

CHUNHUI LIU

SELECTED WORKS
2015 - 2017

Master of Science in Advanced Architectural Design | MsAAD
Bachelor of Architecture | BArch

Columbia University GSAPP
Iowa State University
ETH Eidgenössische Technische Hochschule

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01. HUMAN BONDING

Mixed-use Residence Apartment + Student Dormitory + Public Plaza + Library + Retail Stores

Location 11th ARR., Paris, France

Spring 2017 GSAPP Advanced Architectural Design Studio

Exhibition Columbia GSAPP End of Year Show 2017

Instructor Umberto Napolitano

Individual Work

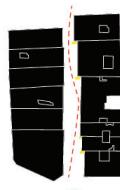
Human Bonding aims to revitalize typical Paris city blocks with increased green space and plaza that are accessible to the public. By introducing winding streets within the block that are connected to the two boulevards on the opposite sides, the design intends to rebuild the deteriorating micro neighborhood and community relations affected by Haussmann's urban planning directions in the mid-19th Century. The architecture and site plan of Human Bonding also challenge Paris' repetitive and highly unified streetscapes. The new scheme encourages people to linger, to meet, and to connect with one another while ensuring residents' privacy and identity are preserved.



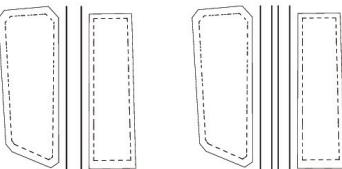
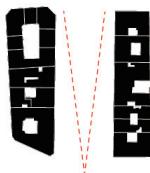
Paris *Before* Haussmann



Paris *After* Haussmann



Winding vs *Straight*



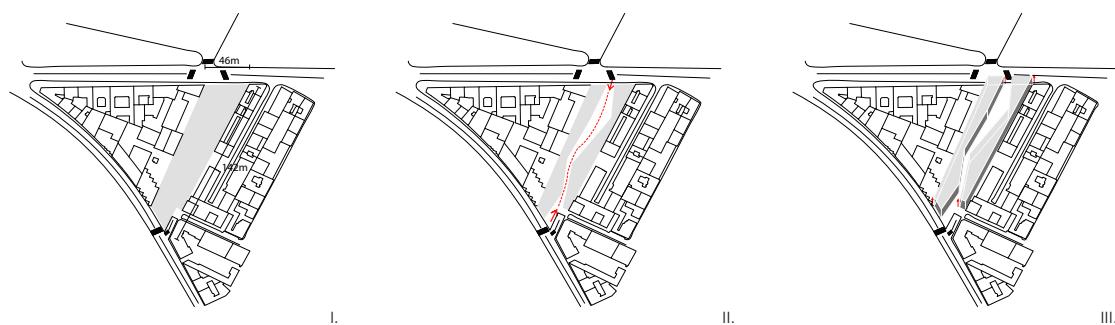
Narrow vs *Wide*



Unique vs *Unity*



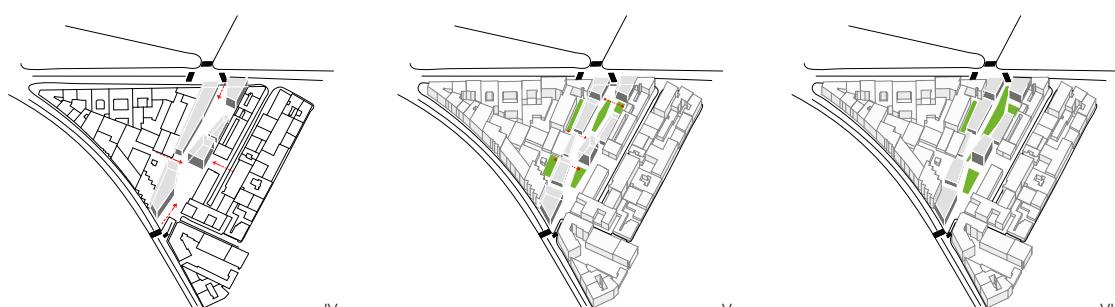
Lively vs *Repetitive*



I.

II.

III.



IV.

V.

VI.

Winding streets connecting green space and plaza that are accessible to the public





Ground Level Plan - Retail Store, Green Space, and Public plaza





Typical Upper Level Plan - Family Residence and Student Dormitory



Longitudinal Section



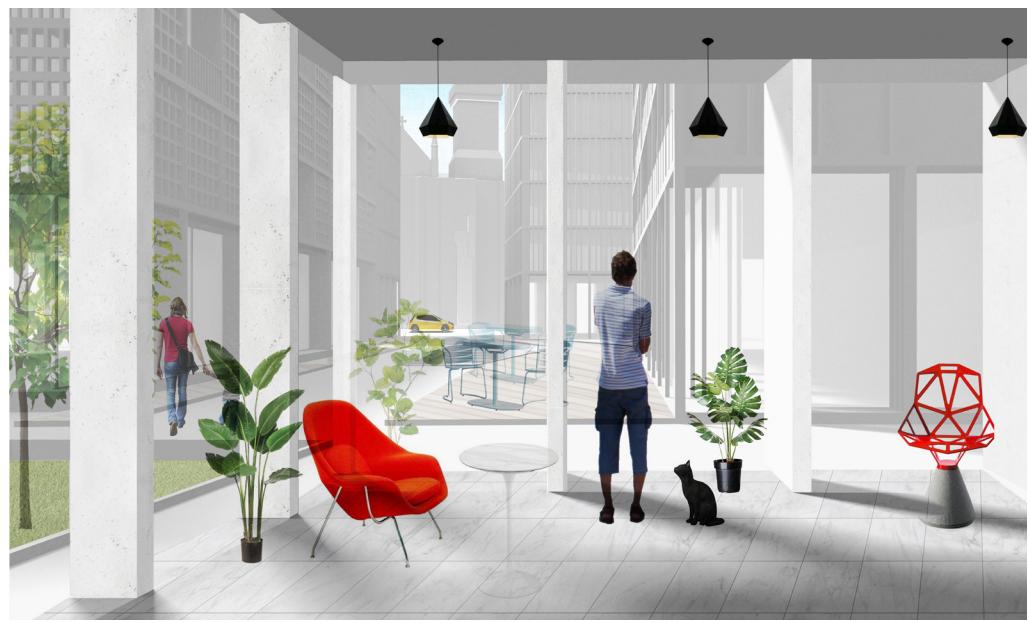
Sunken Plaza



Student Dormitory



West Facade Facing Main Boulevard



Ground Level Storefront



East Facade Facing the Cathedral





02. PARADOX EFFICIENCY _ REIMAGINING LGA

Airport Terminal Boarding Green Belt + Worry-Free Security and Customs + Library + Gallery + Check-In + Retail + Arrivals
Location LaGuardia Airport, Queens, New York, USA
Fall 2016 GSAPP Advanced Architectural Design Studio
Instructor Marc Tsurumaki
Individual Work

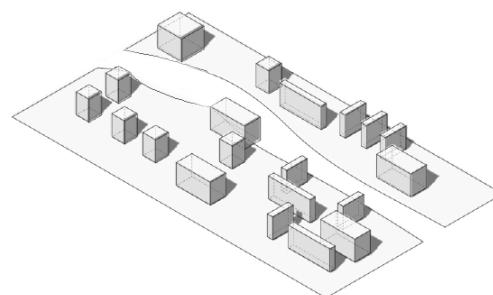
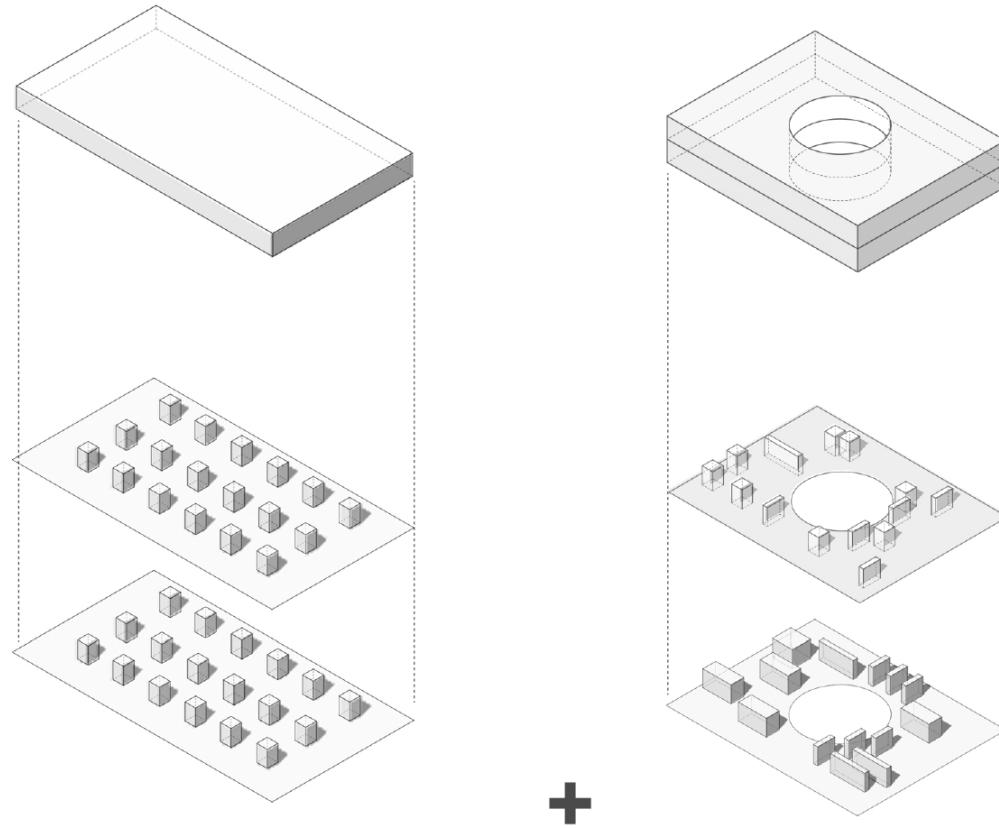
The core focus of Reimagining LGA is to streamline the check-in process at the airport while creating a stress-free atmosphere for visitors at both arrivals(Land Side) and boarding area(Air Side). Spatial configuration and program adjacency are constructed and revolved around the key principal - "Visual Efficiency". The Boarding Green Belt at ground level is surrounded by three stories high curtain walls through out the complex where visitors are visually connected yet restrained within controlled designations for security purposes - a fluctuating paradox. As new screening technology emerges, security and customs section are creatively incorporated into the main circulation bridge between check-in area and boarding area. This strategic move allows Reimagining LGA to accommodate additional program, such as galleries, gyms, playgrounds, and archives, and be positioned as a next-gen transit hub.



"Pancake Design" at Conventional Airport

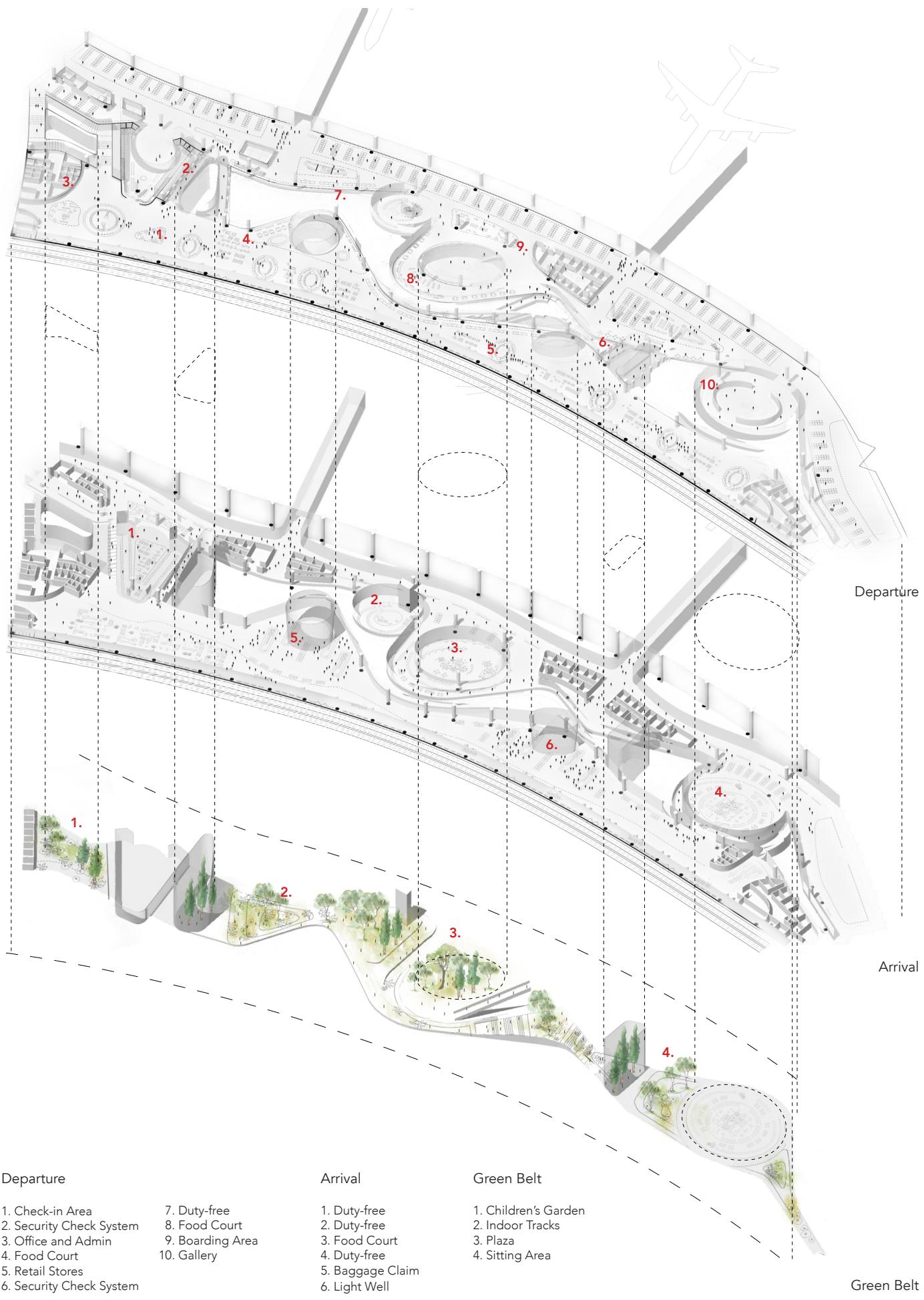


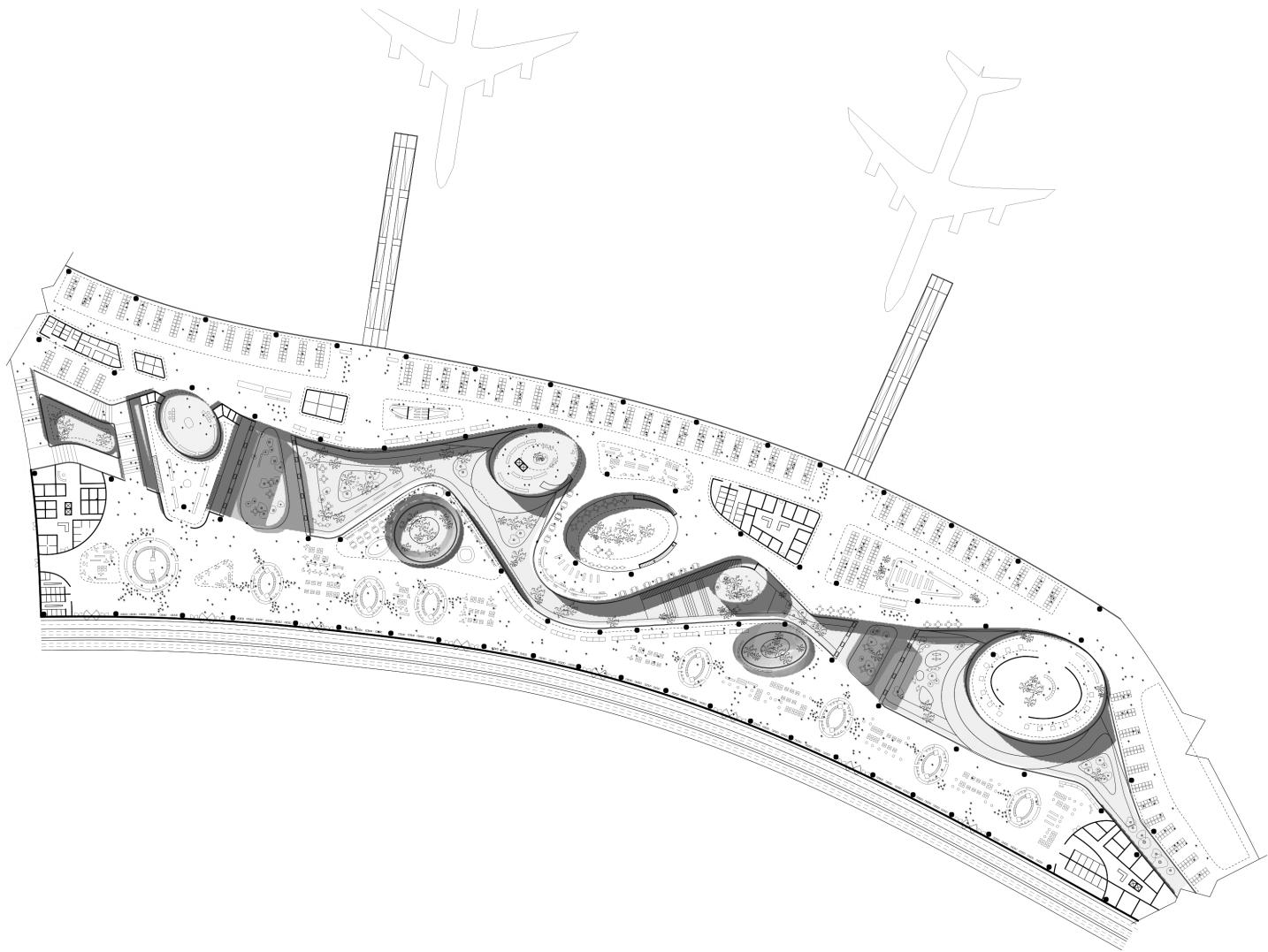
"Visual Efficiency" at Shopping Mall



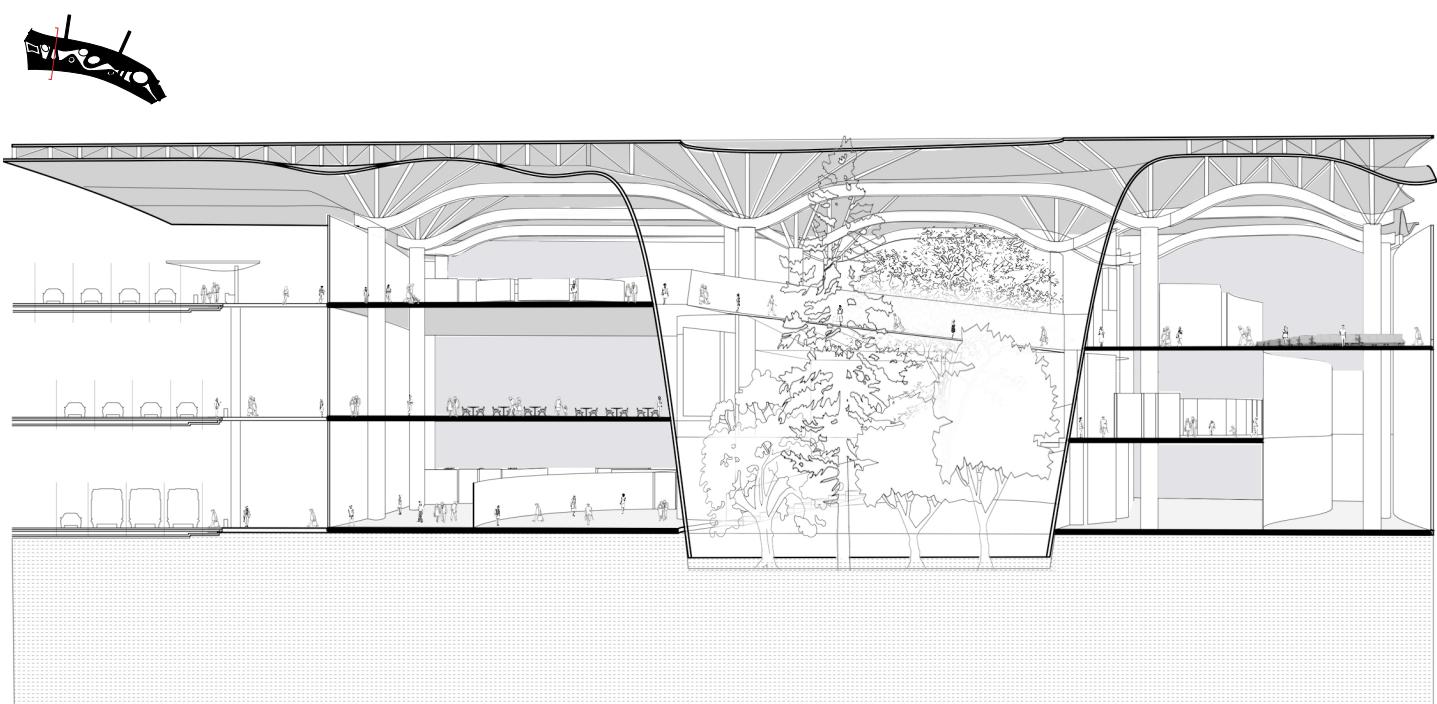
Paradox Efficiency

Instead of relying on "Pancake Design" strategy commonly adapted in conventional airport design, Reimagining LGA brings in the successful "Visual Efficiency" method from shopping mall layout and fuses the two which results in a new building typology and hierarchy - Paradox Efficiency. Visitors on all floors are always visually connected with the surrounding programs and the Green Belt through out their journey within the complex. The environment soothes the mental nerves of traveler that no previous transit hub could provide.

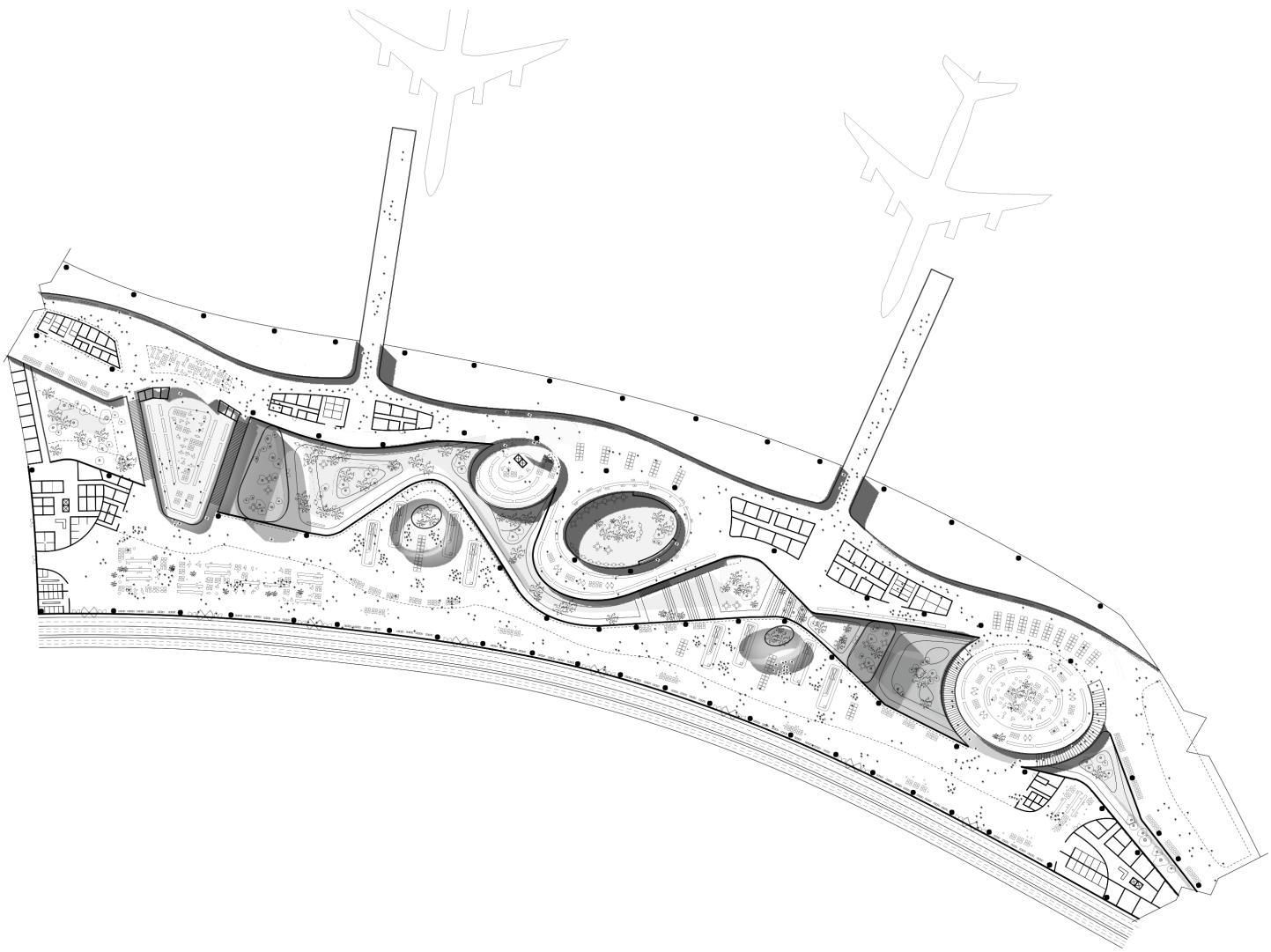




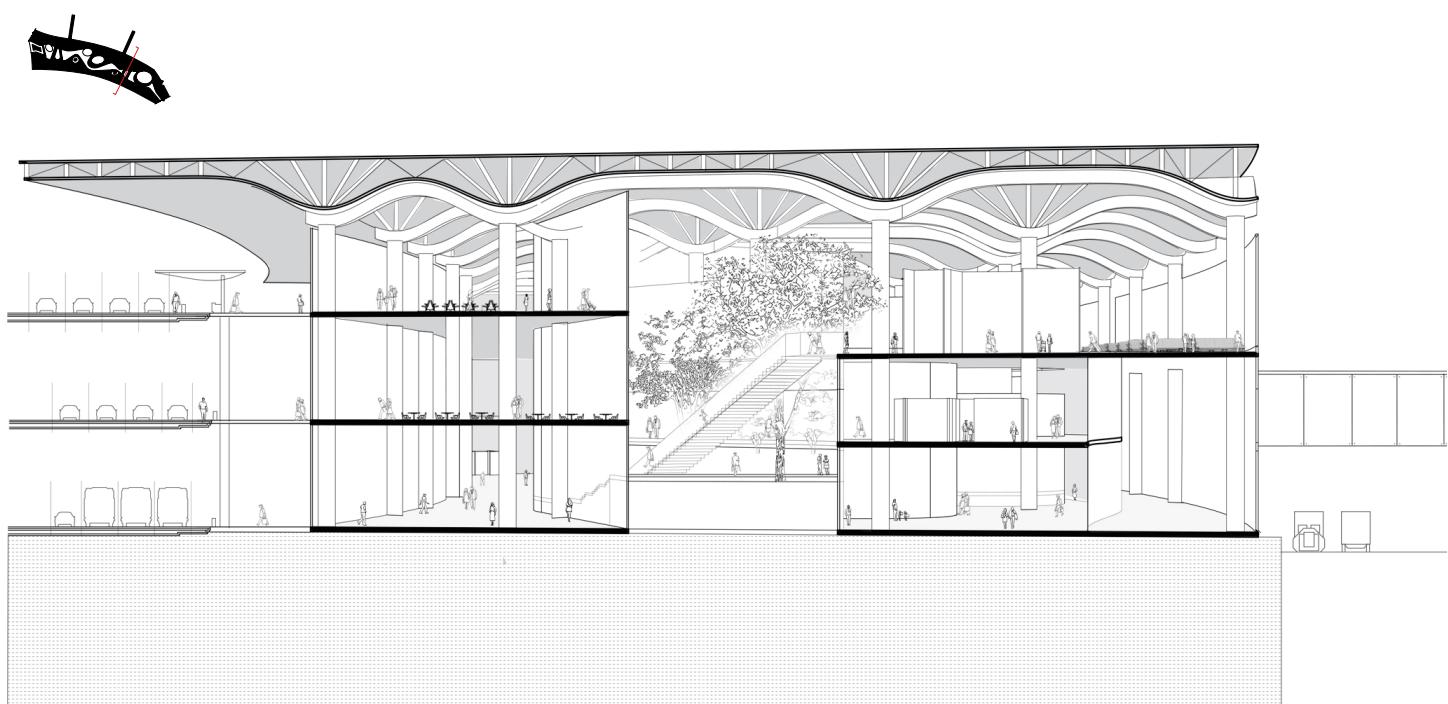
3rd Floor Plan - Departure



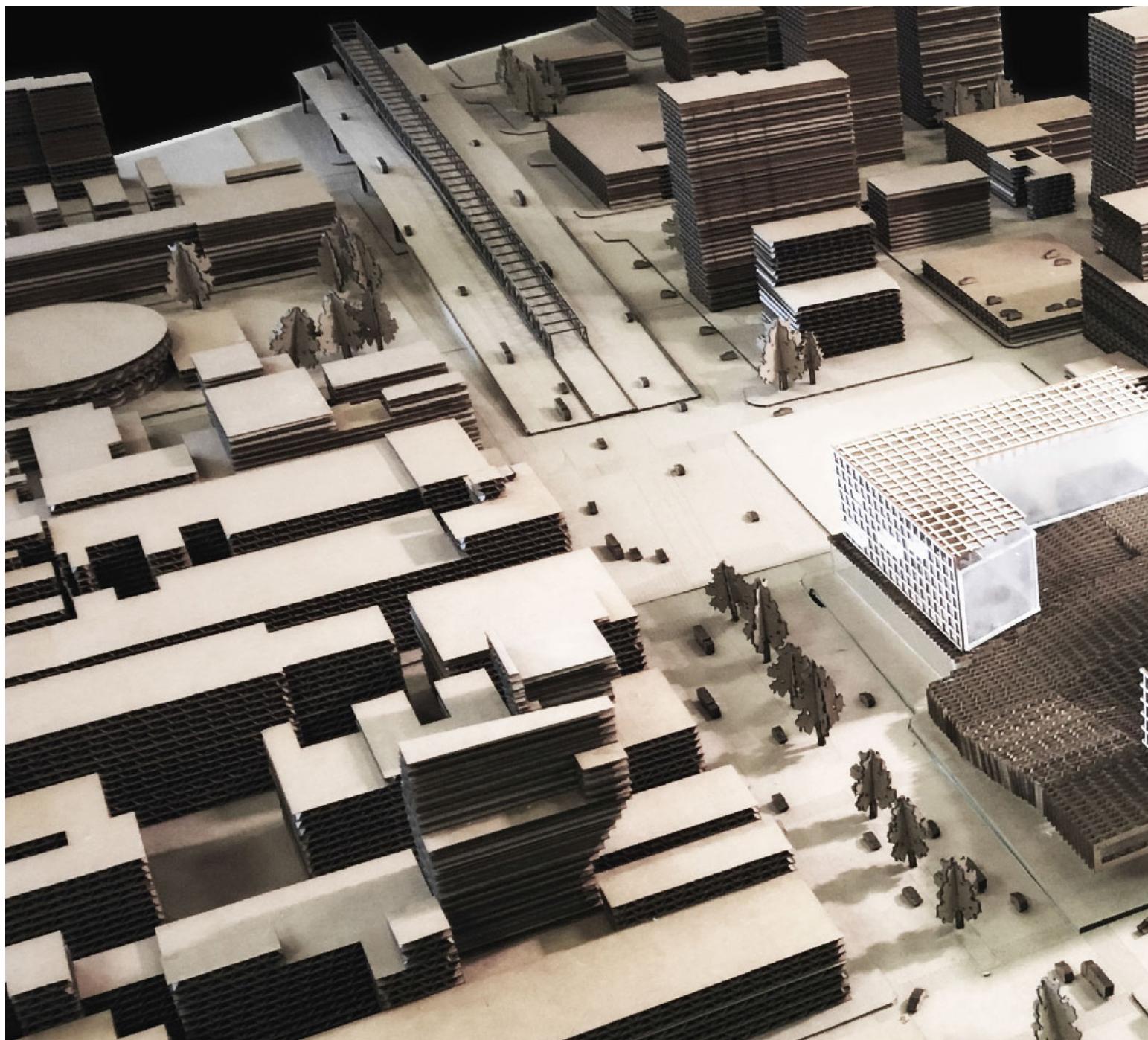
Short Section I - Security and Customs are incorporated in main circulation bridge

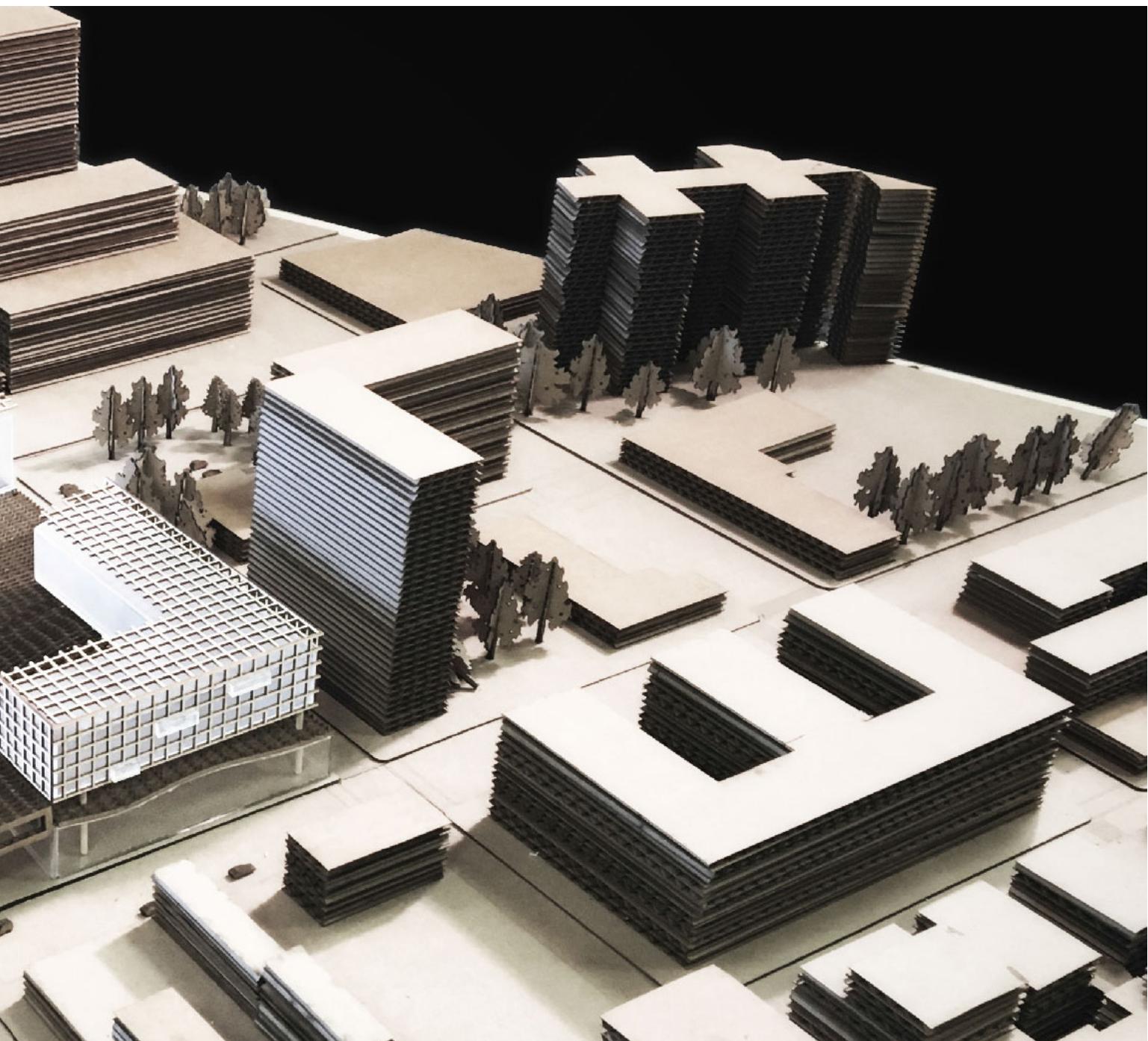


2nd Floor Plan - Arrival



Short Section II - Ground level Green Belt is accessible from waiting area on the departure level





03. U R B A N C A N O P Y

Mixed-use Development Elevated Museum + Indoor/Outdoor Market + Affordable Housing + Workshop + Gallery

Location Lower East Side, Manhattan, New York, USA

Fall 2015 Iowa State Design Studio 402

Instructor Jungwoo Ji

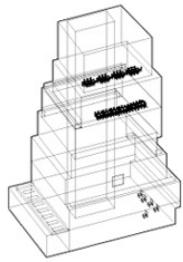
Team Shaohua Dong, Yi Zhi Yew

Contribution Design Lead, Site Analysis, Visual Representation Lead, Physical Model, and Writing

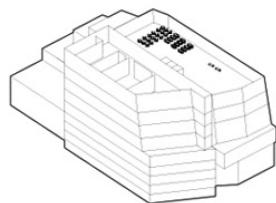
Manhattanism is the one urbanistic ideology that has fed, from its conception, on the splendors and miseries of the metropolitan condition—hyper-density—without once losing faith in it as the basis for a desirable modern culture. Manhattan's architecture is a paradigm for the exploitation of congestion."

-Rem Koolhaas

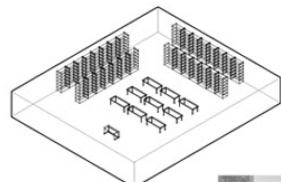
Located adjacent to the Essex Street Market at lower Manhattan, New York, Urban Canopy consists of three equally important programs - museum, extension of the market, and affordable housing. The formation of the multi-function complex takes full advantage of timber's material property and structural capacity where green spaces are hierarchically classified and deeply integrated with the timber framework to address the transition space between public, semi-public, and private zones. Galleries, gym, playground and archive are stitched accordingly to various green spaces cultivating social exchanges as part of the community driven design concept.



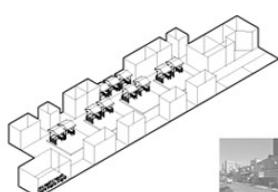
New Museum



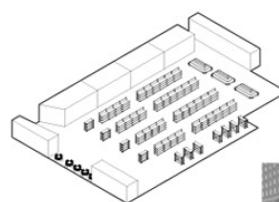
Whitney Museum



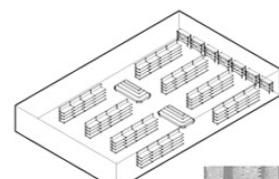
Troll Museum



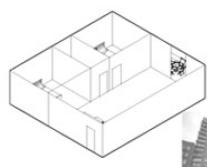
Essex Market



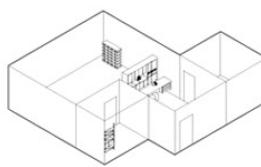
Whole Food Market



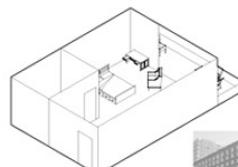
Fine Fare Market



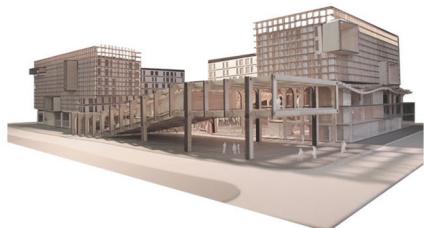
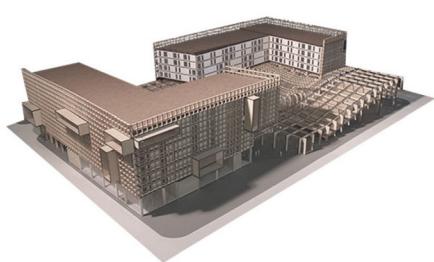
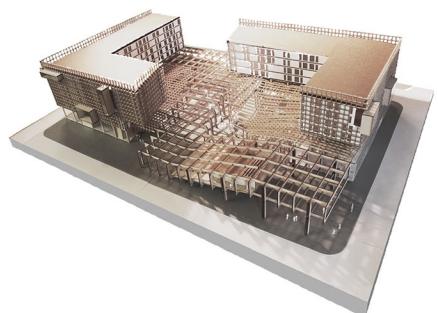
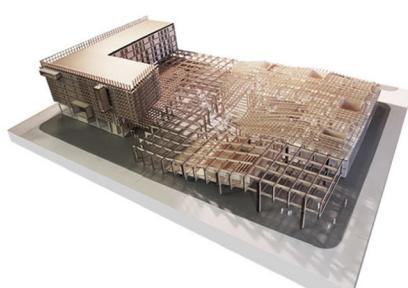
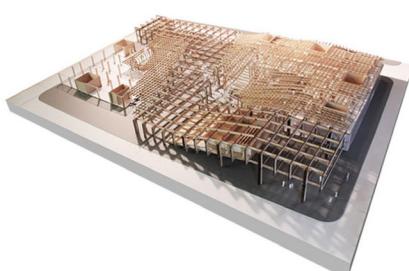
Red Square Unit



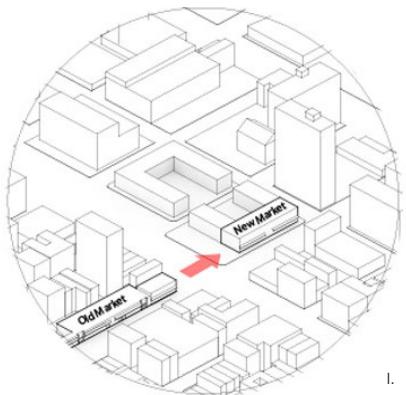
Seward Park Housing Unit



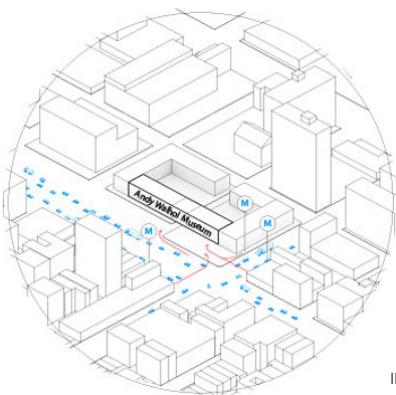
The Chrystie Unit



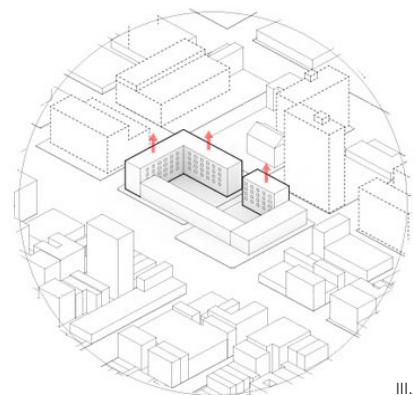
Physical Model at 1/8"=1'- 0"



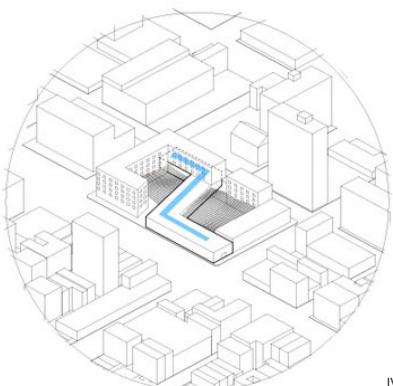
Market Extension



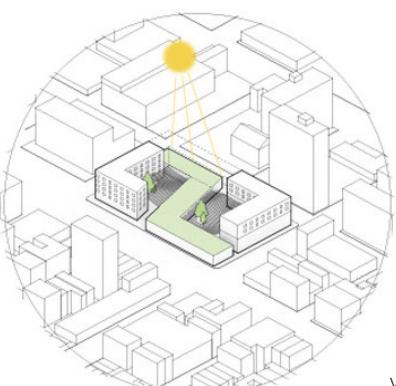
Entrance Location



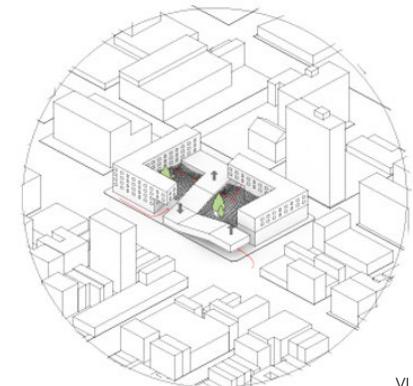
Residence Extrusion



Museum Formation



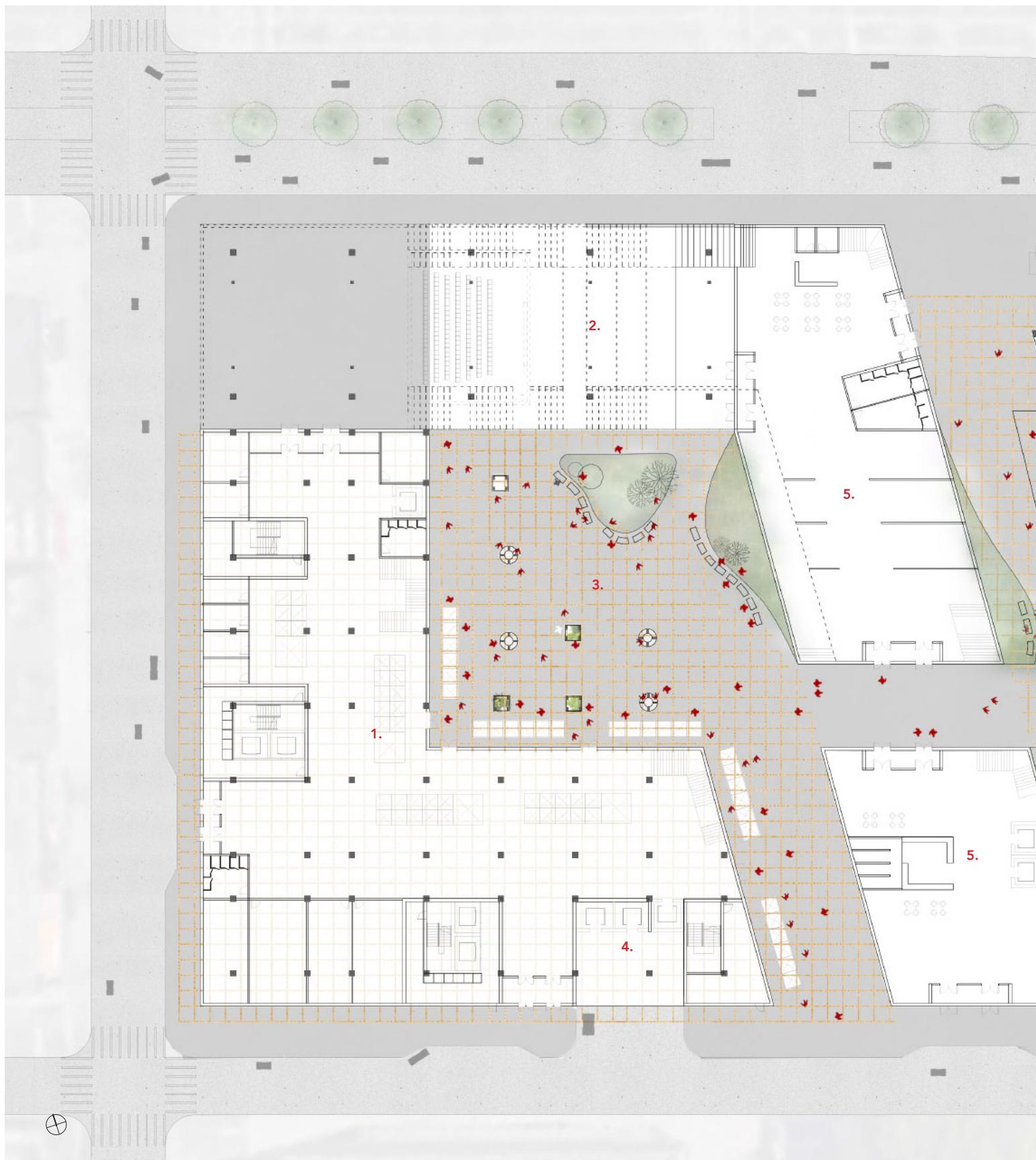
Living Roof



Courtyard Division



Sectional Configuration

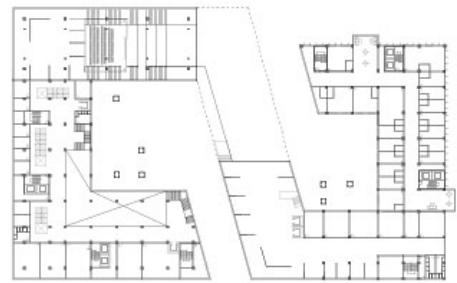


Ground Floor Plan

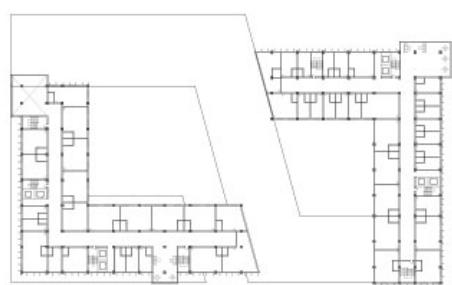
At ground level, in collaboration with the on-site museum and Essex Market extension, seasonal auctions and pop-up exhibitions are hosted at the open courtyard situated at the west wing of the complex. For privacy and security concerns, the east courtyard, though still open to public, is mainly dedicated to residents of Urban Canopy. Both courtyards are well accessible from all sides of the complex through four main entrances with loading decks provided to allow business shipping and delivery during off-peak hours.



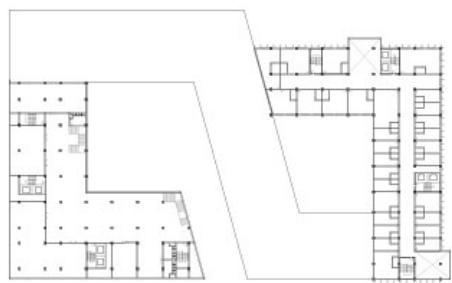
1. Essex Market
2. Museum Auditorium
3. Farmers Market & Courtyard
4. Apartment Lobby
5. Museum Gallery
6. Museum Workshop
7. Ground Level Cafe
8. Bike Parking (EOT)



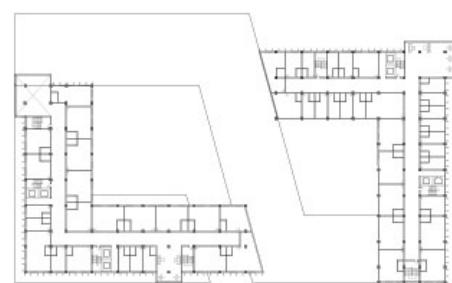
2nd Floor



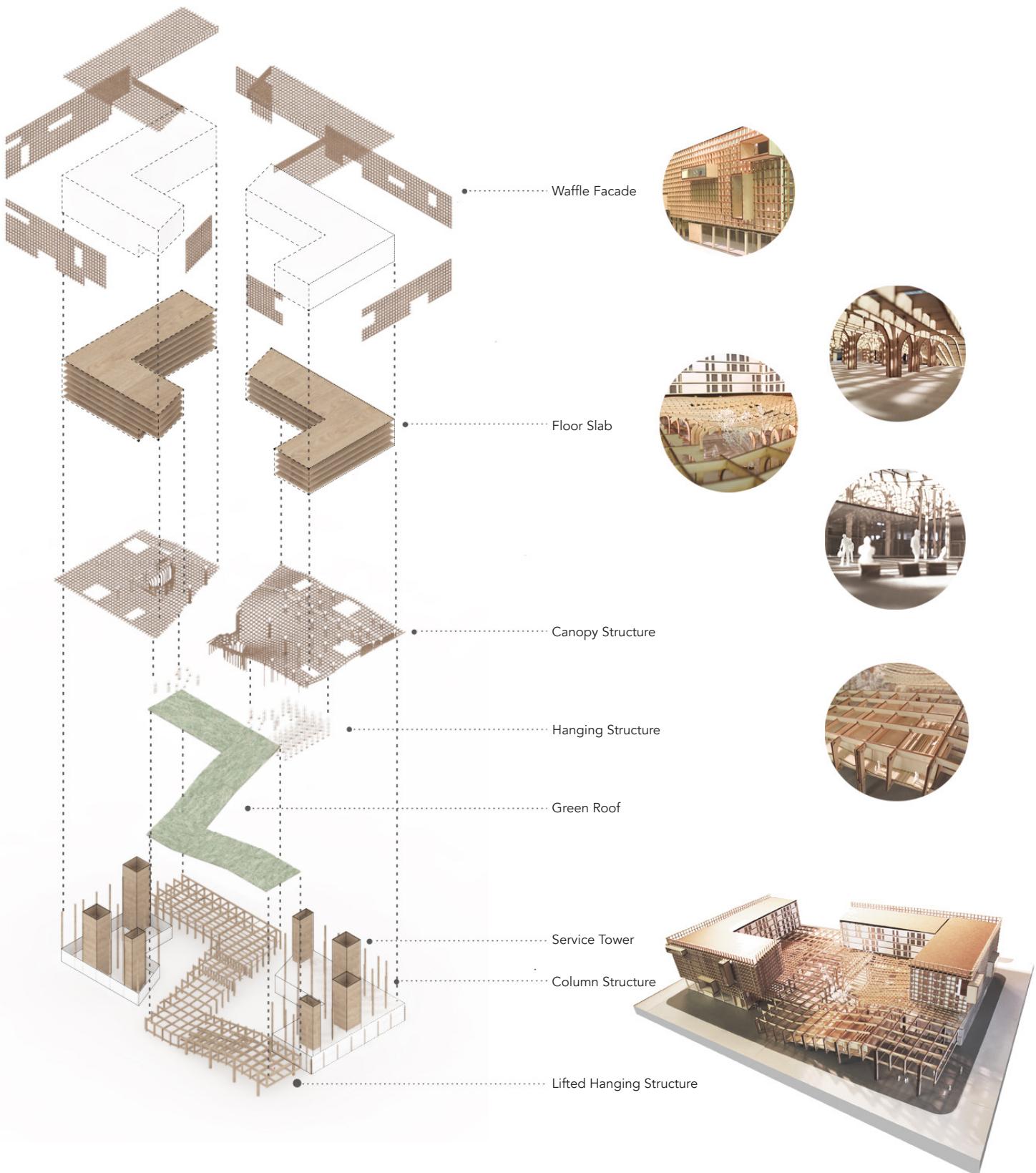
3rd Floor



4th Floor

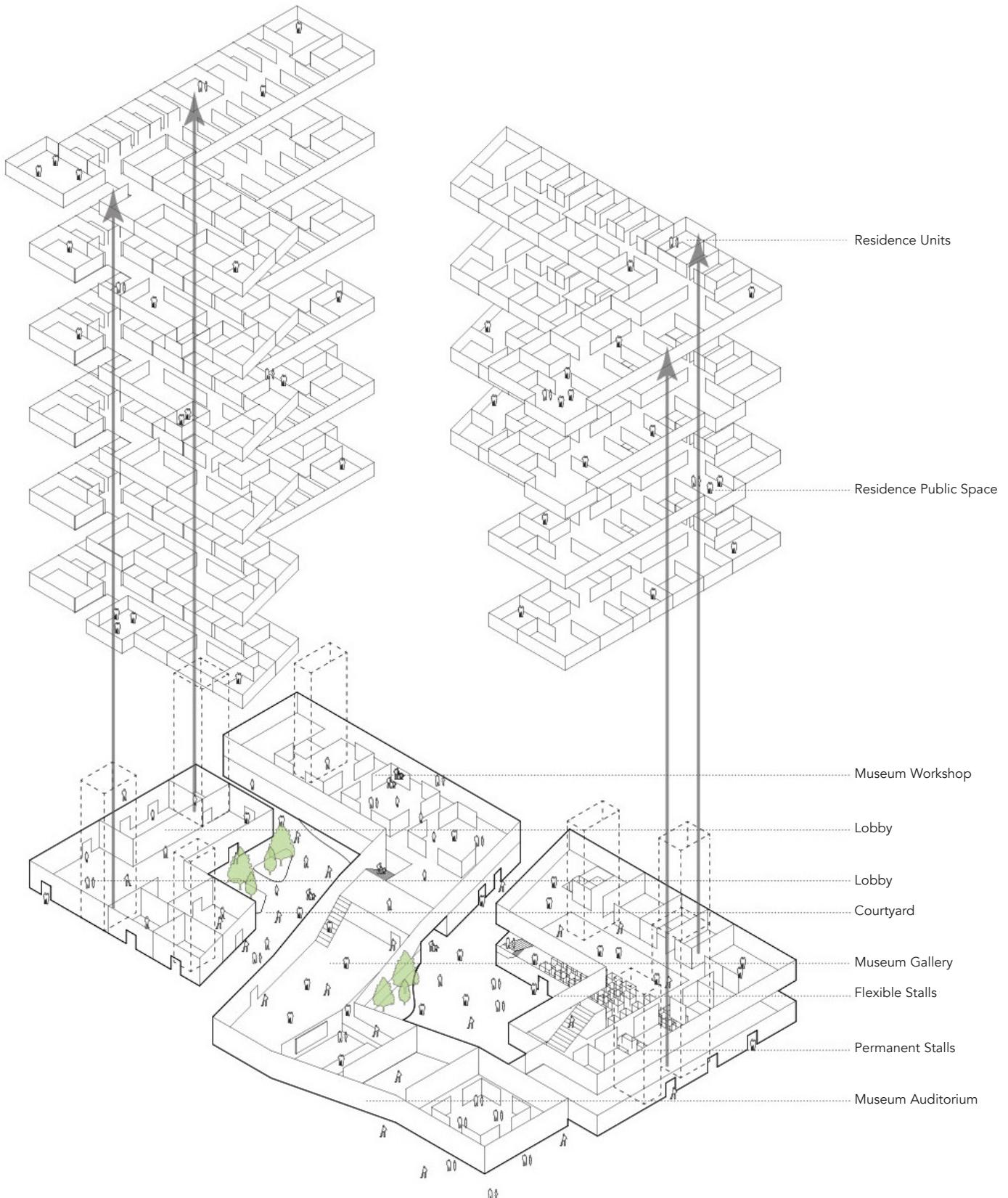


6th Floor



Structural Analysis

Timber is selected for most part of the construction in Urban Canopy for its renewable property and expedient in affordable construction. While building facades, canopy system, floor plates, vertical structures, and walls are made from wood, the gravity interlocking joint system sets the complex to a new height in term of sustainable architectural design.



Program Tendency

After an in-depth research responses to concerns over public vs private program tendency, a spatial arrangement hierarchy is assigned to museum, market, residence, and associated spaces. Museum(public), consists of galleries, an auditorium, and a workshop for people of all ages to explore design ideas. Market(semi-public) is divided into permanent and flexible sections to boost continuous foot traffic and seasonal sales. Studio, one bedroom apartment, and two bedrooms apartment are available for the affordable housing market.





Urban Canopy Activities

Looking down at the courtyard standing in the museum gallery space, the flexible hanging structures, suspended from the canopy, generate vivid shading in the day time at the gathering space below. The hanging structures also double as displays for fresh products, rotational art installations, and greeneries depending on the seasonal activities in the open courtyard.





04. ON THE TRACK

Multifamily Residence Apartment + Convenience Stores + Bike Facilities
Location Hirzbrunnen, Basel, Switzerland

Spring 2015 ETH Basel Studio
Instructor Jacques Herzog and Pierre De Meuron
Individual Work

In Switzerland, there's now this semi-urbanism; architecture that's neither good nor bad, neither urban nor rural, where there's always something green, but never lush or a lot...As long as most people can live like that and it doesn't suddenly become too dense and packed in the districts, and in the trams and suburban trains, it's impossible to change it.

- Jacques Herzog

In historical, social, and geological context, Basel, Switzerland is a strategically significant hub connecting Germany, France, and Italy. The site, located at the east border of the city where housing demands are high from artist, international business professionals, and college students, occupies a half abandoned railroad that was once carrying innumerable German cargos on a daily basis. On the Track tackles the housing crisis by re-purposing the abandoned railroad with site specific housing typologies. The master plan integrates the existing tranquil path along the railroad with new community stores tucked in between building complexes connecting residents from the entire district.



Land Use Analysis



Existing Developable Site
(Abandoned Tracks) Active Tracks

--- --- Walking path

— Rail track

----- Main traffic

Commercial

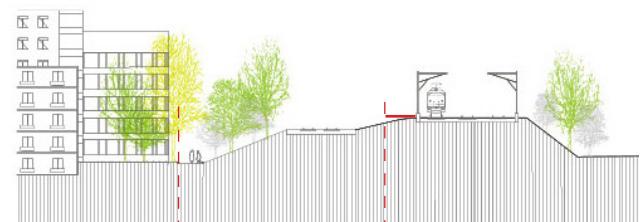
Garden

Sports

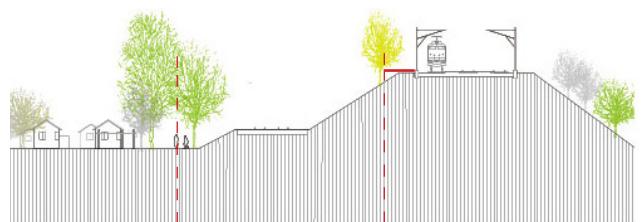
Reserved green

River

Abandoned Railroad - Topography I



Abandoned Railroad - Topography II



Site Analysis

With the other railroad alongside the abandoned tracks remains active, On the Track sets to develop three housing typologies for three railroad topography conditions found within the 2 kilometers site to overcome noise pollution. Other design factors include but not limited to solar radiation analysis, natural green spaces per capita, and targeting demographic groups.

Abandoned Railroad - Topography III

Typology I: Micro-Courtyard

Unit Size

110 sq.m. (55 sq.m. x 2)

Height

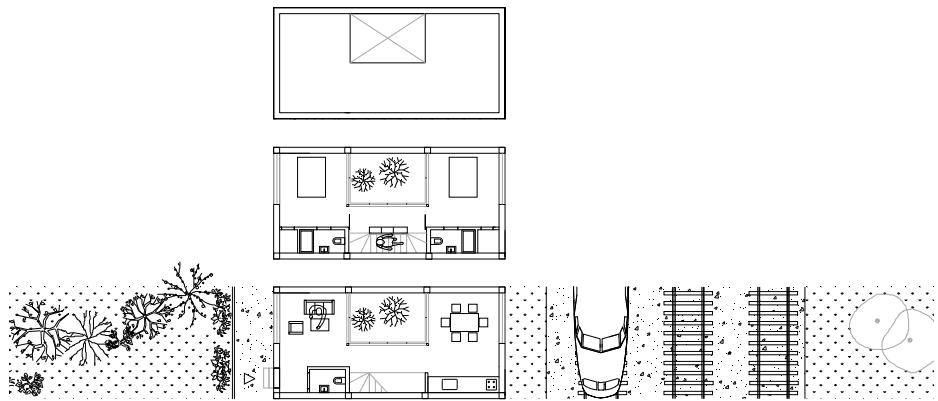
Two Stories

Key Proposition

Micro-courtyard within each unit

Function

Allowing more natural sunlight into the building



Typology II: Interior Green Filter

Unit Size

135 sq.m. (45 sq.m. x 3)

Height

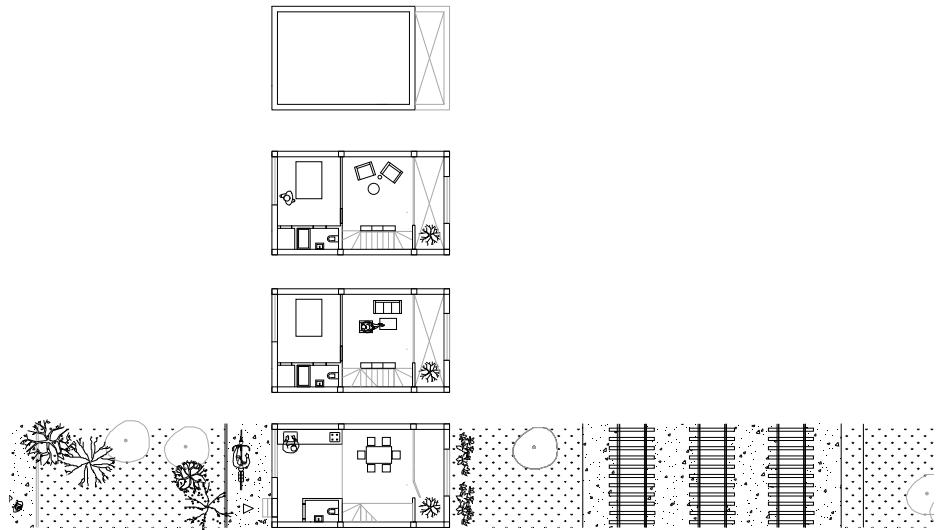
Three Stories

Key Proposition

Interior green filter facing railroad track

Function

Reducing noise and vibration



Typology III: Solid Shielding Wall

Unit Size

140 sq.m. (35 sq.m. x 4)

Height

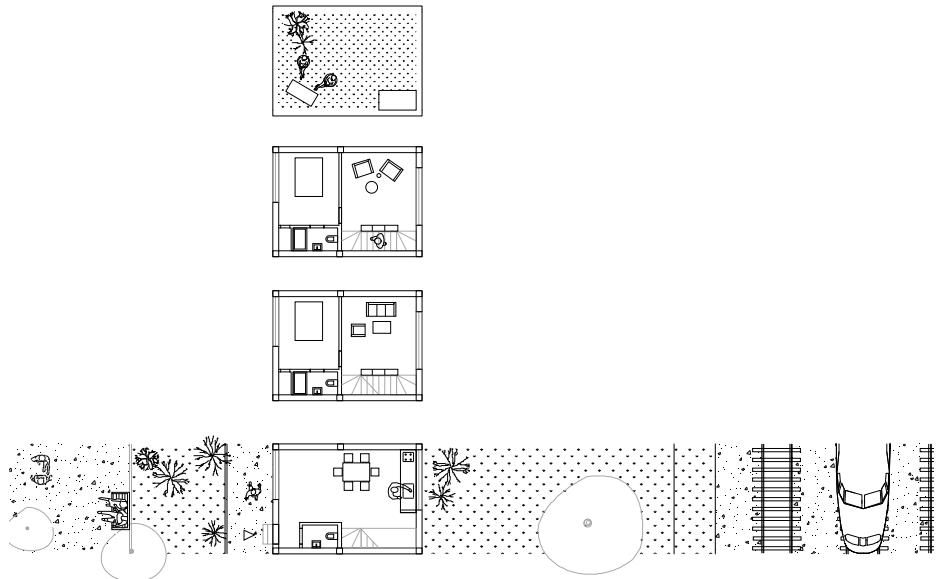
Four Stories

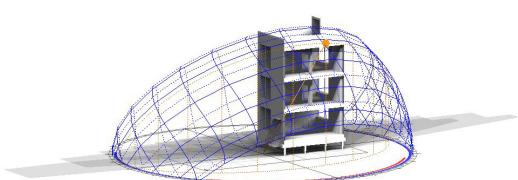
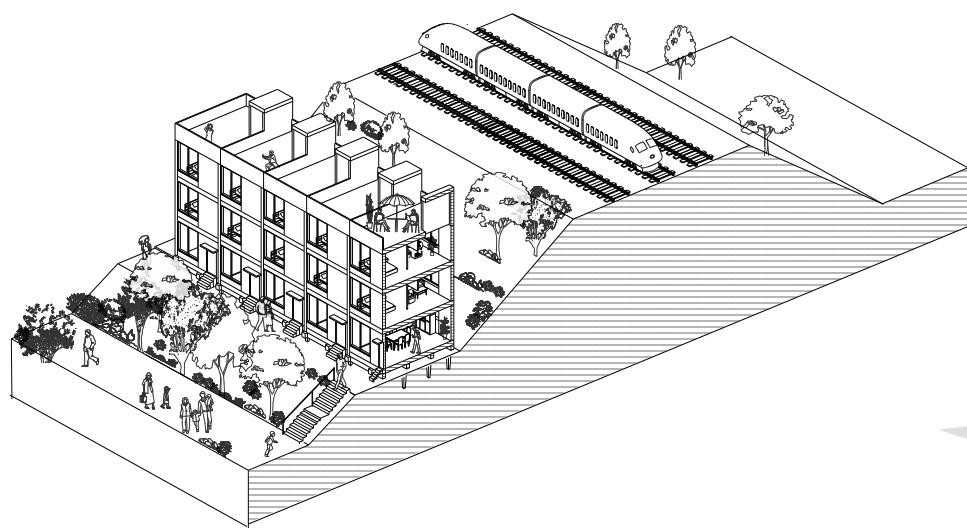
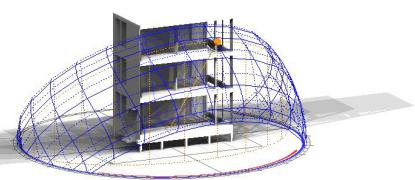
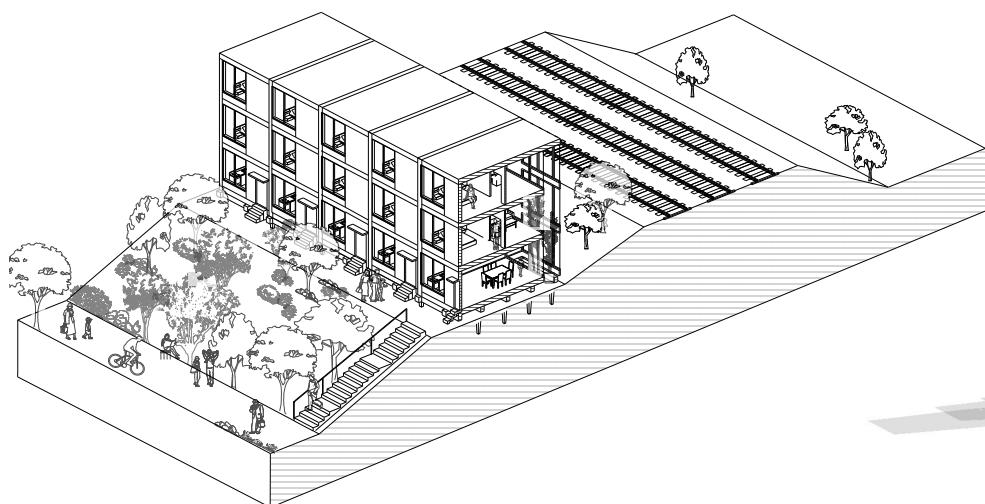
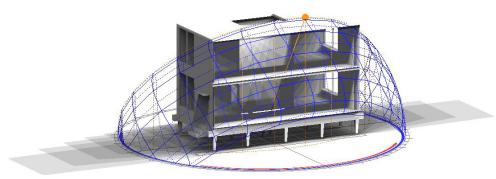
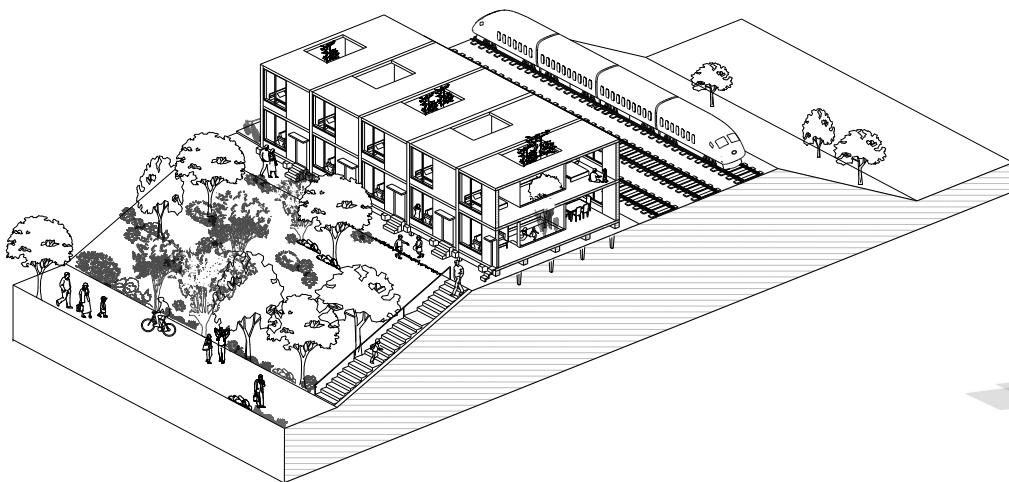
Key Proposition

Robust shielding wall with inoperable windows facing railroad track with rooftop garden in each unit

Function

Reducing noise and vibration, maintaining natural greens in each unit



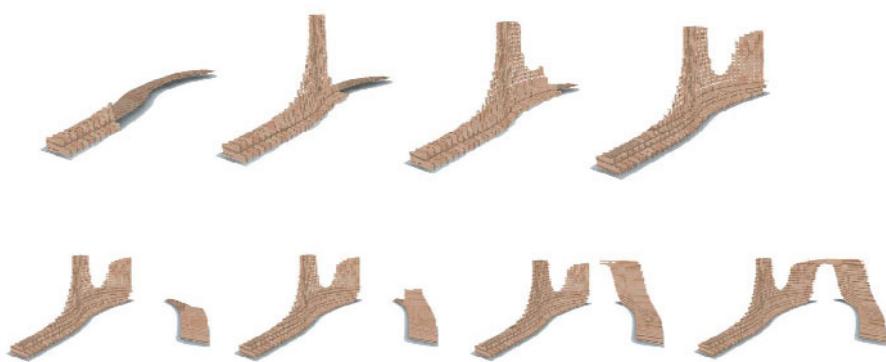




"On The Track"



Interior Green Filter





05. BACK OF WOOD

Pavilion Sitting Area + Recycling Facilities + Bike Racks

Location Governors Island, New York, USA

Fall 2015 Iowa State Design Studio 402

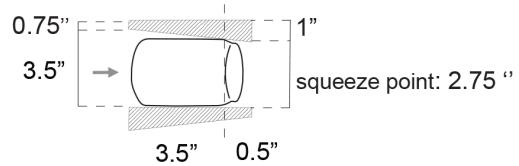
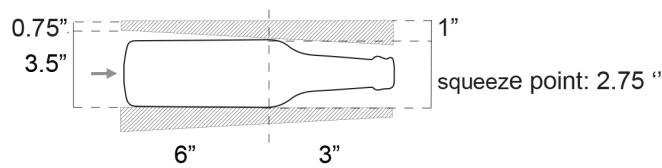
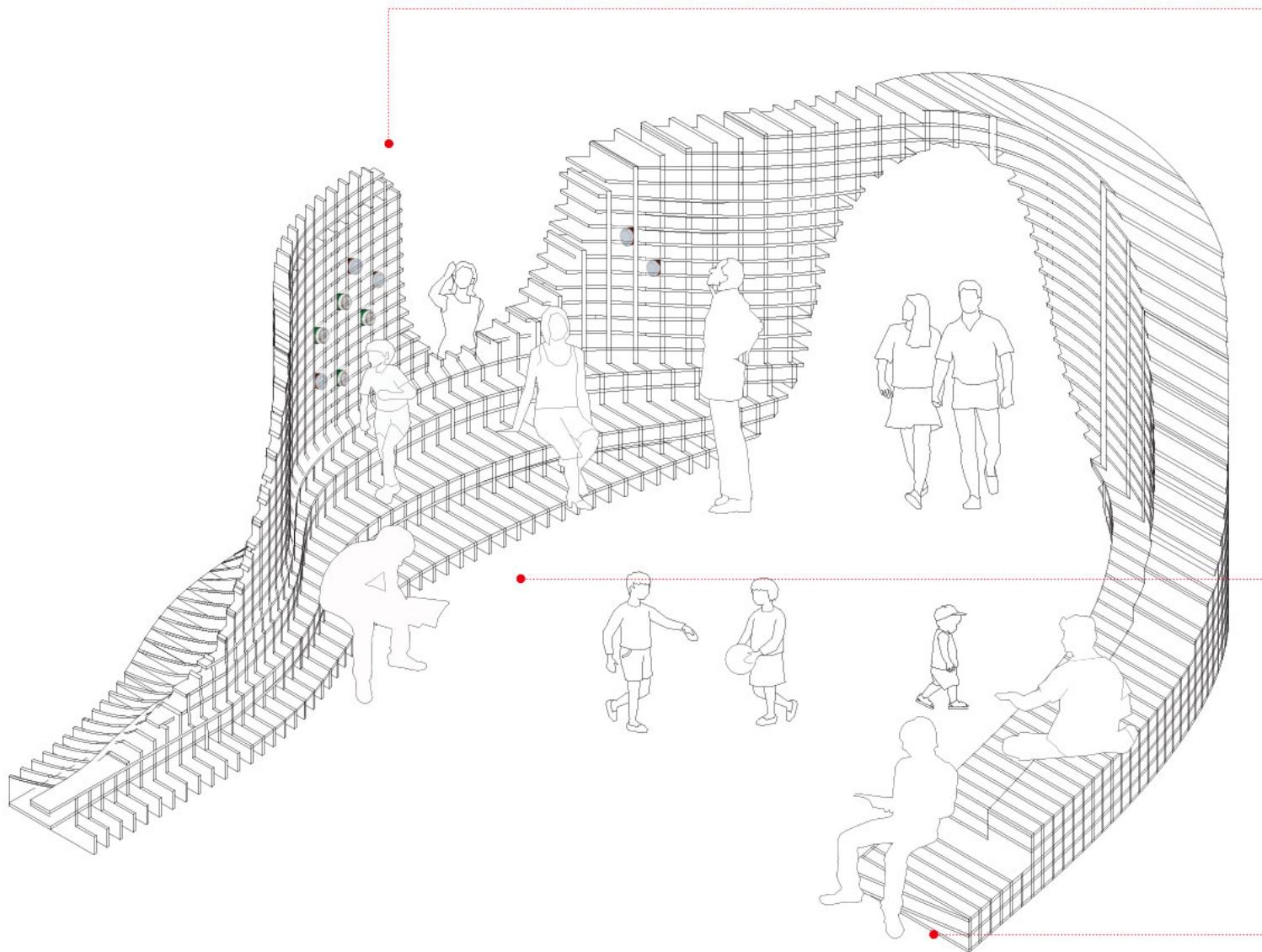
Exhibition AIA Iowa Convention 2015

Instructor Jungwoo Ji

Team Shaohua Dong, Yi Zhi Yew

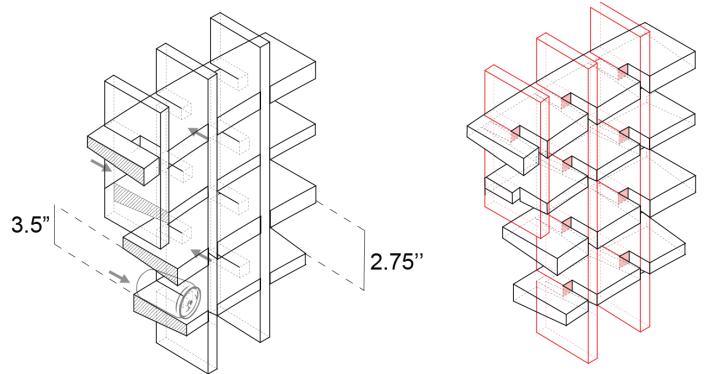
Contribution Conceptual Design, Detail Drawing, Physical Model, Visual Representation, and Writing

Sited in Governors Island, New York, Back of Wood is a contemporary installation constructed solely with prefabricated plywood sheets. The urban furniture adapts ancient interlocking woodwork techniques allowing immediate assembly and disassembly on site without additional connectors. Back of Wood encourages people to linger, perform, explore, and enjoy leisure time in a space that feels inviting. The free standing structure also acts as a recycling center collecting disposable waste people might carry.



Recycling Wall Detail

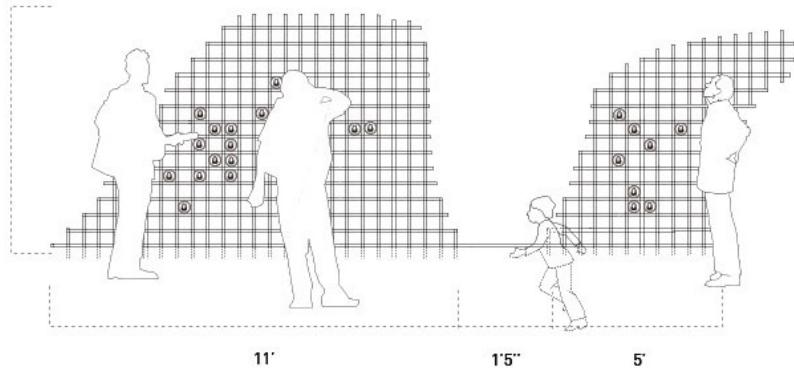
The bottle profiles define the sectional design of the recycling wall. Plywood planks are chipped to create the slightly angled surface allowing bottle and can to be secured in place with a simple push.



Fabrication Detail

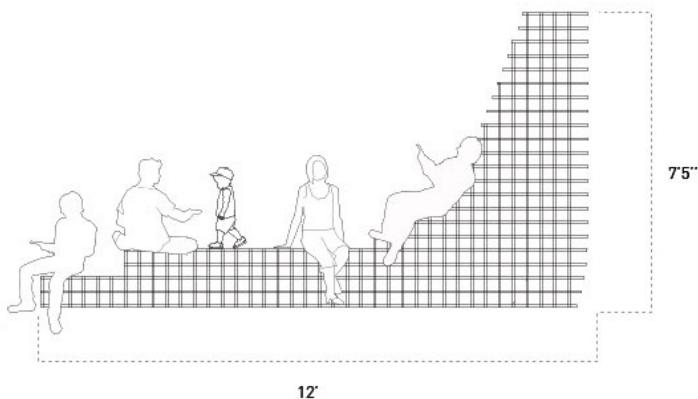
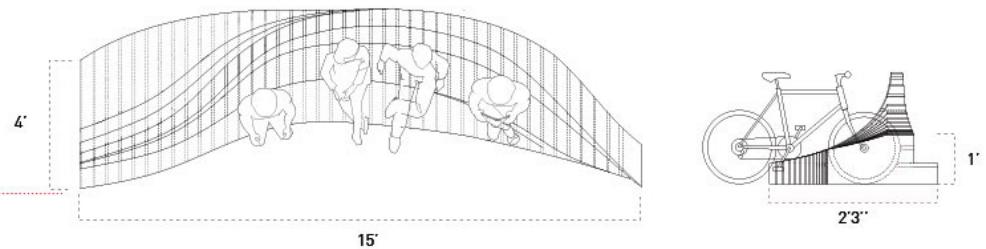
With help of parametric modeling, real-time visualization tools, and large format rapid prototyping CNC bed, the fabrication process of the entire pavilion is set to be completely automated. The double curvature structures are achieved through precisely calculated lock joints.

6



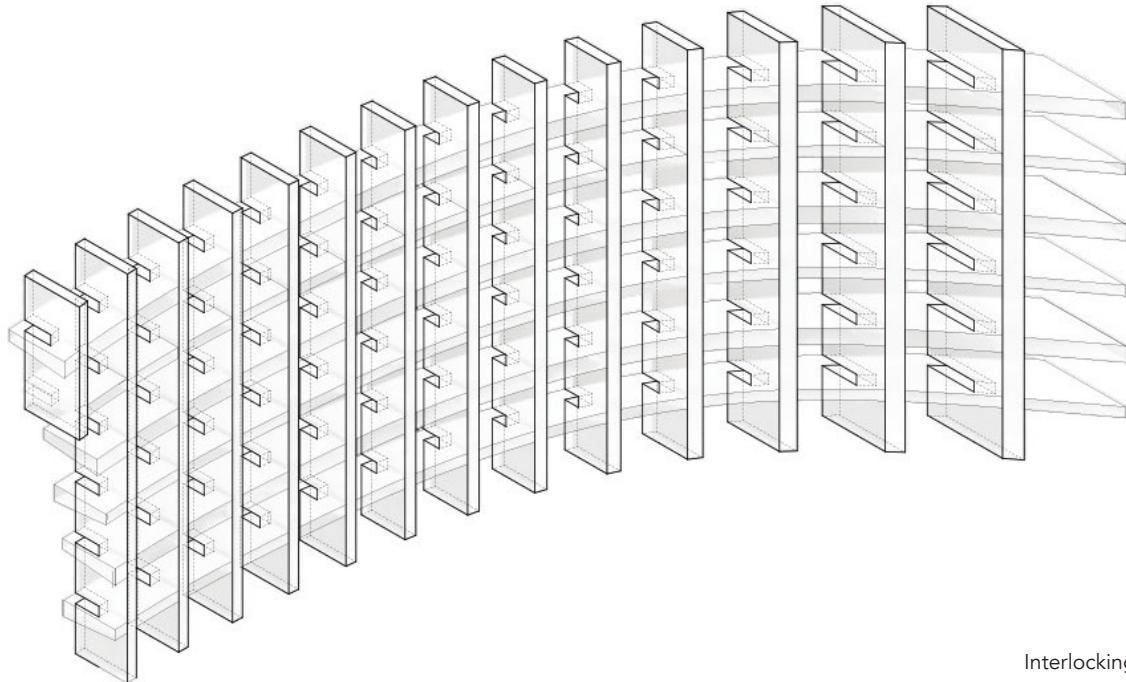
Recycle Wall

The waffle structure allows people to dispose cans and bottles into its openings. The perforated wall transforms as the day progress. As light penetrates the pavilion and turns into aesthetic shadow, the installation quietly reminds people the potential of up-cycling design.



Sitting Area and Bike Parking

The main sitting area is designed based on ergonomics studies. At the inner side, seats are fabricated at different height welcoming people of all ages to rest on. At the outer site, vertical planks are arranged with calculated space in between so bikes could slip into the gaps and be locked in a secured position.



Interlocking Structure

EDUCATION

Columbia University Graduate School of Architecture, Planning and Preservation

Master of Science in Advance Architectural Design | MsAAD

Exhibition | End of Year Show 2017 | "Human Bonding"

New York, NY

Jun 2016 - May 2017

Iowa State University

Bachelor of Architecture | BArch + Minor in Business

Dean's List | Spring 2013, Fall 2013, Fall 2014, and Spring 2015
 Honor | 2013, 2014, and 2015 | Student with GPA 3.6 and above
 Winner | Hanzen Prize 2013 | Jury: Reinier de Greef, Partner, OMA
 Selected Entry | Drawing of the Year 2013 | Arkitektskolen Aarhus, Denmark
 Exhibition | Studio Toy 2015, College of Design Gallery | "Tactile Intermediary"

Ames, IA

Aug 2011 - May 2016

ETH | Eidgenössische Technische Hochschule

Herzog & de Meuron Architekten + ETH Studio Basel | Visiting Study

Researcher | Historical urban housing typology in Basel | "achtung: die Landschaft"
Travel Studio
 Coordinator | Joint workshop at The University of Tokyo

Zürich, Switzerland

Feb 2015 - Jul 2015

Tokyo, Japan

Mar 2015

EXPERIENCE

Imrey Studio LLC

Freelance Architectural Designer

Produced schematic 3D modelings and renderings using Rhinoceros and Photoshop.
 SD Phase | "Harlem School of the Arts"

New York, NY

Nov 2017 - Present

MOS Architects

Installation Assistant

Aided on-site final fabrication process at Storefront for Art and Architecture.
 Fabrication | "Souvenirs: New New York Icons"

New York, NY

Sep 2017

Iowa State University

Teaching Assistant

Assisted to create the studio syllabus.
 Provided critical feedback to students at critiques and portfolio reviews.
 BArch Studio | "Core Studio I, DSN S 102"

Ames, IA

Aug 2015 - Dec 2015

Peer Mentor

Facilitated the communication between teaching faculties and students.
 Prepared and coordinated guest lectures.
 BArch Studio | "Design Representation, DSN S 131"

Ames, IA

Aug 2014 - Dec 2014

China Northwest Architectural Design and Research Institute

Intern

Drafted master plans and test-fits in AutoCAD.
 Created presentations and design briefs for meetings with client and contractor.
 Streamlined internal communications addressing project objective and deliverables.
 SD & DD Phase | "Northwest University of Political Science and Law"
 Office Admin | Internal work-flow and resource management

Xi'an, China

May 2014 - Aug 2014

EXPERTISE

Rhinoceros 5 with V-Ray

Revit 2017

Keyshot 7

AutoCAD 2017

SketchUp with V-Ray

Rapid Prototyping

Photoshop CC

Illustrator CC

Indesign CC

EchoTech

Data Visualization

English and Mandarin

