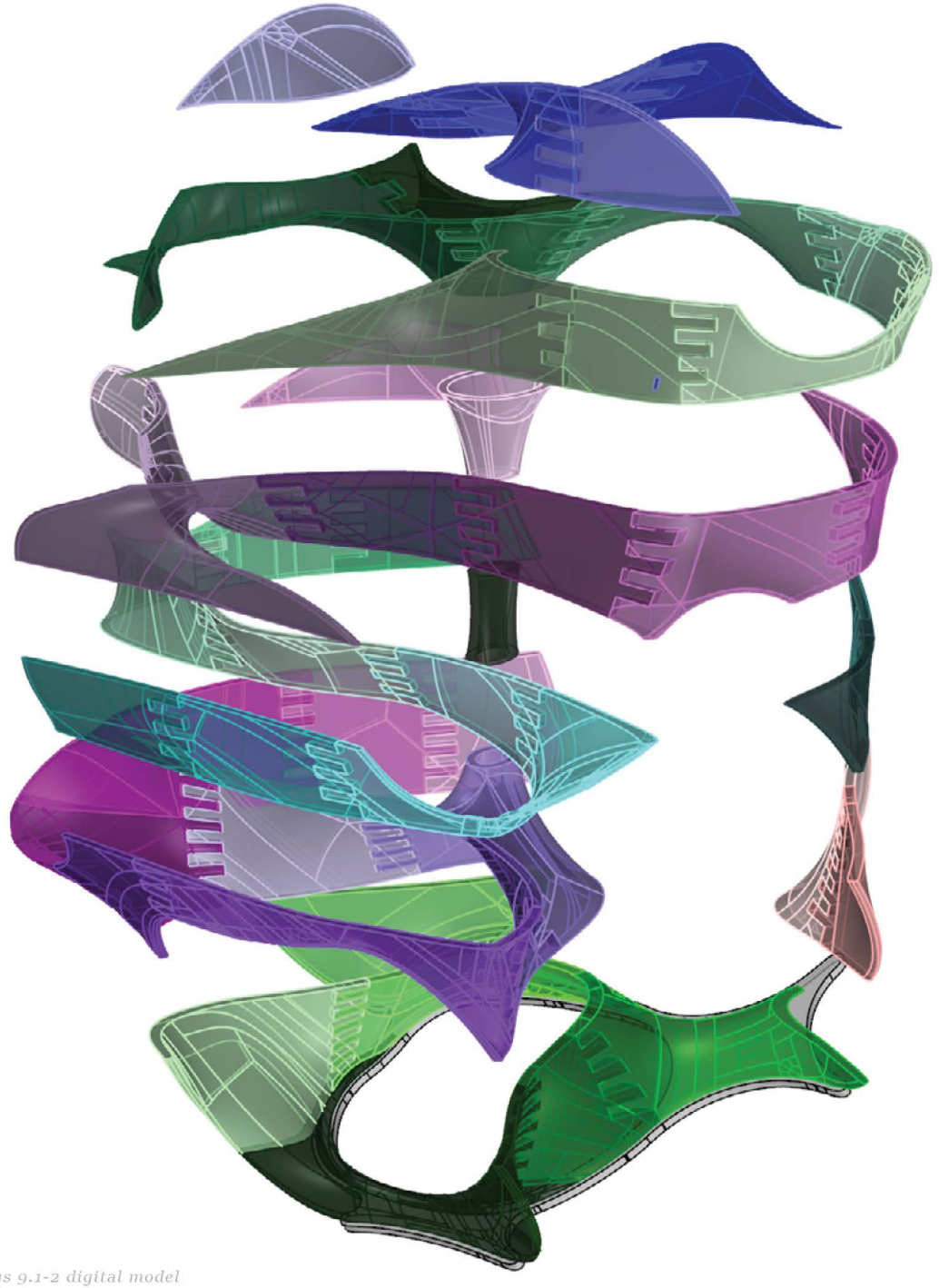
fig 8.11-12 plans, home a (left) & home b (right)

>One Sided Minimal Surface Structure<

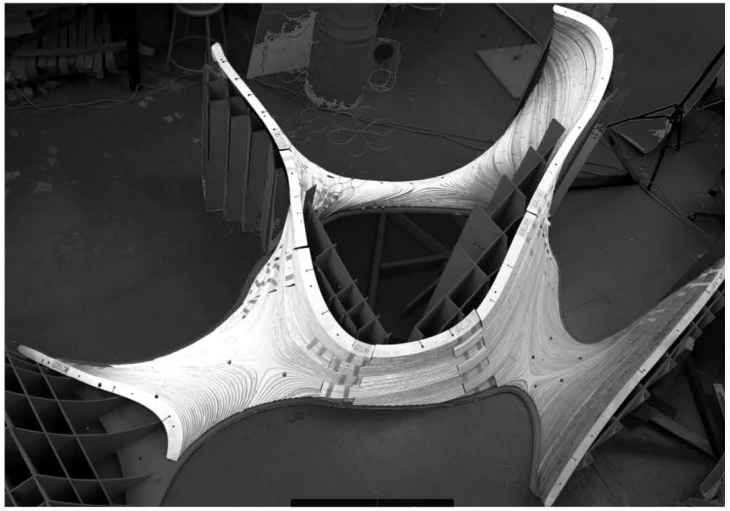
The One Sided Hyper Minimal Surface project is a design built multiyear project part of Pratts Center of Experimental Structures (CES) entering its final stages, with a instillation date set for the Fall 20 semester. The entire roughly 11'x9'x13' structure is composed of over 5000 individual parts that interlock and combine into 54 large scale components that further lock together to create the full structure.

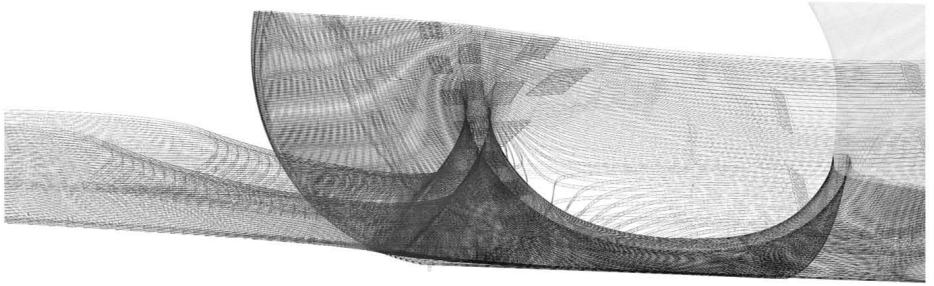
The structure itself is technically a Mobius strip, with only one side, combined with the logic of minimal surface modeling to crease a complex 3D surface. The structure is constructed from water-jet cut laminated composite aluminum material through a contouring of the surface, and built through a series of custom made form work components, held together by construction strength epoxy. The project is being built by a small (5) team of graduate and undergraduate students, with consulting from some metal fabrication and installation experts.

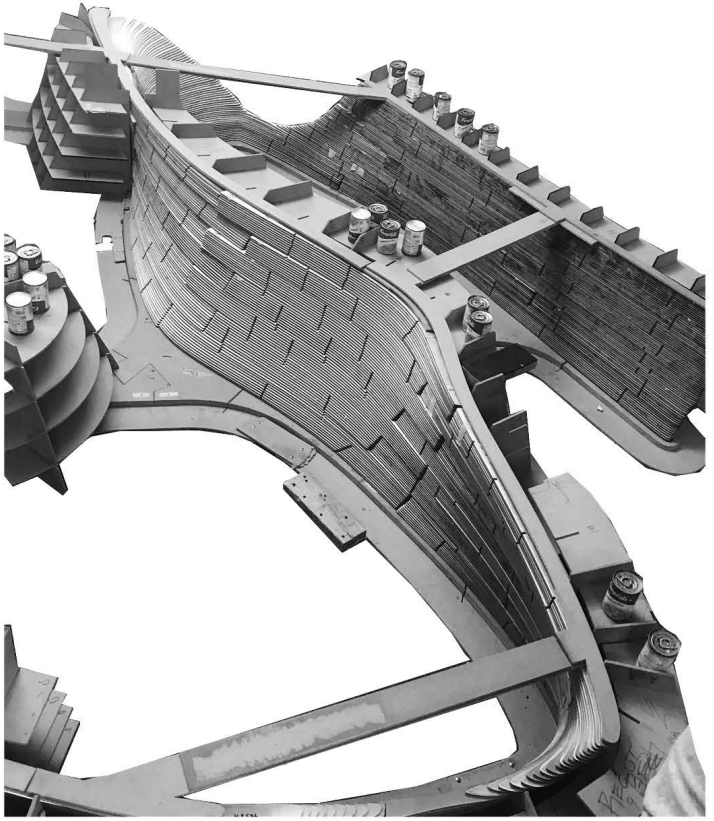




figs 9.1-2 digital model







figs 9.3 (top left) layer 6 on formwork
fig 9.4 (top right) digital model
fig 9.5-6 physical model