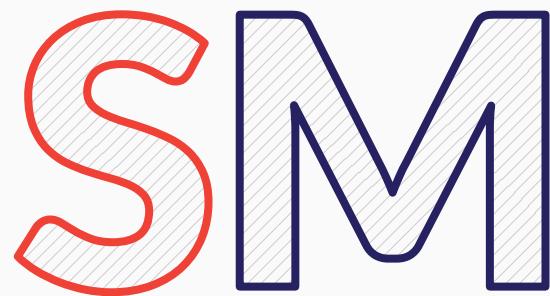


season

**fall**

year

**2016**



**suzanne merchant**

architecture + design portfolio |  
university of waterloo

# curriculum vitae

## suzanne merchant

e : suzannemerchant@gmail.com  
p : +1 226 600 8321



My name is **Suzanne Merchant** (pronounced as soo-zahn). I am in my **third year of undergraduate studies** at the University of Waterloo School of Architecture. Over the course of my studies, I have become passionate about the following avenues in design: **(1)** the role architecture plays in bettering the world, **(2)** the influence public policy - related to economy, food security, and health - has on architecture, **(3)** the tactile interaction humans have with the built world, **(4)** urban design and community planning of cities and **(5)** the visual design of information.

I am also an avid rock climber, a nature-lover, and an amateur photographer.

### PROFESSIONAL EXPERIENCE

- 2016 **Merchant Creative** Vancouver, CA  
April - Pres. Founder  
Data design: building models with which to visualize and analyze large datasets; infographic design for non-profits
- 2016 **ZAS Architecture & Interiors** Vancouver, CA  
June - Sept. Design Intern  
Preliminary design, tender, IFC etc. drawings + contract administration for interior renovations of various banking institutions in Metro Vancouver
- 2014 **Proscenium Architecture & Interiors** Vancouver, CA  
Sept. - Dec. Design Intern  
Tender and addendum drawings for West 1st Theatre [Arts Club Theatre + Bard on the Beach] and various other small projects
- 2014 **Hughes Condon Marler Architects** Vancouver, CA  
Jan. - April Design Intern  
Various graphics, design development/contract administration drawings, RFPs

### EDUCATION

- 2012 **University of Waterloo School of Architecture** Cambridge, CA  
Sept. - Pres. Honours Bachelor of Architectural Studies, Co-op
- 2015 **Gap Year**

### SKILLSETS

#### **Adept & Improving**

Adobe Suite  
Illustrator/ Photoshop/InDesign  
AutoCAD  
Rhinoceros + VRay  
SketchUp  
ARCGIS  
Processing/Arduino  
Hand drafting & sketching  
Hand modelling

#### **Languages**

English [native]  
French [competent]  
Urdu [competent]  
Hindi [competent]  
Arabic [beginner]  
Farsi [beginner]

#### **Learning & Improving**

Python  
Numpy, Bokeh, Pycairo  
HTML/CSS  
REVIT  
Machine & hand sewing  
Woodshop machinery

### AWARDS

- 2013 **UWSA Projects Review**  
Publication of Studio project at Riverside Gallery
- 2012 - Pres. **Excellent Academic Standing**  
University of Waterloo
- 2012 **President's Scholarship**  
University of Waterloo
- Provincial Examinations Scholarship**  
British Columbia Ministry of Education
- Academic Medal and Scholarship**  
Point Grey Secondary School
- 2010 **Shad Valley Alumna**  
Universite Laval, QC
- Sears High School Design Competition**  
3rd Place - Architecture [Junior]

# REFERENCES

ZAS ARCHITECTS + INTERIORS  
526 Granville St, Suite 210  
Vancouver, British Columbia  
Canada V6C 1W6

Z | A | S

To Whom It May Concern,

I have known Suzanne in my capacity as Architectural Director of ZAS Vancouver. Suzanne was a ZAS student team member during the summer of 2016 as part of a third year University of Waterloo Co-op Term. Suzanne worked on a variety of architectural and commercial interiors projects as an architectural designer. Projects ranged in size from 3,000 to 9,000 square feet and included commercial tenant improvements and renovations.

Suzanne is an intelligent professional with a willingness to contribute to all office activities. She consistently demonstrates a desire to widen her knowledge of architectural practice. Suzanne has excellent facility with all our current architectural and office software. Her solid technical skill and professional acumen point to a bright future.

I wish Suzanne all the best in all her upcoming career opportunities.

If I can be of any further assistance, or provide you with any further information, please do not hesitate to contact me.

Yours Sincerely,



Matt Hessey  
Architectural Director - ZAS Vancouver  
Architect AIBC, M.Arch  
D 778 372 1114  
F 778 372 1110  
E mhessey@zasa.com

**Due to security concerns related to my work with ZAS, no drawings have been provided of my work.**  
If necessary, please contact Matt Hessey as noted in the reference letter provided here.

Dear Sir/Madam,

## Re: Reference for Suzanne Merchant

We were pleased to have Suzanne work for our firm from September to December 2014 at which point she left to return to her studies at the University of Waterloo.

During her time with us as a student architect, Suzanne became a valuable member of our team. Her contributions covered many aspects of project design and contract documentation. She proved herself a quick learner, eager to expand her knowledge.

Many of the projects Suzanne worked on were demanding and complex for a student architect. Suzanne to her credit had the confidence and determination to take on these projects, her involvement as a team member on the West First Theatre Center was productive and valuable to Proscenium.

Suzanne has developed a good understanding of what is required when putting together a contract documentation drawing set. She is very intelligent and capable and in her short time with us seamlessly integrated herself into our office. Given the skill set she demonstrated and her design acumen, we feel that she can offer a lot to any firm.

We have no hesitation in recommending Suzanne for another position. Should you have any questions please do not hesitate to contact me. We wish her the best of luck as she pursues her education.

Sincerely,



Hugh Cochlin, Architect AIBC, MRAIC, LEED® AP  
Principal

# CONTENTS

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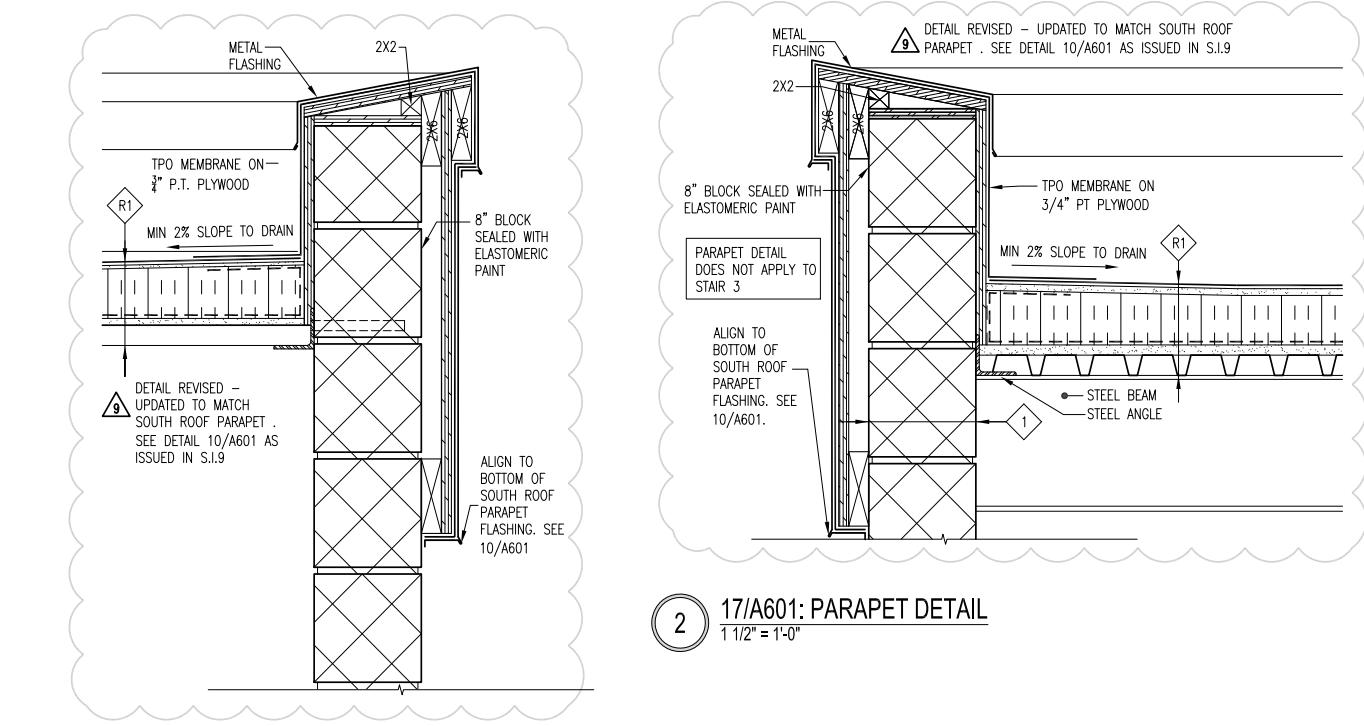
- in-progress
- complete

Professional practice term from September to December 2014

## 01 co-op: proscenium

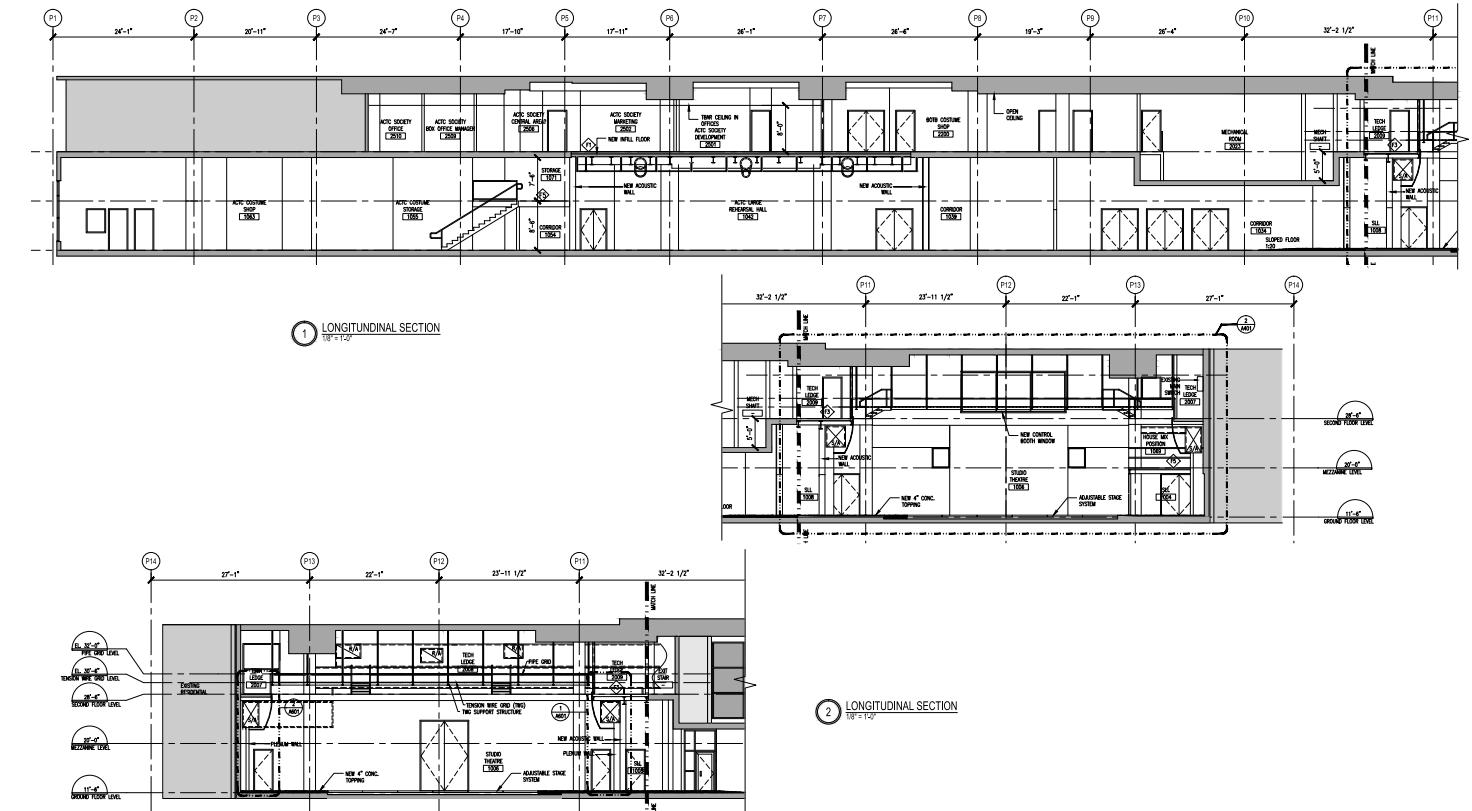
I undertook a co-operative work term at Proscenium Architecture + Interiors where I mainly worked on construction drawings for a theatre/office project for Arts Club Theatre and Bard on the Beach. I also worked on construction drawings for a few other smaller projects that the firm had.

The **drawings shown on the next page** are a few of the construction drawings that I had worked on during my time at Proscenium.



1 4/A601: PARAPET DETAIL  
1 1/2" = 1'-0"

2 17/A601: PARAPET DETAIL  
1 1/2" = 1'-0"



▲ Roofing details for a large storage building | Set of cross-sections through theatre space for Arts Club Theatre

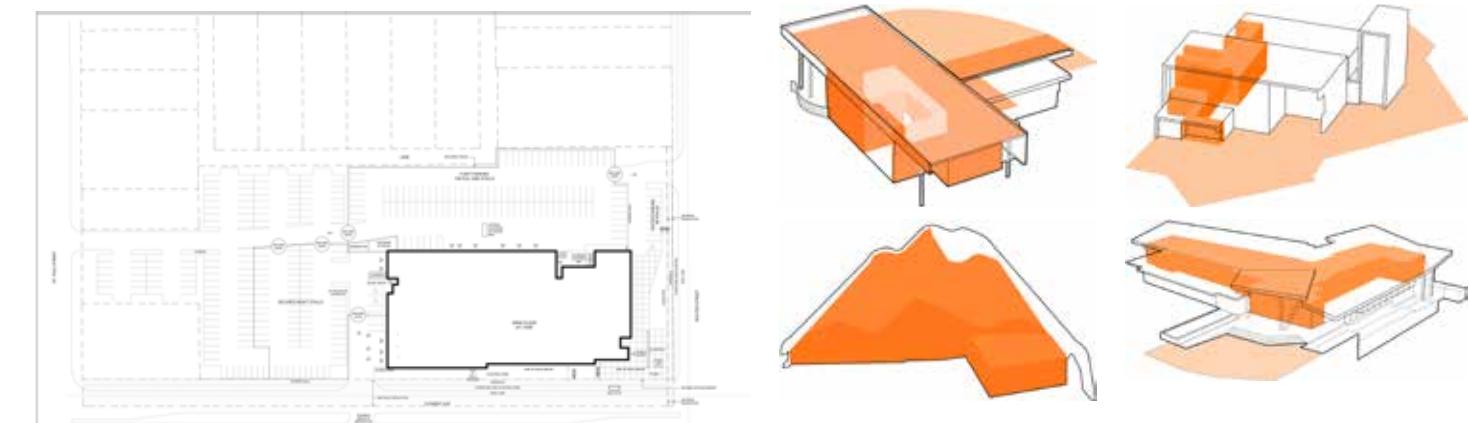
## PROFESSIONAL WORK

Professional practice term from January to April of 2014

### 02 co-op: hcma

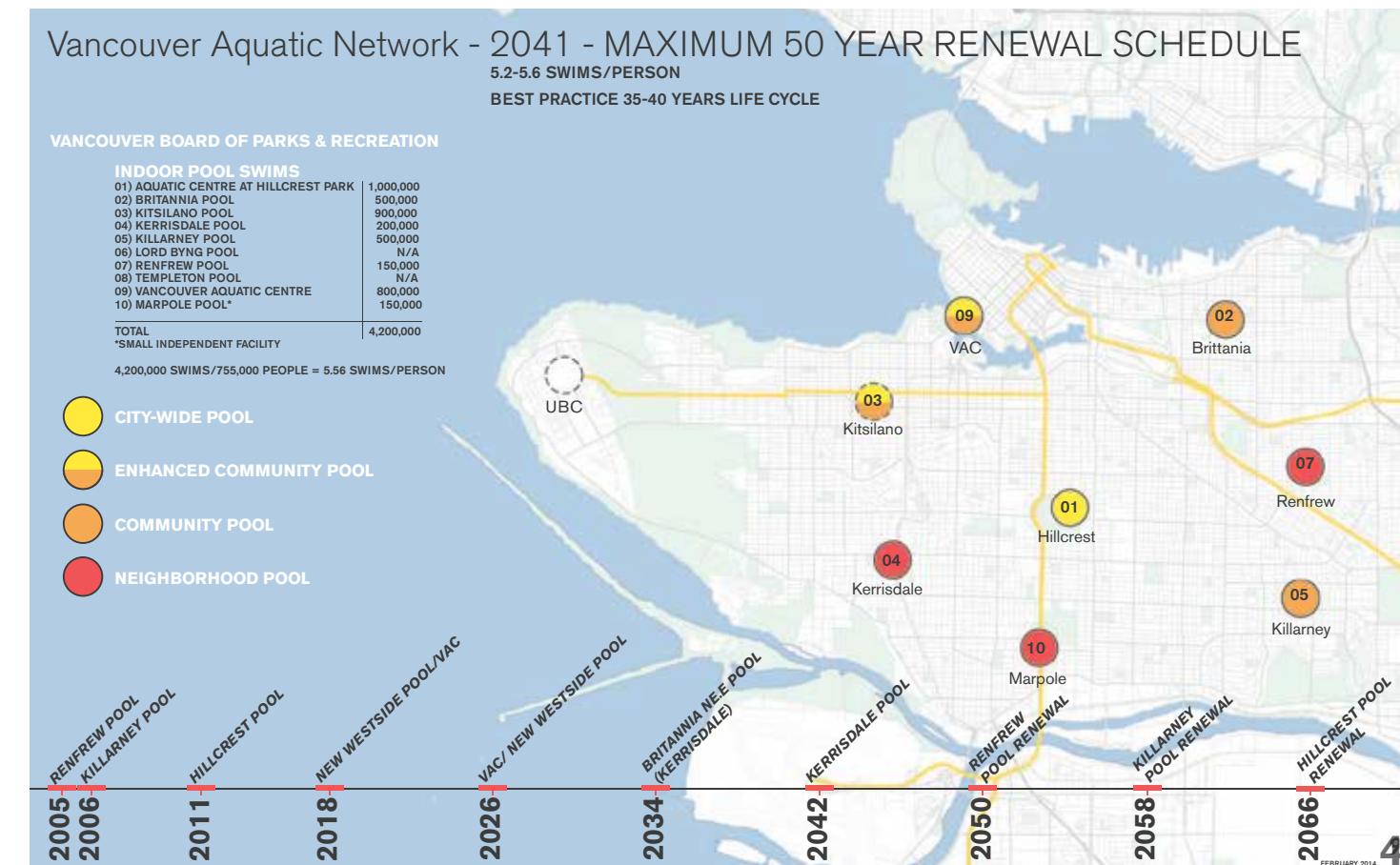
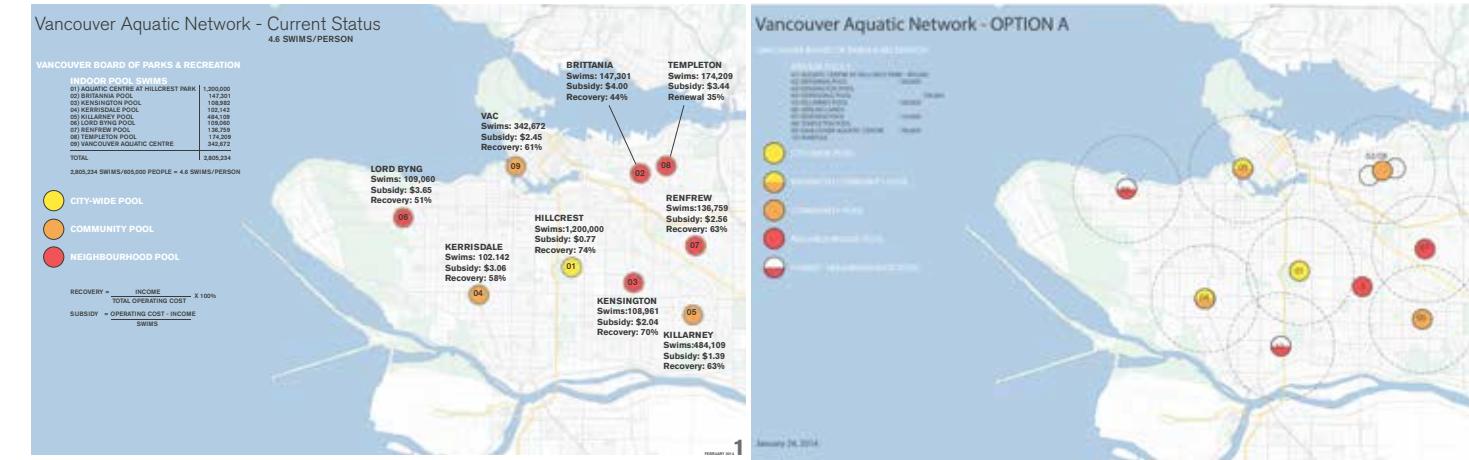
I undertook a co-operative work term at Hughes Condon Marler Architects where I mainly worked on drawings for LEED certification (in REVIT) for the UBC Ponderosa Common, drawings for various civic buildings, competitions, RFPs and creating diagrams and images for various projects.

The images shown on the next page are a few of the drawings that I have created during my time at HCMA.



▲ Plan drawing for a civic building in Kelowna | Set of diagrams drawn for the HCMA book.

▼ Maps made to document the current state [at the time] and proposals for changes to Vancouver's pool network.

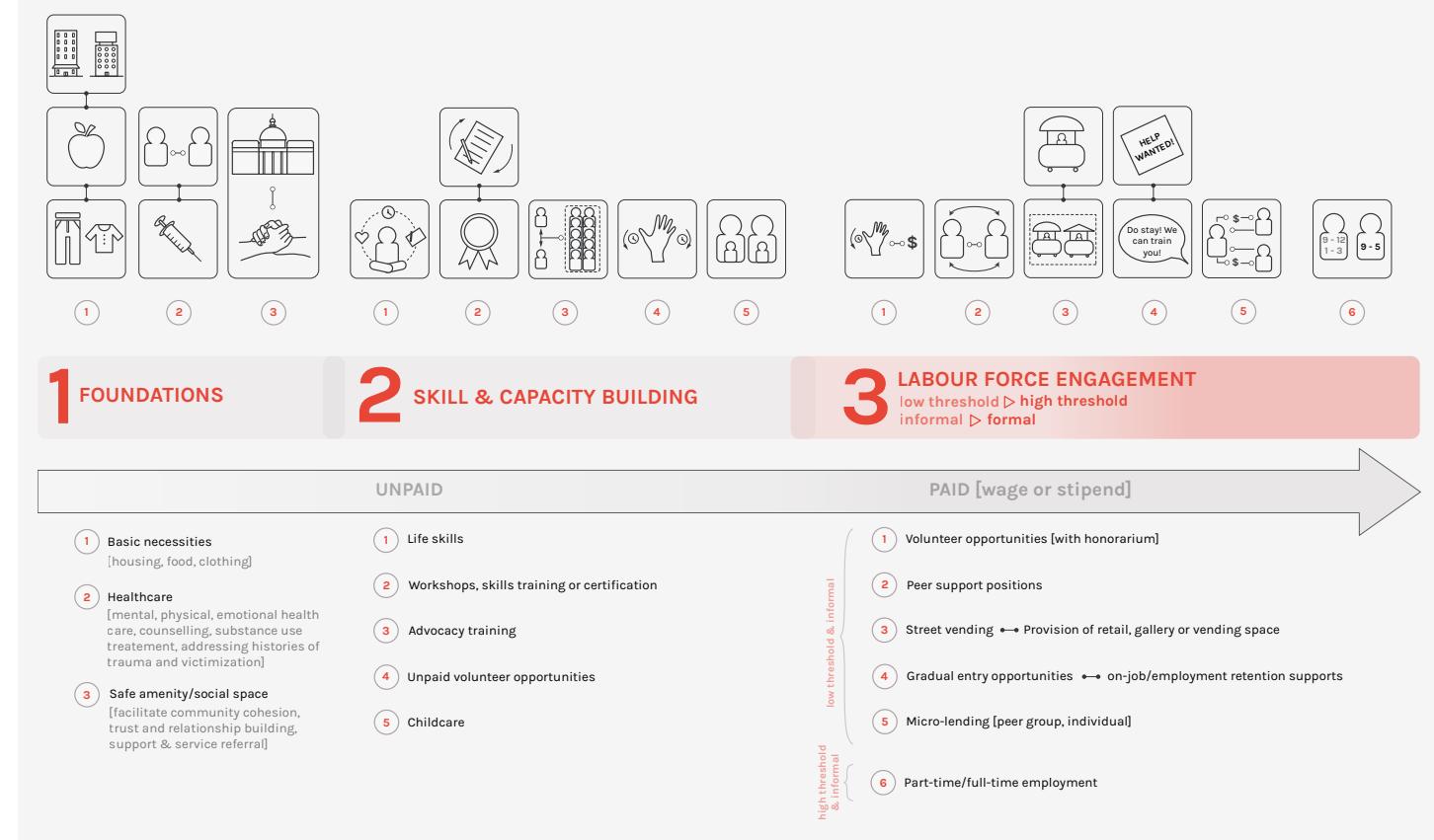


Volunteer work done with Vancouver  
Non-Profit, June 2016

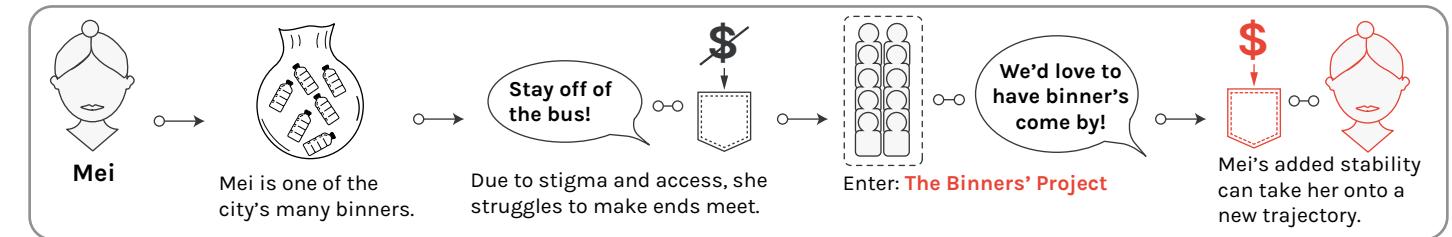
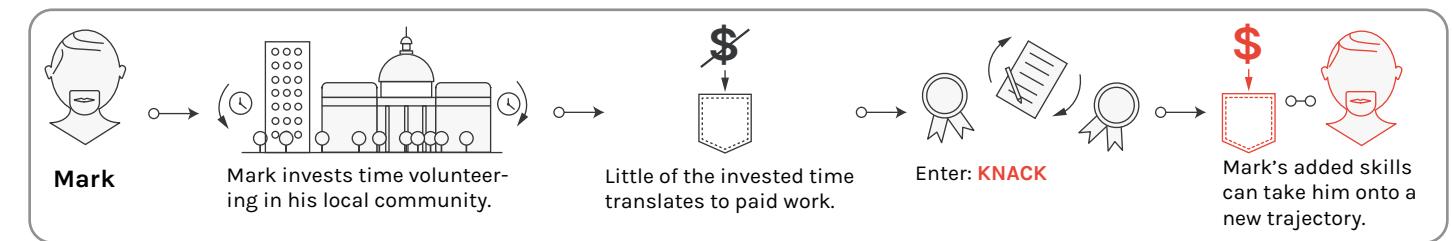
### 03 ledlab + merchant creative

I sourced the opportunity to work with LEDlab - a non-profit group in Vancouver that aims to create new economic opportunities for the inhabitants of Vancouver's Downtown Eastside (the city's most impoverished areas) - to create various new graphics for their annual research publication. The graphics shown on the right are some of the graphics I had created with LEDlab.

INCOME GENERATION CONTINUUM

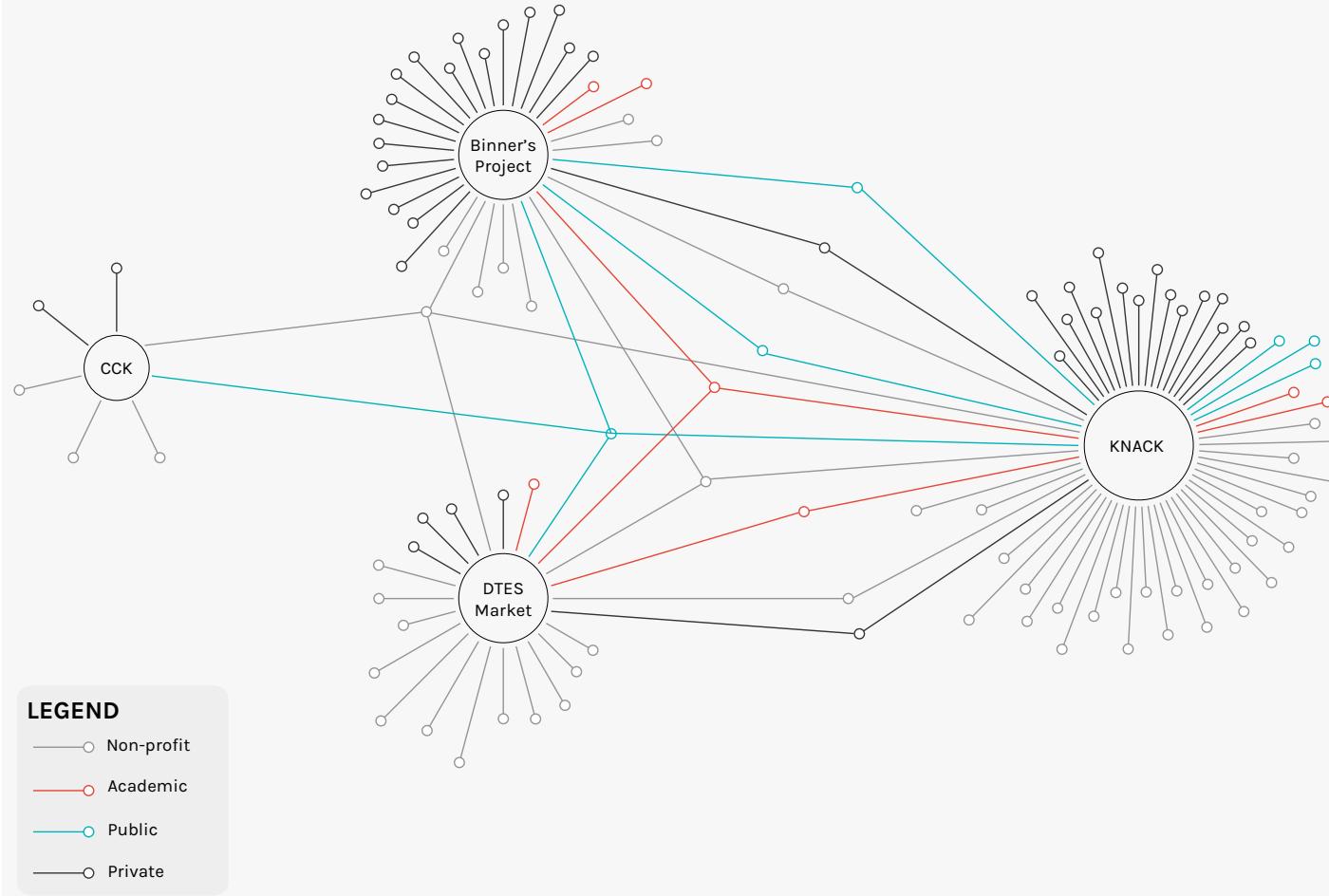


▲ Income Generation Continuum

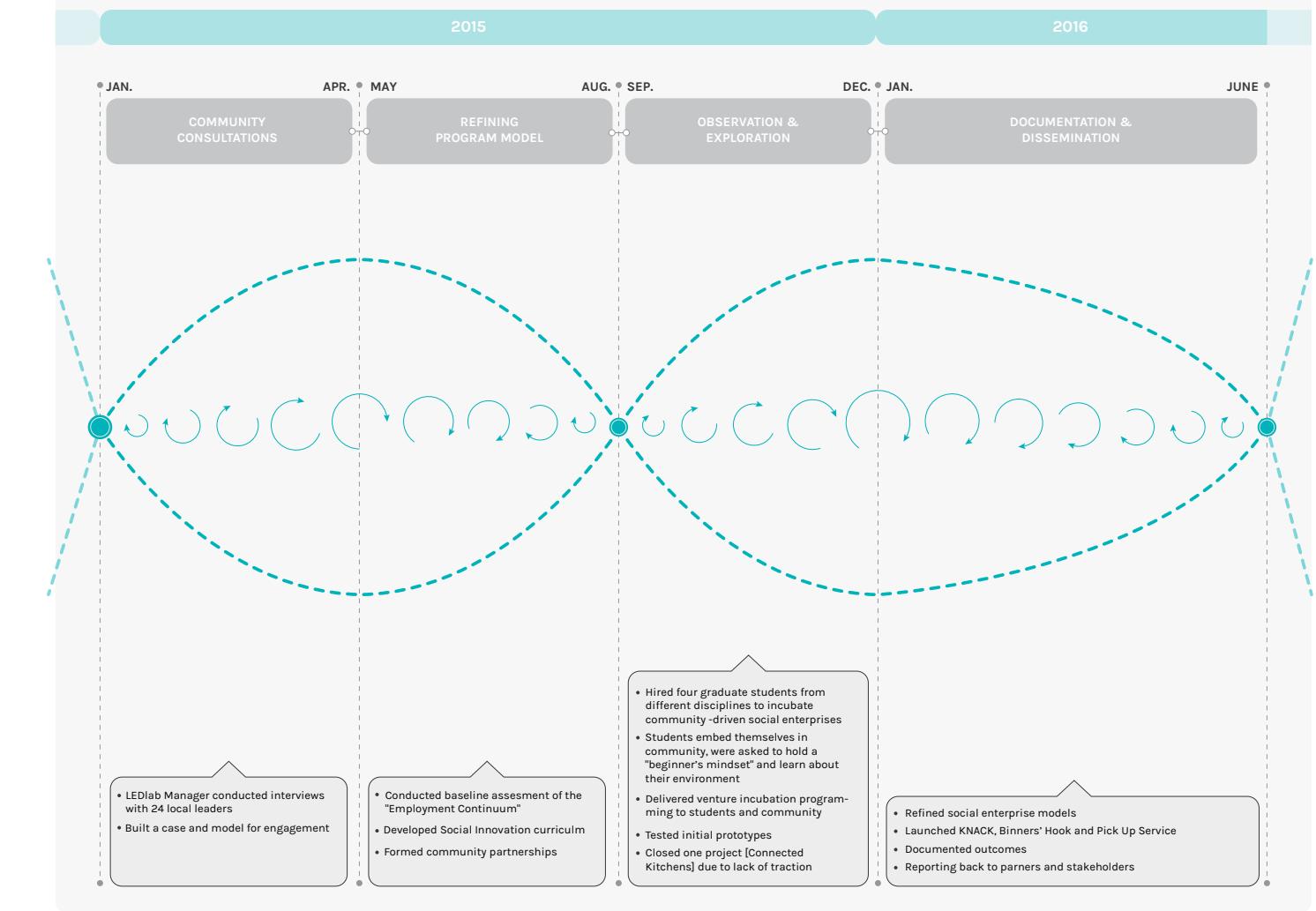


▲ Illustrated Income Generation Continuum: helps to explain how LEDlab's initiatives will impact the local community

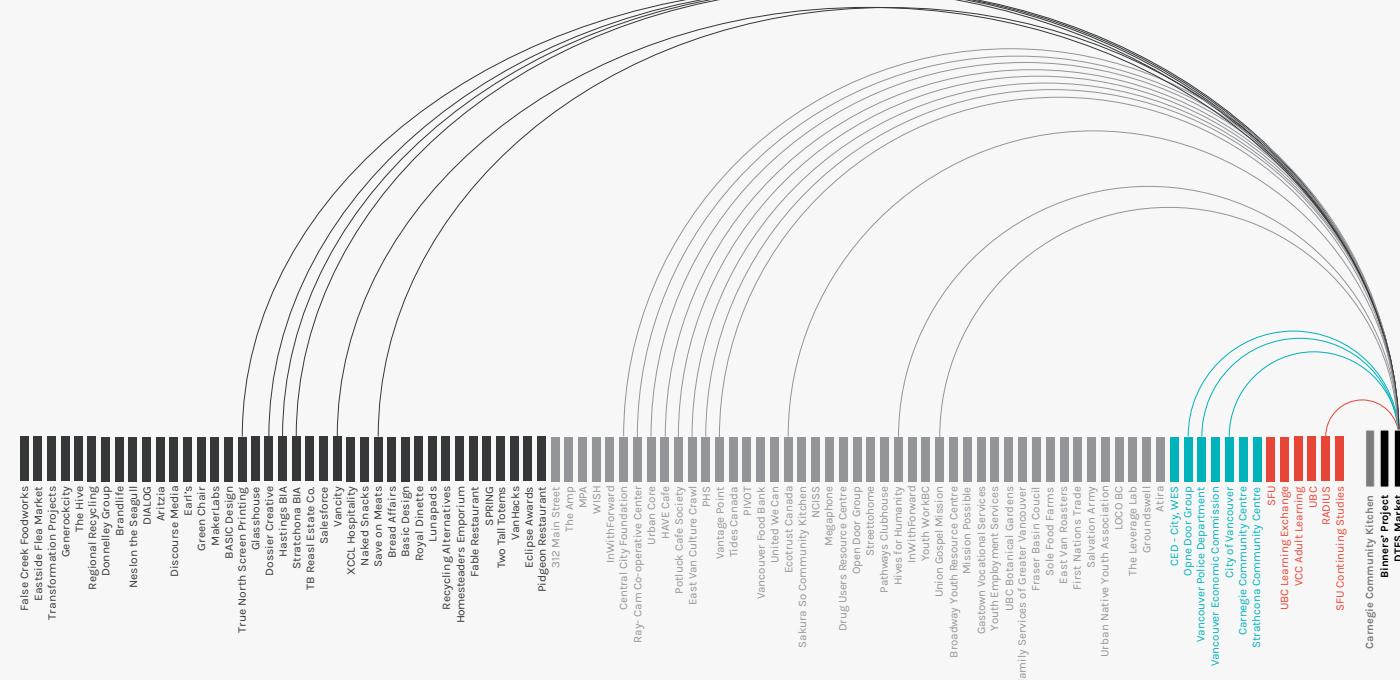
## COMMUNITY NETWORKS



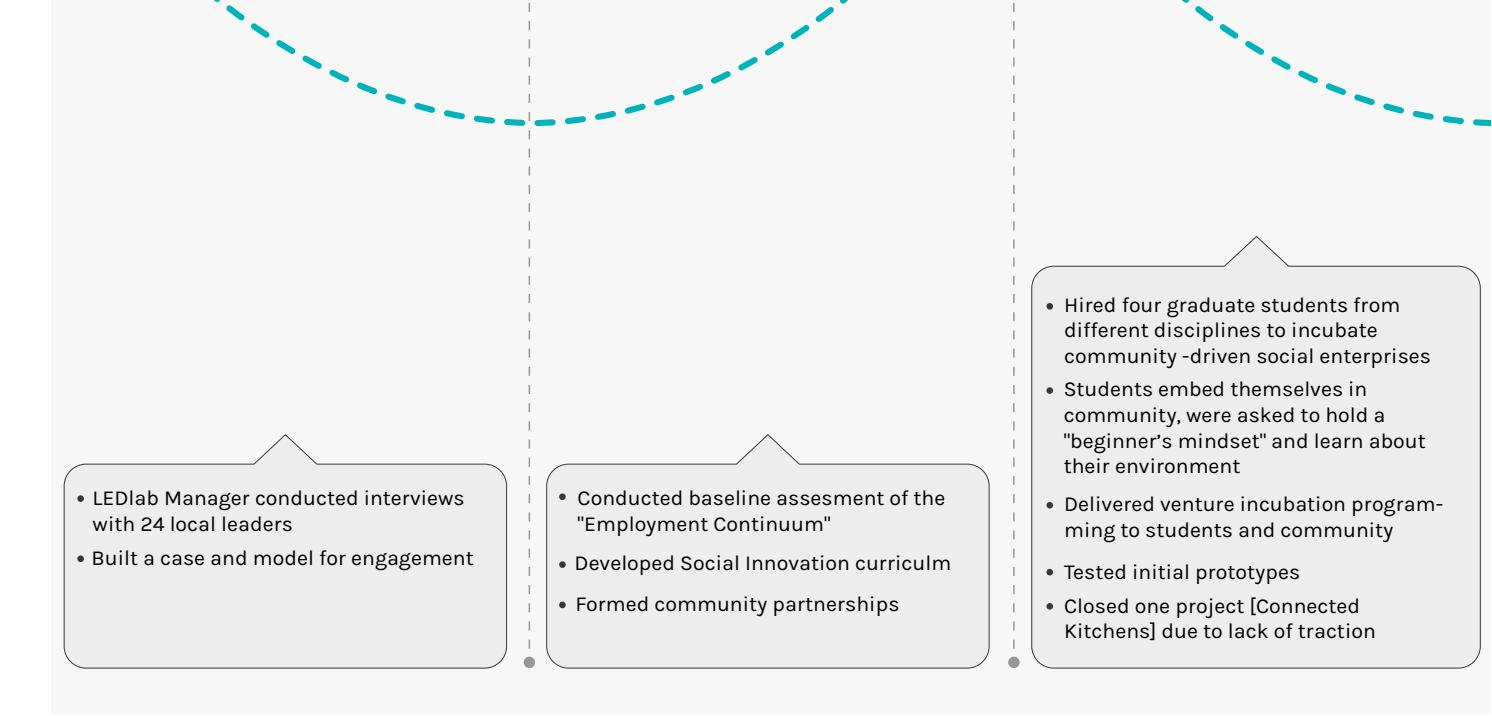
## PROGRAM ARC



## COMMUNITY NETWORKS - DOWNTOWN EASTSIDE MARKET



▲ [1] General Community Networks Map [2] Example of Detailed Community Networks Map [Downtown Eastside Market]

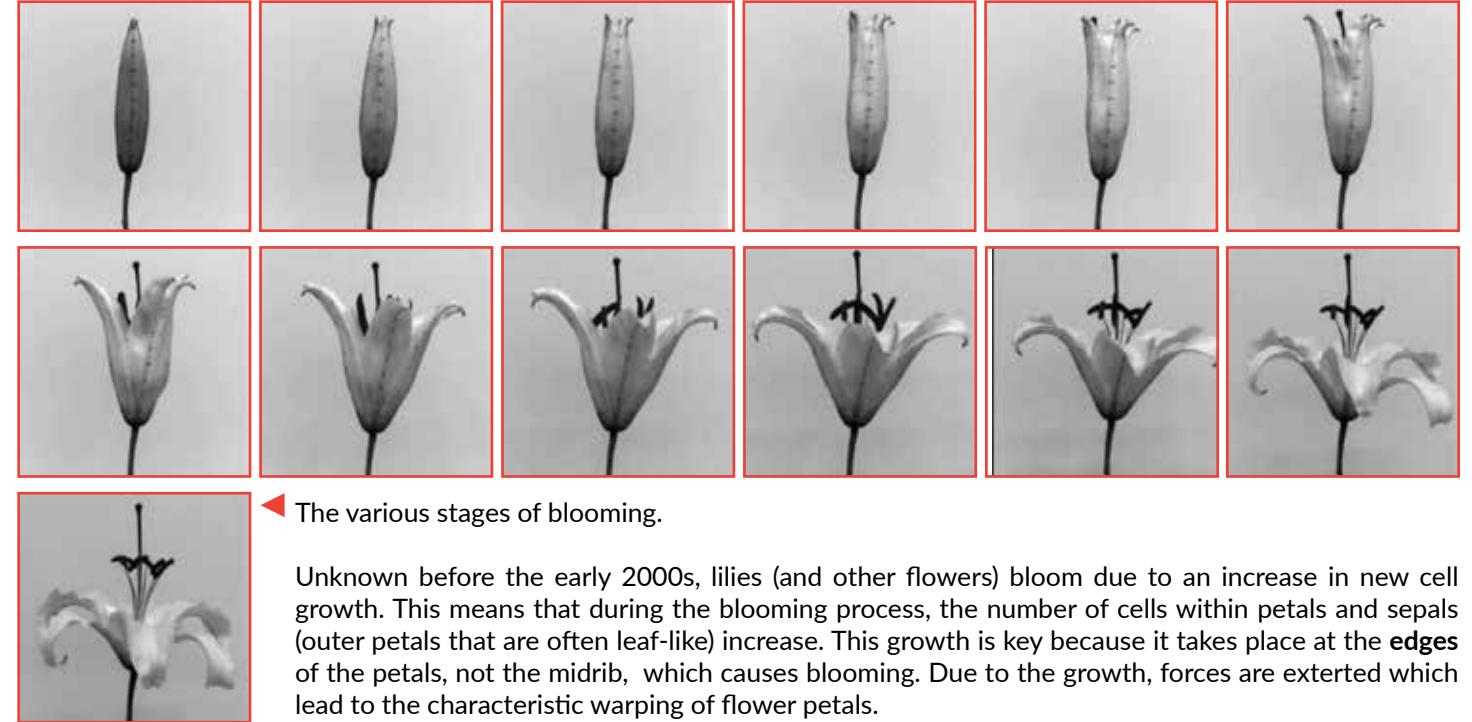


▲ [1] Program Arc [2] Detail of Program Arc

Exploring movement in soft robotics.

## 04 bloom

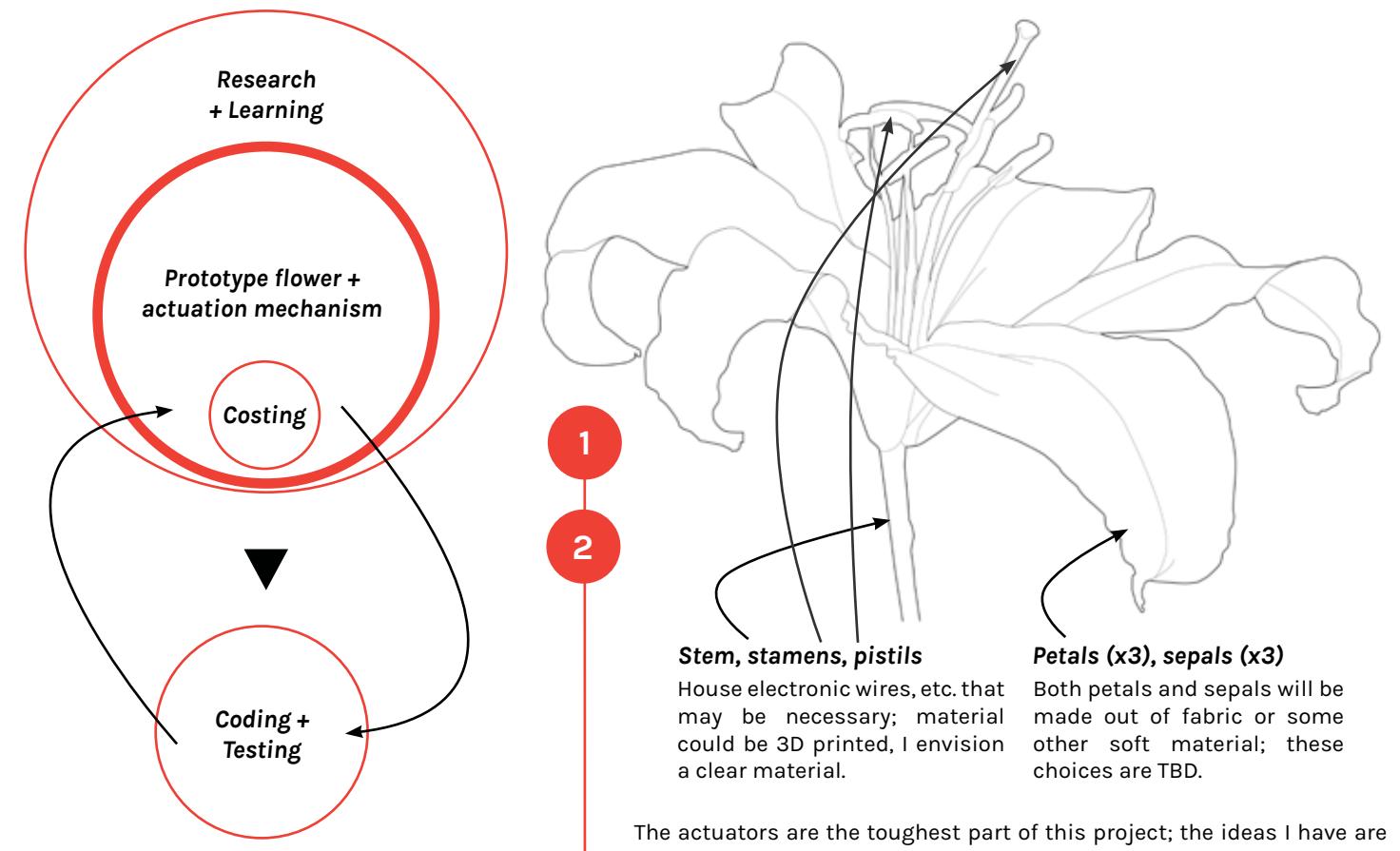
Living things are in constant motion. Yet, when we think of motion we rarely think of the subtle movements that plants undergo. Bloom is my exploration of a flower's (specifically, a lily) blooming mechanisms and its faithful reproduction (in movement) with robotics. As I have just started this project, these are my ideas of how to make bloom, which I hope to use in a larger installation sometime in the future.



Unknown before the early 2000s, lilies (and other flowers) bloom due to an increase in new cell growth. This means that during the blooming process, the number of cells within petals and sepals (outer petals that are often leaf-like) increase. This growth is key because it takes place at the edges of the petals, not the midrib, which causes blooming. Due to the growth, forces are exerted which lead to the characteristic warping of flower petals.

## Anticipated Process

## Ideas for Actuation & Materials



I assume that the bulk of project time will be used in learning new concepts and directly applying them to the prototyping. I believe I am looking at a time frame of 4-6 months, and budget that is TBD.

The actuators are the toughest part of this project; the ideas I have are thus.

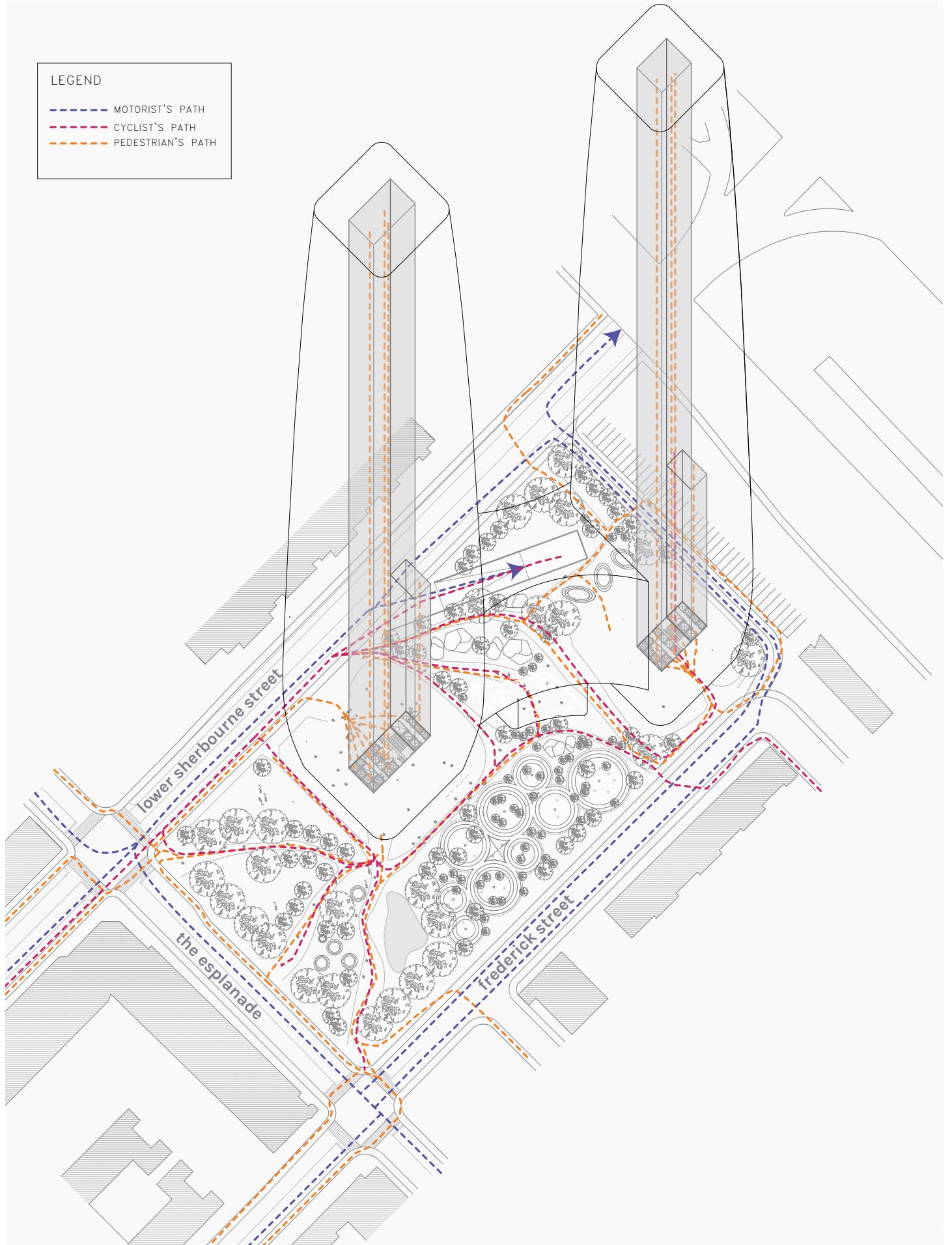
1. Use a shape memory alloy (SMA) covered in cloth. As the SMA is annealed to a particular shape, when the metal is reheated, it will respond by reverting to the shape it was first heated to.

2. A pneumatic or hydro-based (which is more accurate to the physiology of a plant) actuator - this requires more research.

Hyperbuildings: density taken to the maximum.

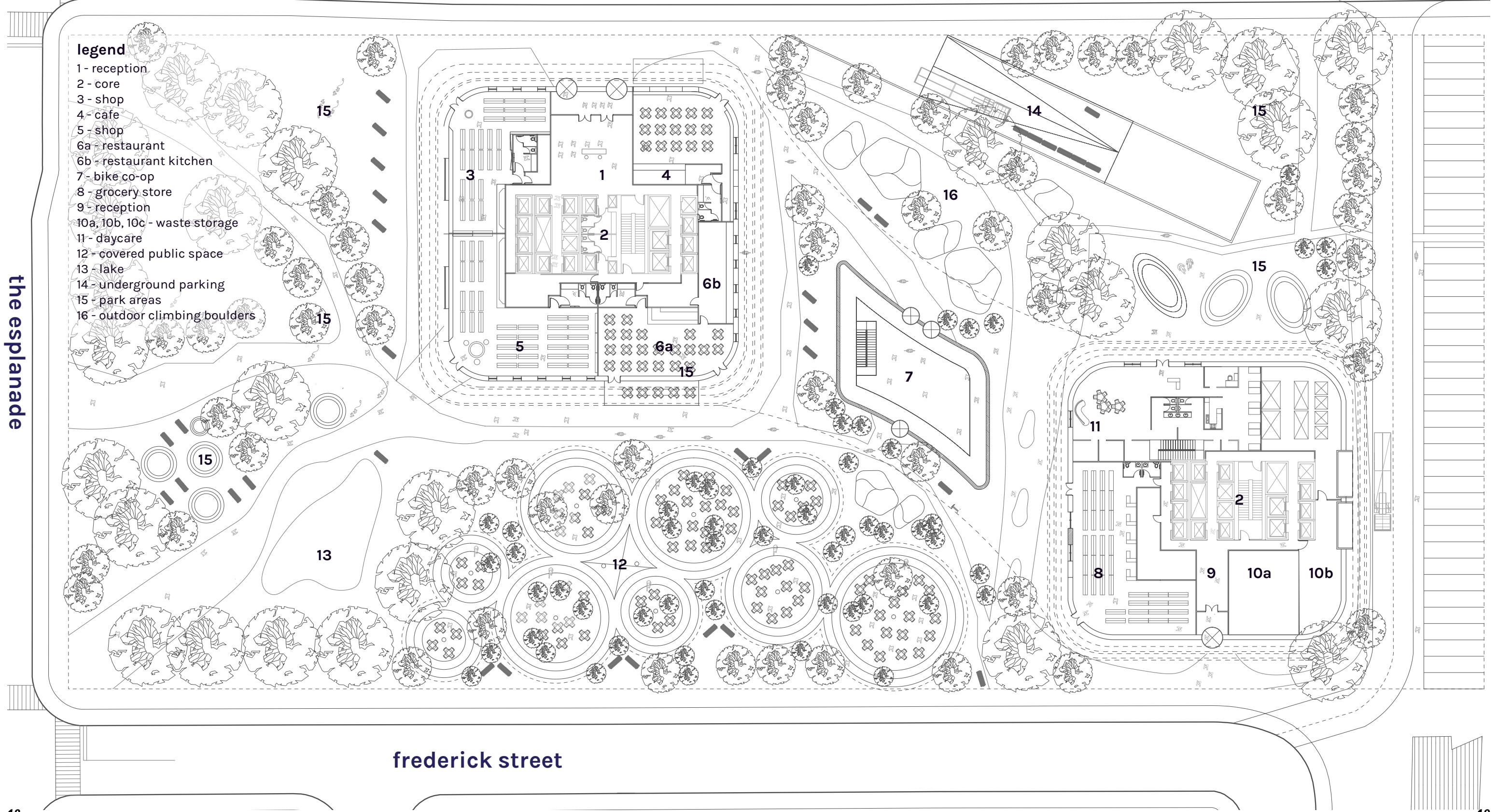
## 05 public space & hyperdensity

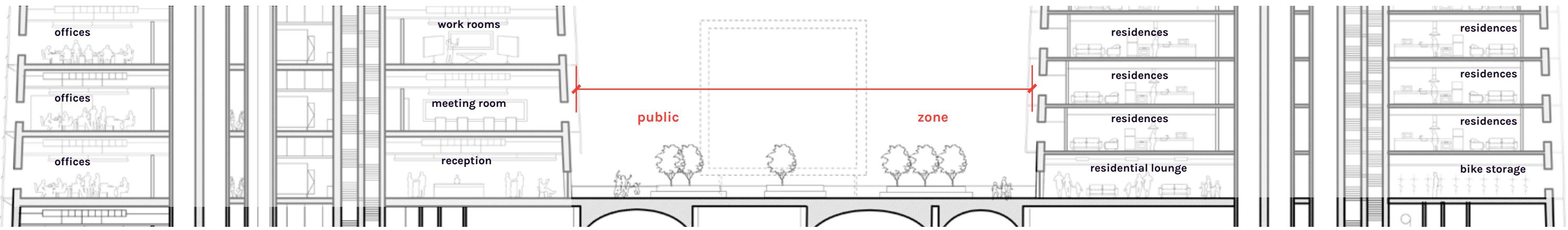
Toronto's new obsession with high-rise condominiums has come with a price - with the large number of high-rise condominiums being built, one finds that adequate park/green space/ public space is not available in comparison to the built forms. This project attempts to combine a high-density (FAR 8) building program while still providing large amounts of public space to the inhabitants of both the building and the surrounding community. The form of the building are two towers connected by a volume. The two towers are populated by offices and residences. The towers are connected by the volume which is composed of a program of generic light industrial program with the capability to be modified over time. There are also art galleries, publicly accessible workshops and makerspaces, a bicycle co-op, various shops, restaurants and a grocery store.



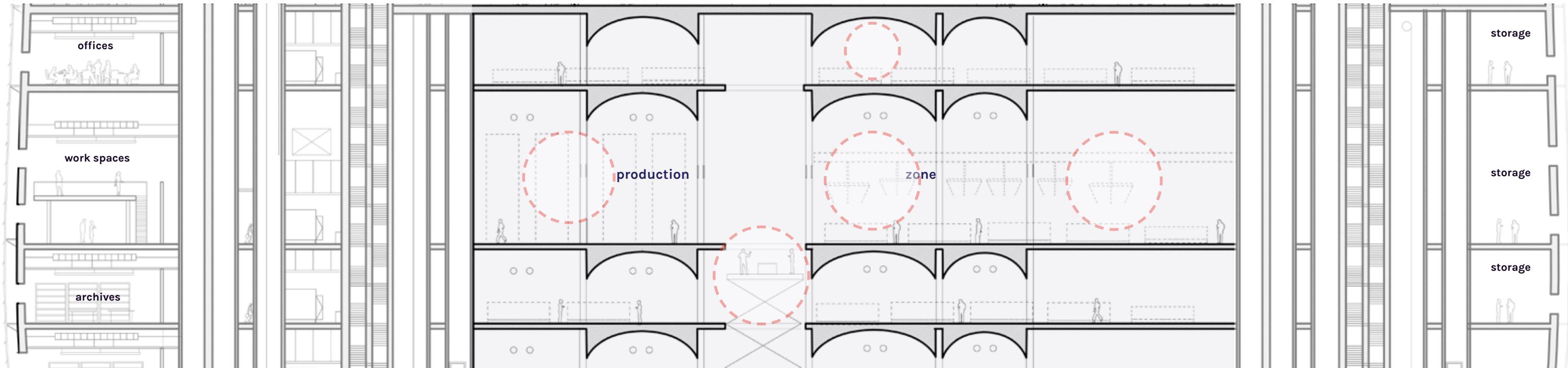
lower sherbourne street

gardiner highway beyond →

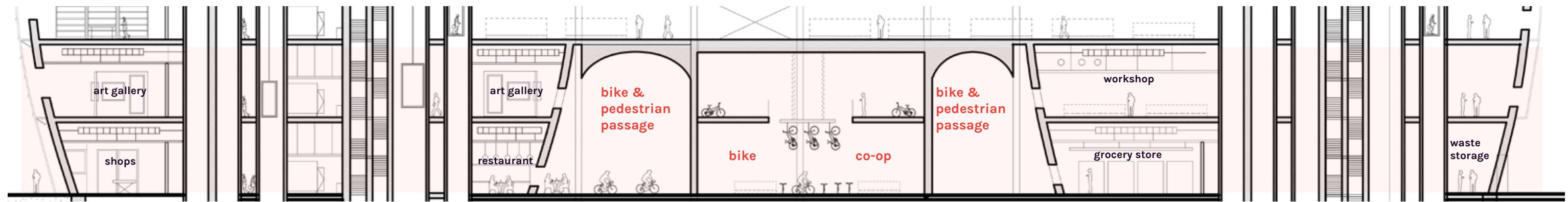




▲ Detailed Section: office spaces & residential areas which merge at a public zone for use by both office workers and residents



▲ Detailed Section: light industry volume -- the main production areas are flanked by offices, storage spaces, and main services; although this area isn't publicly accessible, there are views into the production area for the public



▲ Detailed Section: the public level here extends from the ground level to the second level with shops, restaurant, art galleries, workshops, grocery store, and waste storage.

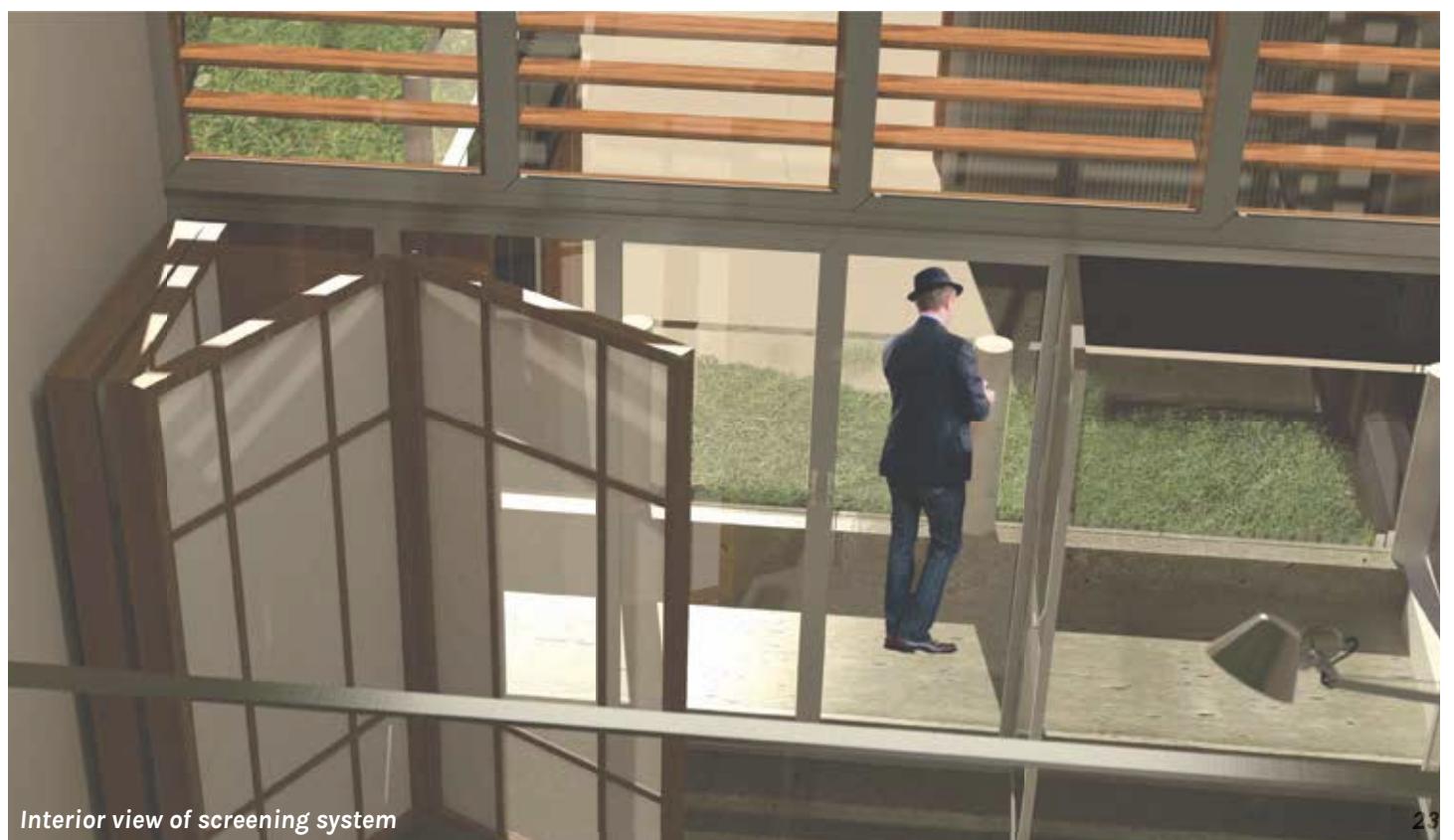
A unique housing solution in leftover urban space.

## 06 screened courtyards

This project called for a set of homes to be built in a junk space in Cambridge that could be redeveloped later. Our solution comprised of three light steel framed apartment buildings which surround an internal courtyard. Each home is equipped with a three tier screening system that allows the residents to control shading and public exposure.



Exterior render of homes with courtyard



Interior view of screening system



▲ ▼ Longitudinal section below, corresponding plan above



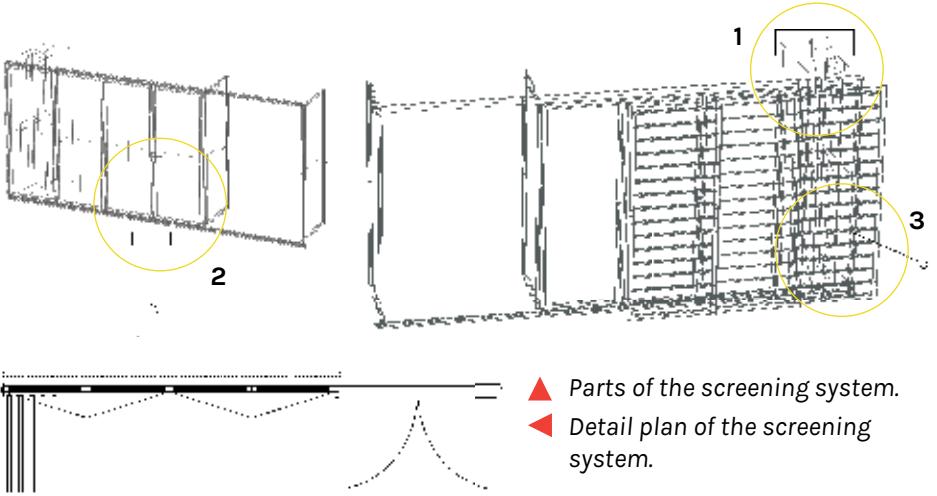
▲ West elevation of buildings

### 3 TIER SCREENING SYSTEM

Three tier privacy system consists of :

1. Folding translucent paper screens
2. Movable glass doors
3. Operable exterior louvres

This system allows the residents to manipulate their surroundings with regards to both privacy and thermal comfort by opening and closing different combinations of the screening system. The dynamic facade creates a more urbane environment.



▲ Model of screening system

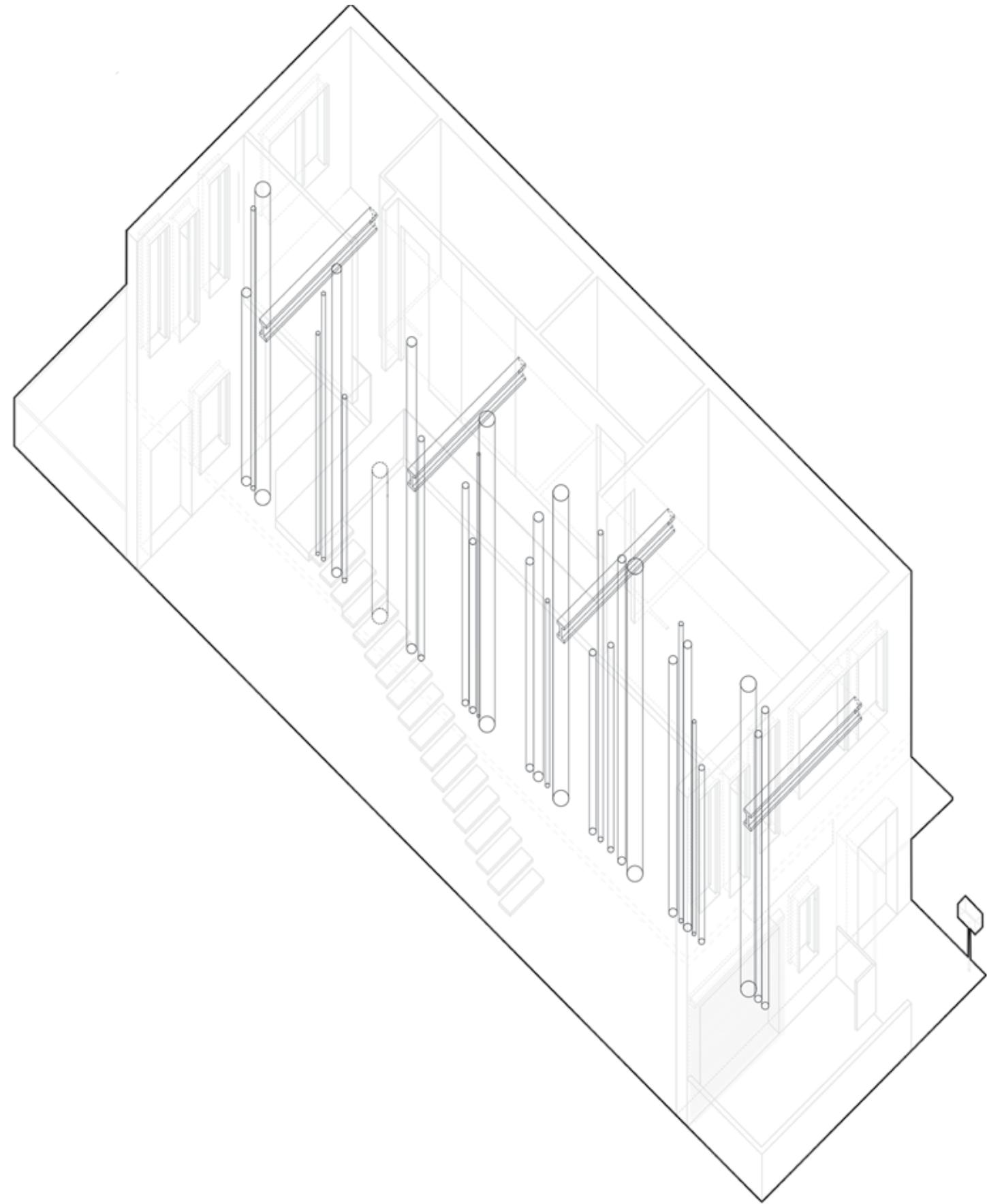


▲ Model of South elevations

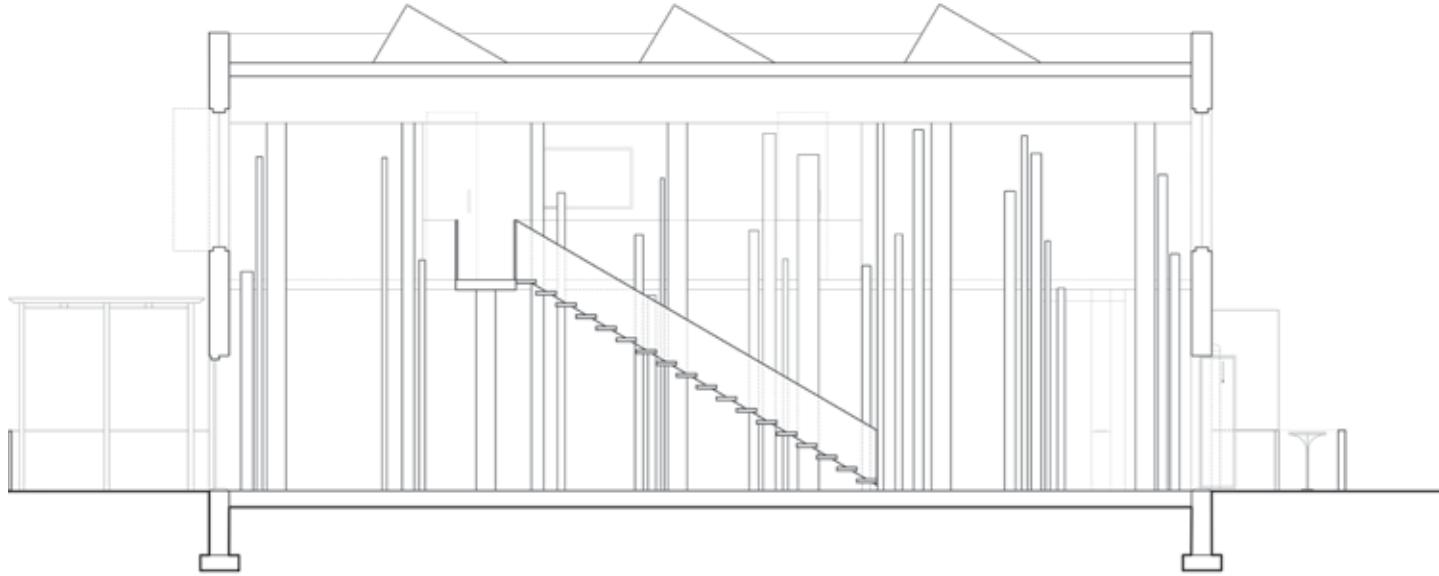
Urban townhome with a twist!

## 07 columnar forests

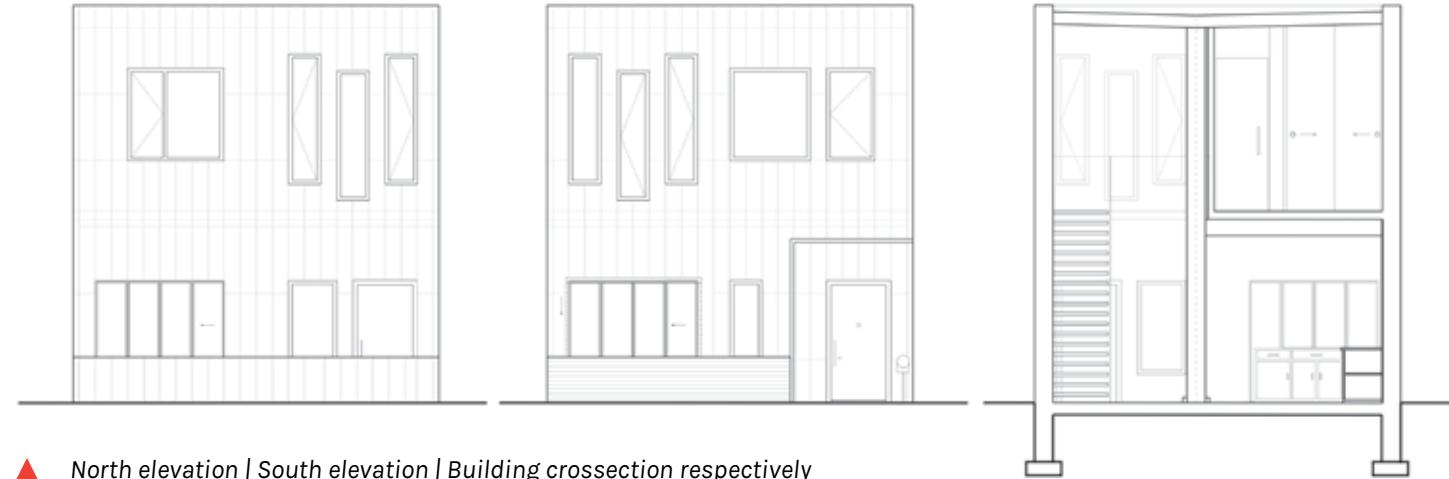
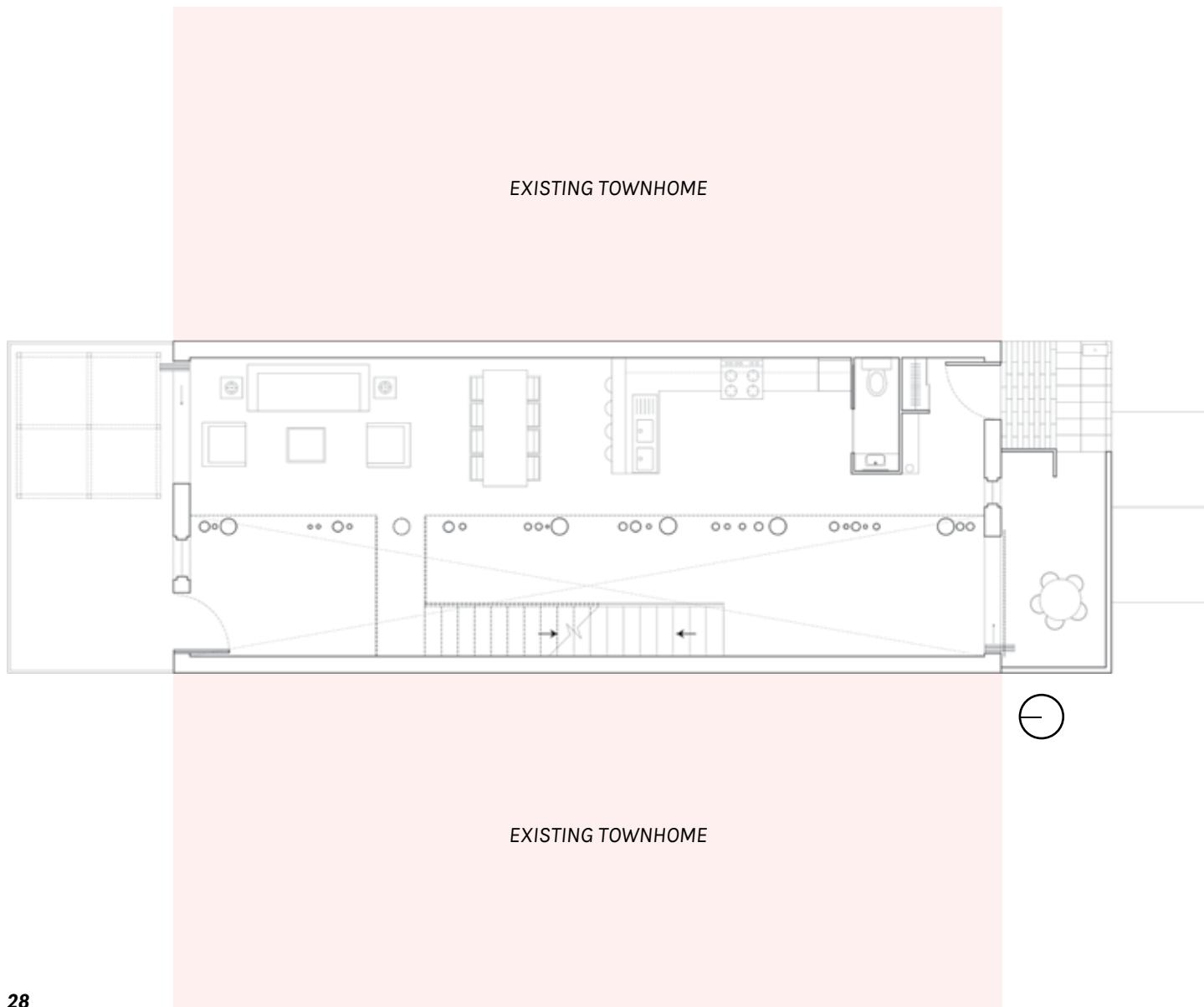
Located in downtown Cambridge, the (imaginary!) clients of this home wished to create a home that catered to both their love of socializing and the forests of their old home. As such, the focus of this tiny little townhouse is in the beautiful, long atrium which is separated and connected to the living spaces by a screen of wooden columns (designed out of recycled cardboard) that are reminiscent of the forests of the clients' previous home.



▲ Structural axonometric - structural columns are paired with the steel beams to provide stability to the 2nd floor.



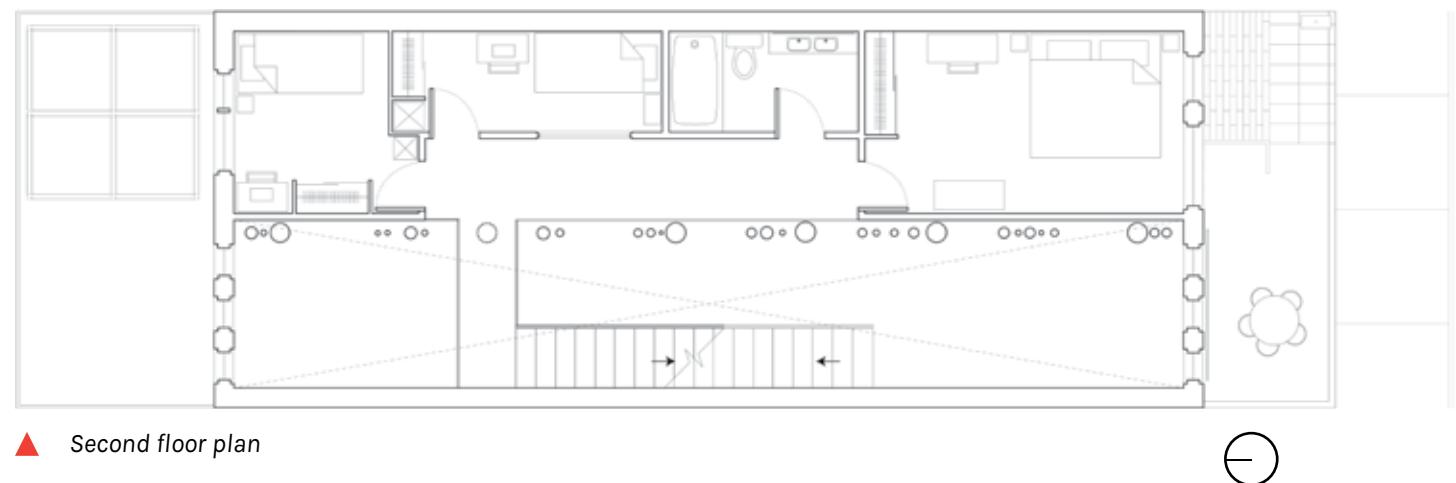
▲▼ Longitudinal section with corresponding ground floor plan below



▲ North elevation | South elevation | Building crossection respectively



▲ Vignette | Rough initial elevation model | Interior model of columns and stairs



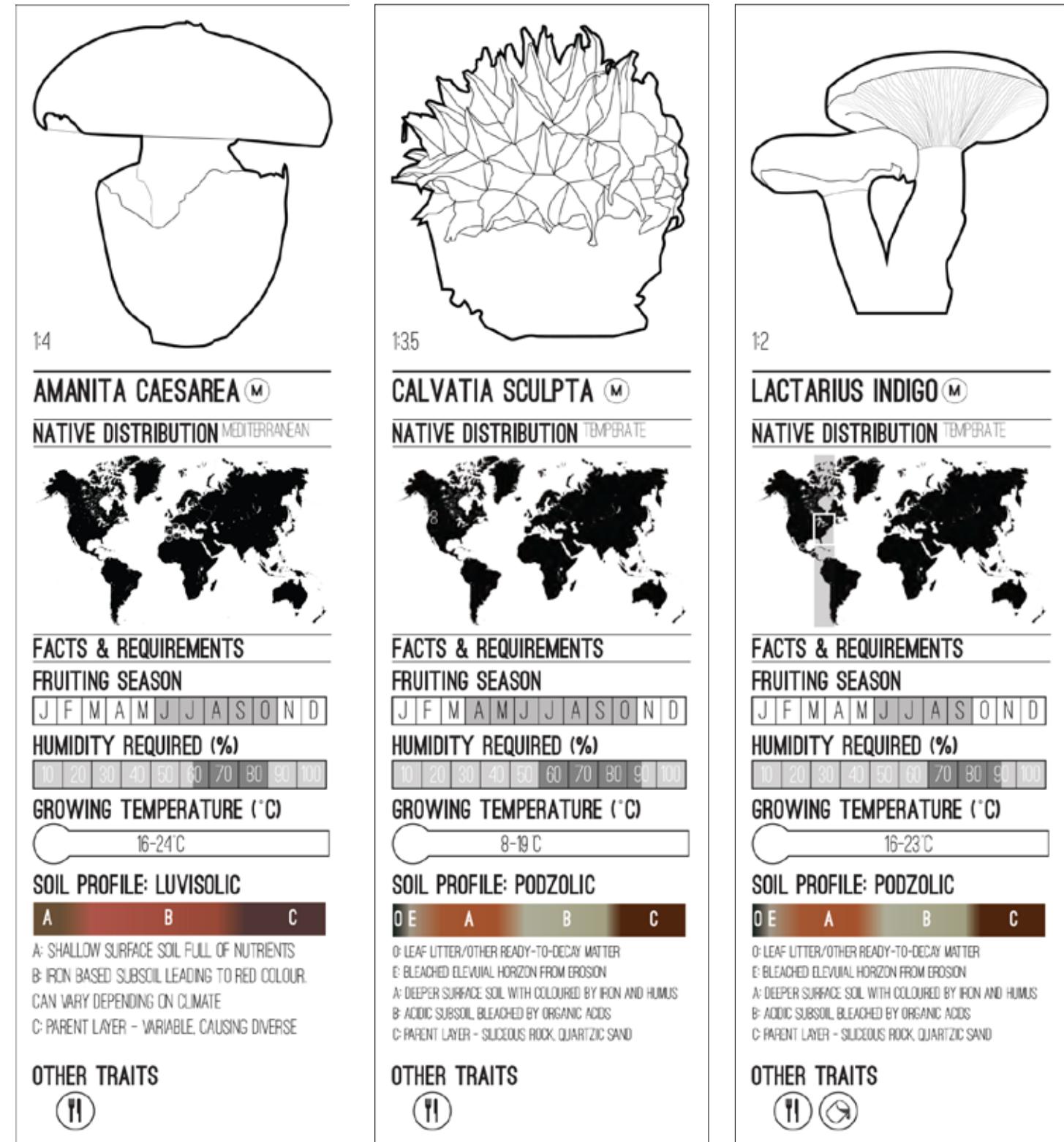
▲ Second floor plan

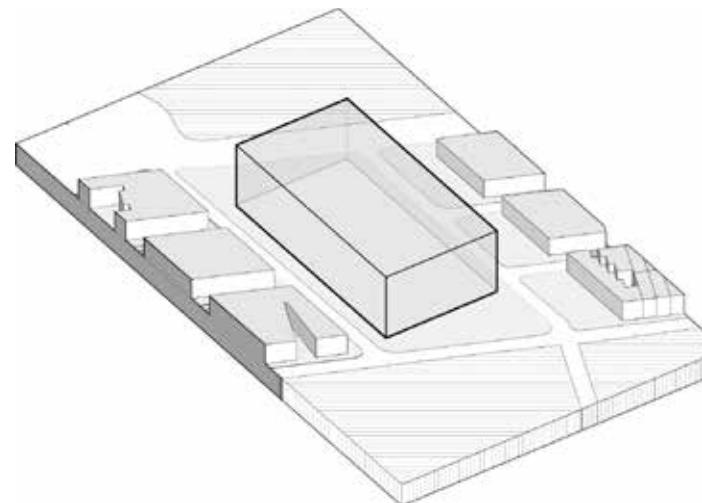
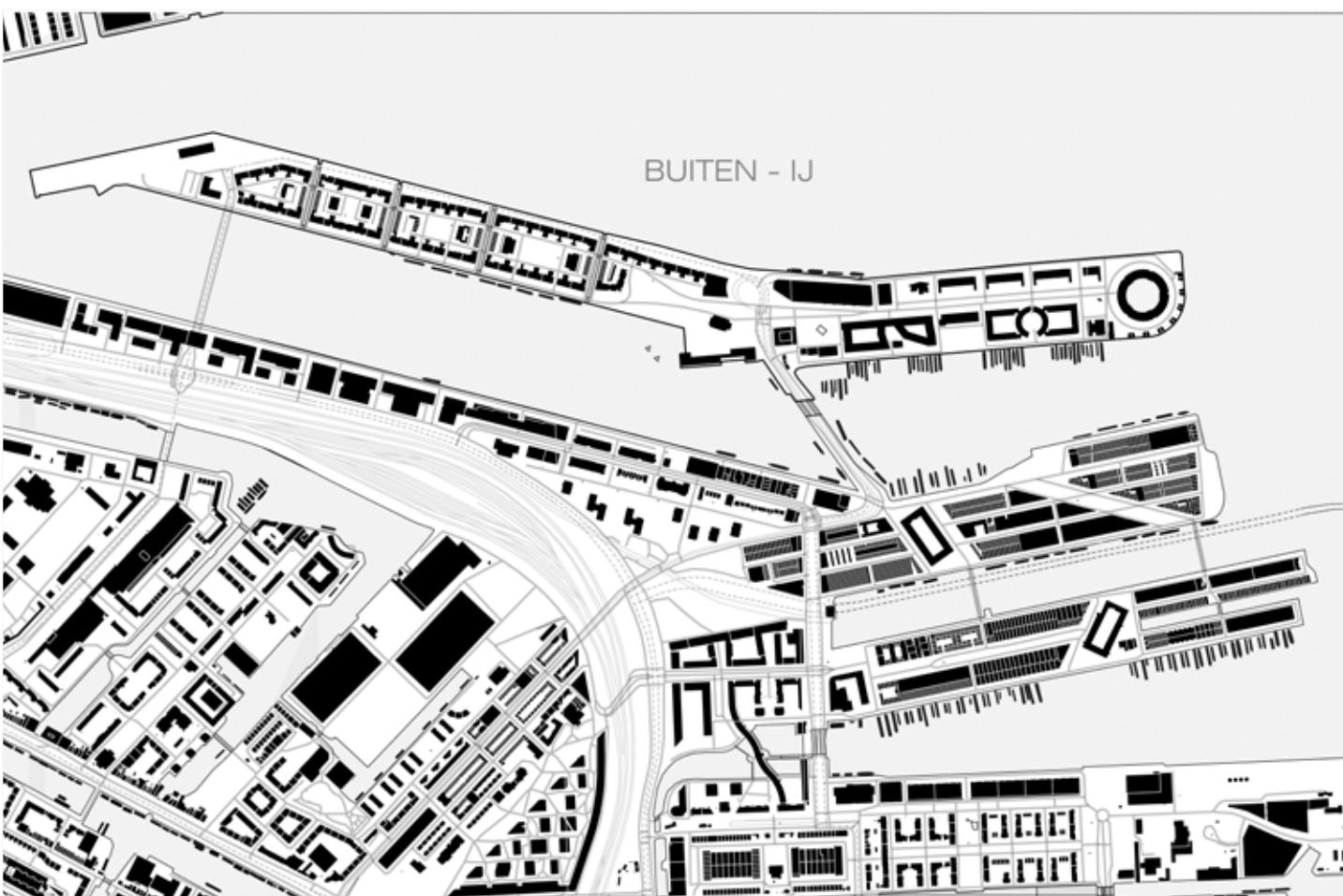
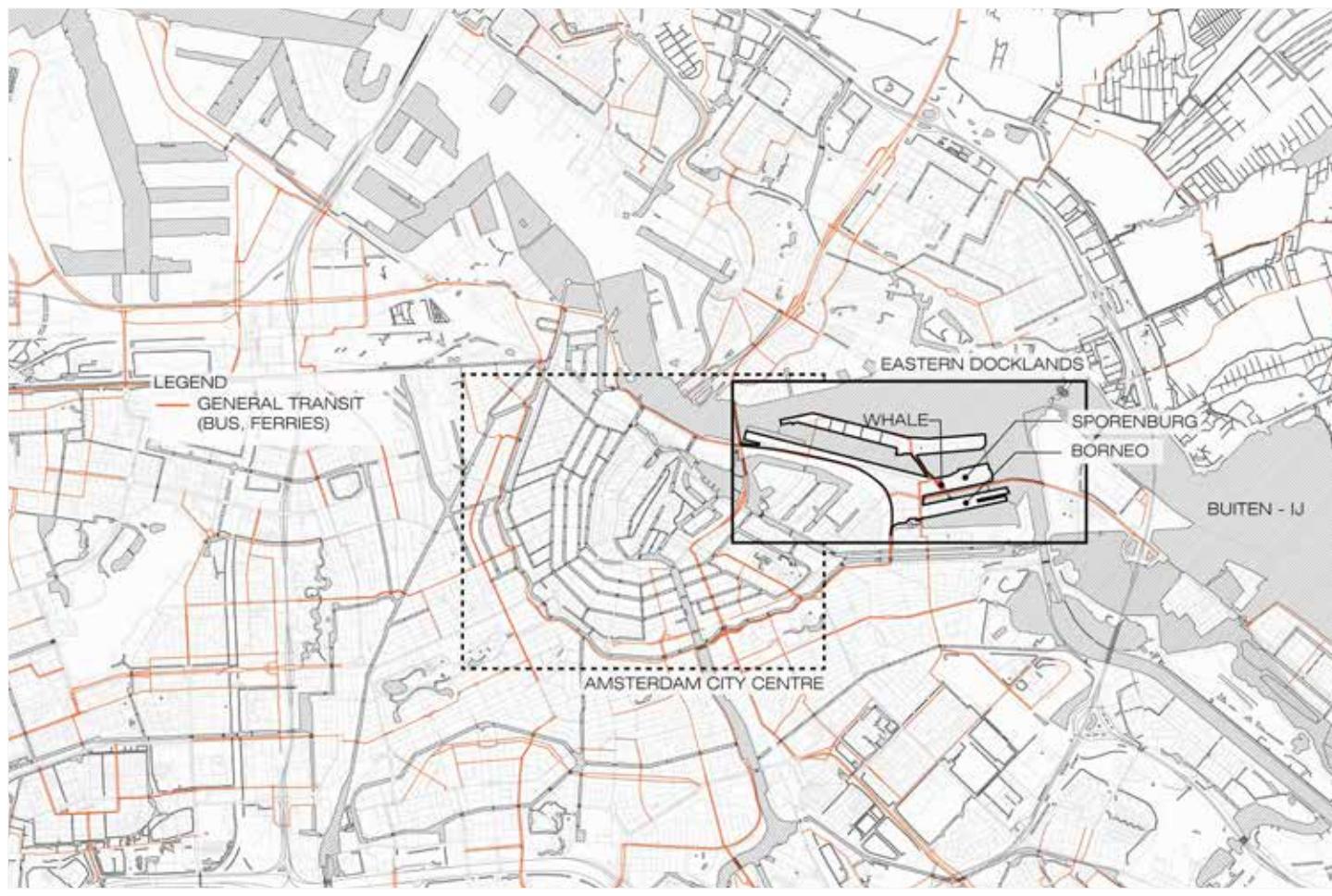
Excercises in mapping & presenting data.

## 08 diagrams + mapping

Right: A sample of infographics that detailed the growth requirements of different species of mychorrhizal fungi that would be grown in a horticultural centre in a soon-to-be-abandoned quarry in Ontario.

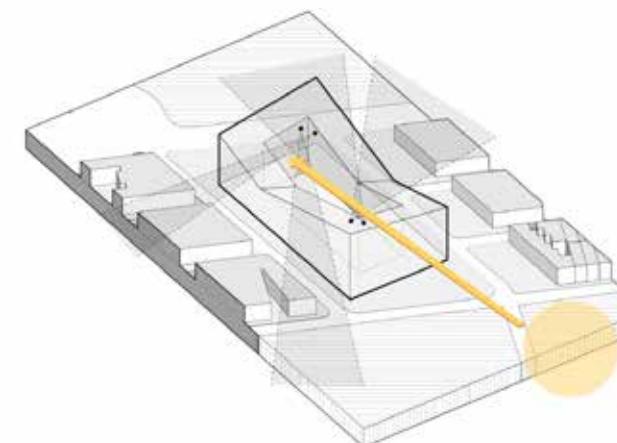
Next: The Whale Housing Complex by de Architekten Cie is a superblock that I had to research for my current studio which deals with creating large, mixed-use urban buildings. The following pages show some of the diagrams and maps I produced for the case study.



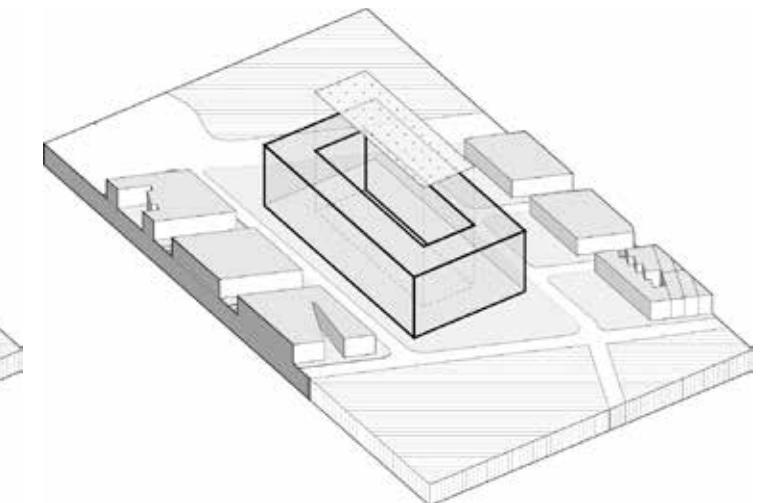


Begin with a typical block on site.

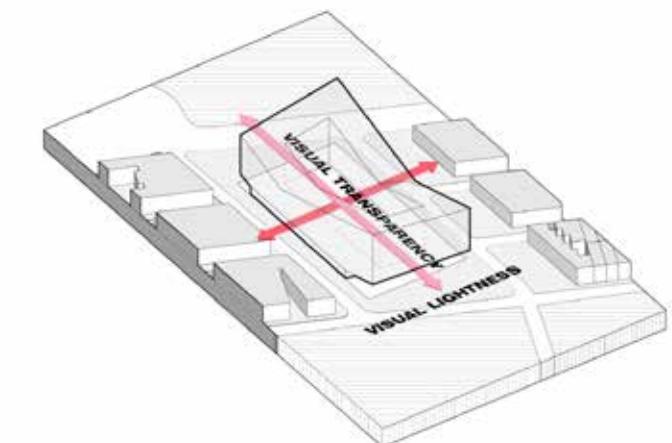
Second floor plan



Raise corners to allow sunlight in and create views for apartments.

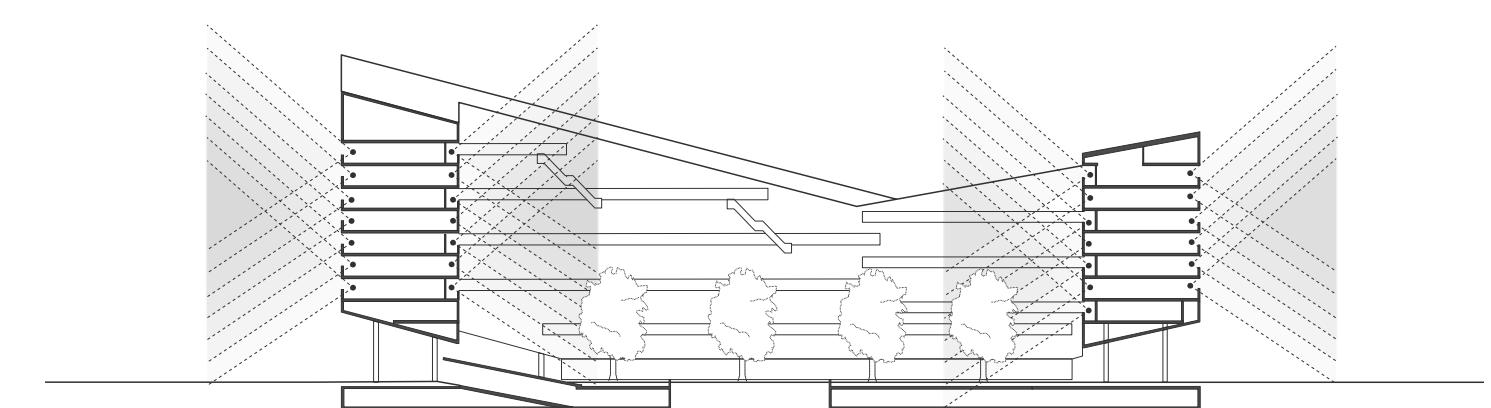


Hollow the block to create a typical perimeter block with a courtyard.



Raise building off of ground to create visual transparency through the courtyard axis, and visual lightness at ground level.

▲ 3D massing diagrams



▲ Sectional parti diagram

▲ Above: Map of Amsterdam including key locations + transit  
Below: Nolli map of the Borneo-Sporenburg area

A portable classroom used to teach about food/horticulture.

## 09 food for thought

Learning Blocks is a portable classroom that aims to incorporate the classroom into urban, community areas such as parks to teach about agriculture, horticulture and food systems to the general public with the hopes of increasing awareness and promoting good health.





Colourful bird A [Bloedel Conservatory]



Colourful bird B [Bloedel Conservatory]



Colourful bird C [Bloedel Conservatory]



Colourful bird D [Bloedel Conservatory]



Tiny flowers, big detail [Bloedel Conservatory]



Life at the base of the Stawamus Chief, Squamish

***Thank you for your time!***

E | [suzannemerchant@gmail.com](mailto:suzannemerchant@gmail.com) P | +1 226 600 8321