

PORTFOLIO

YEOWZHIWEIMICHAELAUGUSTINE

MAY 2019



Currently completing his Masters Thesis in the Singapore University of Technology and Design (SUTD), Michael Yeow's interests lies in the field of aural architecture, shaping relationships between people and the auditory landscapes of space created by the built and natural conditions. Michael is also concerned about the environmental impacts of architecture and urban planning, and open to designing for the circular economy. Design computation and digital fabrication are some of the tools that he uses to experiment and work towards these design intentions.

When Michael decides not to spend the weekend in school to prepare for an insane amount of submissions, he heads back home to spend his precious time playing computer games and reading books, the latter being an affair of gaining more architectural knowledge.



YEOW ZHI WEI MICHAEL AUGUSTINE | 杨志伟

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Address: 806 Thomson Road, #01-10, (S)298189

Areas of Interest:

Aural Architecture, Urban Planning and Regeneration, Computational Architecture, Architectural Lighting, Point Cloud Modelling

EDUCATION

Singapore University of Technology and Design

Bsc. Architecture and Sustainable Design

(May 2015 - August 2018)

Zhejiang University

Asian Leadership Programme 2016

(May - August 2016)

Catholic Junior College

A-Level Qualifications

(January 2011 - November 2012)

EXHIBITIONS

PARKing Day 2015

Perspective Art Installation

Parking Lot at Horne Road

Makerfaire 2016

Interactive Wall Fabrication Team

SUTD Library

Endemic Textures

Featured Academic Projects

SUTD Library

COMPETITIONS

iLight 2018 Institutional Installation

The Butterfly Effect

(Esplanade Green)

URA My Ideas for Public Spaces 2017

Suspended Origami Installation

(Multiple Possible Indoor Locations)

CTBUH Student Competition 2017

Educational and elder care mixed development

(Lower Pierce Reservoir)

WORK EXPERIENCE

BHATCH Architects

Architectural Assistant

(September - December 2018)

Future Cities Laboratory - Cooling Singapore

Graphic and Urban Designer

(May - August 2017, February - June 2018)

Singapore University of Technology and Design

Teaching Assistant and Student Helper

ASD Term 5 Teaching Assistant

(February - April 2018)

SOFTWARES

Modelling Tools

Rhino, Grasshopper, Autocad, Sketchup, ANSYS Fluent, Fusion 360, 3DS Max, Design Builder, CloudCompare, i-Simpa, Unreal Engine

Graphical Tools

Photoshop, Illustrator, InDesign, Premiere Pro

Administrative Tools

Microsoft Office (Word, Powerpoint, Excel)

PROFICIENCIES

Languages

Spoken and Written English and Mandarin

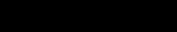
Hardware Skills

Metalworking, Woodworking, Laser Cutting, Handcutting, CNC Milling

Aesthetic Touches

Drawing, Sketching, Piano, Violin, Guitar

Modelling Software

| | |
|----------------|---|
| Rhino 5 |  |
| Grasshopper |  |
| AutoCAD 2017 |  |
| Sketchup |  |
| Revit |  |
| Unreal Engine |  |
| Fusion 360 |  |
| 3DS Max |  |
| Design Builder |  |
| CorelDraw |  |
| CloudCompare |  |

Other Software

| | |
|--------------------|--|
| V - Ray |  |
| Adobe Photoshop |  |
| Adobe Illustrator |  |
| Adobe InDesign |  |
| Adobe Premiere Pro |  |
| Word |  |
| Powerpoint |  |
| Excel |  |

Hardware

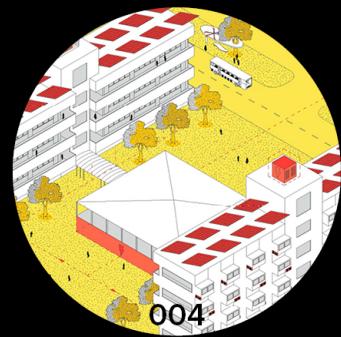
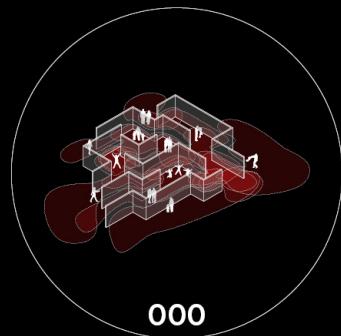
| | |
|-----------------------|---|
| Lasercutting |  |
| Handcutting |  |
| Sketching and Drawing |  |
| CNC Router |  |
| Woodworking |  |
| Metalworking |  |

Languages

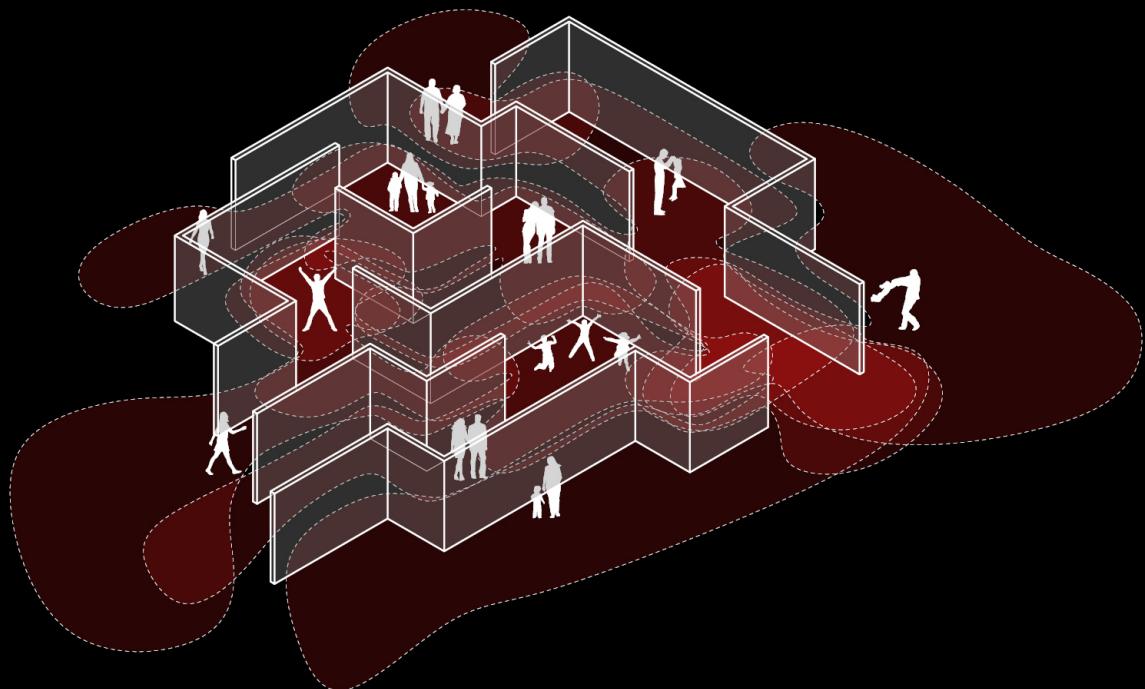
| | |
|----------|--|
| English |  |
| Mandarin |  |

CONTENT

- 000 | **AURAL ARCHITECTURE** | Acoustic Public Space
- 001 | **THE STITCH** | Low-Rise High Dense Housing
- 002 | **INFUSED ECOLOGIES** | Brani Island Revitalisation
- 003 | **PARK@BIDADARI** | Urban Metabolism Hub
- 004 | **VISUALISATIONS** | Cooling Singapore Work
- 005 | **MISCELLANEOUS** | Fabrications//Drawings//Photos



000



AURAL ARCHITECTURE

YEAR: 2019 (ONGOING)

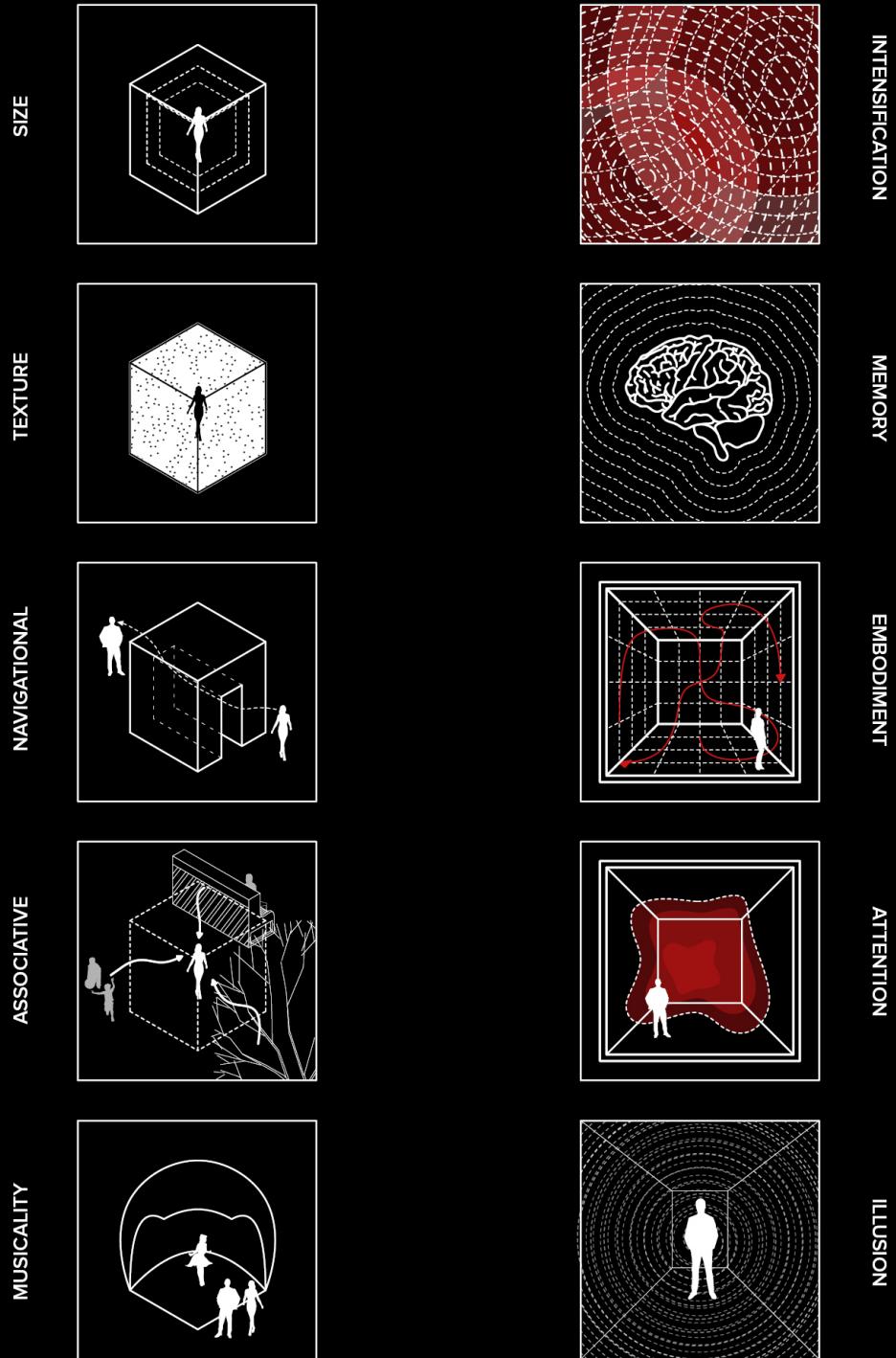
MENTORS: CHRISTINE YOGIAMAN
KENNETH TRACY

The geometrical and material aspects of surfaces that define our built environment often serve to enhance the visual composition of architecture and the experience we see. However, if given the opportunity to dictate and control the manner in which we experience the sounds of our surroundings, our perception of space changes.

The thesis would like to propose the design of aural architecture through the control of soundscapes by manipulating the geometrical and material properties of surfaces and volumes that we define as key elements of our built environment. Demographics living on each floor.

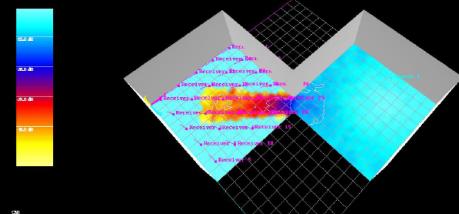
The next few pages are some of the material generated based on the research surrounding the key topics of aural architecture. A final thesis book and physical deliverables will be produced.

KEY DESIGN STRATEGIES

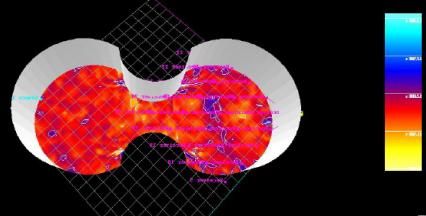
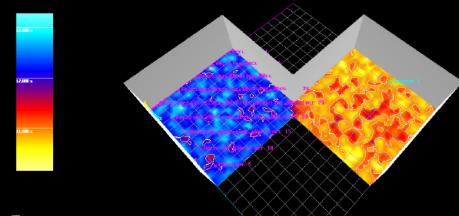
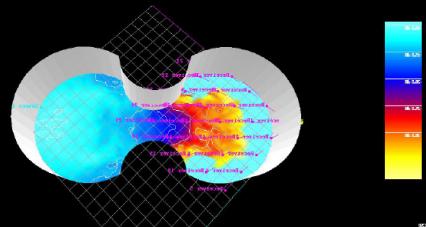


ACOUSTIC STUDIES

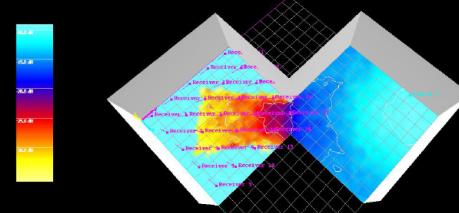
10X10M Rooms Adjacent



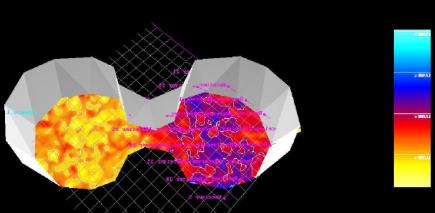
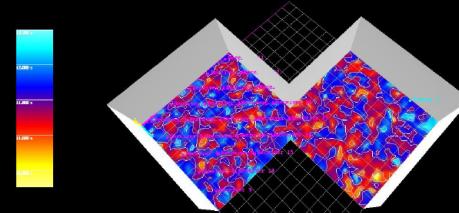
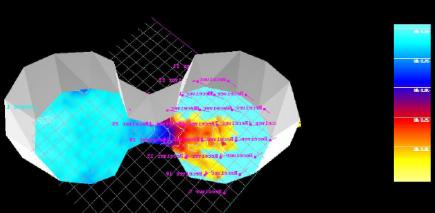
10X10M Rooms Adjacent
(Circular)



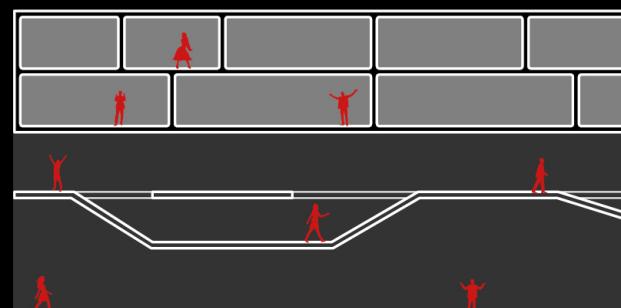
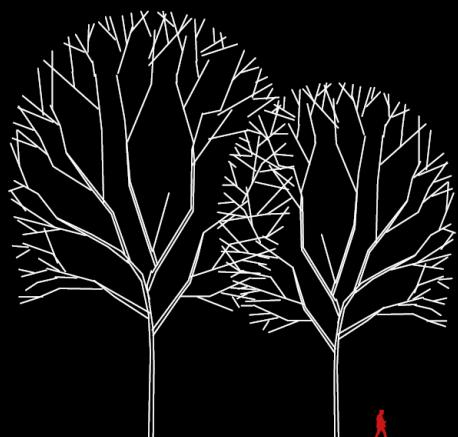
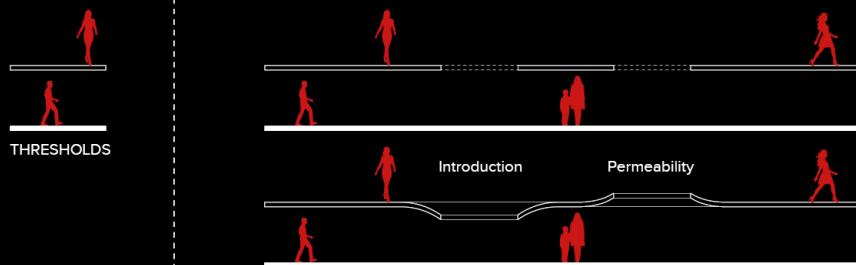
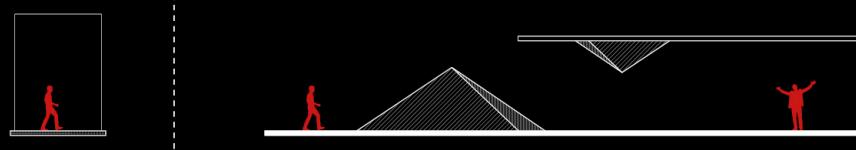
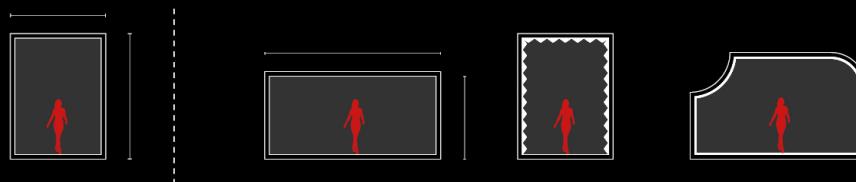
20X20M Rooms Adjacent



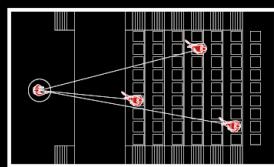
20X20M Rooms Adjacent
(Circular, Polygonised Surfaces)



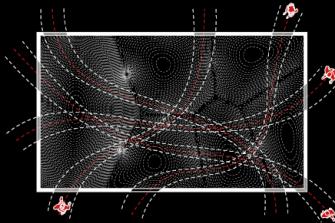
CONCEPTUAL DIAGRAMS FOR DESIGN



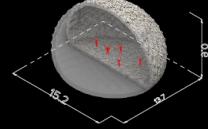
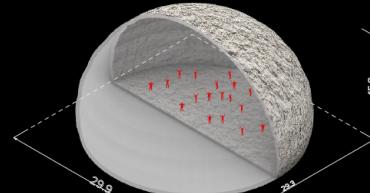
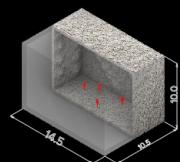
Conventional Theatre



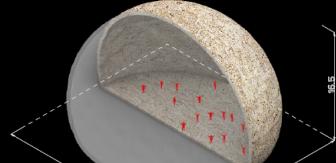
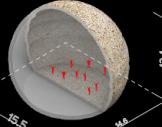
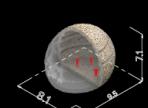
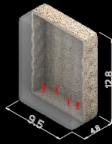
Proposed Intervention



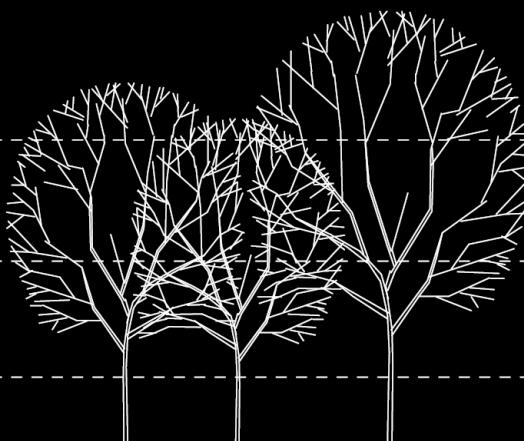
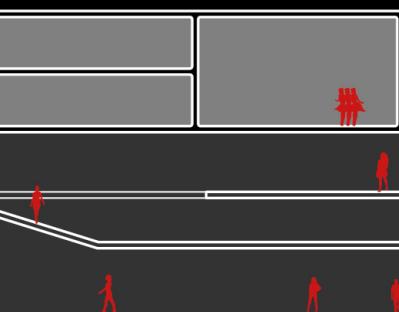
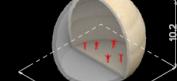
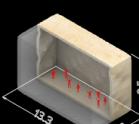
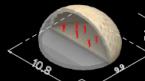
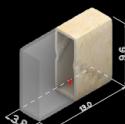
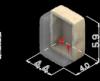
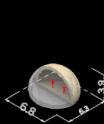
ACOUSTIC PLASTER
0.55 Absorption Coefficient



STRANDBOARD
0.35 Absorption Coefficient

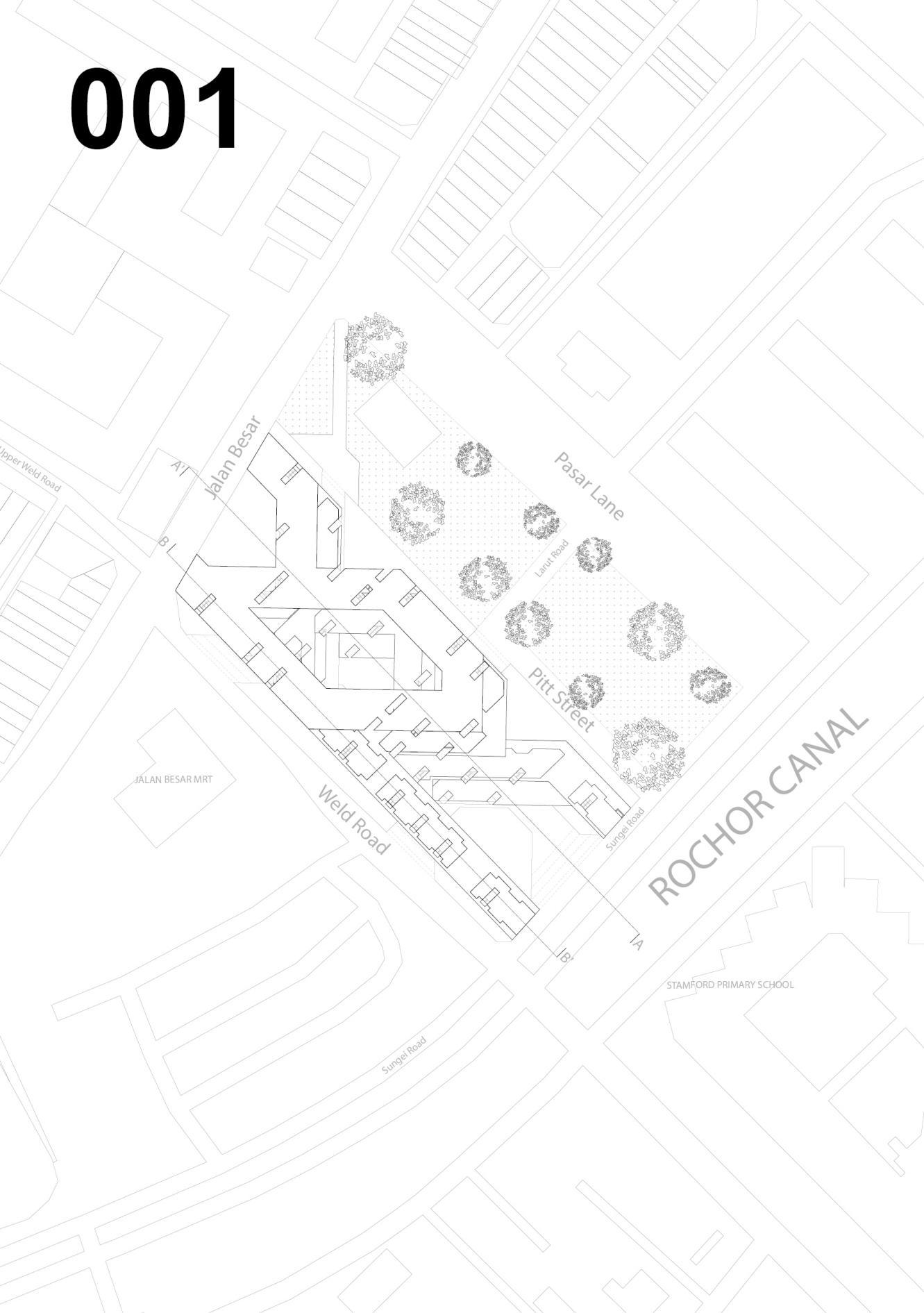


PLYWOOD FINISH
0.01 Absorption Coefficient



INDOOR SPACES
OUTDOOR SPACES

001



THE STITCH

YEAR:

2017

MENTORS:

TREVOR RYAN PATT

The shophouse districts of Jalan Besar and Kampong Glam have been distinctively separated by rapid redevelopment of the spaces in between. HDB blocks and shopping malls now tower over the remnants of heritage and physically reject the history of the area.

The blur between private and public realms in housing typologies of today have been eliminated because of various political and security agendas, yet creating a collection of households rather than a bonded community. The project explores the implementation of courtyard apertures found in shophouses into a mid-rise housing typology, shared between adjacent units to promote social interaction between neighbours, binding the community in an intangible way. Formal strategies of shaping and sculpting plates of each floor caters to the daily activities of residents of different demographics living on each floor.

DEMOGRAPHIC ANALYSIS



LAVENDER



LITTLE INDIA



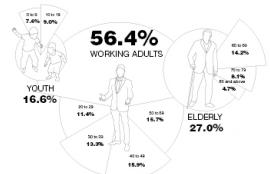
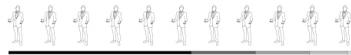
FARRER PARK



SUNGEI ROAD



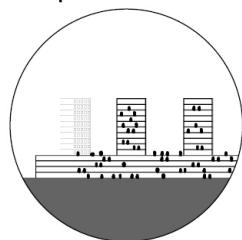
KAMPONG GLAM



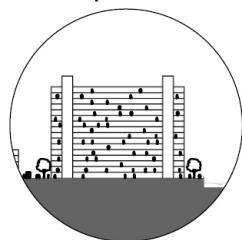
HISTORICAL PRESERVATION



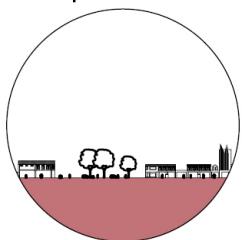
AA' | Rochor Centre



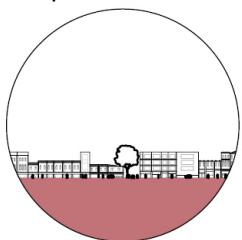
BB' | Block 29



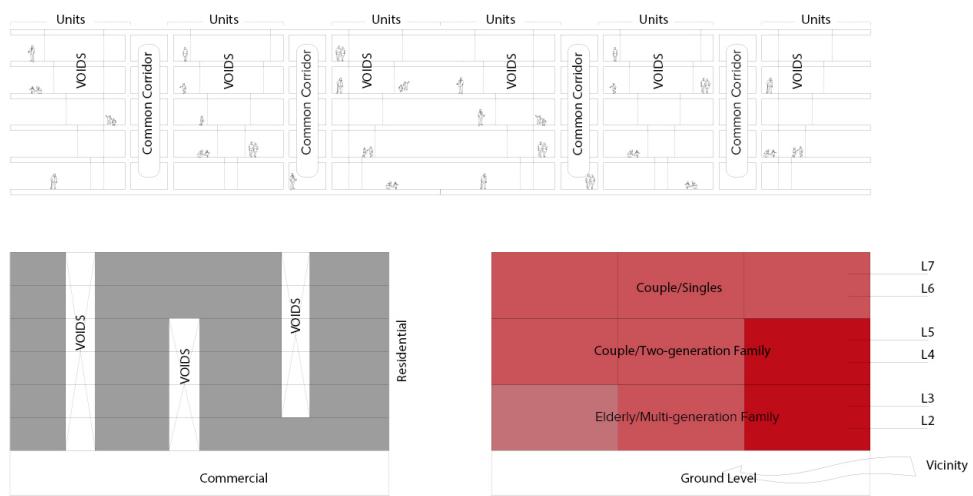
CC' | Little India



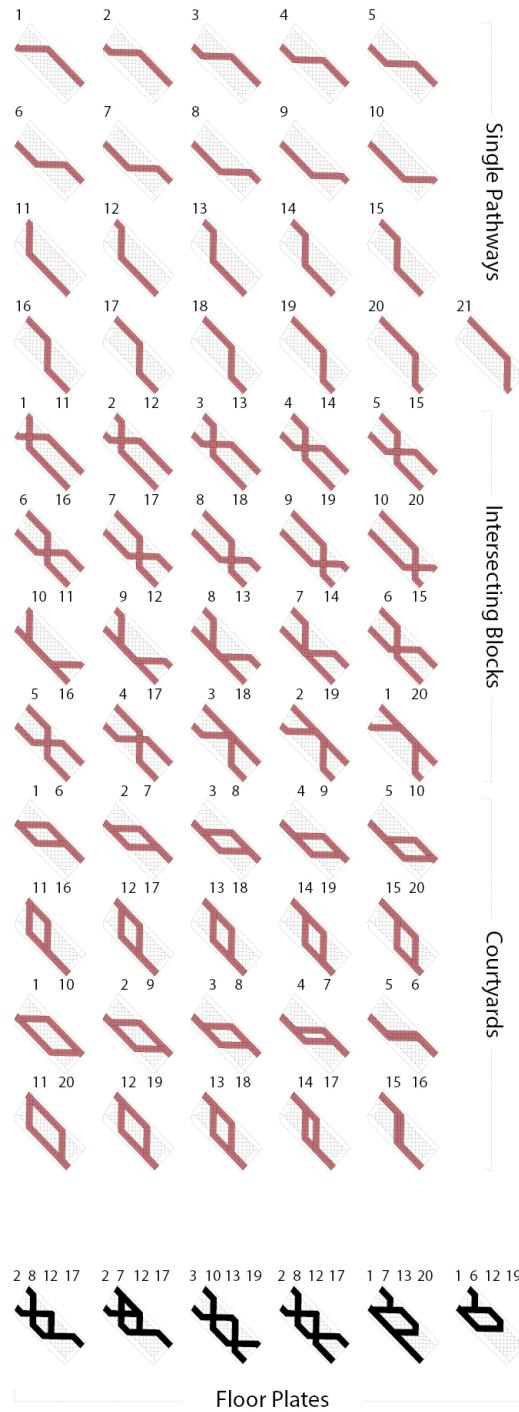
DD' | Kampong Glam



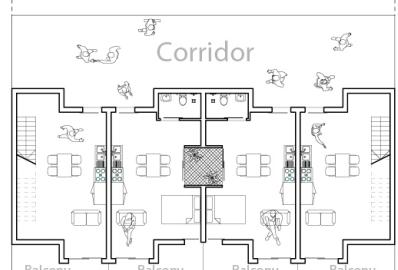
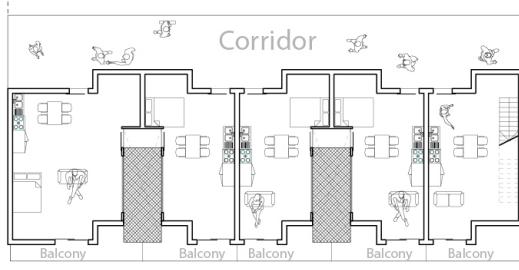
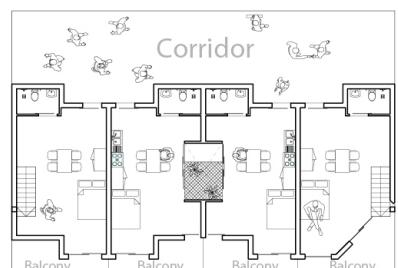
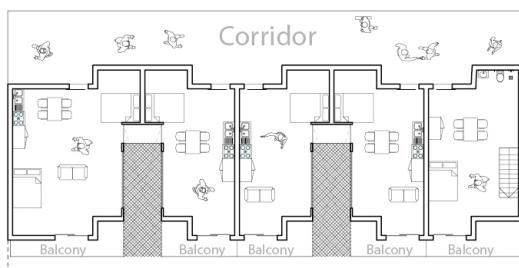
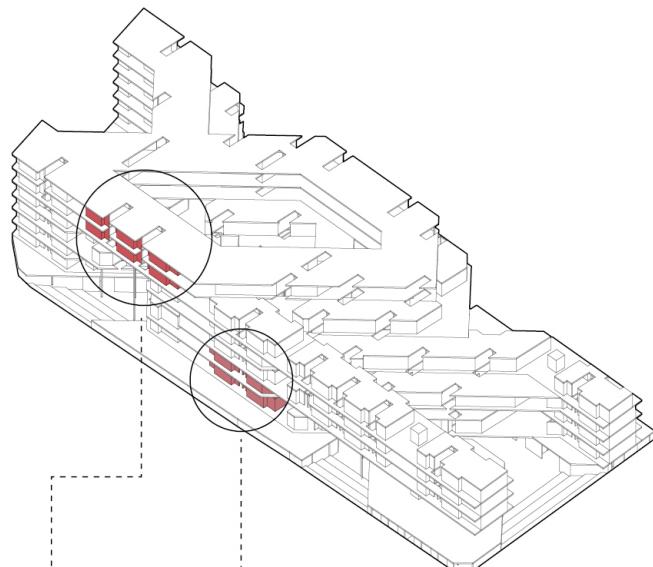
CONCEPT DIAGRAMS

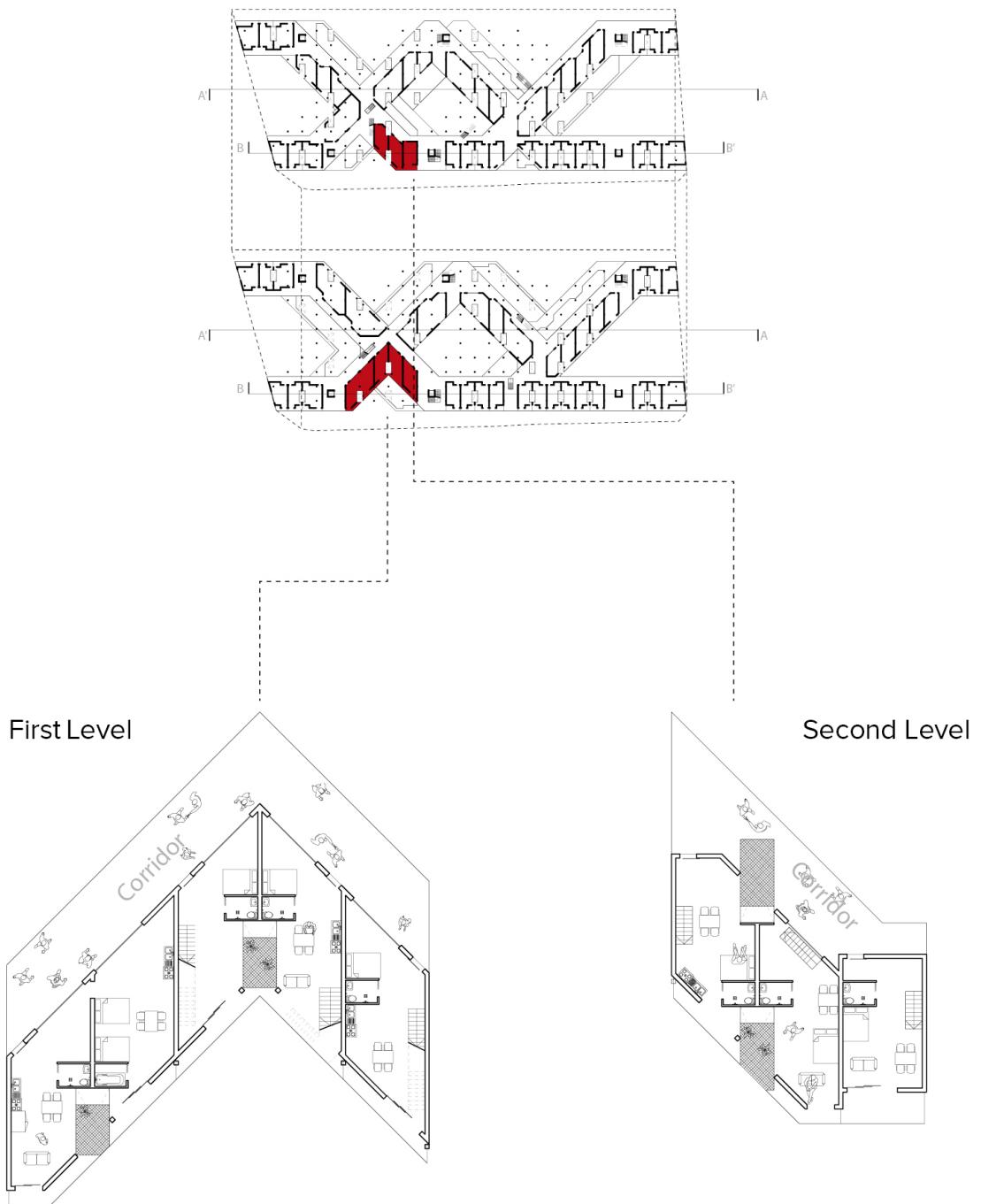


FLOORPLATE GEOMETRY ITERATIONS



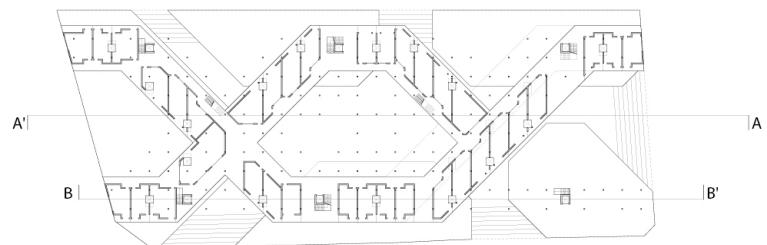
SELECTED UNIT PLANS | 1:400



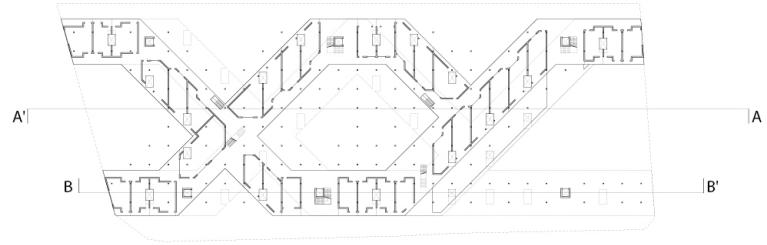


FLOOR PLANS | 1:2000

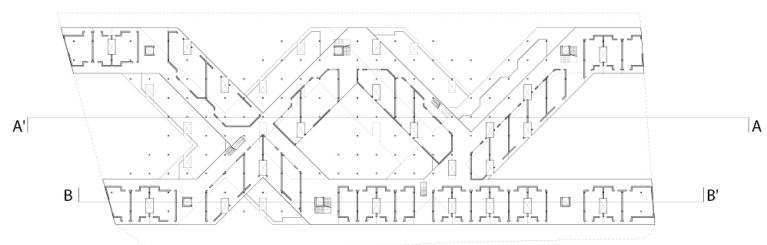
First Floor



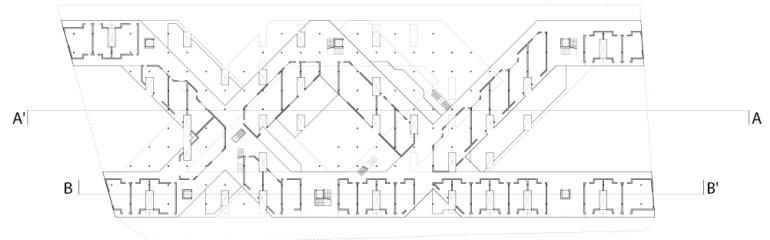
Second Floor



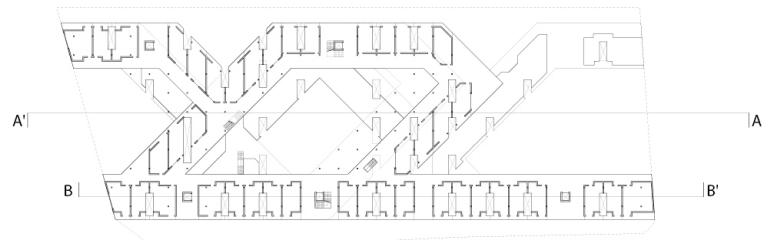
Third Floor



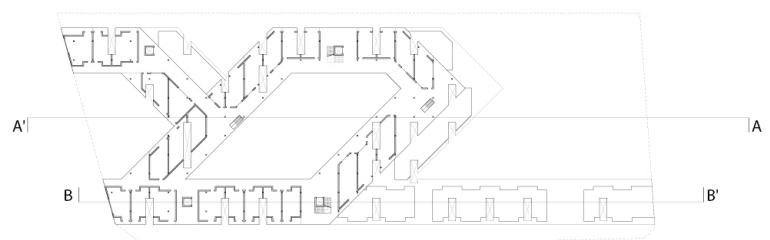
Fourth Floor



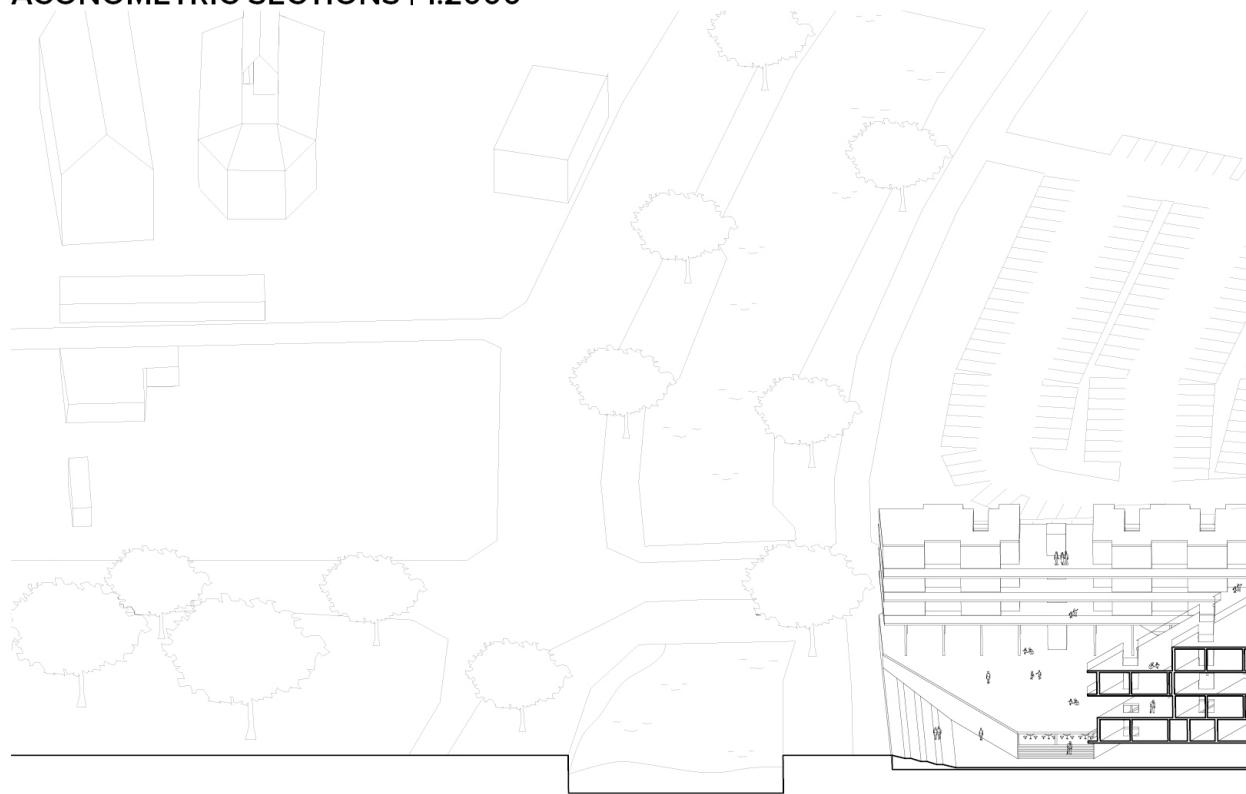
Fifth Floor

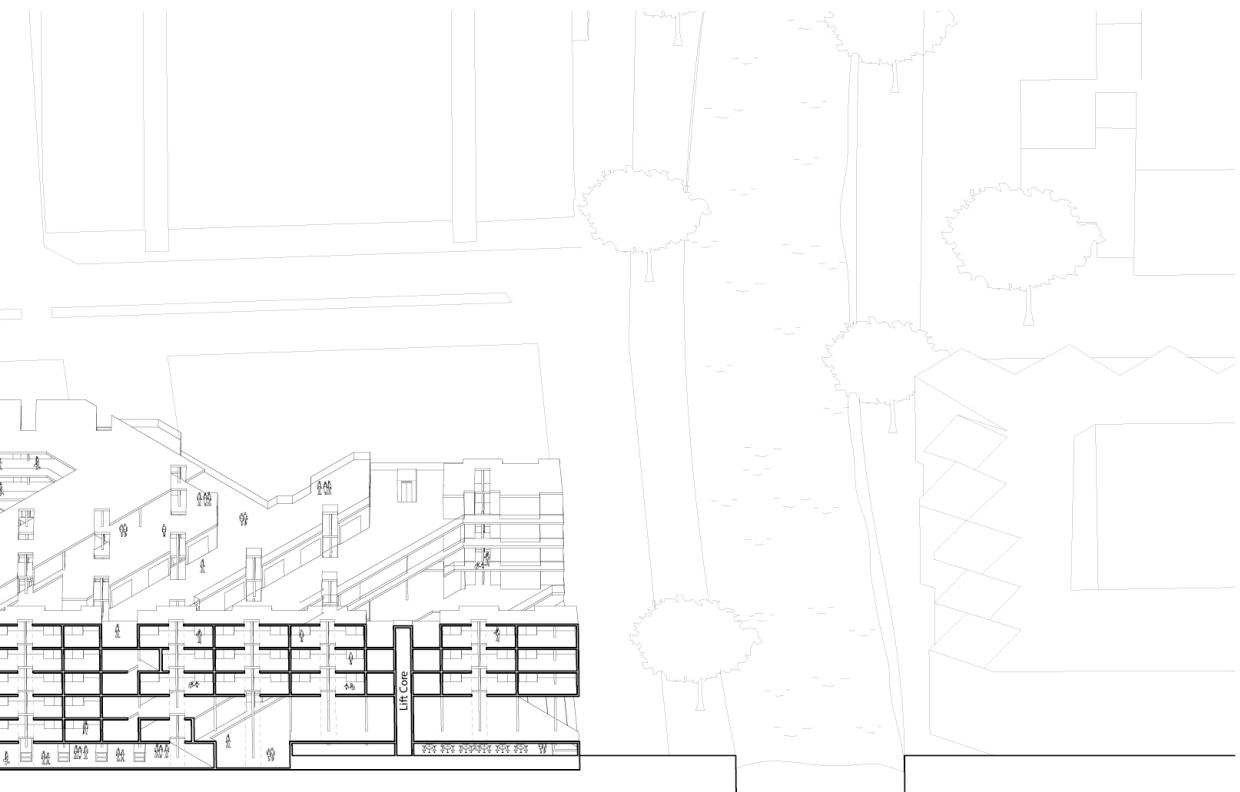
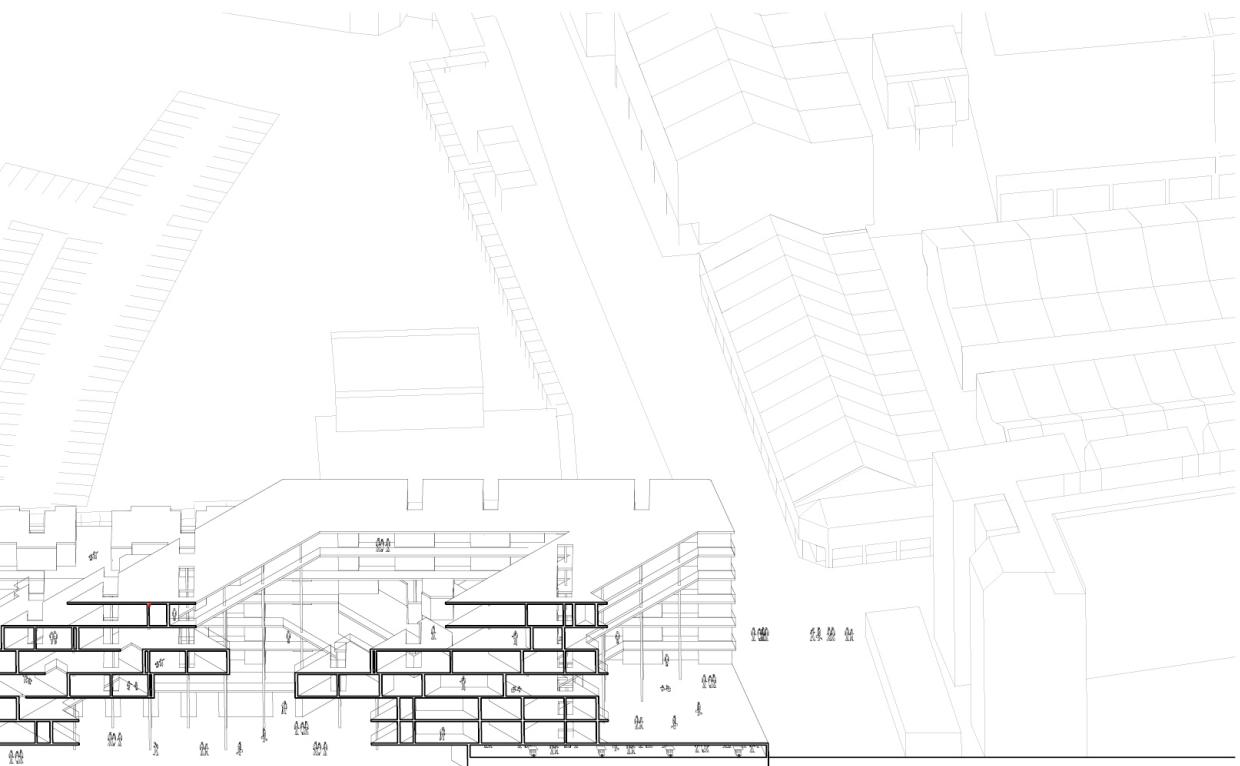


Sixth Floor



ACONOMETRIC SECTIONS | 1:2000

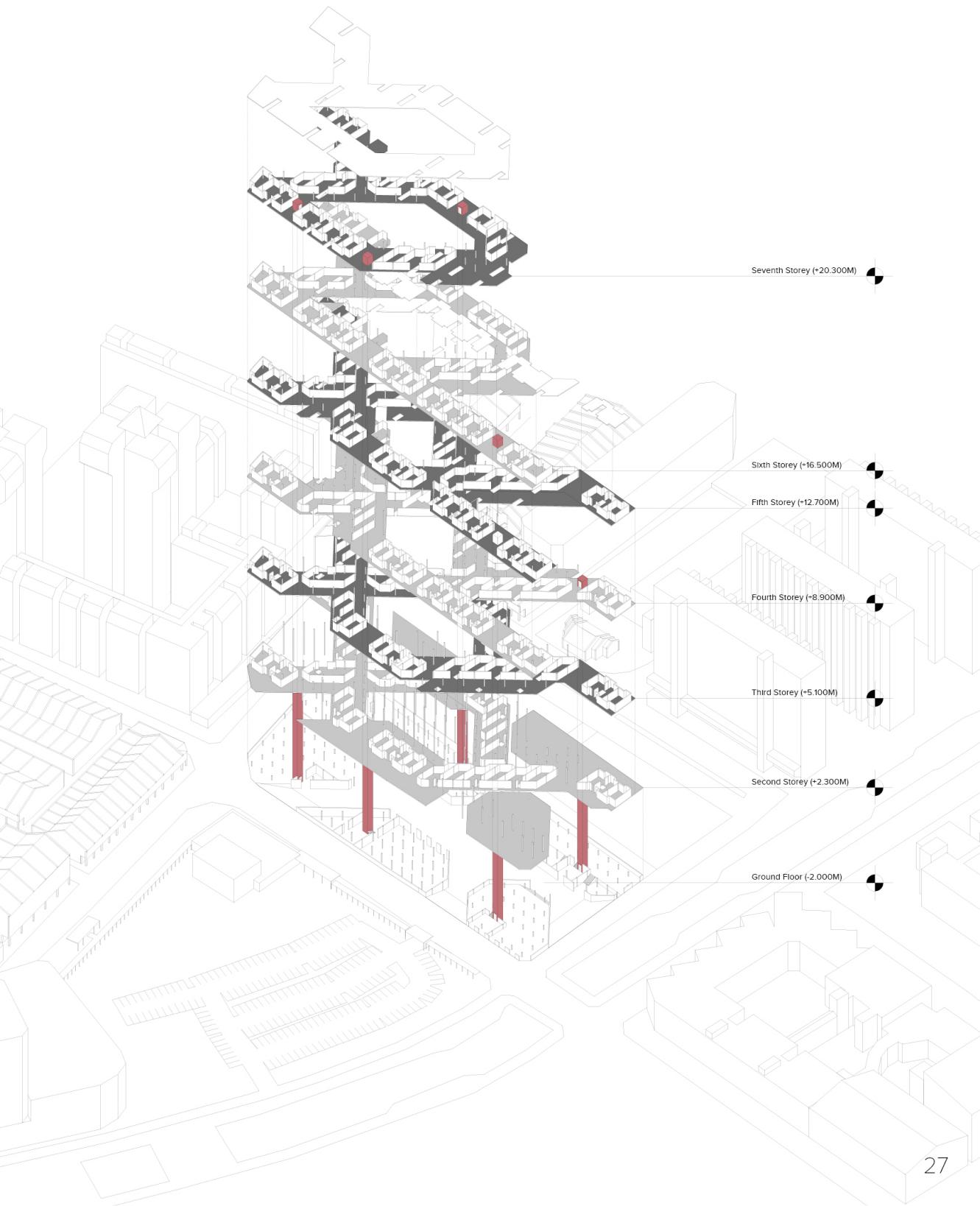


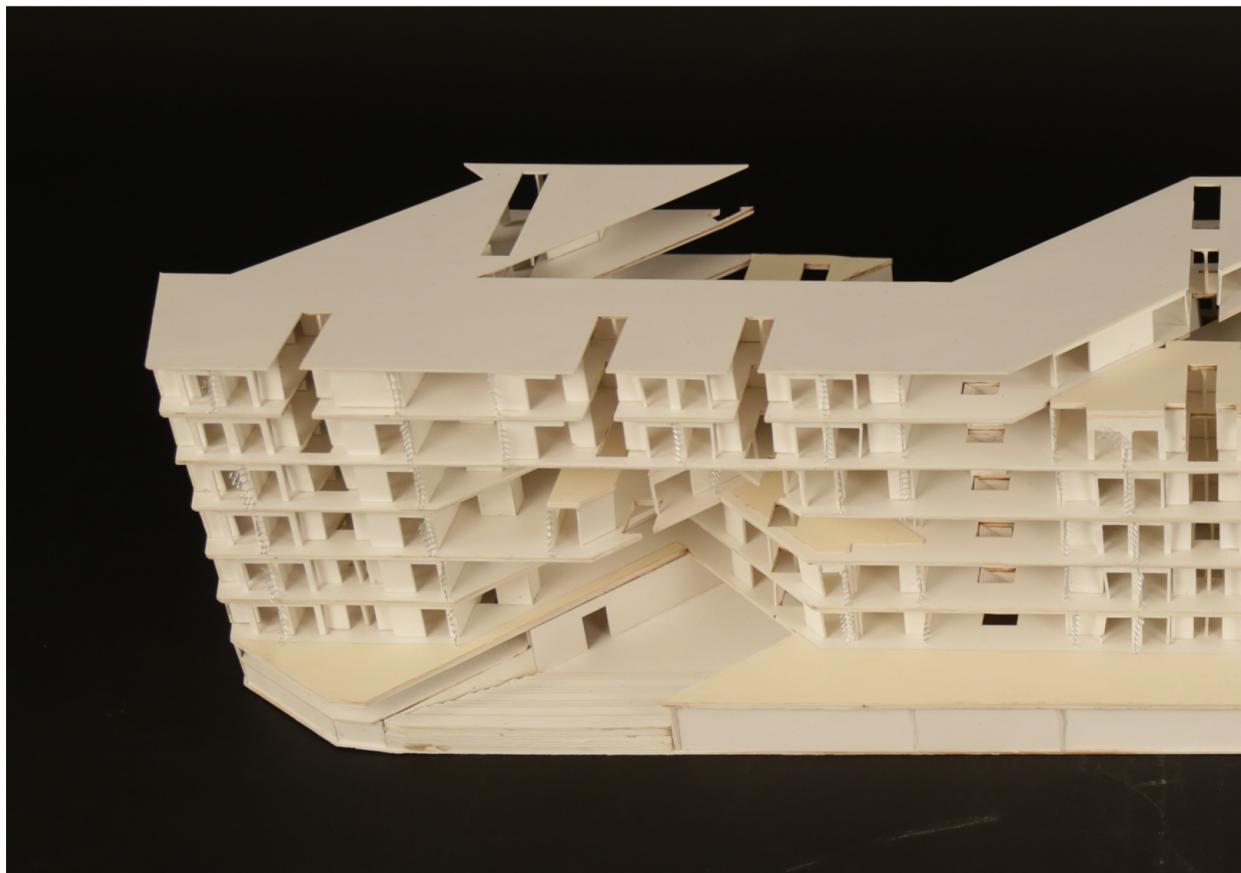


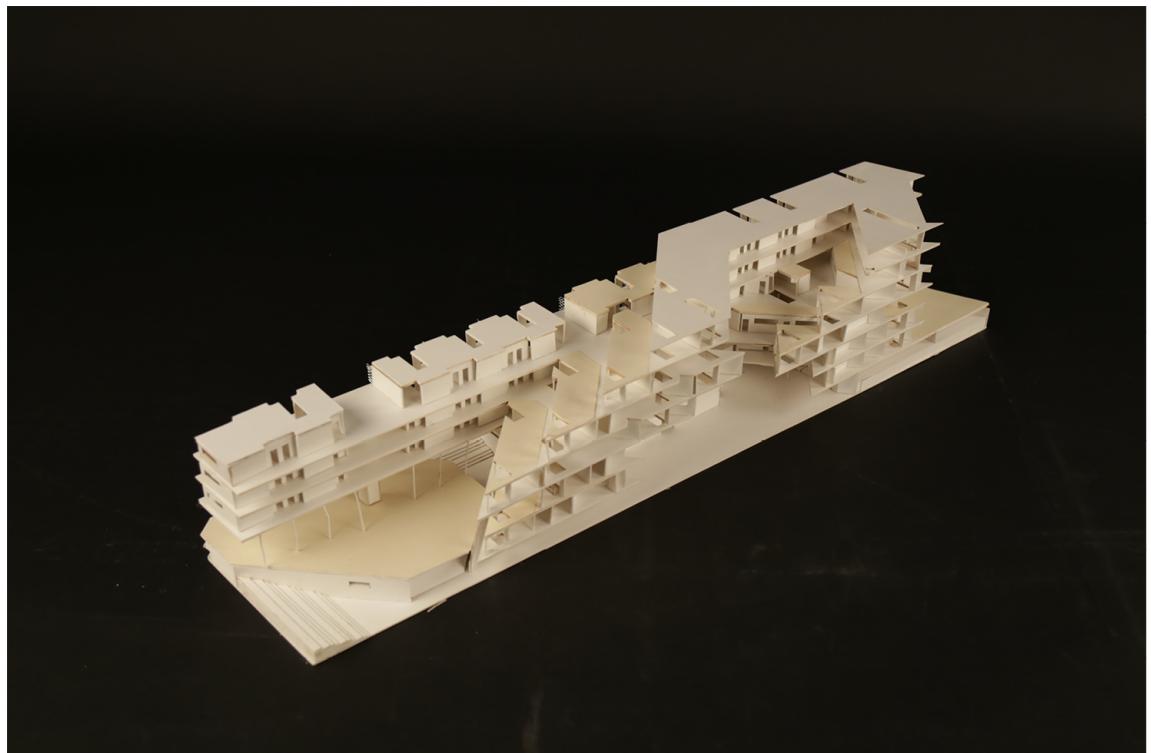
INTERIOR AND EXTERIOR RENDERS



EXPLODED AXONOMETRIC







002



INFUSED ECOLOGIES

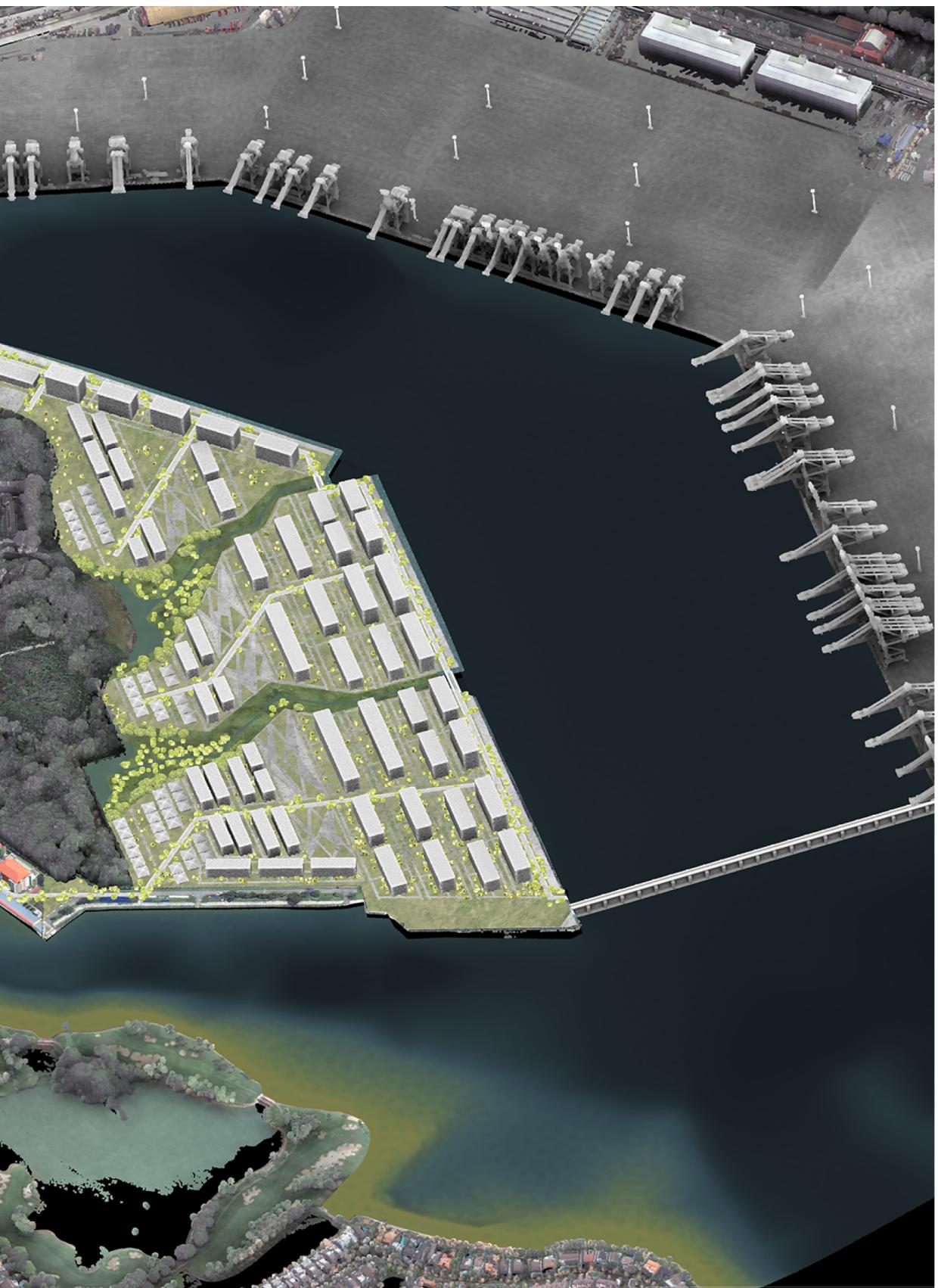
YEAR: 2019
MEMBERS: ZAYAR LIN, MICHAEL YEOW
MENTORS: PHILIPP URECH

The port at Tanjong Pagar is stipulated to be moved to Tuas. As a result, the development of the vacated land has become a key topic of discussion. Amongst these areas is Pulau Brani, an island we normally pass off as the scenery along our way to Sentosa, which possesses rich history and potential for future development.

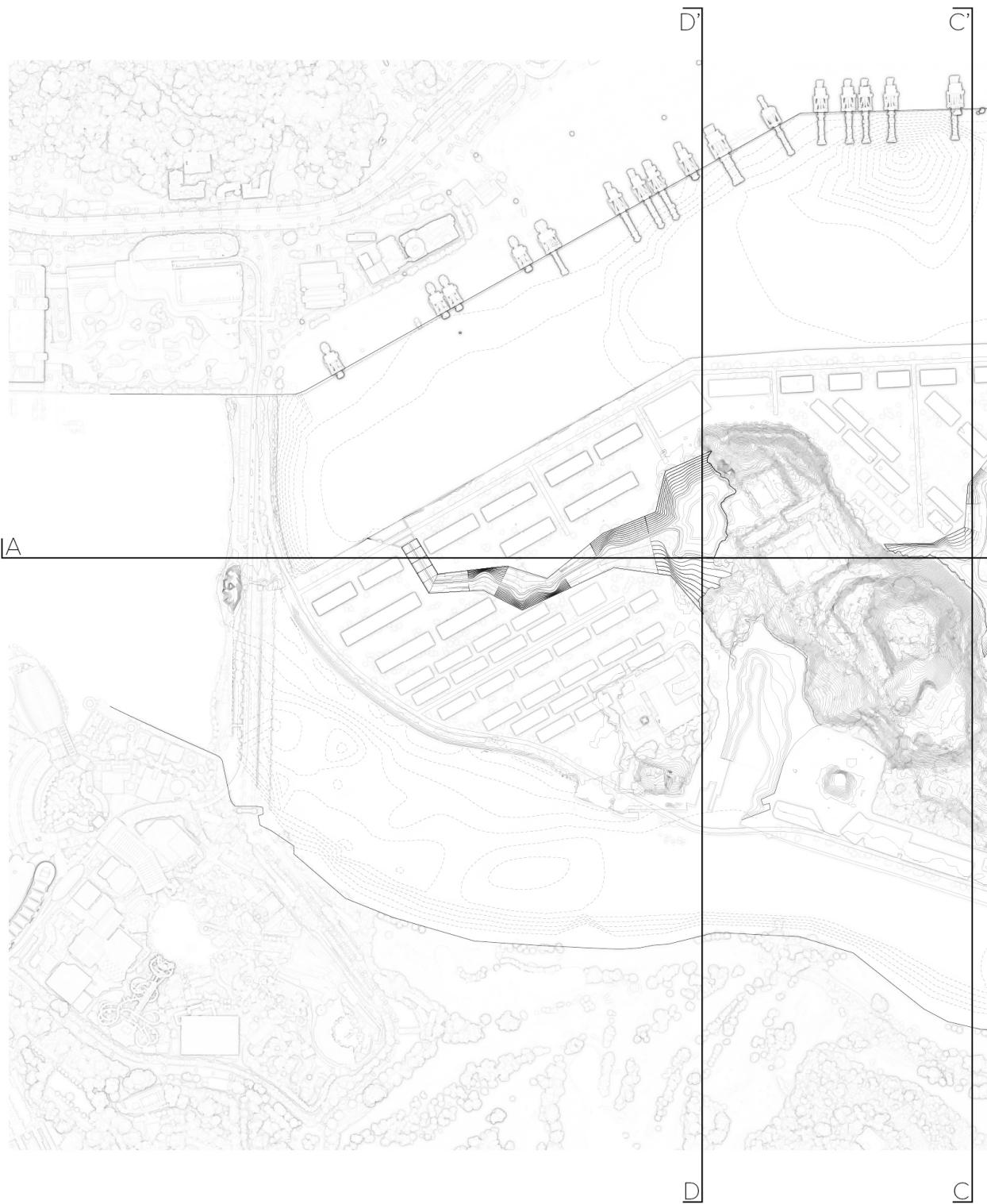
Pulau Brani, from an aerial view, can be considered as a patchwork of two entities; a central hill of greenery with inserted low-rise developments, and the concrete jungle and platforms that enclose this green entity. Our team wished that an intermingling of these two bodies could be further explored in the landscaping of the vacated island through the carving of water channels that could create spaces of interaction between people and the ecologies introduced.

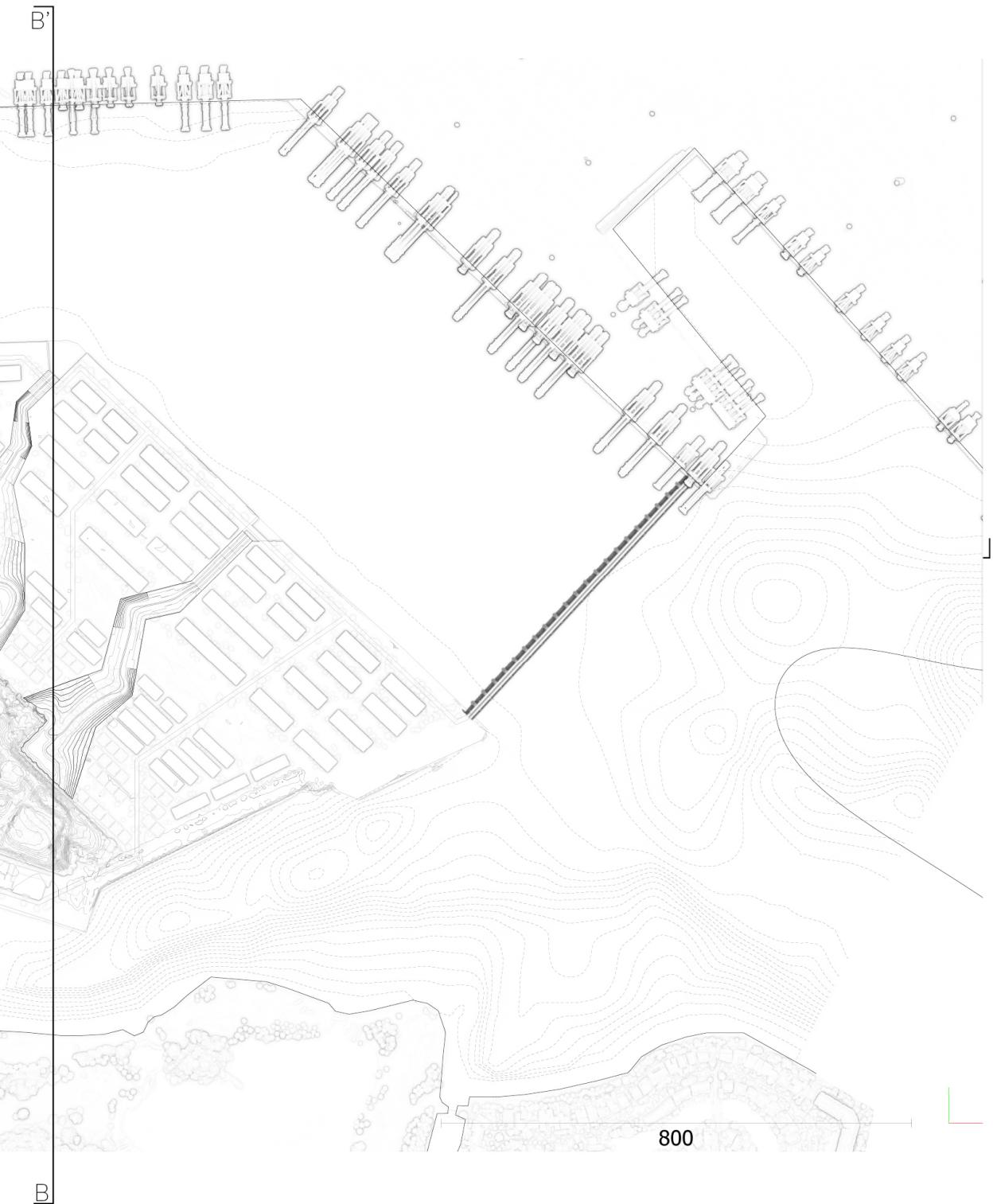
OVERALL AXONOMETRIC PLAN

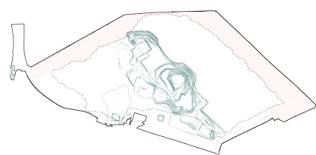




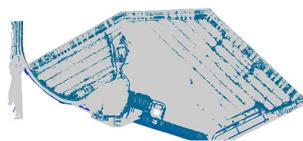
OVERALL PLAN



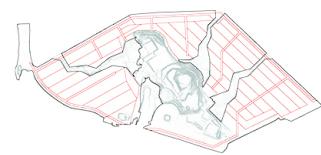




1. Identify Existing Structures



2. Pinpoint Drainage



3. New Island Drainage



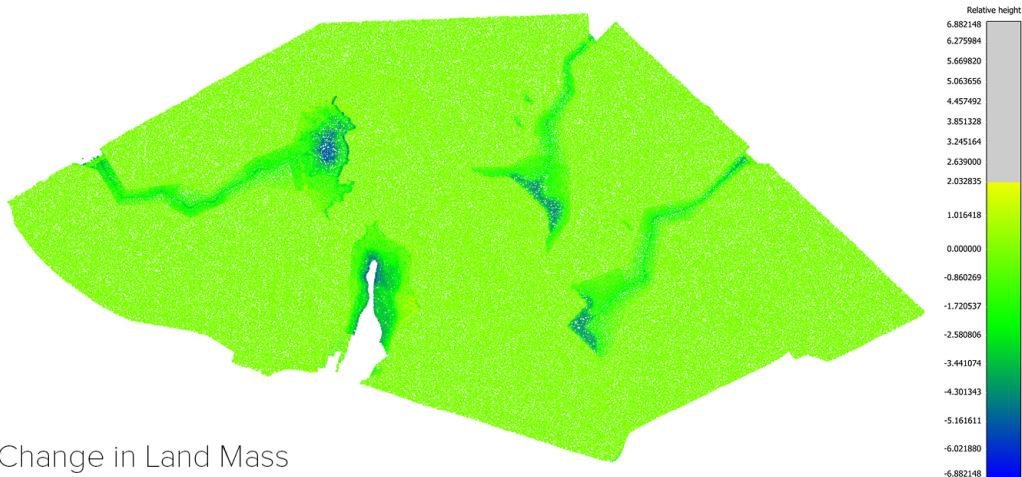
4. Analyse Water Runoff



5. Design Water Catchments



6. Highlight Canal Branching





7. Landscape around Canals



8. South area to edit



9. Re-landscape South area



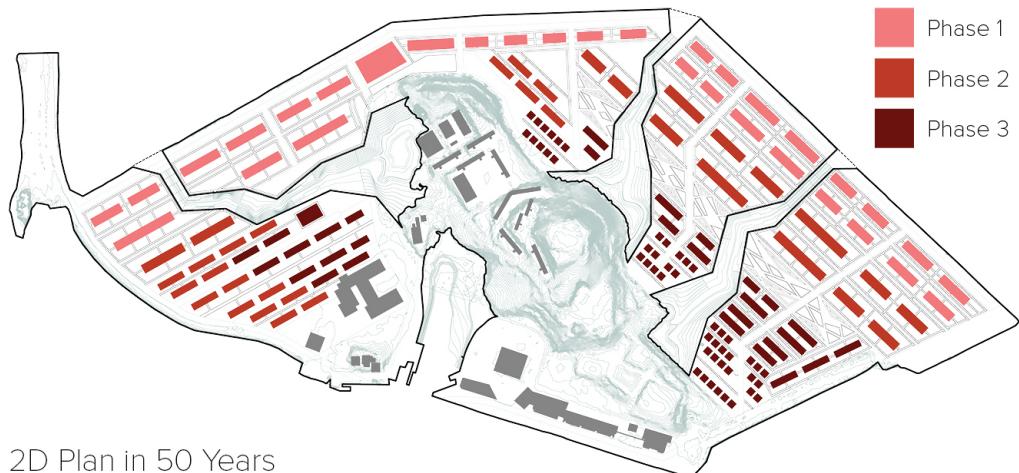
10. Phase 1 Buildings (10 Years)



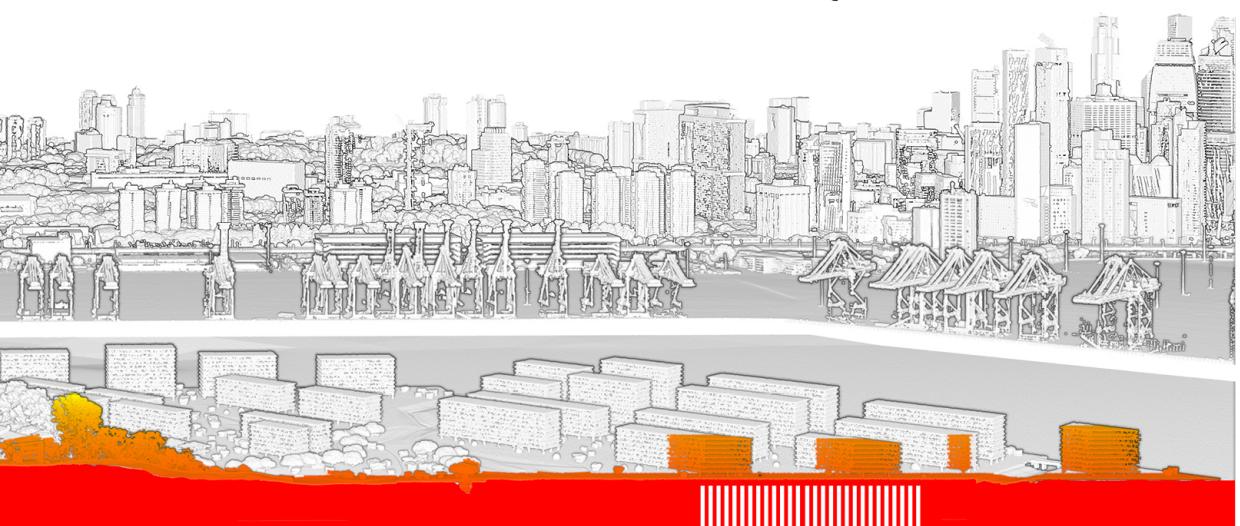
11. Phase 2 Buildings (20 Years)

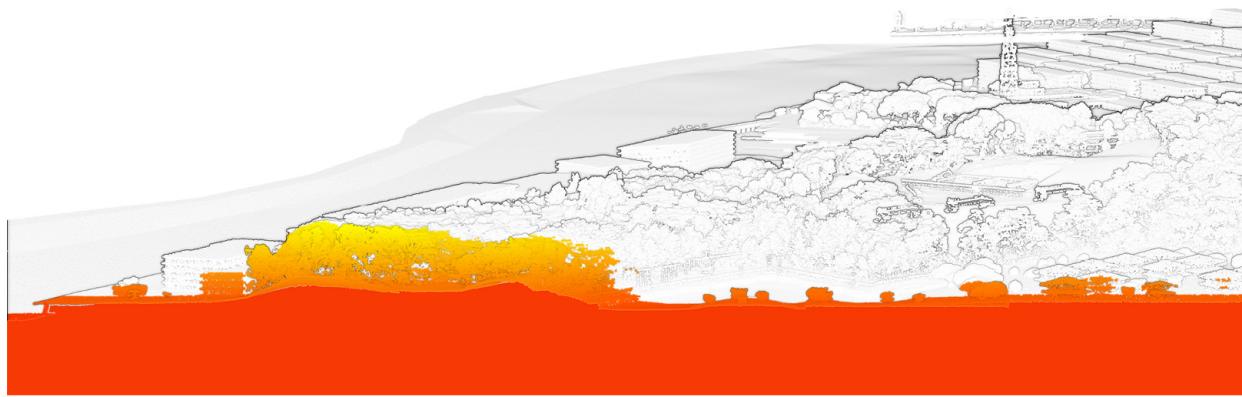


12. Phase 3 Buildings (50 Years)

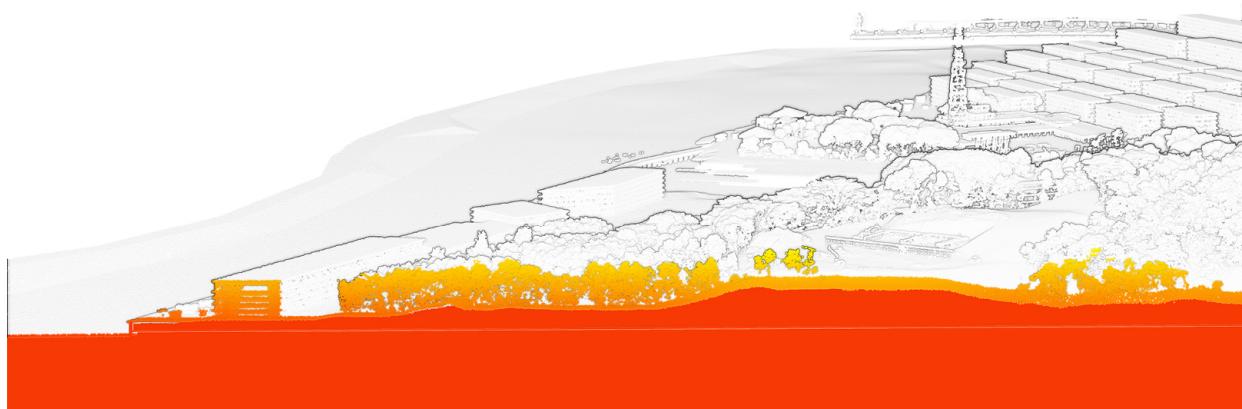


2D Plan in 50 Years





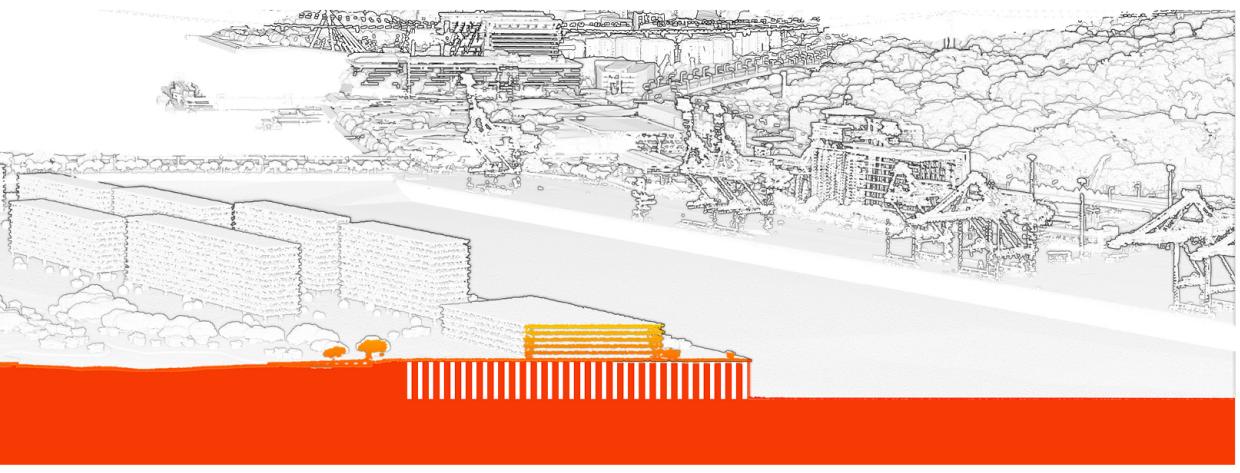
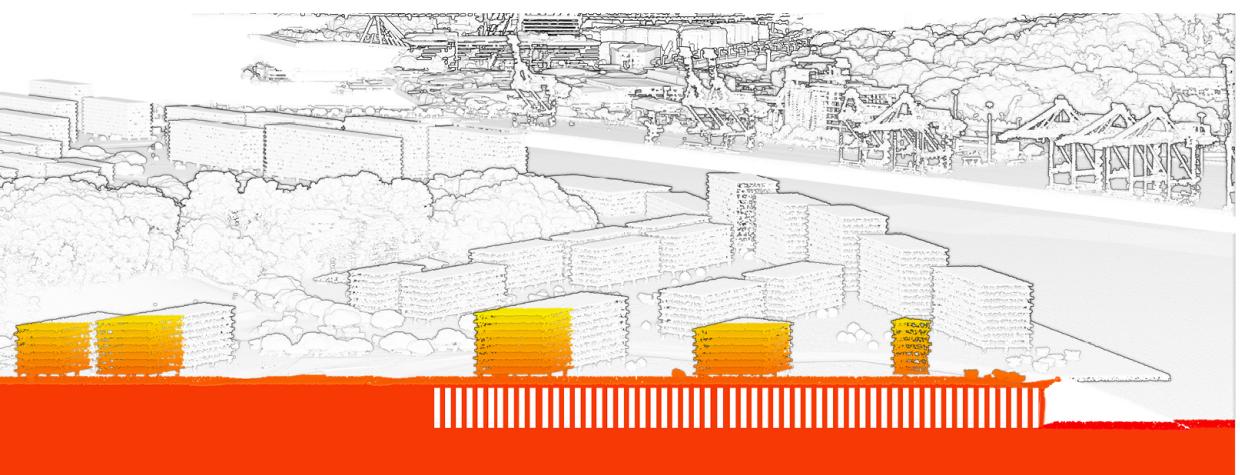
Section BB'



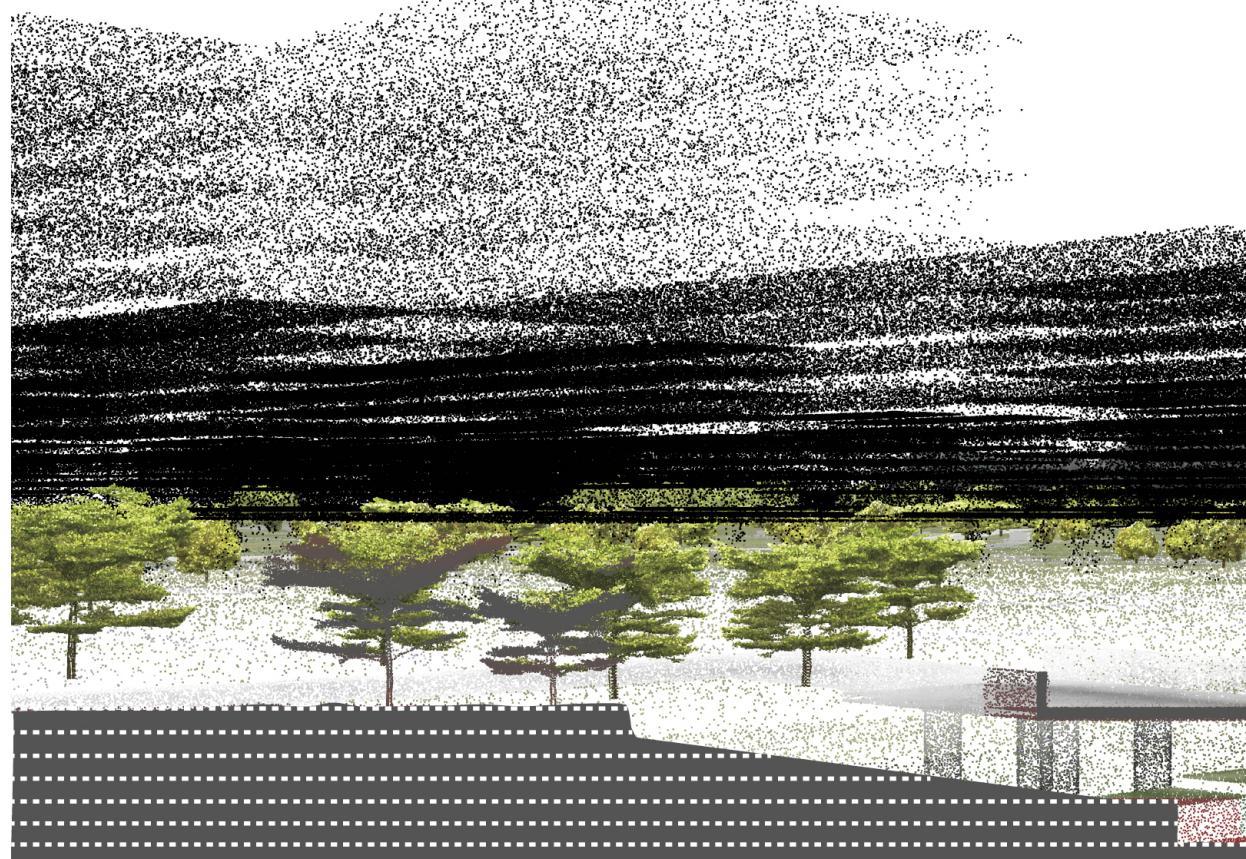
Section CC'

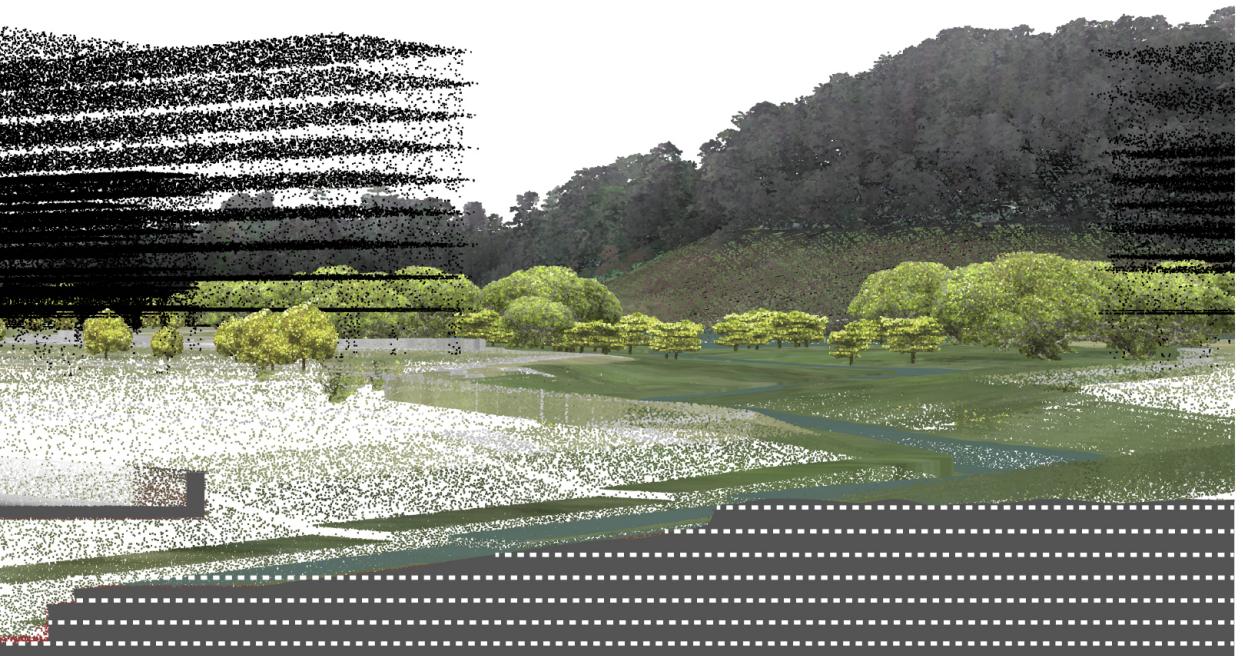
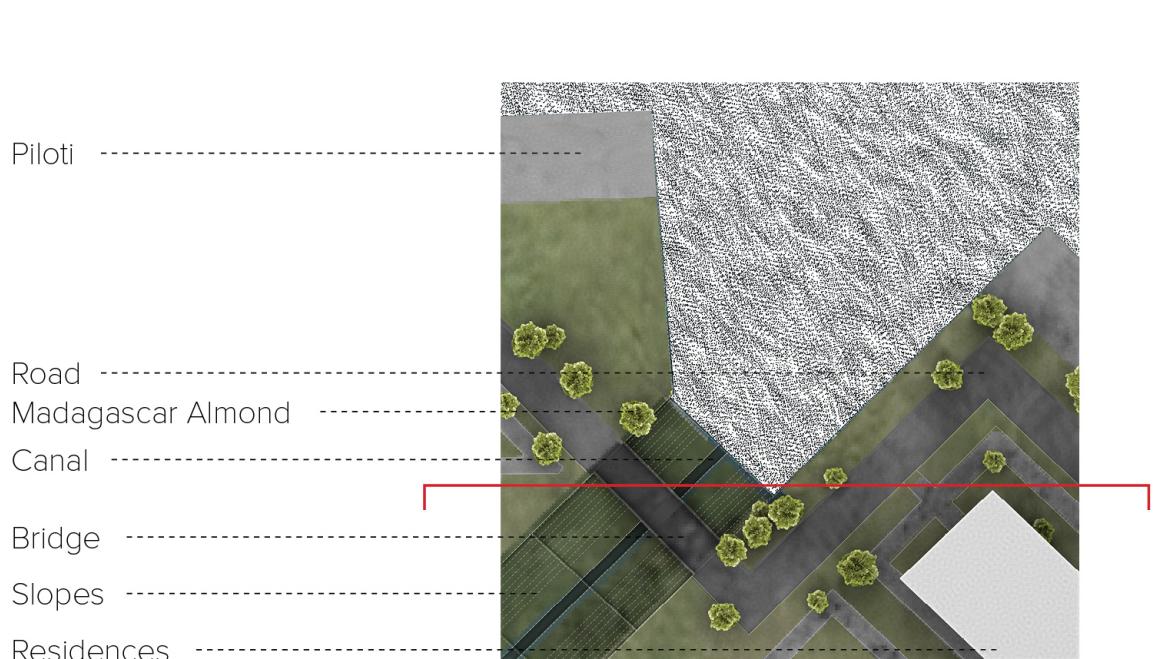


Section DD'

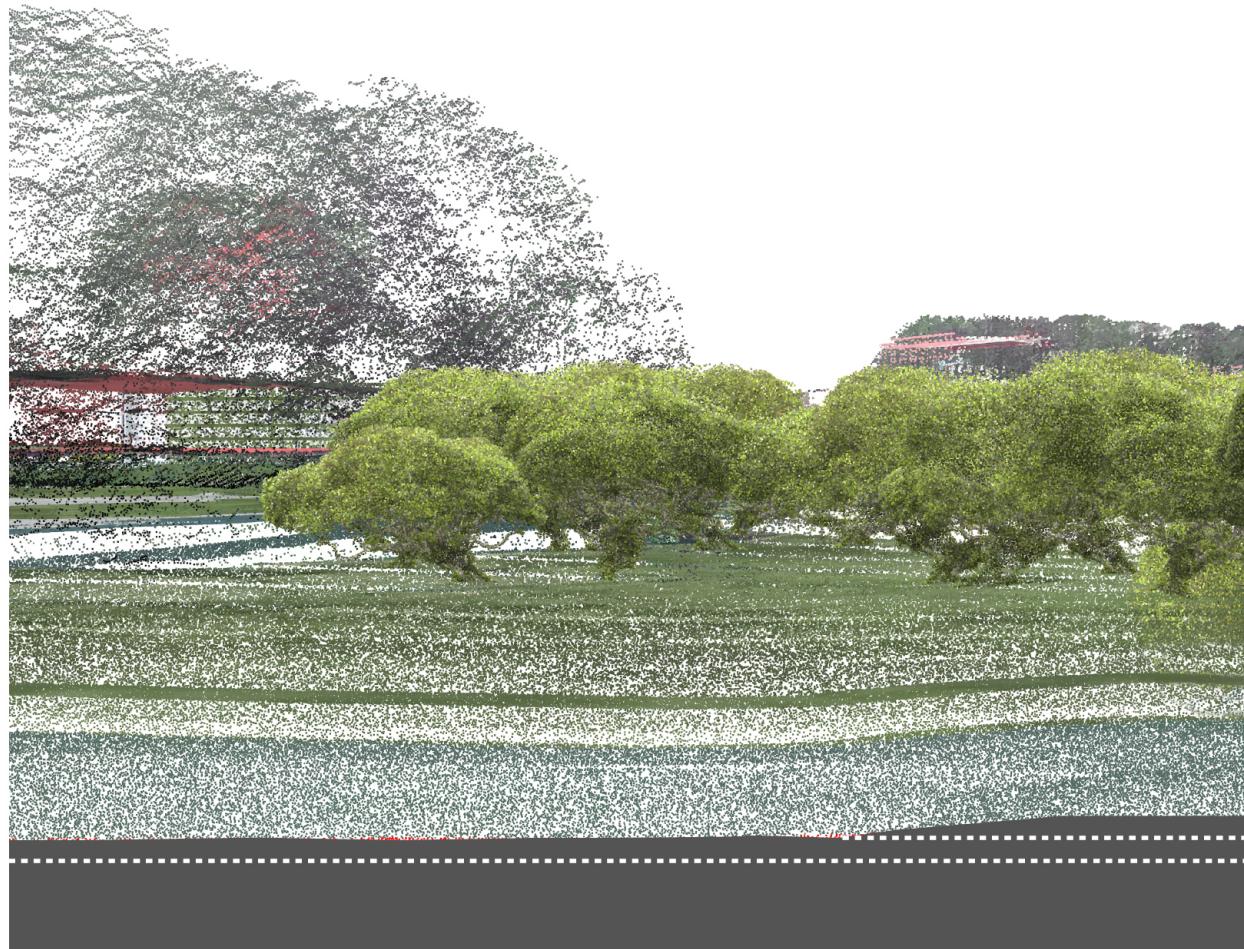


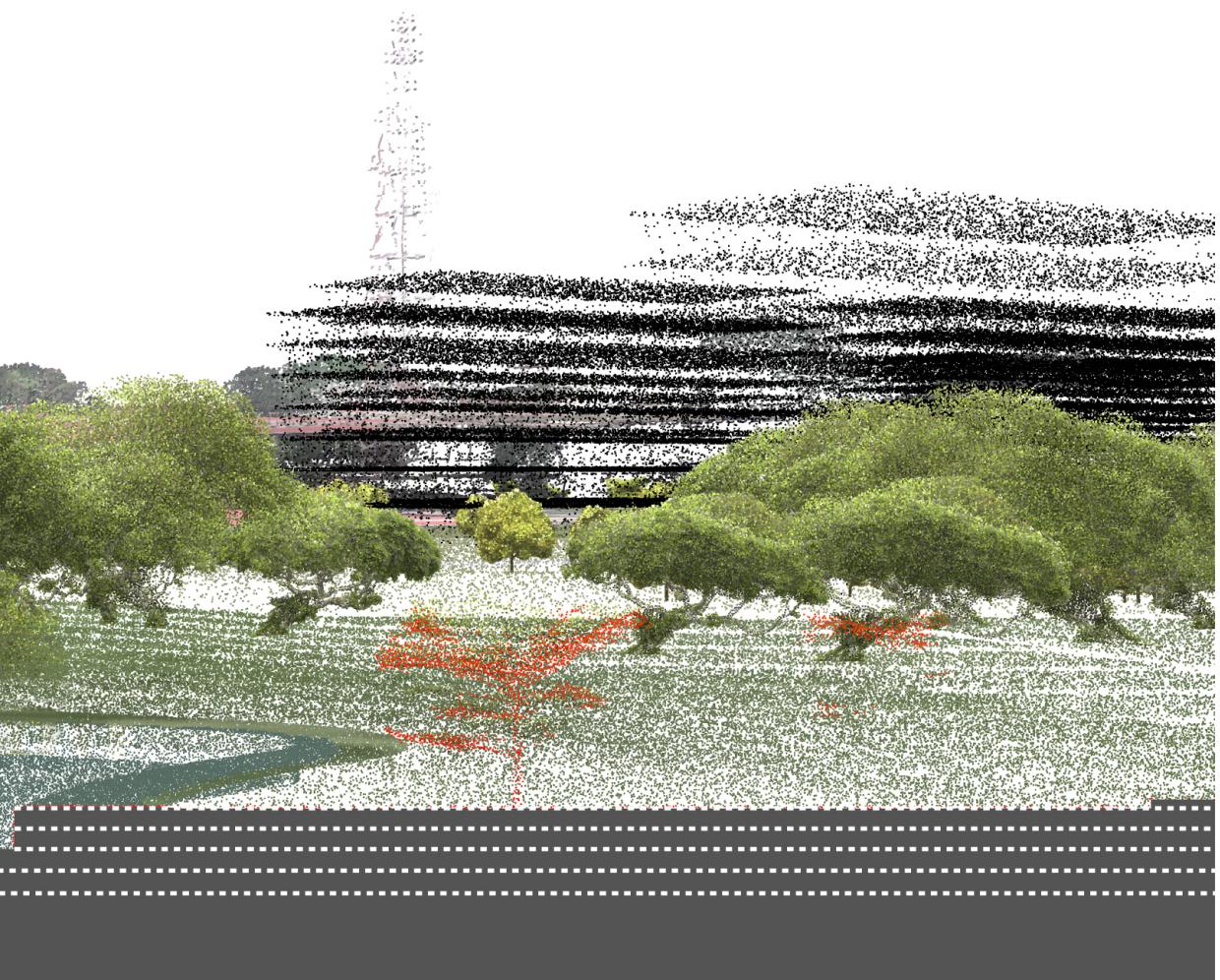
SITE A | River Mouth



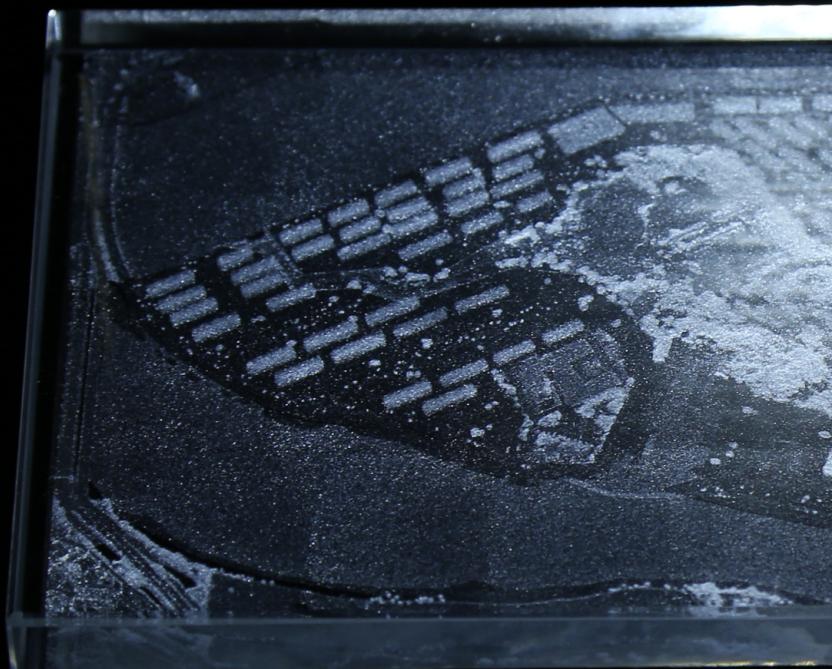


SITE B | Water Catchment





GLASS MODEL OF PLAN





003



OVERALL PARK PLAN
SCALE 1:2000

PARK@BIDADARI

| | |
|----------|--|
| YEAR: | 2018 |
| MEMBERS: | RACHEL LOW, JEREMY CHANG RACHEL LEE, CHEN JING, MICHEL SIM, MICHAEL YEOW |
| MENTORS: | BIGE TUNCER, NAGARAJAN RAGHAVAN, CPG CONSULTANTS |

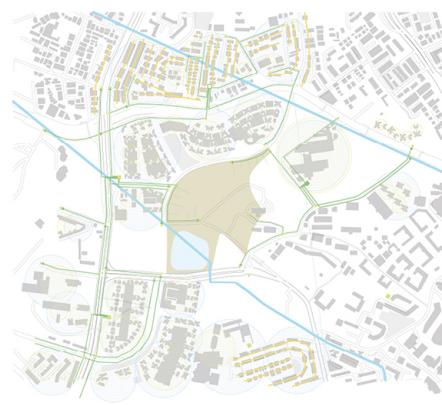
Urban Metabolism is an up-and-coming discourse in architecture, designing buildings and cities that ensure inputs and outputs flow within cyclical processes, reducing waste of resources and creating sustainable cities.

Tasked with designing an urban metabolic hub within the upcoming HDB estate in Bidadari, our team took the project further by redesigning the entire landscape of the ground, informed by programmatic and climatic needs that subsequently directed the formal expressions of the built enclosures within the park. These decisions were made with the desire to create a learning environment for visitors to understand the importance of urban metabolism and how they can contribute.

SITE STUDY AND SPECULATIONS



Programmatic Distribution



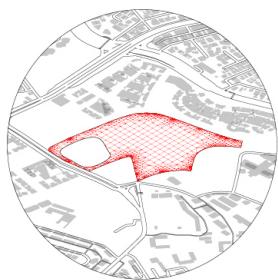
Resource Flows



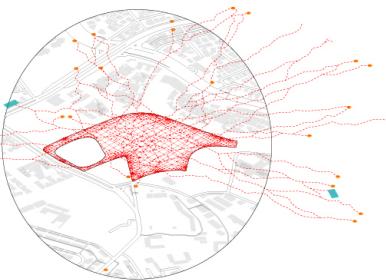
Possible Resource Hubs

DESIGN CONSIDERATIONS AND STRATEGIES

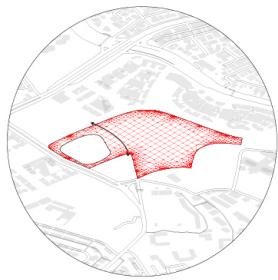
CONSIDERATIONS AND DESIGN INPUTS



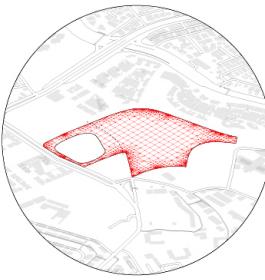
Original Landscape



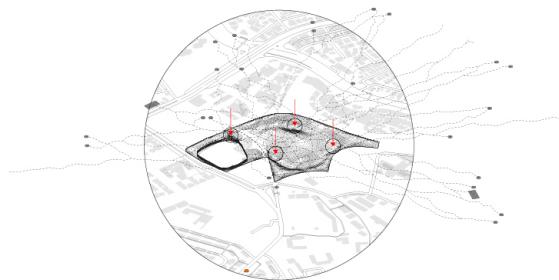
Circulation Flows



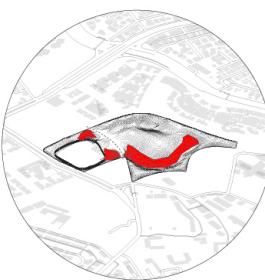
Heritage Trail



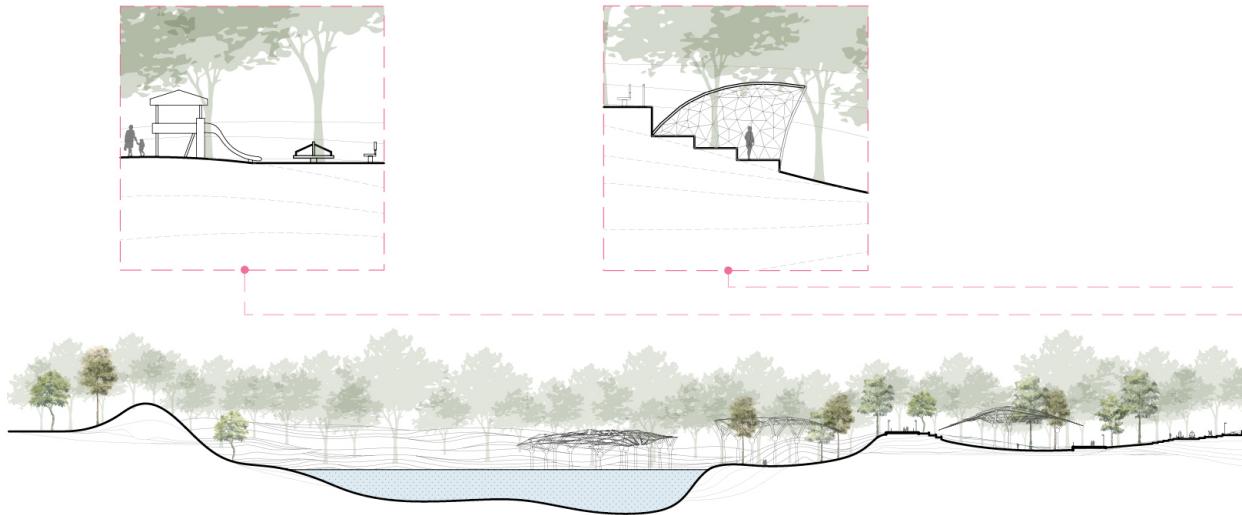
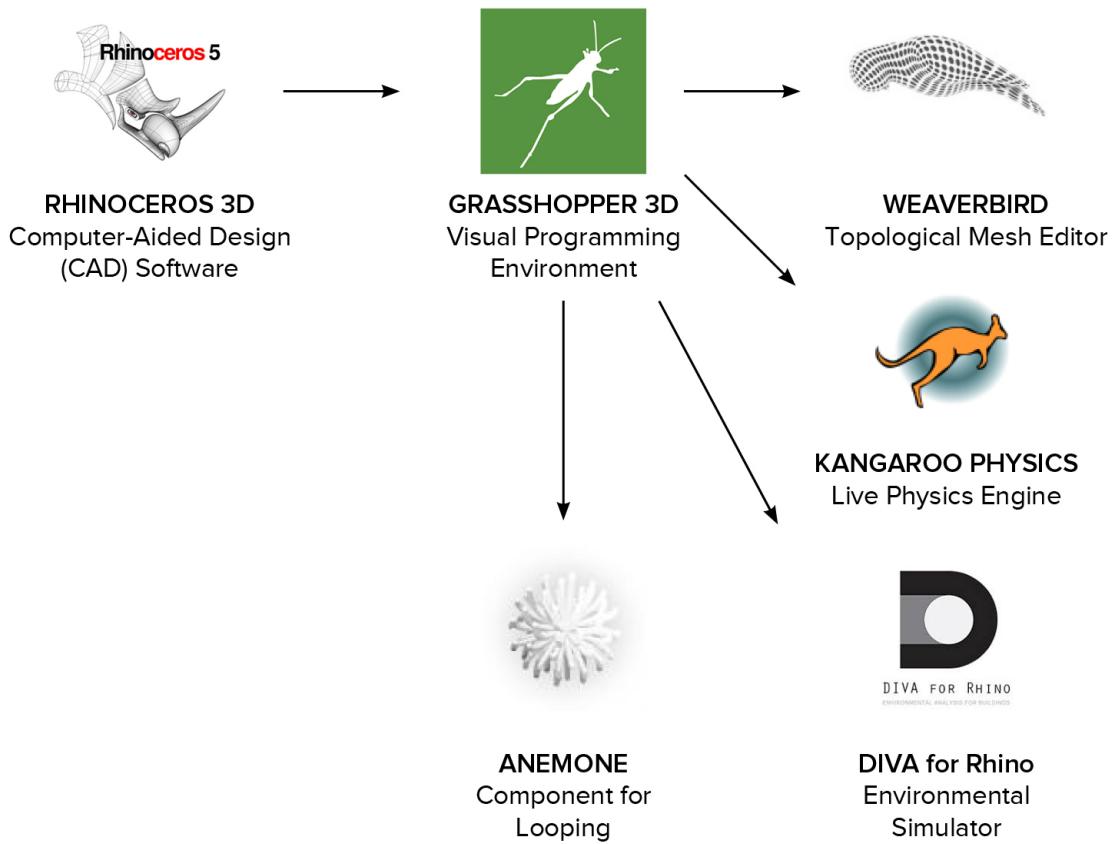
Program Locations



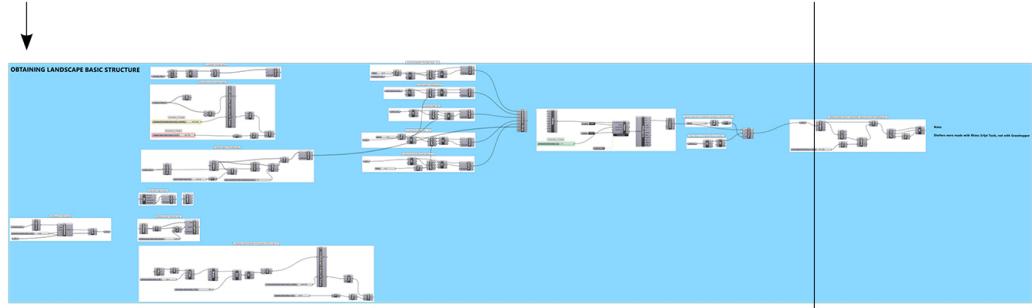
Generated Landscape



Shelter Form
(Inversion of Topography)

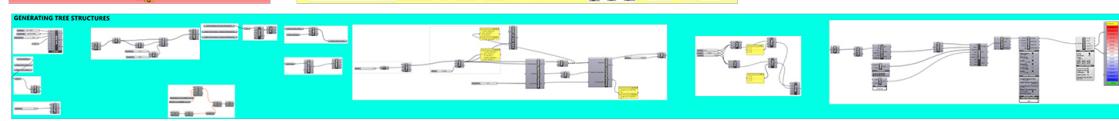


GENERATING TOPOGRAPHY
(Kangaroo Physics, Weaverbird)

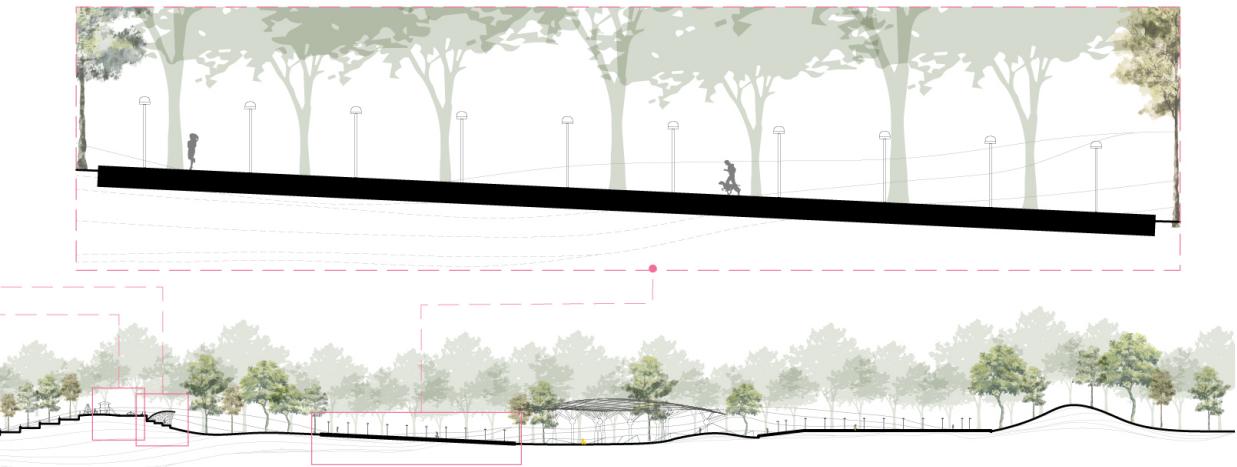


WATER-RUNOFF SIMULATION
(Anemone)

← OBTAINING FLOOR PLATES



GENERATING ROOF AND STRUCTURAL ELEMENTS
(DIVA, Weaverbird)

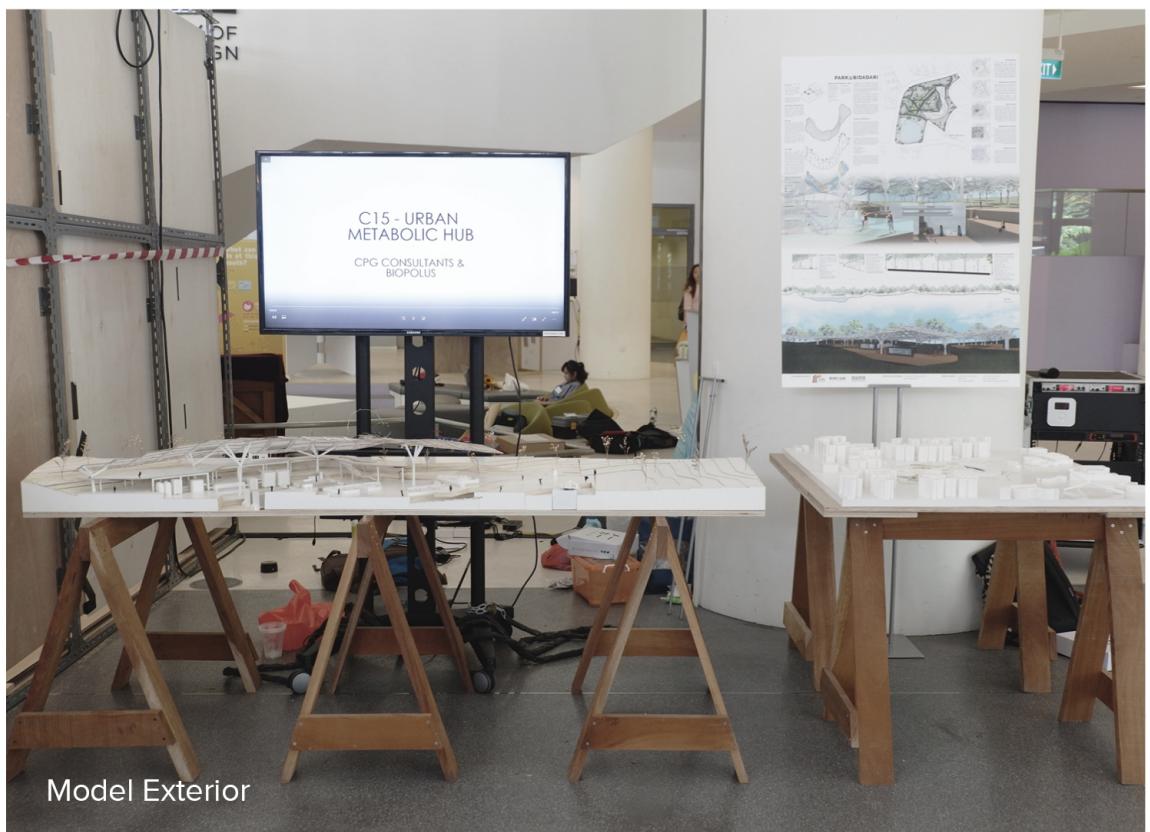
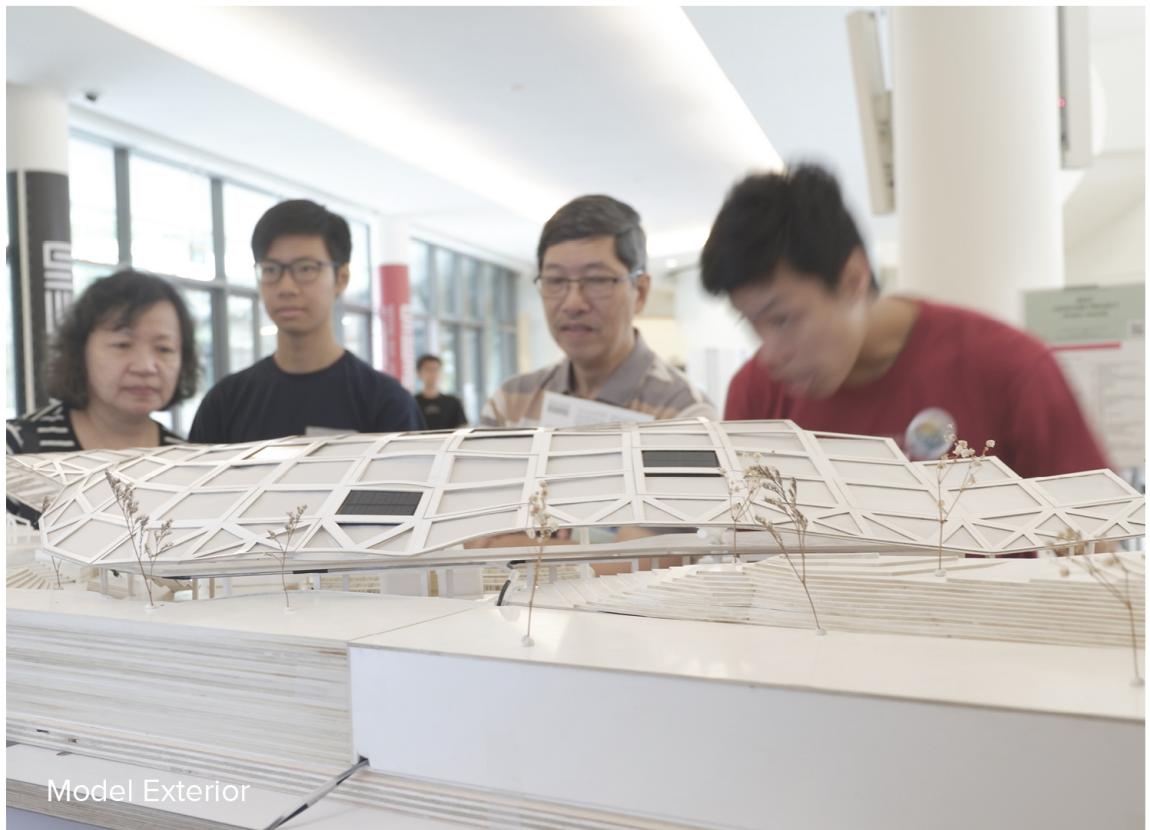




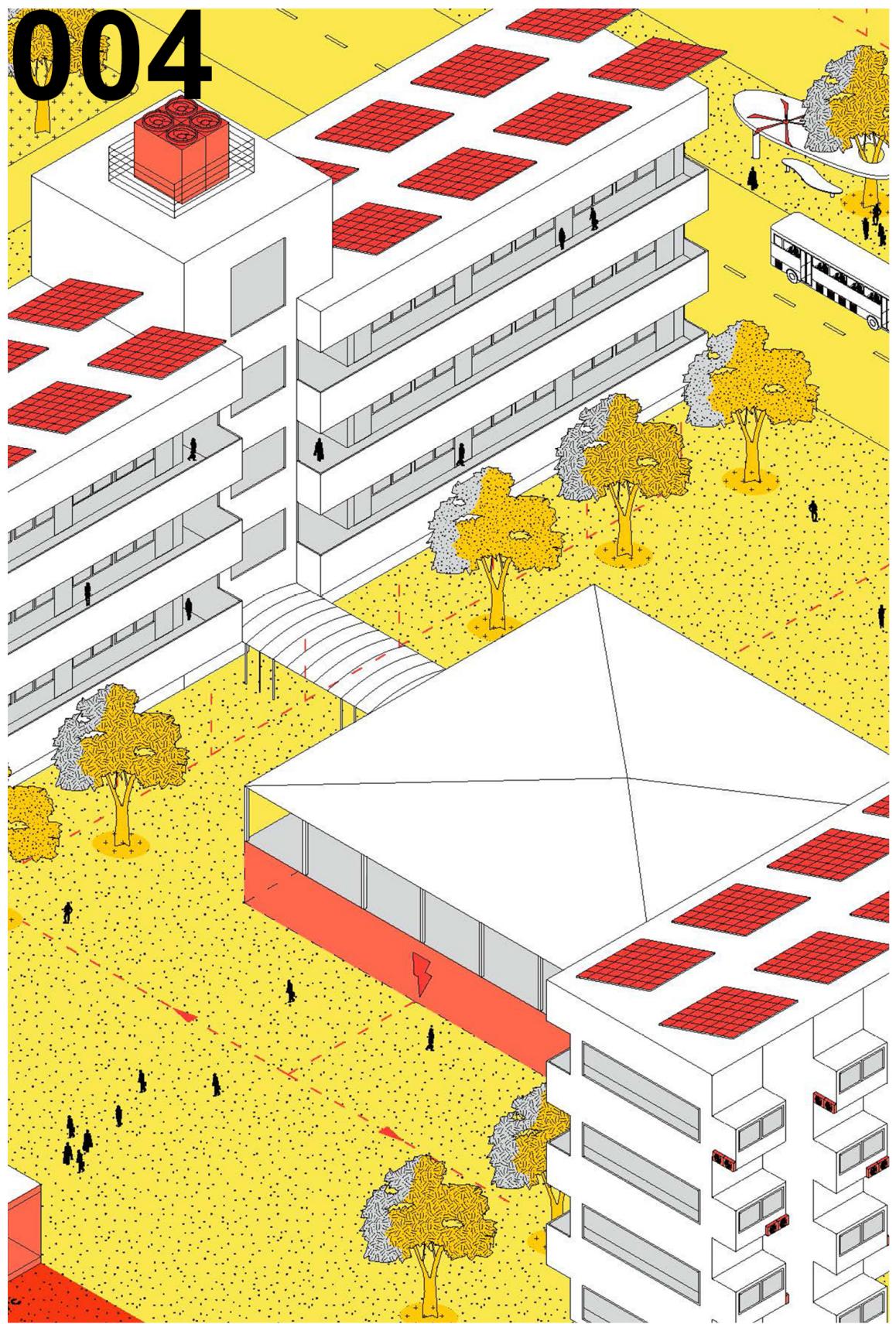


Viewer's Perspective





004



VISUALISATIONS

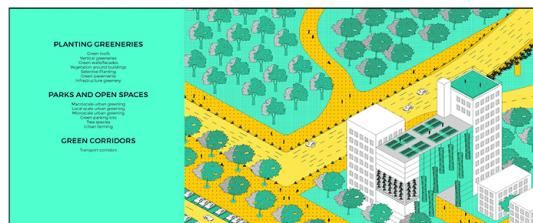
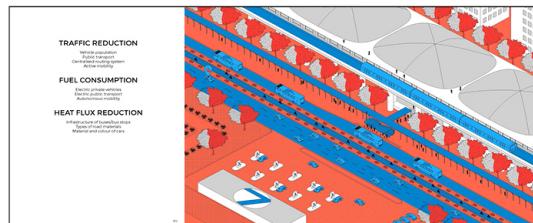
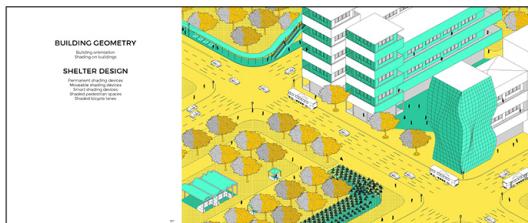
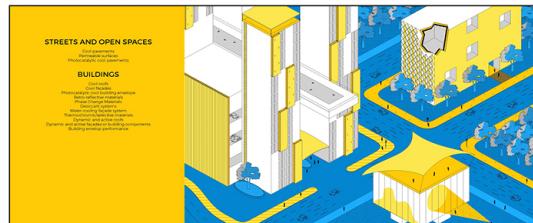
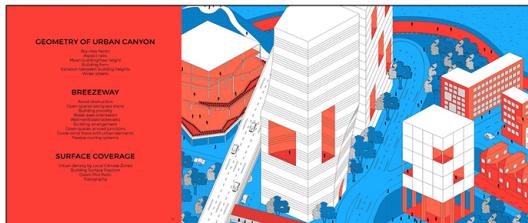
YEAR: 2017

MENTORS: LEA RUEFENACHT

The summer of 2017 was spent working for Cooling Singapore, an inter-CREATE project involving various universities within the CREATE Tower. Many of the proposals and works of the researchers in Cooling Singapore aimed to inform people of the impact of the city on our climate, including the Urban Heat Island (UHI) effect and the decreasing outdoor thermal comfort that Singapore is experiencing.

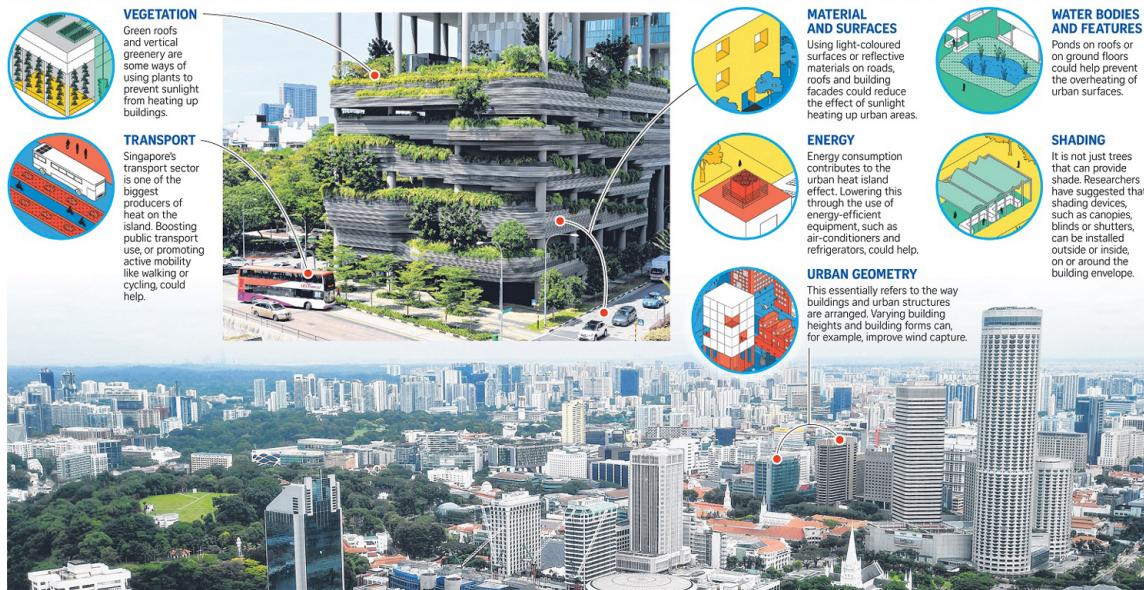
Cooling Singapore organised workshops with government agencies and published catalogues to achieve their goals, and I was able to support them with graphical illustrations and renders that were included in their publications and workshop materials. The following images are a selected series of works from the stint with Cooling Singapore.

MITIGATION STRATEGIES PUBLICATION



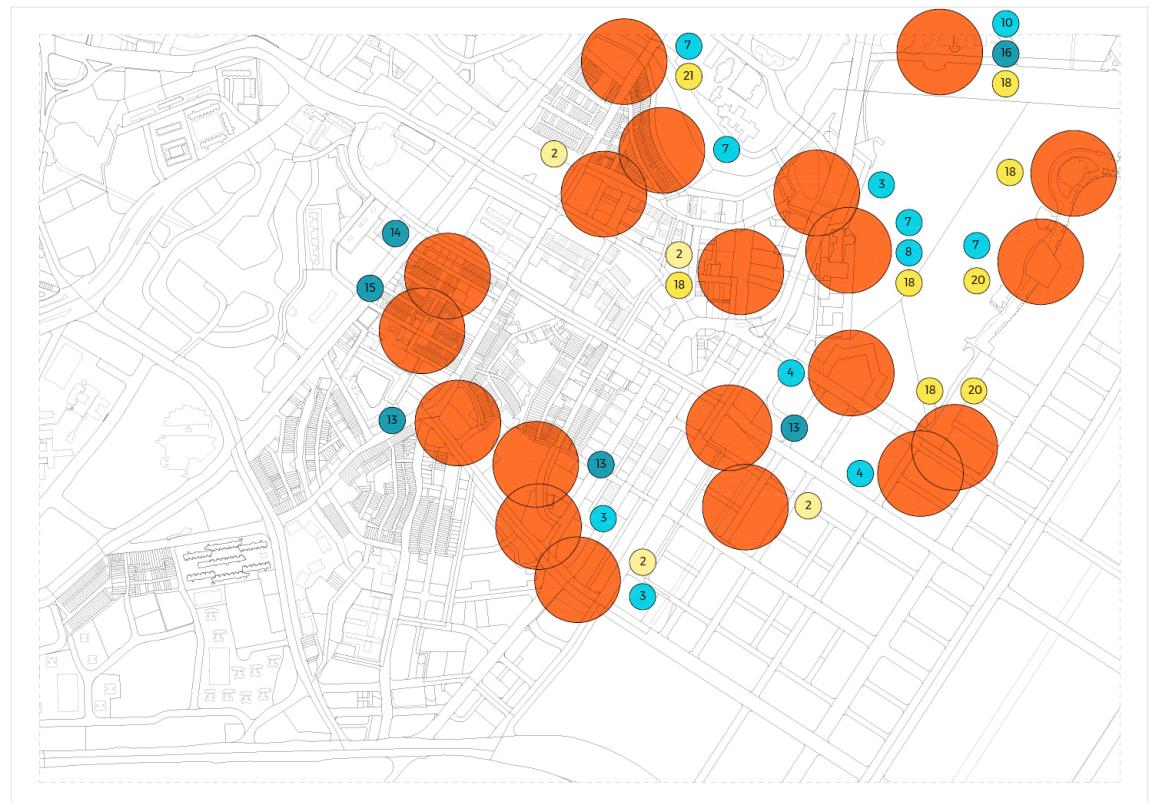
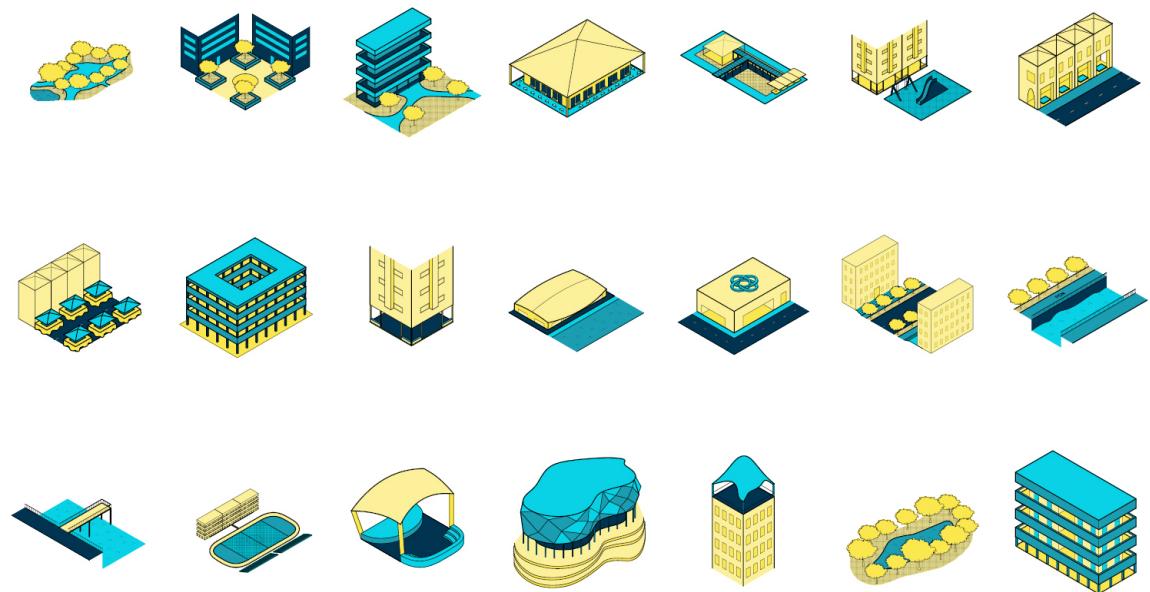
Making it cooler

A team involving academics and policymakers are studying how to make Singapore's outdoor environment cooler. The Straits Times looks at some of the areas they have identified to achieve this.

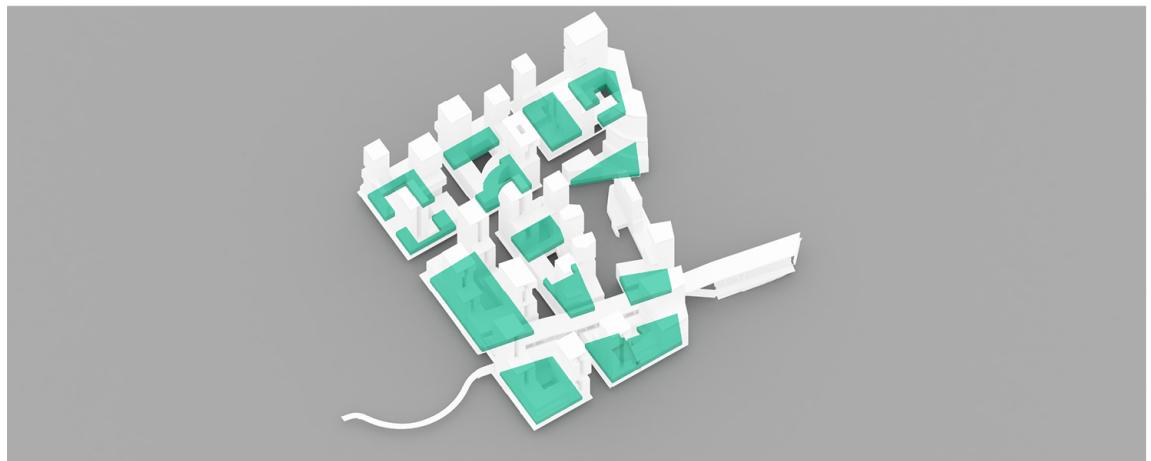


SOURCE AND ILLUSTRATIONS: COOLING SINGAPORE PHOTOS: ST FILE / STRAITS TIMES GRAPHICS

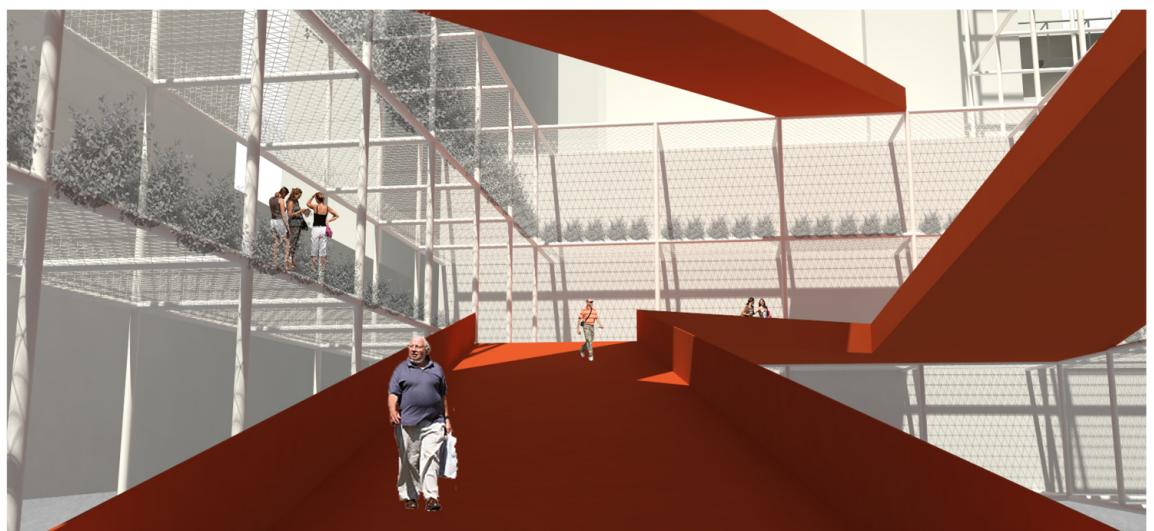
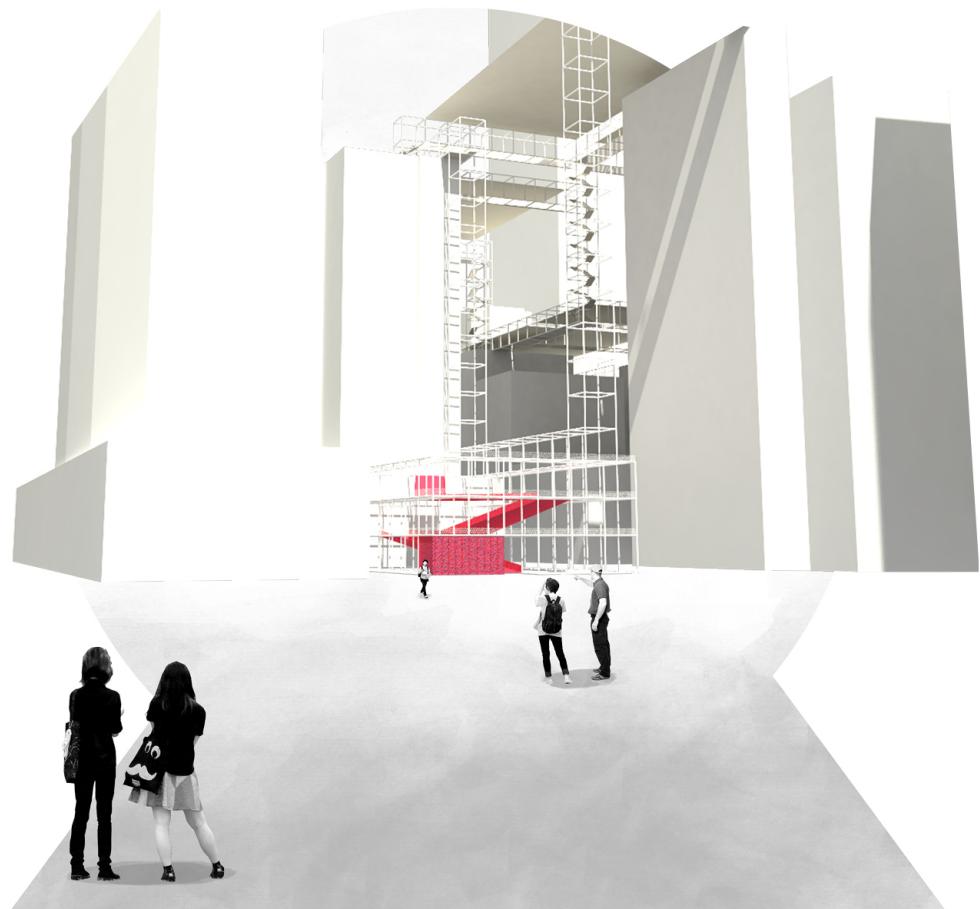
PUBLIC SPACE TYPOLOGIES



JURONG LAKE DISTRICT CONCEPTUAL ALTERATIONS



CONCEPTUAL PUBLIC SPACE



005

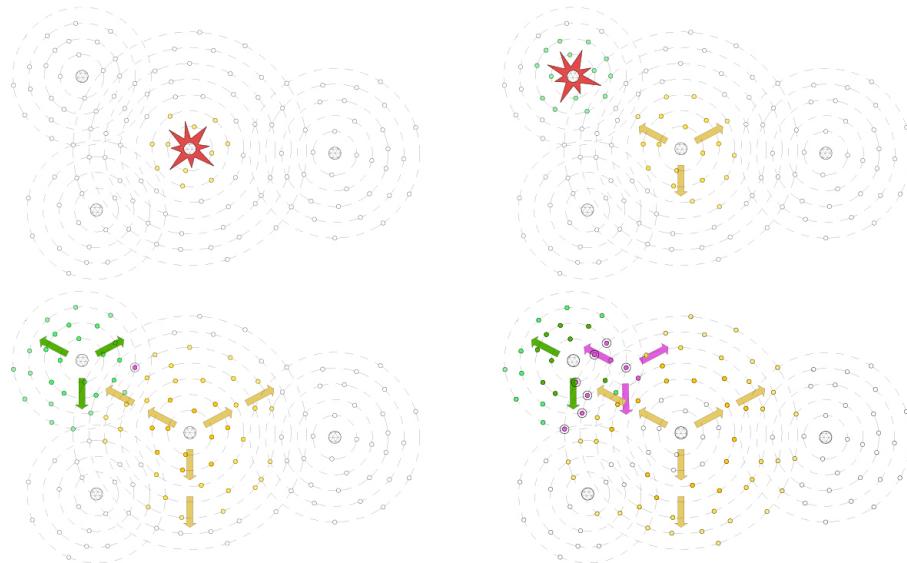
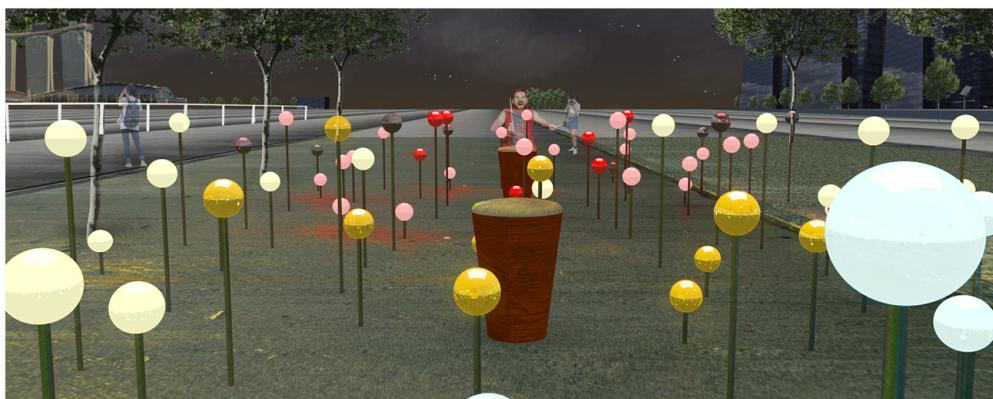


MISCELLANEOUS

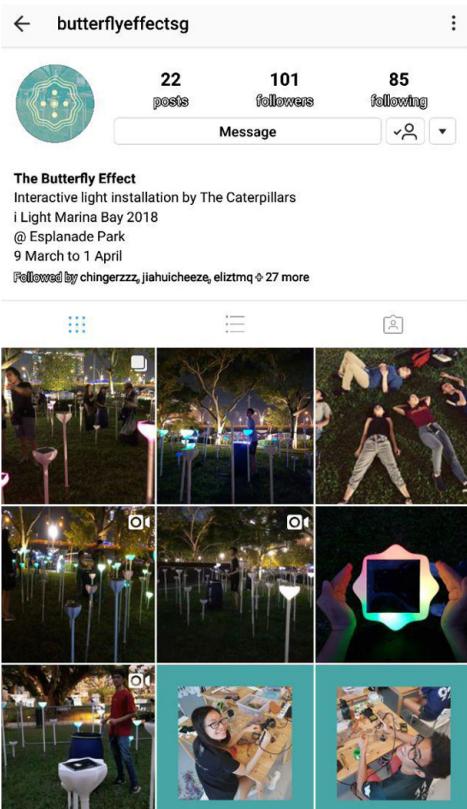
I have had the privilege of taking on numerous opportunities during the course of my undergraduate studies, learning and growing beyond the studio. Overseas trips, small jobs and even the weekends have allowed me to dwell into smaller passions, such as photography, improving my skills and knowledge whenever possible.

Fabrication projects, past drawings and photos of study trips are some of the various items displayed in the next few pages. They store memories of places, thoughts and feelings that continue to provoke yet spur me on in this learning journey.

ILIGHT 2018 SUBMISSION AND CONSTRUCTION THE BUTTERFLY EFFECT | THE CATERPILLARS

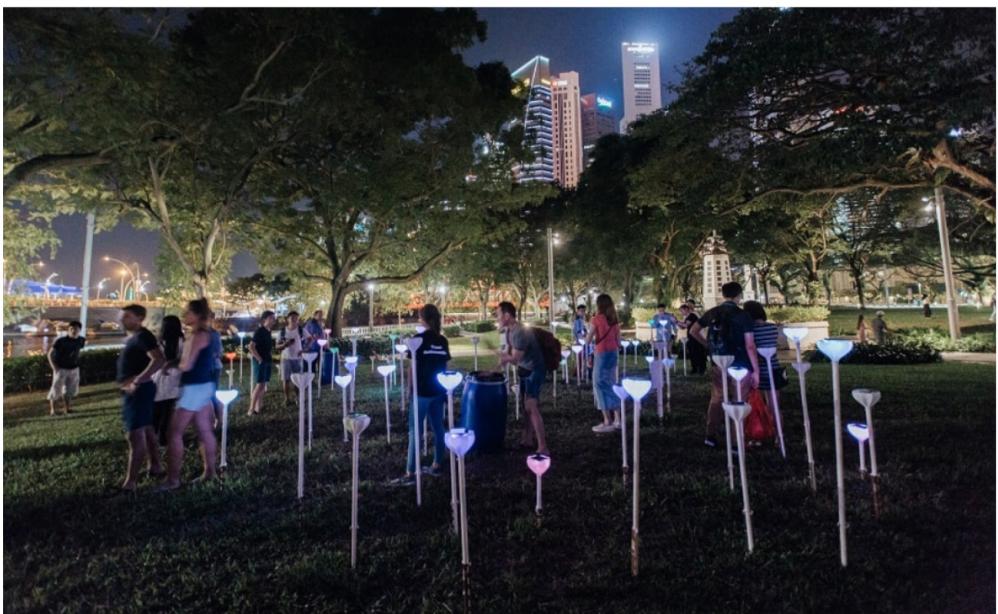
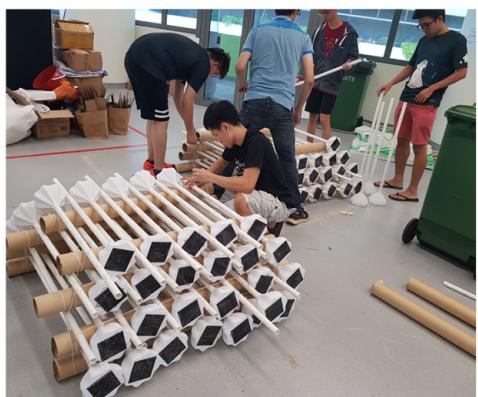


ILIGHT 2018 SUBMISSION AND CONSTRUCTION THE BUTTERFLY EFFECT | THE CATERPILLARS

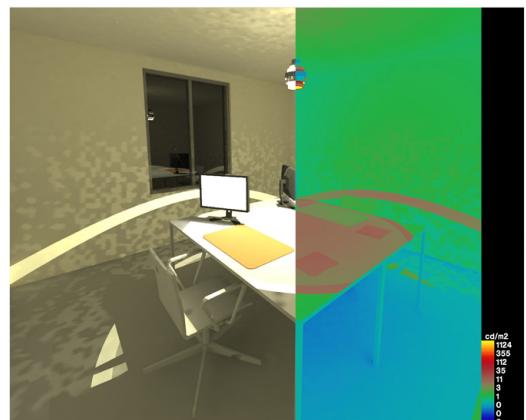
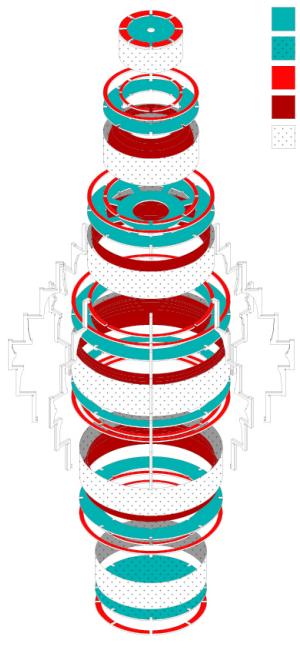


The Butterfly Effect
Interactive light installation by The Caterpillars
i Light Marina Bay 2018
@ Esplanade Park
9 March to 1 April
Followed by chingerzzz, jiahucheze, eliztmq ⚡ 27 more

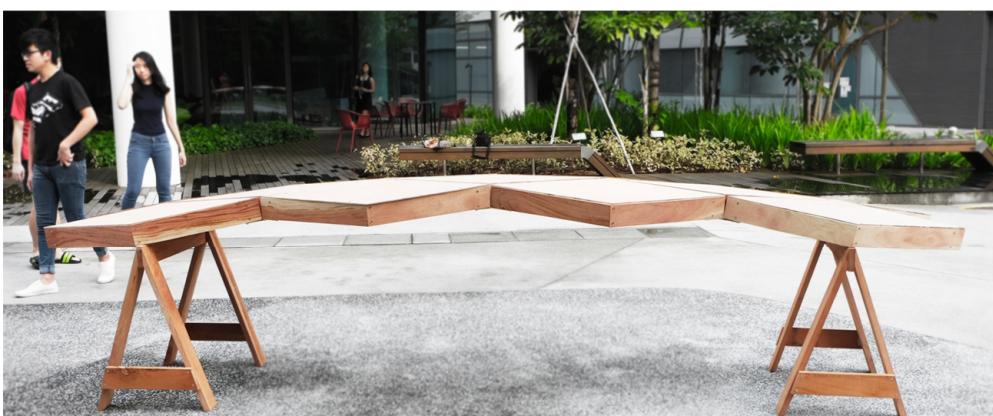
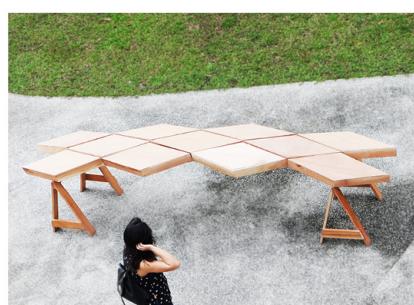
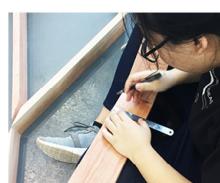
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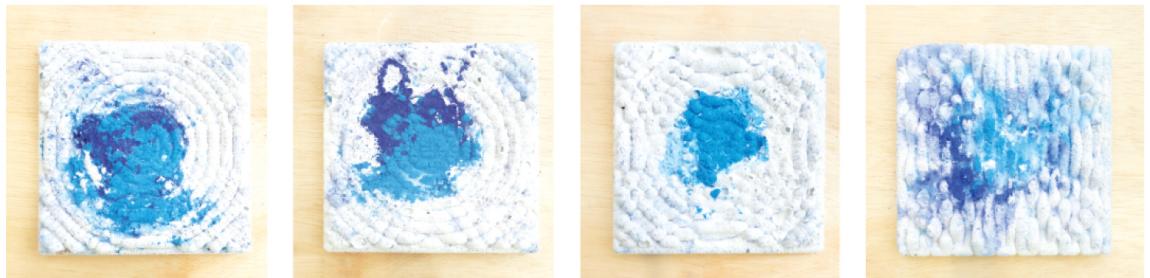
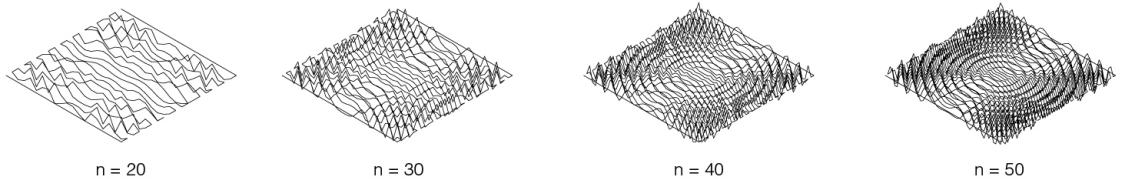
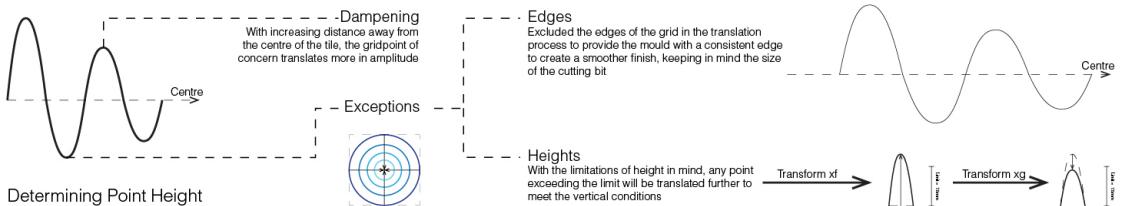
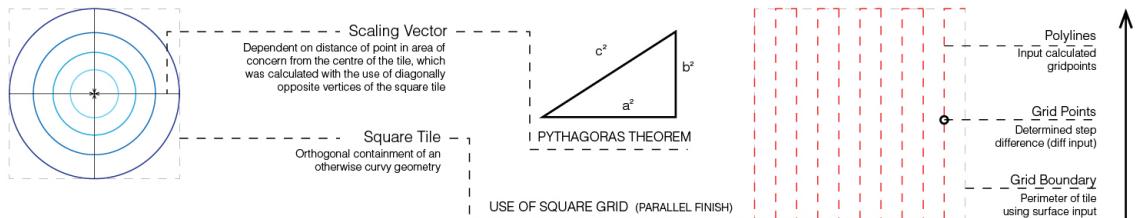
DAYLIGHTING STRATEGIES LAMP DESIGN



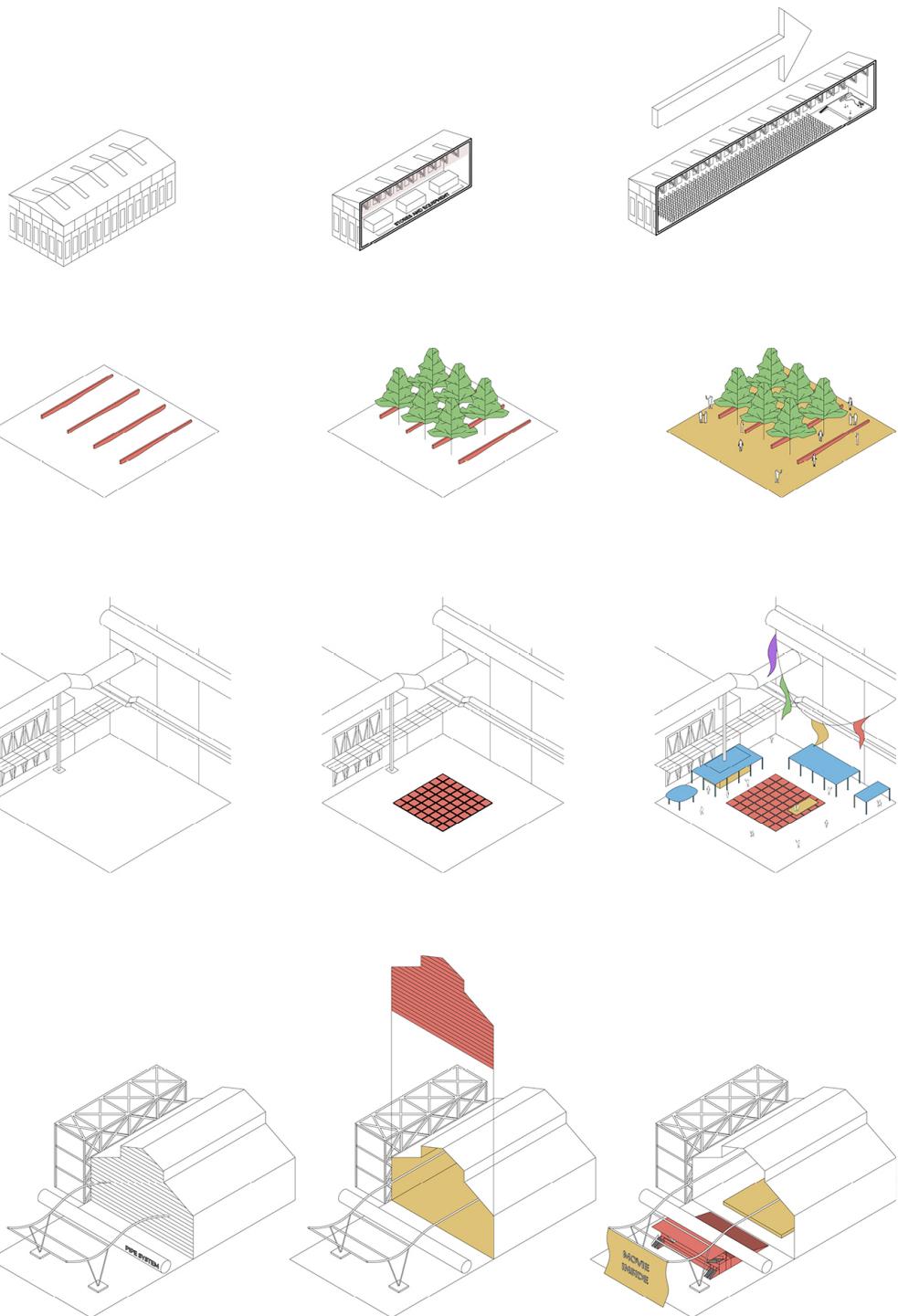
DIGITAL FABRICATION BRIDGE DESIGN



DIGITAL FABRICATION TILE DESIGN EXPLORATIONS

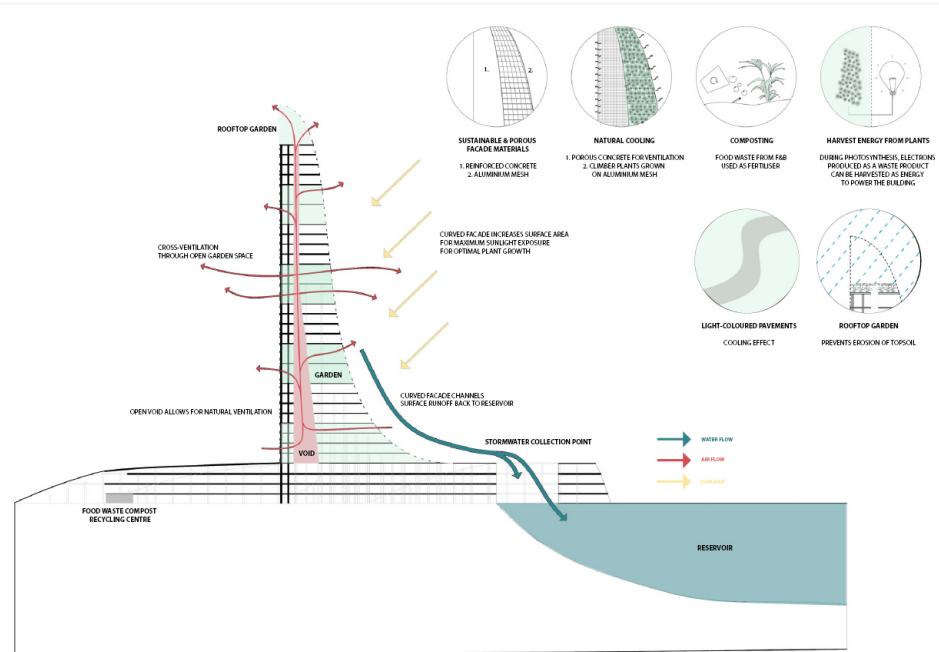
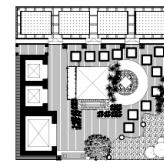


DRAWINGS FOR PARADIGMS OF ADAPTATION BLAST FURNACE PARK | LANDSCHAFTSPARK

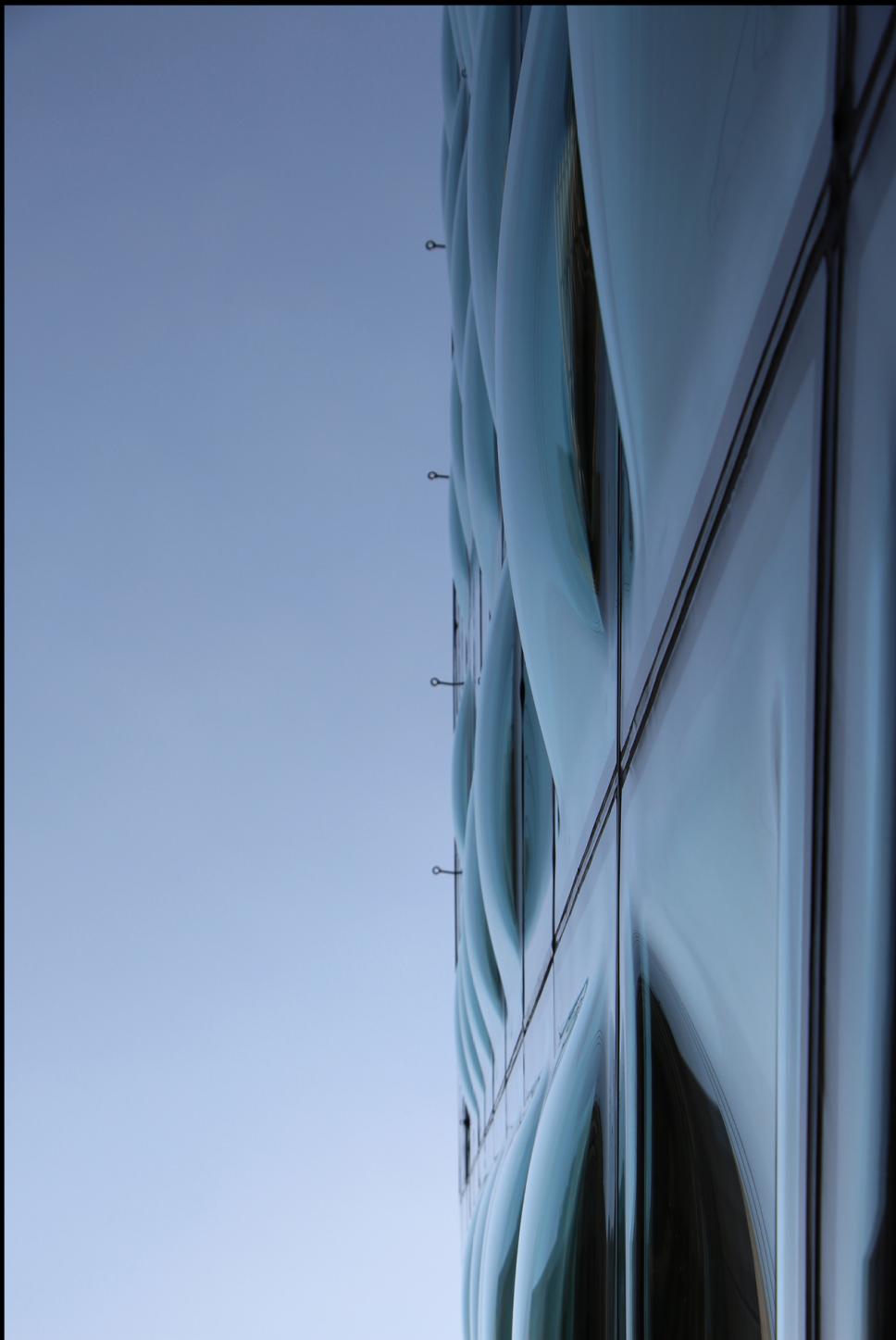


CTBUH STUDENT COMPETITION 2017

GREEN EDUCATION AND ELDERCARE TOWER







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