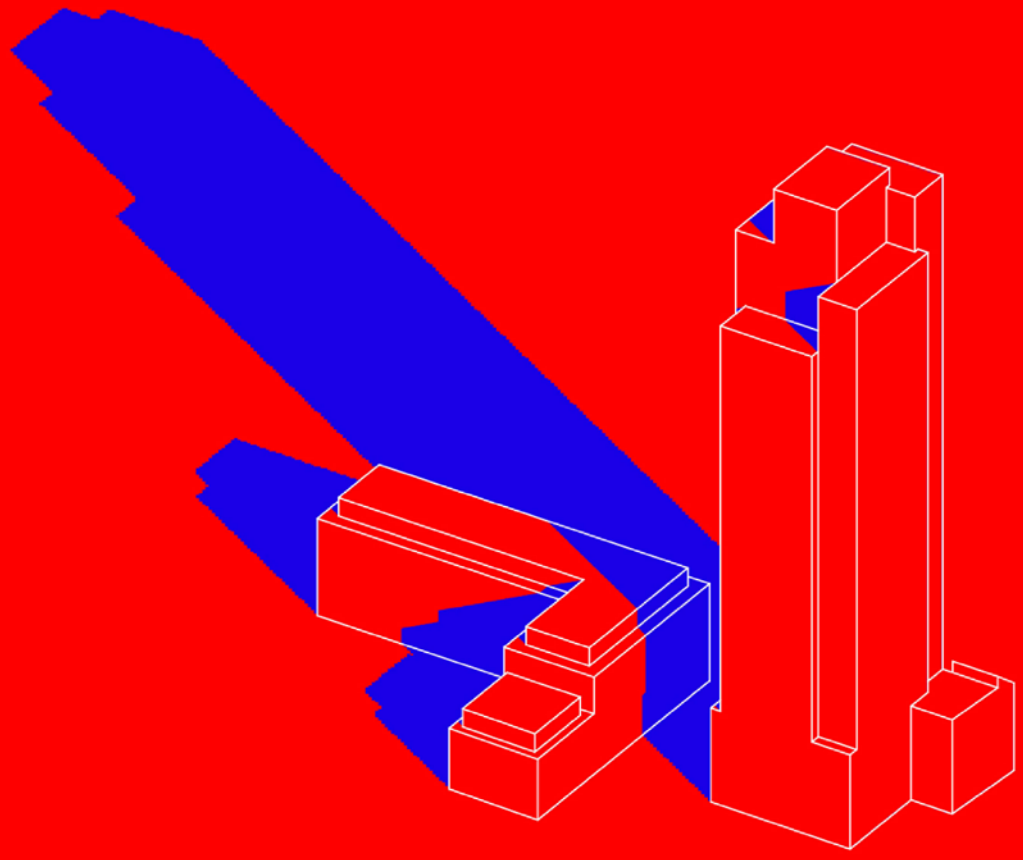
CIAN HRABI

Selected Works
2017-2023
University of Waterloo / MIT



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CURRICULUM VITAE

PERSONAL INFORMATION

NAME: Cian Hrabi
BIRTH: 06.12.1999
ADDRESS: 7 Wayland Avenue, Toronto ON, M4E 3C6
NATIONALITY: Canadian Citizen

EDUCATION

Massachusetts Institute of Technology — 2023 - 2026
Candidate for Master's of Architecture

School of Architecture, University of Waterloo — 2017-2023
Bachelor of Architectural Studies, Honours, Co-op
Cambridge, Ontario
- *92% Grade Average, 4A and 4B terms*
- *Orientation Leader, Fall 2018*
- *Editor for 'Galt.' student work journal, 2019*
- *Archineering Representative on undergrad council, 2020*

Mary Ward Catholic Secondary School — 2013-2017
Secondary School Diploma
Toronto, Ontario
- *Honours for Academic Excellence, 95.7% graduating average*

DISTINCTIONS

UWSA International Experience Award	2022
Grand Valley Society of Architects Award	2021
UWSA Rome Prize	2021
Ontario Association of Architects Award	2020
UWSA Technology Prize	2020
School of Architecture 1st Rank, 2B term, 4A term	2019-2022
Winning Entry, Switching Prisons Design Competition	2019
Outstanding Design Award, School of Architecture, 5 terms	2018-2022
Canadian Institute of Steel Construction Finalist	2018
Dean's Honours List, all terms	2017-2023
University of Waterloo President's Scholarship	2017
TCDSB Student Services Award and Bursary	2017

cian_m_h@mit.edu

WORK EXPERIENCE

Curvegrid, Product Design and Marketing Intern — Jan - May 2023 (4 months)
Tokyo, Japan
Created graphic materials, UI design mock-ups, and copy-writing for consumer and technical documents.

gh3 architects, Architectural Intern — Aug - Dec 2022 (5 months)
Toronto, Ontario
Managed delivery of tender drawings for a regional train network + concept design for a cultural center.

Christ & Gantenbein, Praktikant Architektur — May 2021 - May 2022
Basel, Switzerland
Developed design and presentations for medical laboratory, mass timber high-rise, and flexible office buildings in Switzerland.

Akb Architects, Design Intern — Jan - Apr 2021 (4 months)
Toronto, Ontario
Independently working through multiple phases on high-end residential projects in eastern Canada.

Conrad School of Business, University of Waterloo — May - Aug 2020 (4 months)
Waterloo, Ontario / Remote
Online learning coordinator and research assistant, managing course delivery and academic research.

Safdie Architects, Architectural Intern — Sep - Dec 2019 (4 months)
Cambridge, Massachusetts
Concept design for intl high-rise developments, and a drawing set for lectures by Moshe Safdie.

EHDD Architecture, Design Intern — Jan - Apr 2019 (4 months)
San Francisco, California
Historic renovation in the Presidio Parklands detailing/rendering, and aquarium concept design.

Boxwood Architects, Architectural Assistant — May - Aug 2018 (4 months)
Toronto, Ontario

SKILLS

Rhino	Indesign	CNC Routing
AutoCAD	Lightroom	Laser Cutting
Revit	Lumion	Model Making
Photoshop	V-Ray	3D Printing
Illustrator	Enscape	Woodwork Tools

+1 857 320 8424

ARCHIVE

MIT Core 1 Design Studio
December 2023
Supervised by Prof. William O'Brien Jr.

"A building that is a part and stands apart. It is a container for collection, a space for projection, and a center for connection."

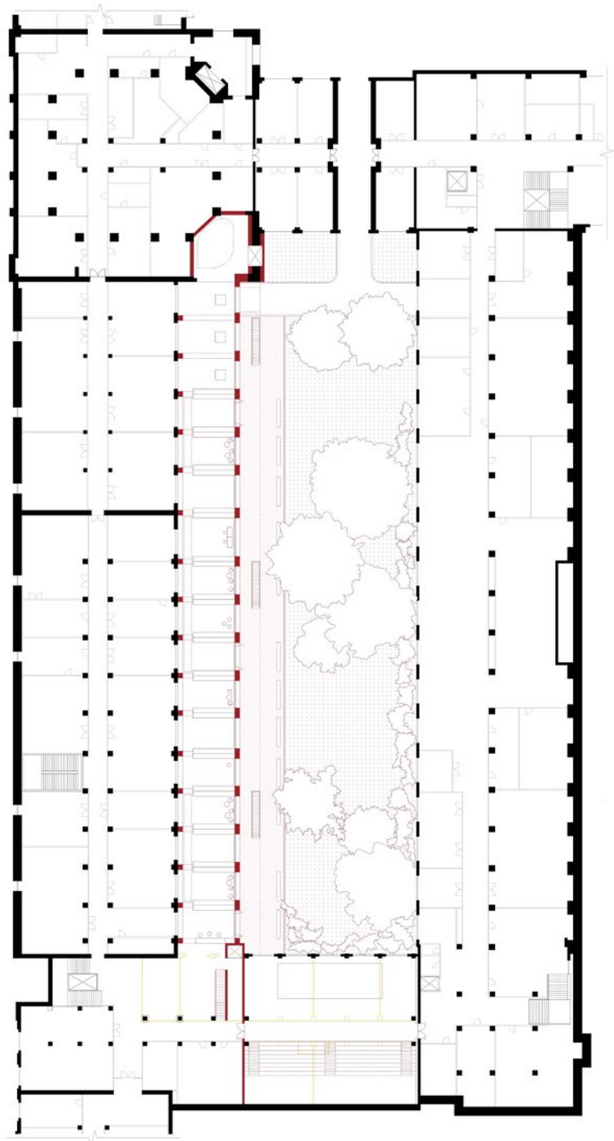
ARCHIVE is a building to house the work and research of MIT School of Architecture faculty and students as the school moves into a new space at the MET Warehouse nearby on campus. It includes an exhibition hall to display and curate work—both new and from the archives—an auditorium to hold events, symposia and lectures, and a visitor center to provide linkage to the public.

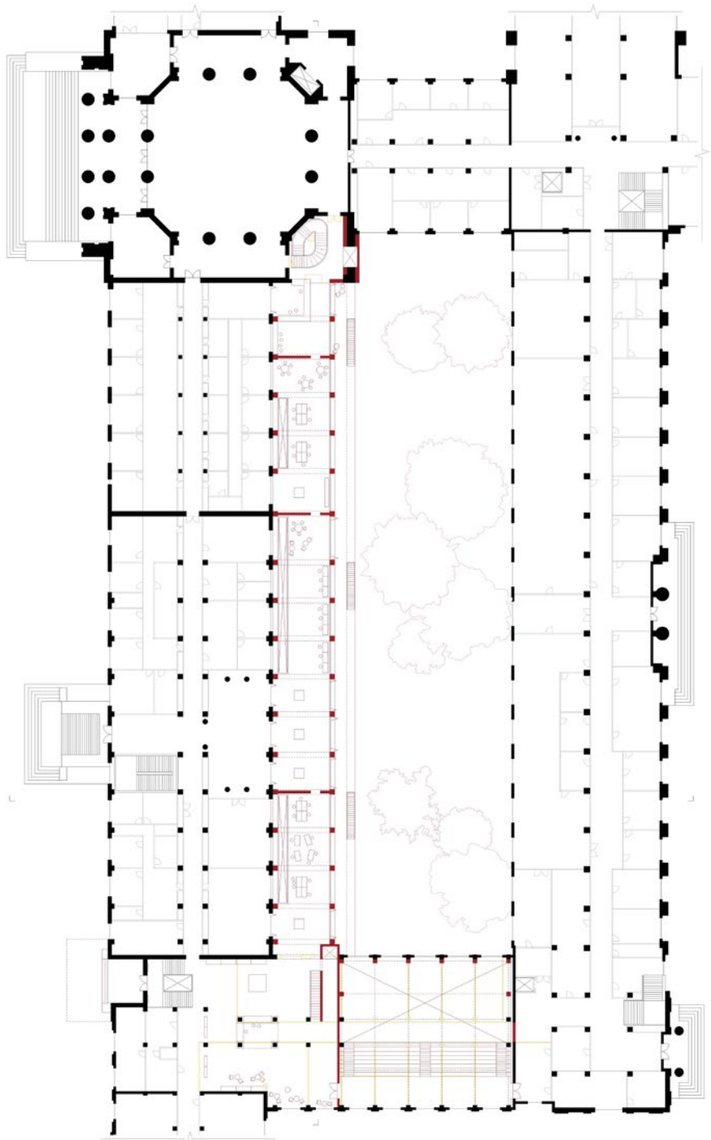
The site is located within the court framed by Buildings 1, 3, 5, and 7. MIT has a long history of building in on itself, and this strategy of growth through increased density has many instantiations across campus. The archive grafts onto the face of building 5, taking advantage of a notch in the courtyard made from building 7 and creating a rectangular yard. The auditorium cuts into building 1 and negotiates the sectional level change between Killian court and the site's courtyard. A new tertiary entrance to building 5 is provided at the south end of the archive.

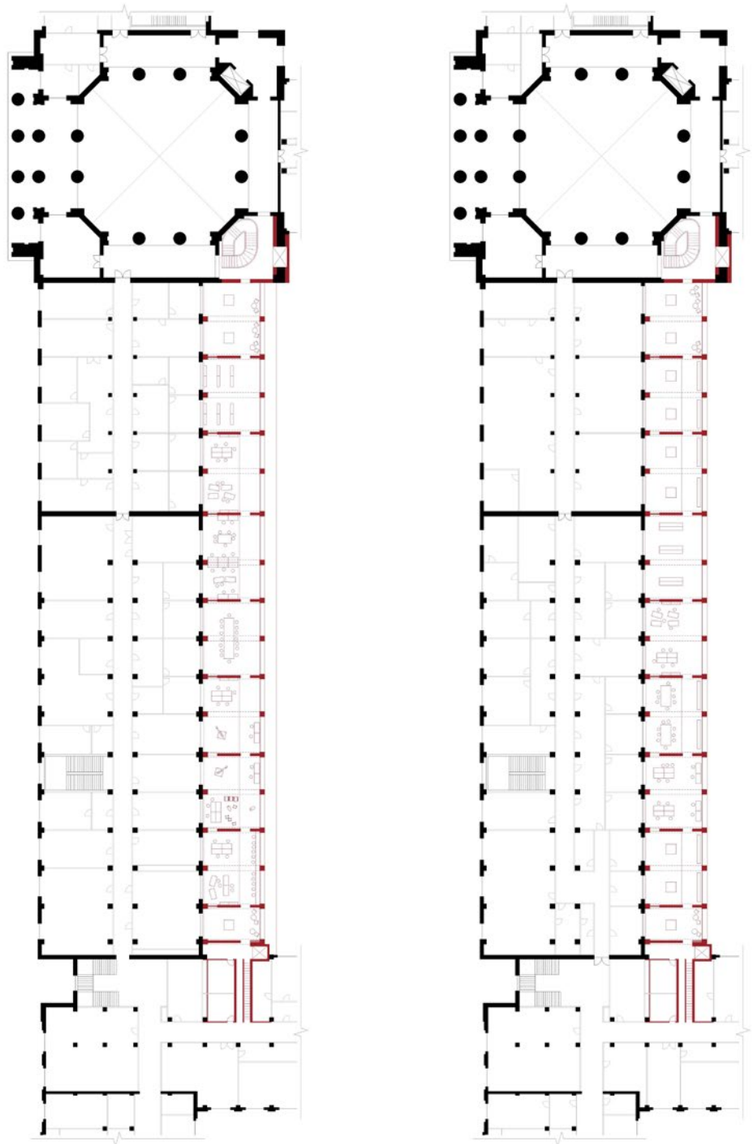
The project circulation is six levels of sequential rooms (enfilade), with two stairs fitting into the existing building on each end. In the basement is the warehouse for storing and sorting materials, the ground floor houses a visitor's centre and porch onto the courtyard, floors 2-5 house the bulk of the archive exhibition spaces, and floor 6 is the attic, for special exhibitions.

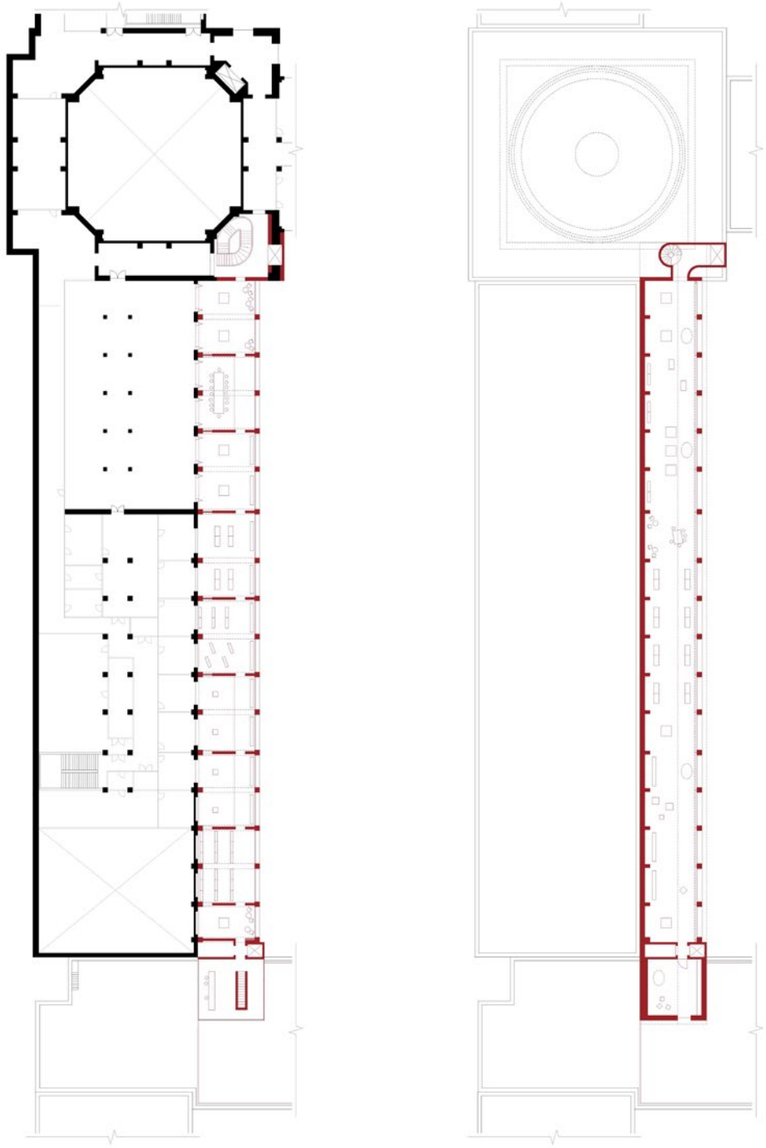
The attic has only one stair up into it, changing the nature of the spaces we have become accustomed to below. It is one room, frosted glass along the north side, with one door at the end. The roof is pitched and the wood has been charred. At the very end of the room, we enter one final room with a single porthole window that faces out towards the Charles river. There is no programming for this space, just a quiet room for reflection.

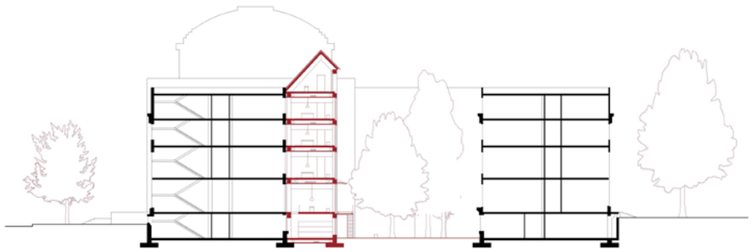
ARCHIVE INT



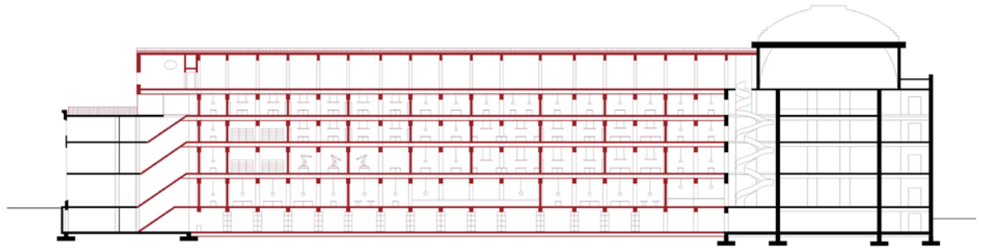








SECTION AA



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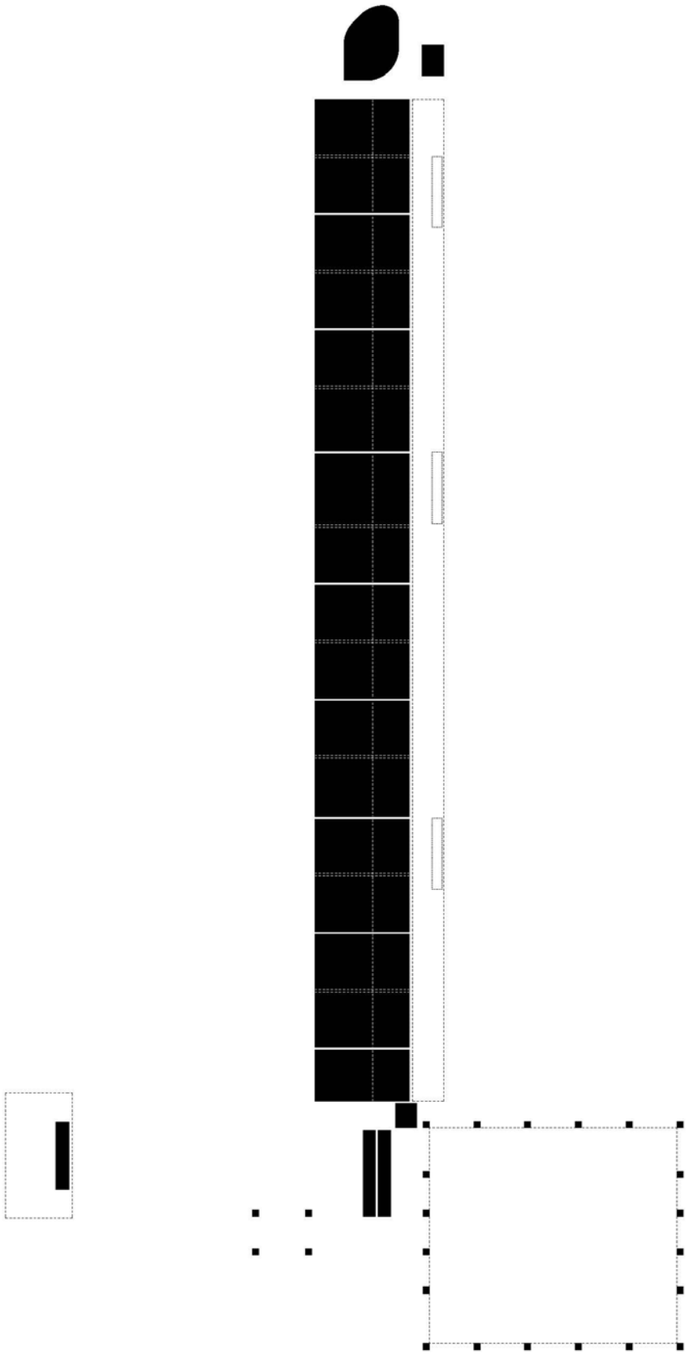
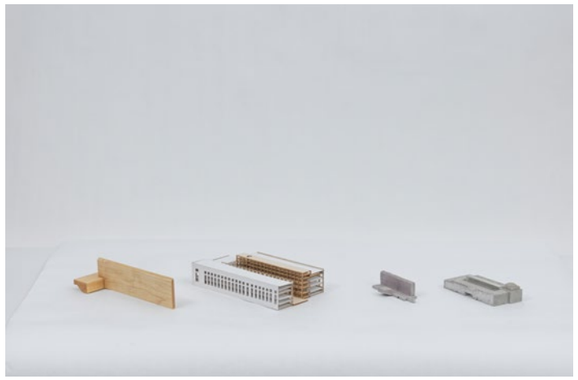




FOOD BANK

4B Design Studio, Cambridge Ontario
July 2023
Supervised by Prof. Jaliya Fonseka
UWSA Outstanding Design Award
Featured in Cambridge Food Bank Members Event

The food bank is located in Cambridge, Ontario, on an existing industrial site just beyond the town centre. This project recognizes it's industrial surroundings as valuable contextual material to be referenced and physical material to be used in the new construction.

Many of the buildings on site required demolition, though one building was retained and retrofitted to become a conditioned community centre and farm storage space, called "the barn". From the demolition, brick walls are re-used as floor finishes, concrete block used as interior partitions, and steel recycled.

The new building, the "warehouse" is a light steel frame single-story structure with a repeating sawtooth roof angled northwards. The building is pushed to the front of the site to maintain and develop a street presence in the rapidly-developing post-industrial area. The plan is divided in three sections, with the large open warehouse space in the center, the more intensely conditioned programs like staff offices, meeting rooms, and washrooms are pushed to the north, and a semi-conditioned greenhouse lines the south facade. For direct solar gain mitigation, a large photovoltaic shading screen is erected in front of the south facade, creating a distinct face to the building and enabling a fully-glazed facade while maintaining an efficient thermal envelope.

SOUTH ELEVATION



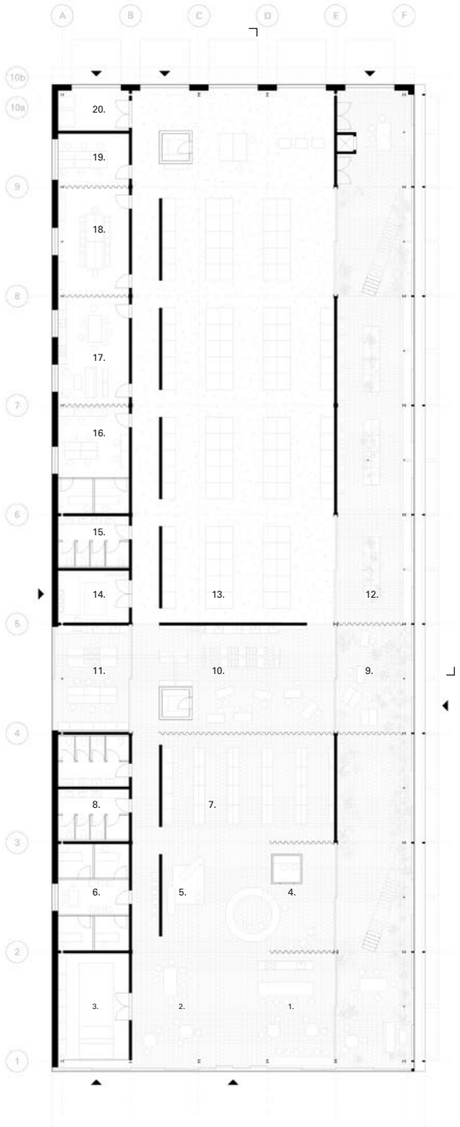


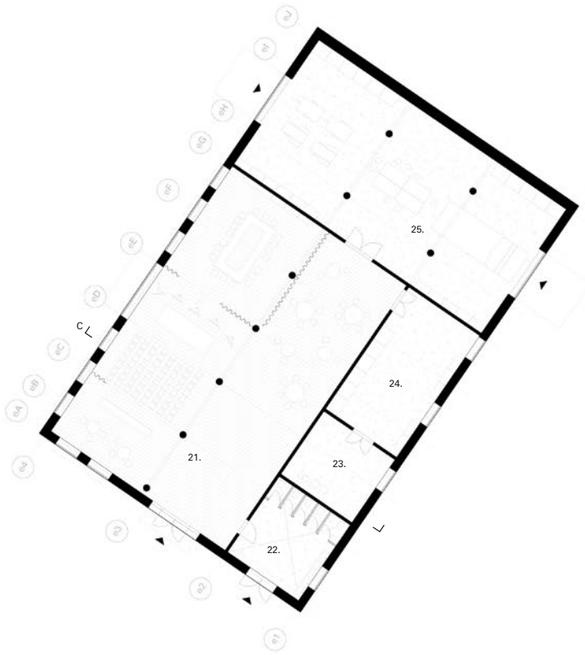
CONTEXT PHOTOS

CONTEXT PLAN

DUNDAS STREET

WAREHOUSE

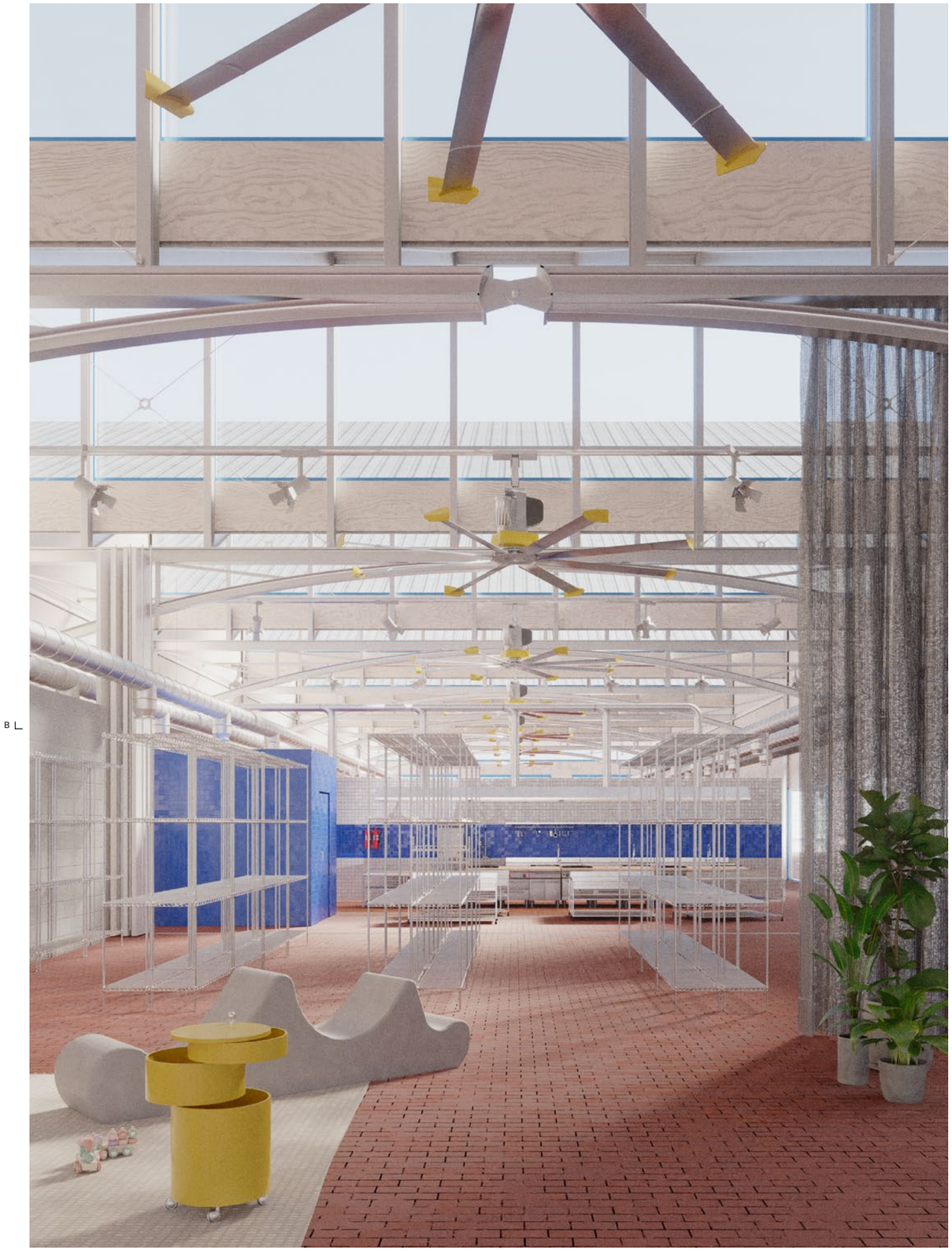




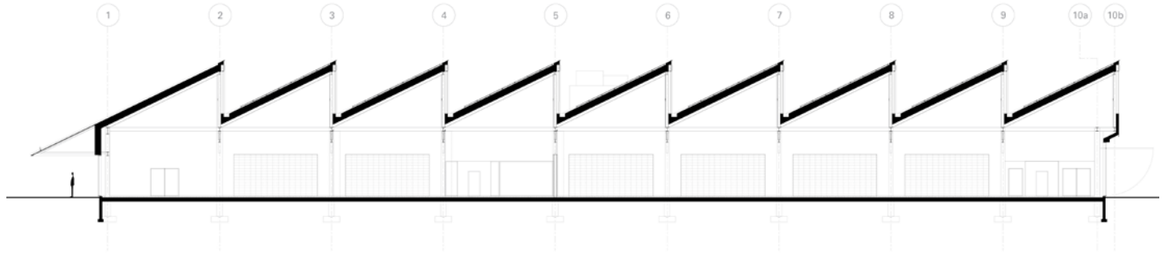
BARN

WAREHOUSE
1. PUBLIC GREENHOUSE
2. COMMUNITY CAFE
3. MOBILE MARKET
4. ENTRANCE LOBBY
5. PLAYSPACE
6. PARTNER SPACE
7. COMMUNITY PANTRY
8. PUBLIC WASHROOMS
9. EDUCATIONAL GREENHOUSE
10. EDUCATIONAL KITCHEN
11. PRODUCTION KITCHEN
12. PRODUCTION GREENHOUSE
13. DISTRIBUTION CENTRE
14. MECH ROOM
15. STAFF WASHROOMS
16. STAFF OFFICE
17. STAFF ROOM
18. BOARD ROOM
19. STAFF OFFICE
20. RECYCLING

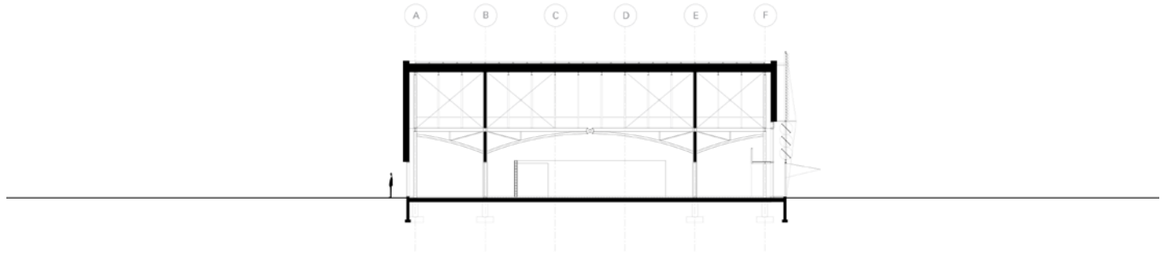
BARN
21. MULTI-PURPOSE ROOMS
22. WASHROOM AND WET ROOM
23. MECH ROOM
24. MULTI-PURPOSE STORAGE
25. FARM STORAGE



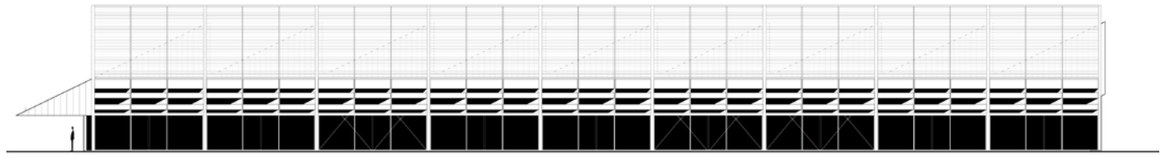
ENTRANCE, PANTRY, KITCHEN



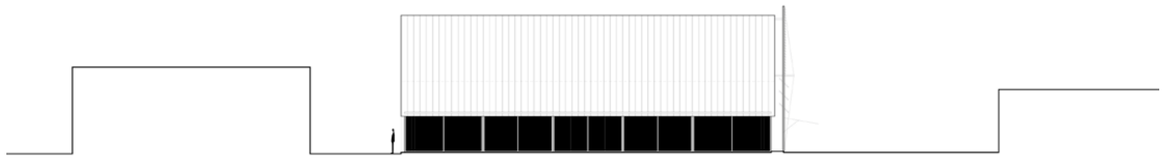
SECTION A



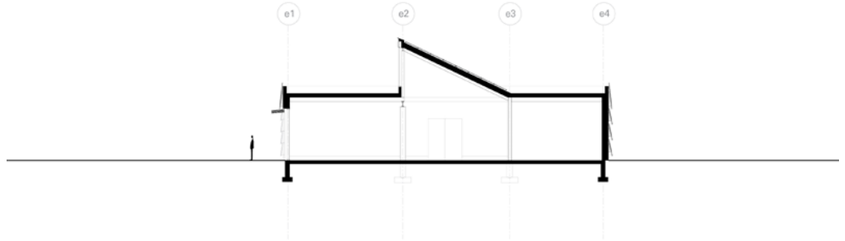
SECTION B



SE ELEVATION

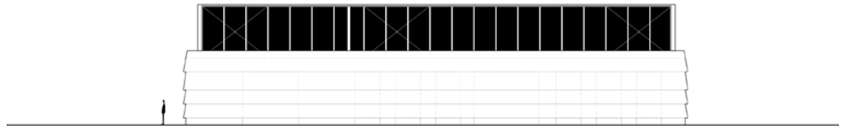


SW ELEVATION

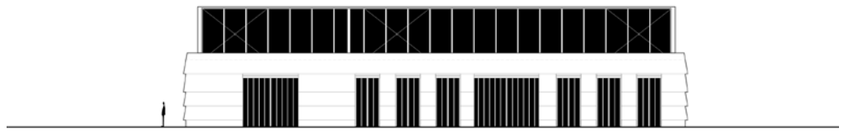


BARN SECTION C

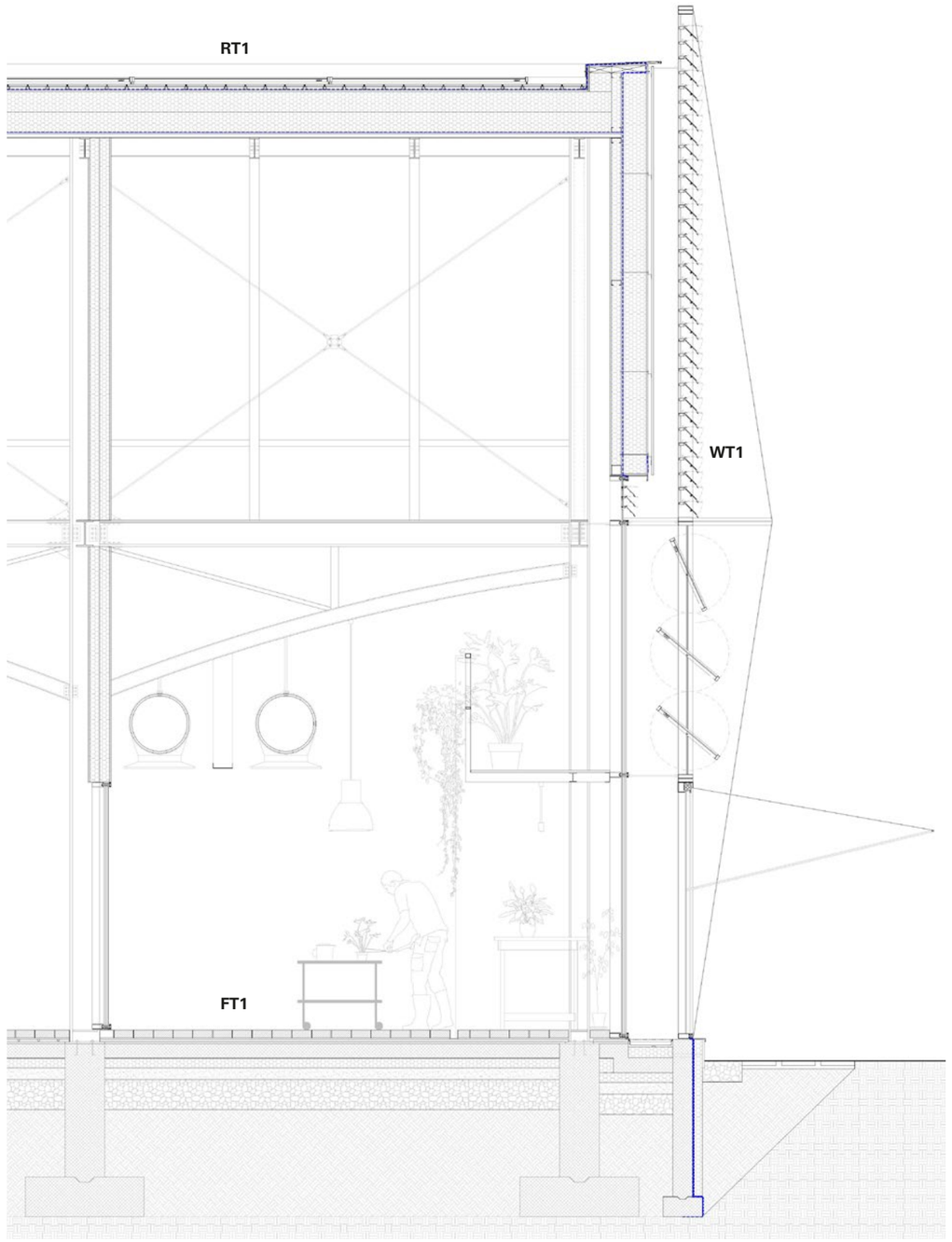
BARN ELEVATION W

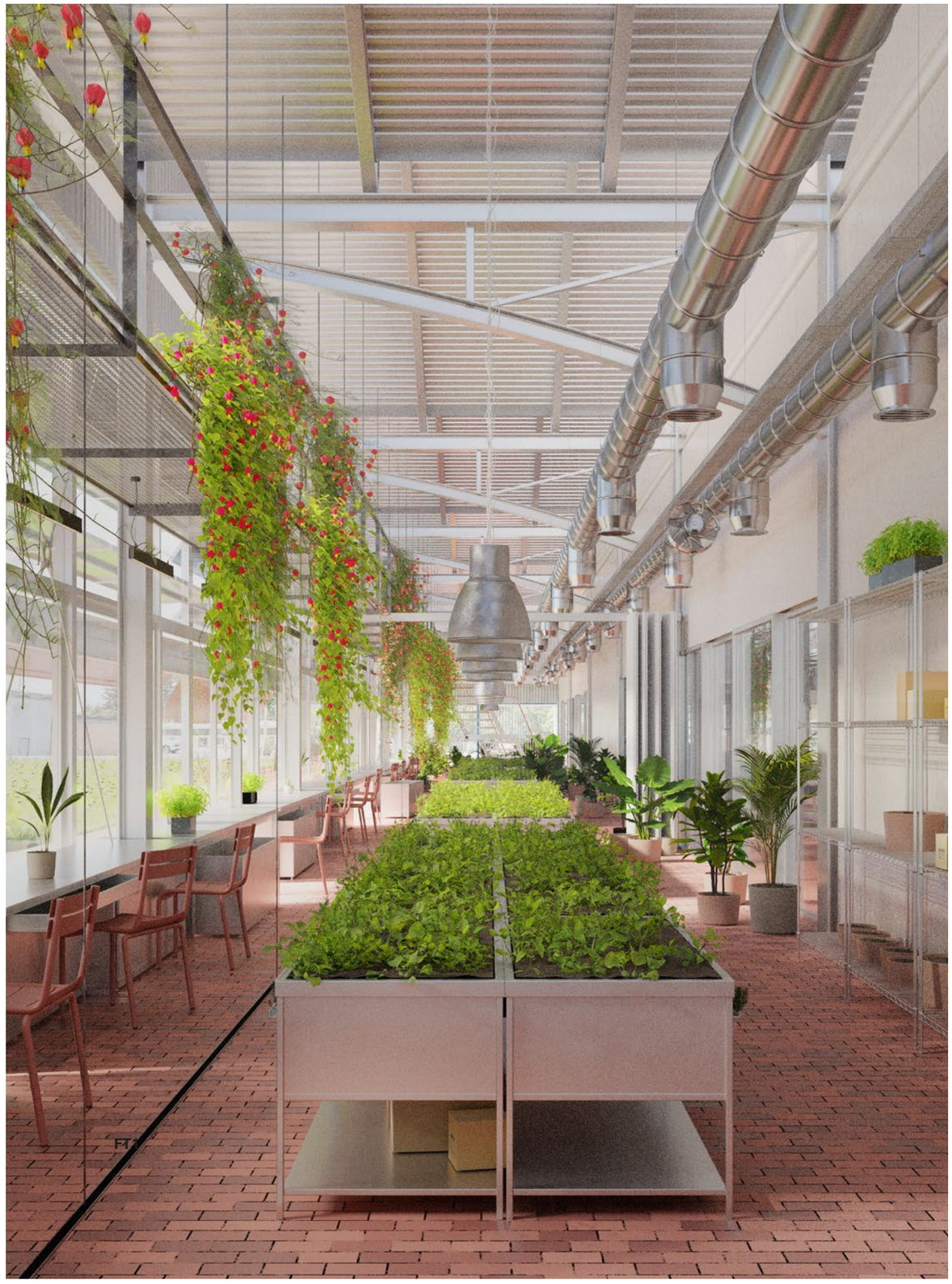


BARN ELEVATION N (CLOSED)



BARN ELEVATION N (OPEN)


RT1
WT1
FT1



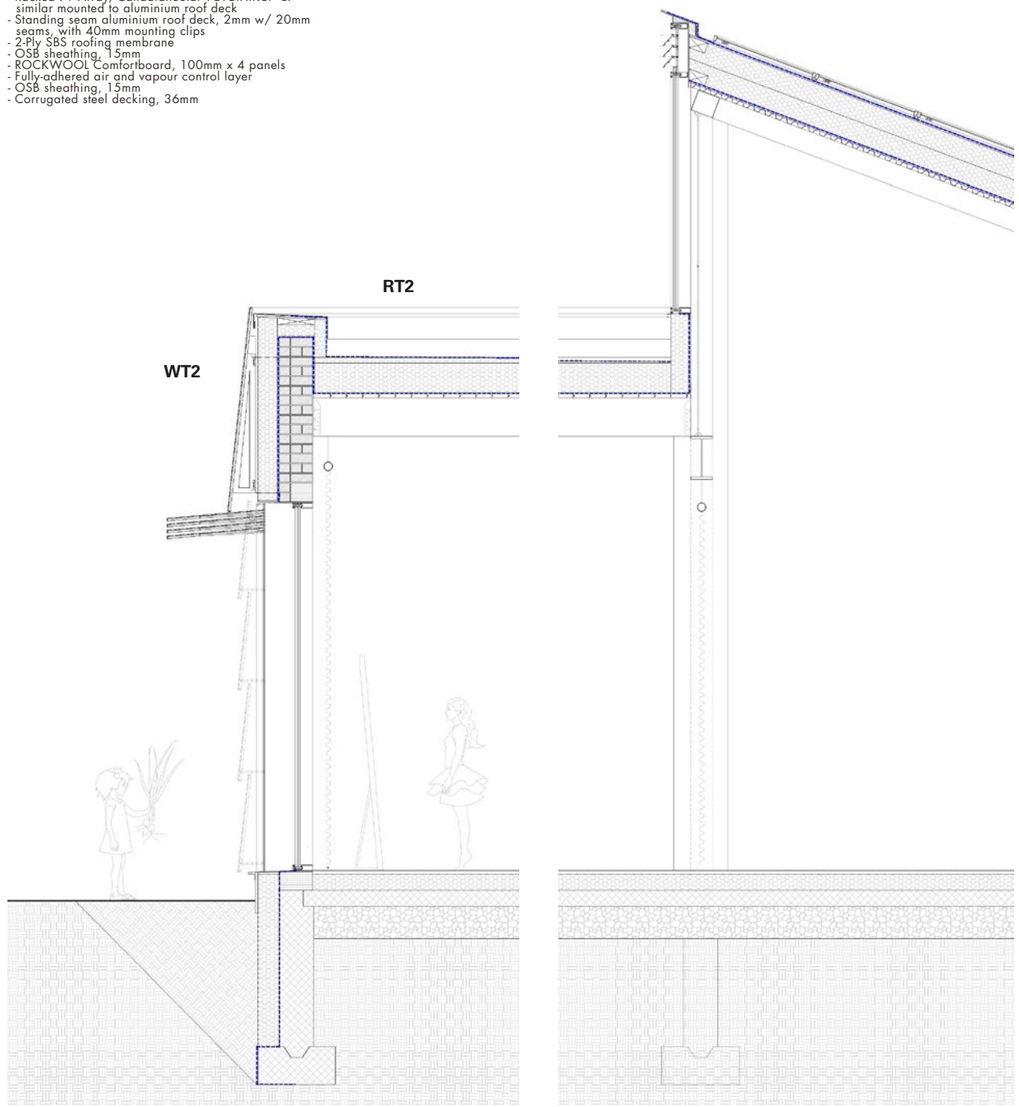
FT1 - FLOOR TYPE 1 (top to bottom):
- Reclaimed brick from existing buildings on site, 80mm
- Radiant floor heating panel and plywood subfloor combined, Raupanel or similar
- Reinforced concrete slab, 150mm
- Thermal control: ROCKWOOL Comfortboard 80 or similar, 100mm
- Fine aggregate layer, local silt, 100mm
- Gravel layer, locally sourced, 300mm

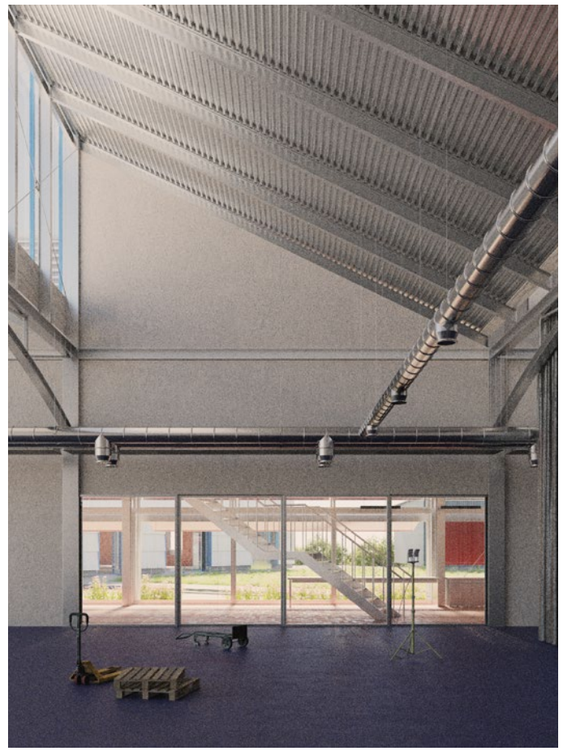
WT1 - WALL TYPE 1 (ext to int):
- Corrugated recycled aluminium cladding, 20mm
- Drained and ventilated cavity 40mm with horizontal Z-girt fasteners to sheathing.
- OSB sheathing, 15mm
- ROCKWOOL Comfortboard 110 or similar, 250mm
- Self-adhered WRB, Blueskin or similar.
- OSB sheathing, 15mm
- Steel studs, 100 x 50mm @ 400mm o/c. Cavity filled with ROCKWOOL Comfortbatt or similar for acoustic control
- SPF plywood cladding, exposed and painted, 15mm

RT1 - ROOF TYPE 1 (ext to int):
- Racked PV Array, CanadianSolar TOPBiHiKU7 or similar mounted to aluminium roof deck
- Standing seam aluminium roof deck, 2mm w/ 20mm seams, with 40mm mounting clips
- 2-Ply SBS roofing membrane
- OSB sheathing, 15mm
- ROCKWOOL Comfortboard, 100mm x 4 panels
- Fully-adhered air and vapour control layer
- OSB sheathing, 15mm
- Corrugated steel decking, 36mm

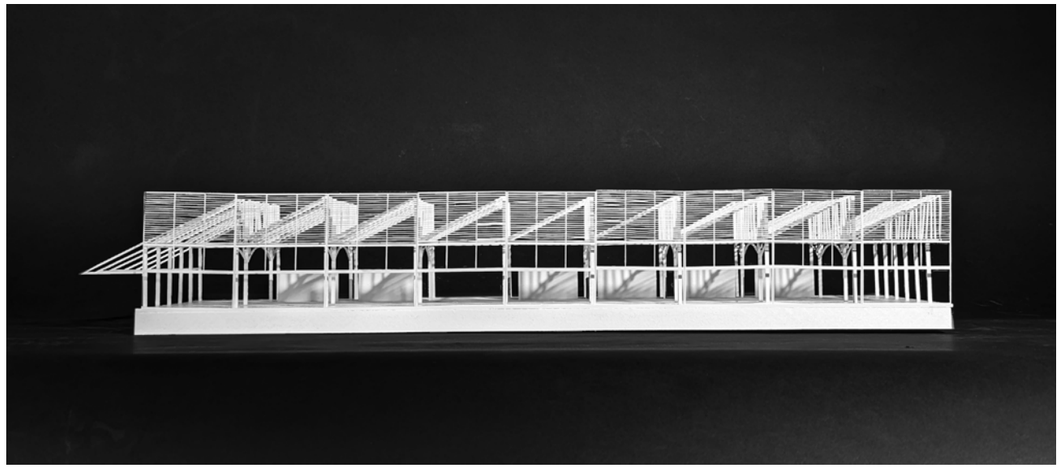
WT2 - Wall Type 2 (ext to int):
- Recycled standing seam aluminium cladding panel, 2mm with 20mm SPF pressure-treated plywood backing
- Pressure-treated prefabricated SPF framing, 38mm @ 800mm o/c.
- Furring strips top and bottom of SPF frame, 19 x 38mm
- OSB sheathing, 15mm
- ROCKWOOL Comfortboard 110 or similar, 180mm
- OSB sheathing, 15mm
- Self-adhered Blueskin WRB, lap joints
- Existing masonry wall, triple-wythe standard brick with mortar joints, 320mm

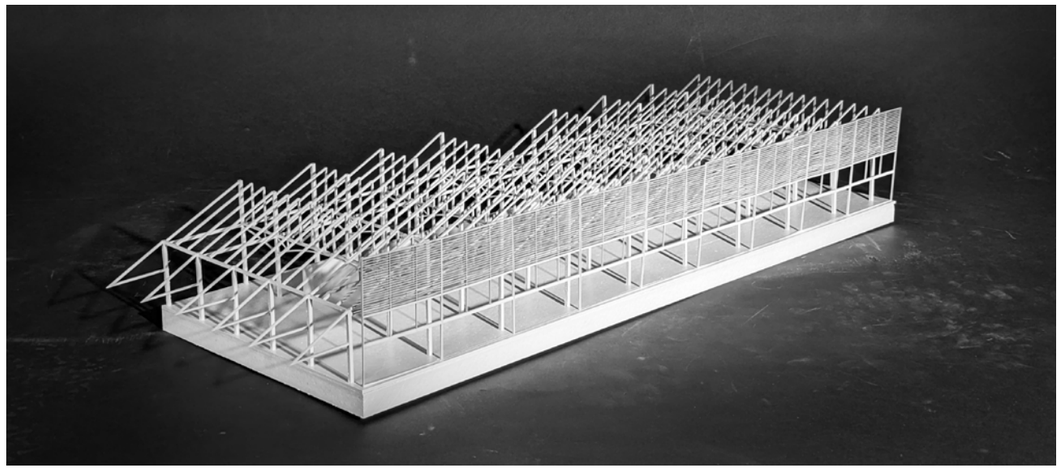
RT2 - Roof Type 2 (ext to int):
- Roof membrane on substrate fastened through insulation to roof framing
- Tapered insulation to ext. roof drains
- ROCKWOOL Comfortboard 110 or similar, 270mm
- Fully adhered vapour and air control layer
- Existing roof deck, 19 x 140mm tongue-in-groove wood
- Existing joists behind

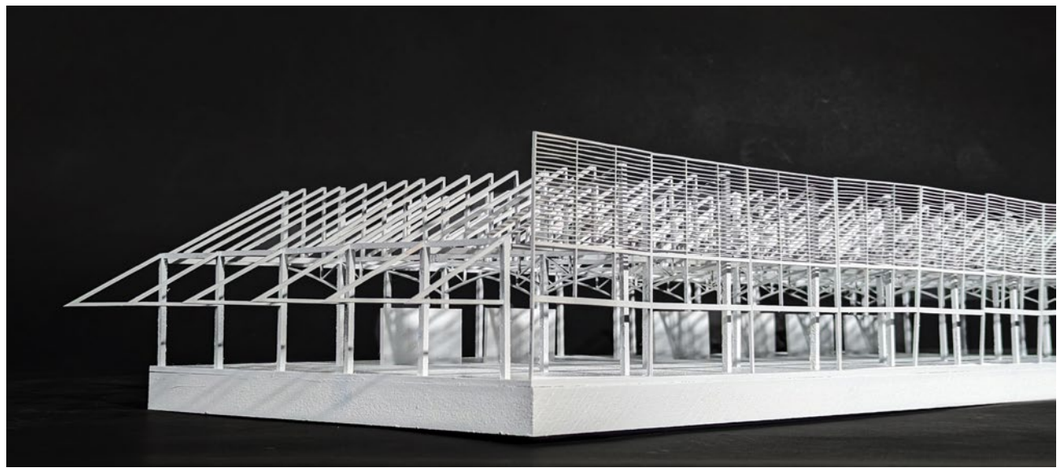


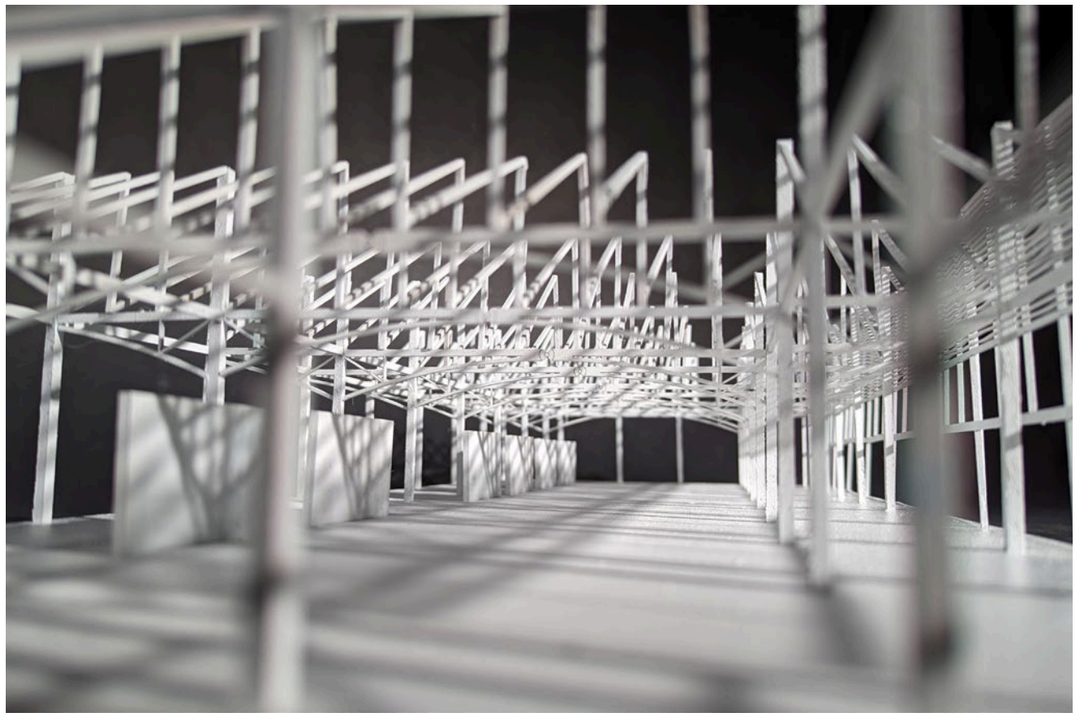


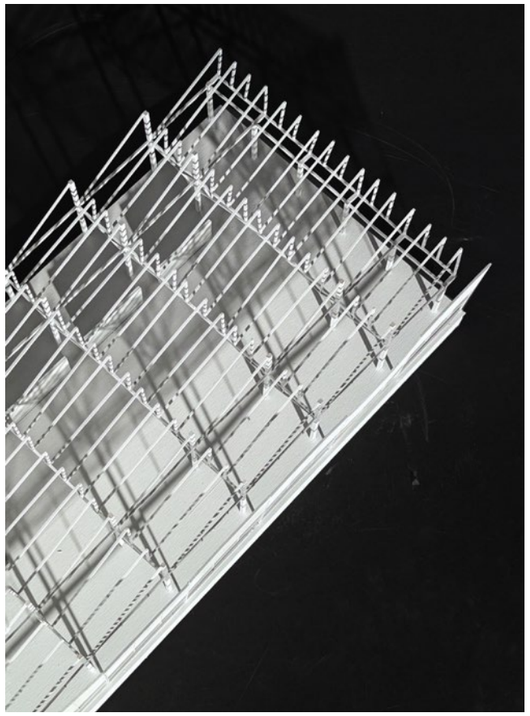

HI MARK











MUSEUM

4A Design Studio, Rome Italy
July 2022
Supervised by Prof. Beatrice Bruscoli
Collaboration with Gareth Bracewell
UWSA Outstanding Design Award

The wall and the enclosure is the first act of architecture. When a wall is built with intention and care it creates two spaces, bounding and defining. For thousands of years it has been the definition of the city. We propose to translate that language into a contemporary setting.

Romans build structures to last. Rome is the eternal city for a reason. With the birth of modernity, Rome has turned to preservation and stagnation, turning the entire city into a museum. This project is a radical departure from the ossified status quo, by wrapping the site and building a wall to house the museum, we free the city from that responsibility.

The project is essentially a massive wall hosting everything on, around, and within it. Over 2m thick in some places, it is built to endure. Distinctly urban, the project does not pretend to be in an isolated utopia. Instead it creates space within the existing context - and creates its own context.

The site at the historic Porta Portuese in Rome houses a museum dedicated to the Tiber, a walled garden, and a riverside piazza. The building is located at the existing Janiculum wall, and sited at a unique spot between this 1600s wall and the much older Aurelian wall from 280 AD.

This project is a look to see what we could do if we decided to build again. We don't worship what exists, but rather care for it and improve on the past.

Access to the accompanying 166-page project catalogue is available upon request.

SITE MODEL 1:200

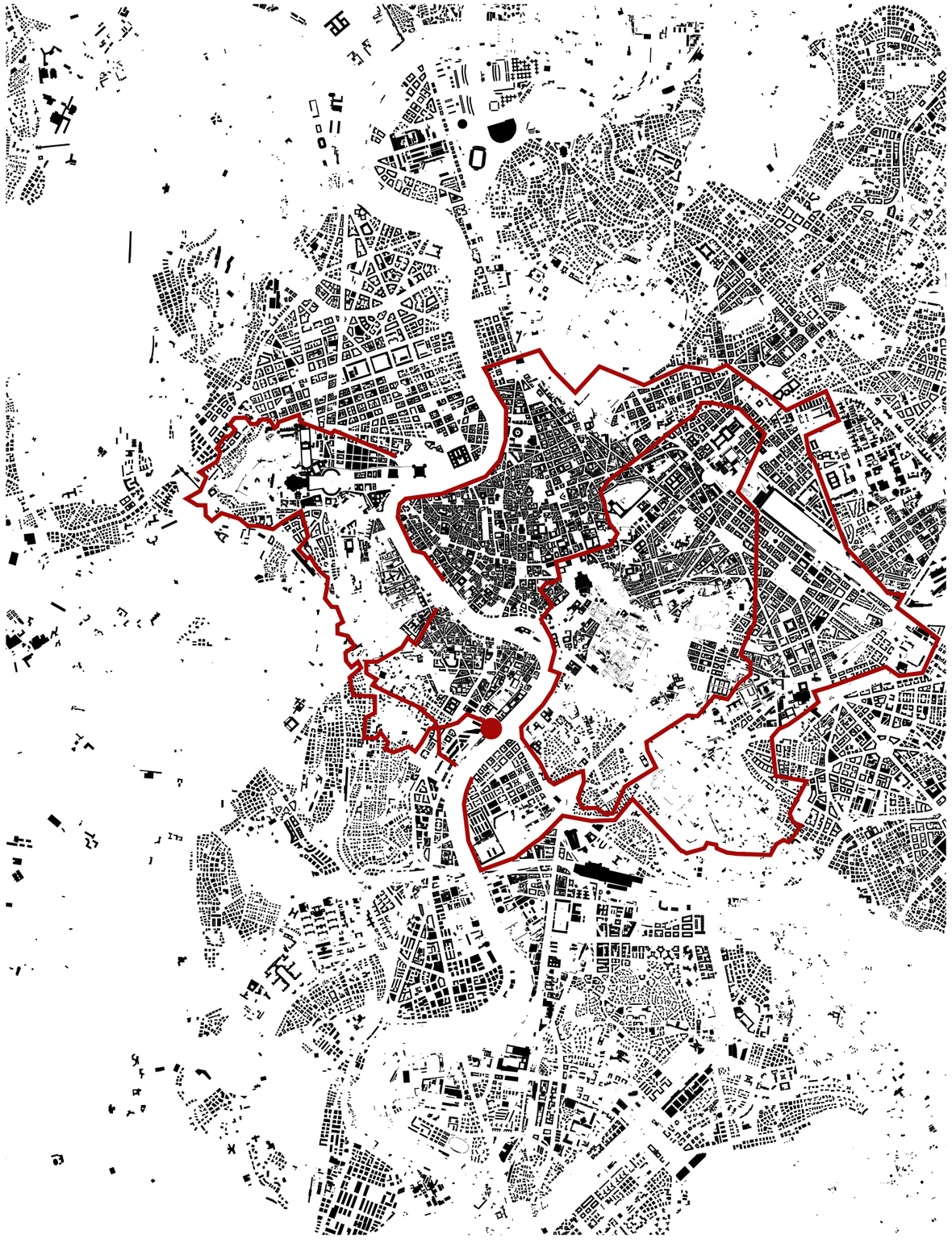
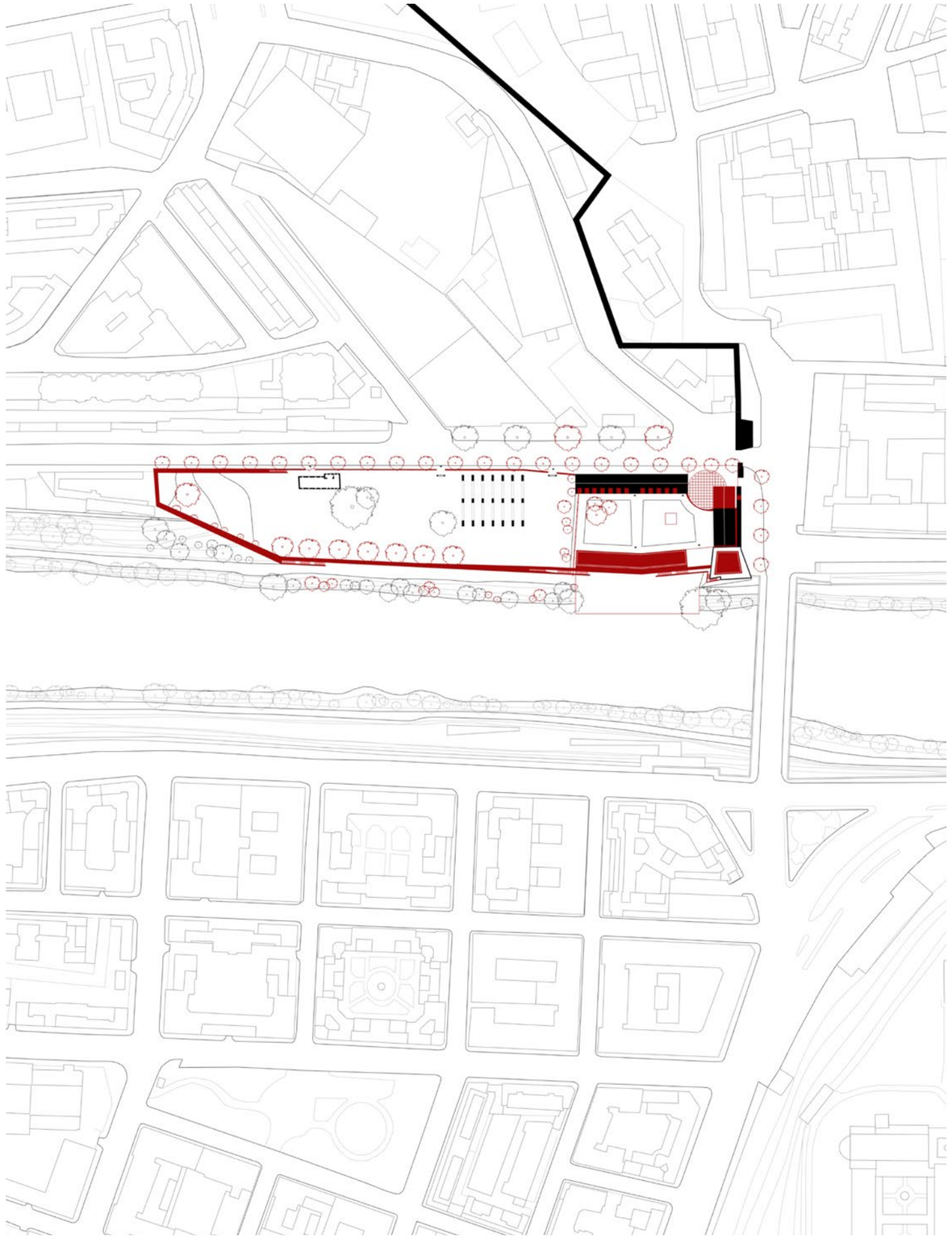


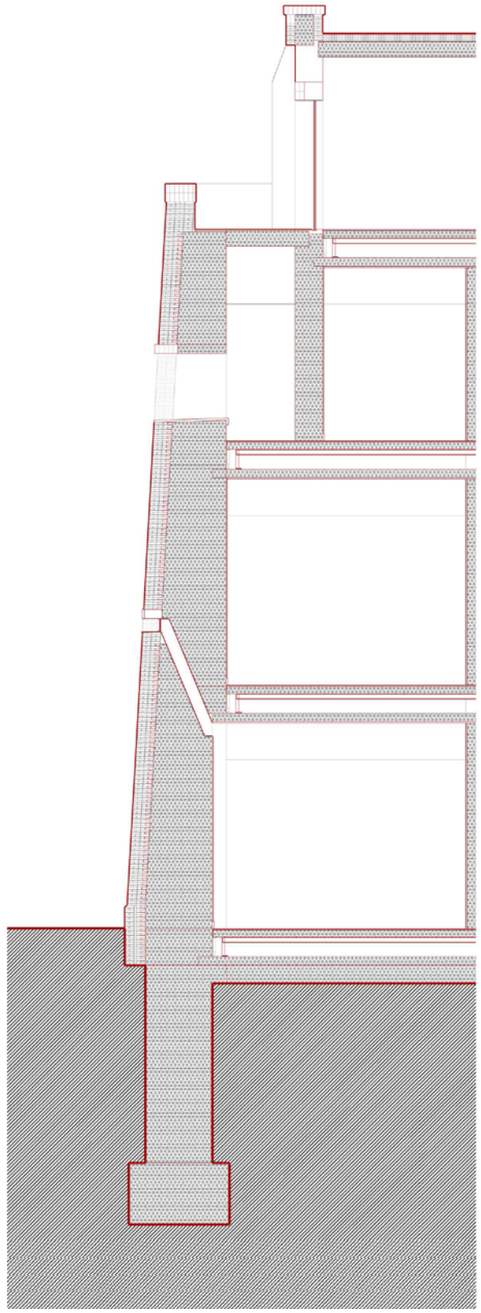
FIGURE GROUND

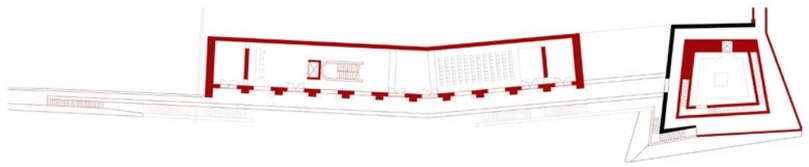


SITE PLAN

RIVER PERSPECTIVE

COURTYARD PERSPECTIVE

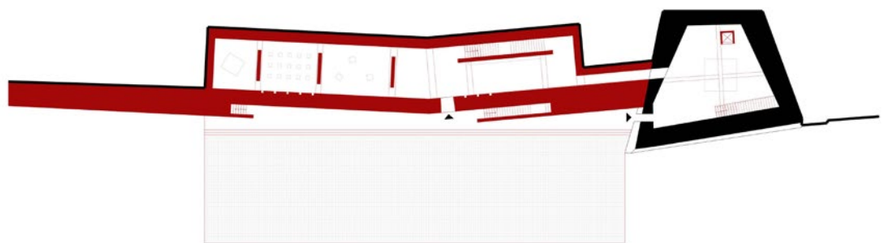




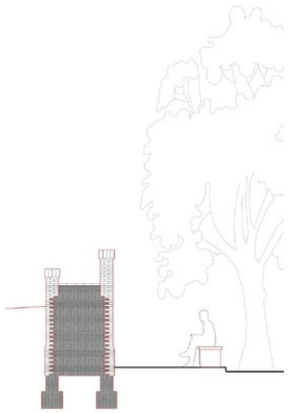
+1

GROUND

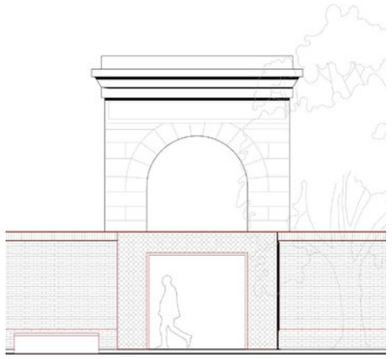
-1



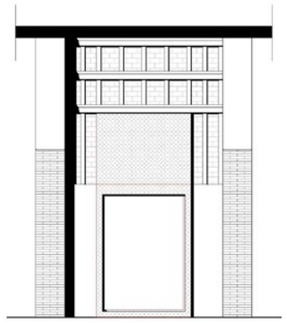
RIVER



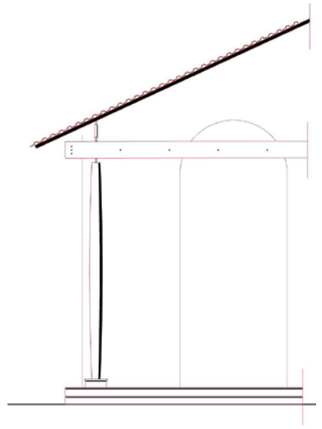
1. WALL SECTION



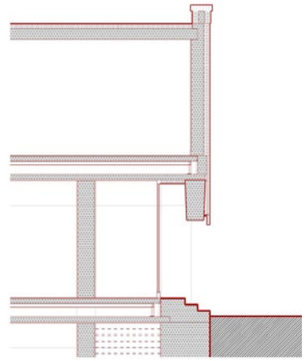
2. GATE ELEVATION



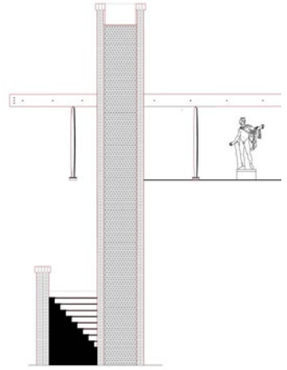
3. CORDIERE WINDOW DETAIL



4. MAGAZZINI PORCH DETAIL

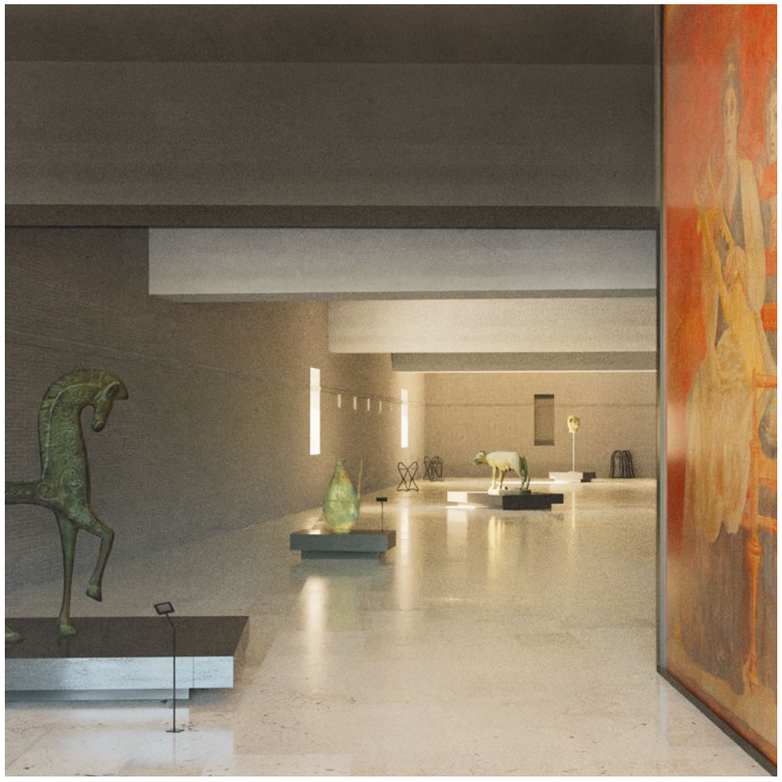


5. ENTRANCE SECTION



6. COLONNADE DETAIL

PLANOMETRIC

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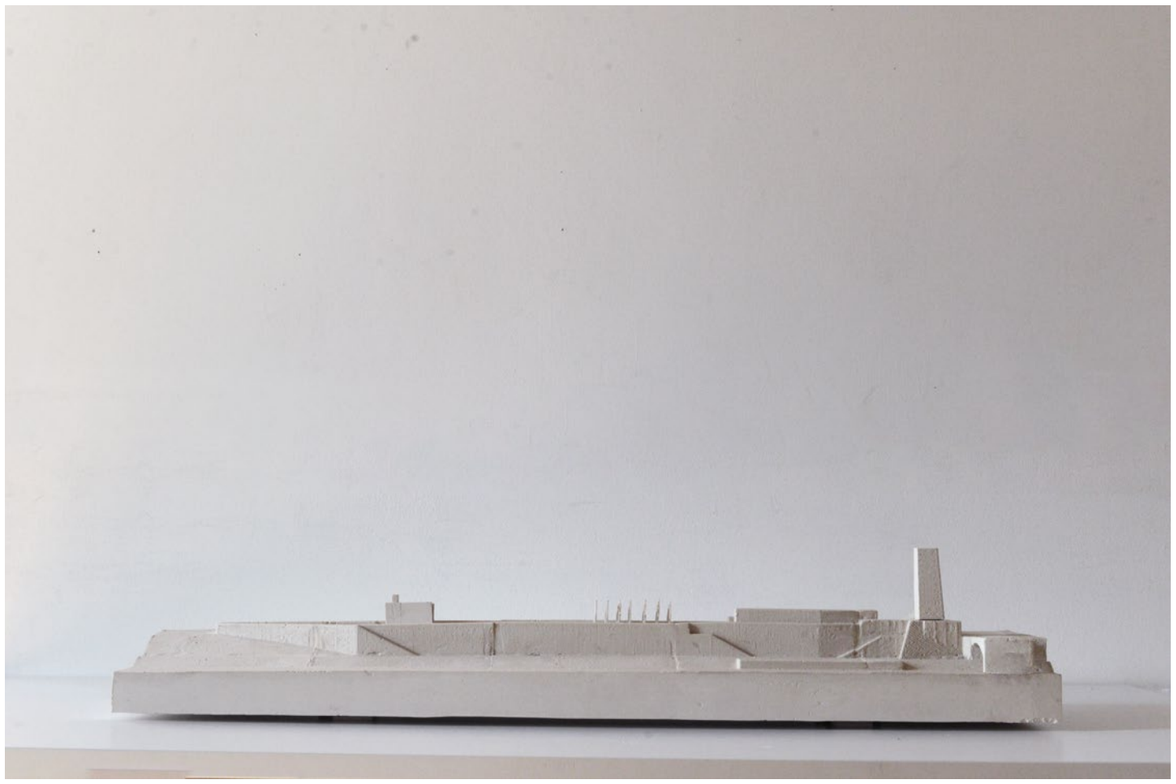


SITE MODEL 1:500

SECTIONAL MODEL 1:200

HOUSING

3A Design Studio
April 2020
Supervised by Prof. Adrian Blackwell
OAA Award
UWSA Outstanding Design Award
Featured in BRIDGE online architecture publication

This project is a network of deeply affordable housing and services in Toronto's Downtown East. The project addresses North America's housing and climate crises simultaneously - fostering community development and environmental improvement.

Current sustainable architecture is predicated on a misunderstanding of energy, which presupposes all buildings to be closed and isolated systems. The current approach to design buildings is to insulate them from the energy around them and rely solely on internal systems. This project instead uses the building as an active component of its surroundings to harness and convert the overwhelming surplus of available energy.

Massive construction, in this case, brick, maximizes the potential of a single building material to do as much useful work as possible. Designed properly, brick can be an effective building structure, enclosure, "mechanical system", and finish. By using one material in a wall we reduce its complication, and can then dive into the complexity of the entire building.

Radiantly heated walls are a direct connection to the energy of the space outside their boundary. When you feel the warmth of the wall you inherently feel and understand it in a way that you can't achieve from forced air. For thousands of years, humans were heated either by the sun or by fire – I propose we bring a piece of that history back into our daily lives; because it is so much more than just brick.

BALCONY VIGNETTE

Influenced by 1970's infill urbanism, these developments across five sites and two parks increase density of the area while staying true to the low-rise nature of their surroundings. Each site employs different tactics to achieve strong community across scales, beginning with person-to-person interactions. Floor plates are small to encourage neighborly familiarity, and each site is split into multiple buildings to keep community groups small. Each site acts as a small neighborhood, built of varying unit sizes and building typologies.

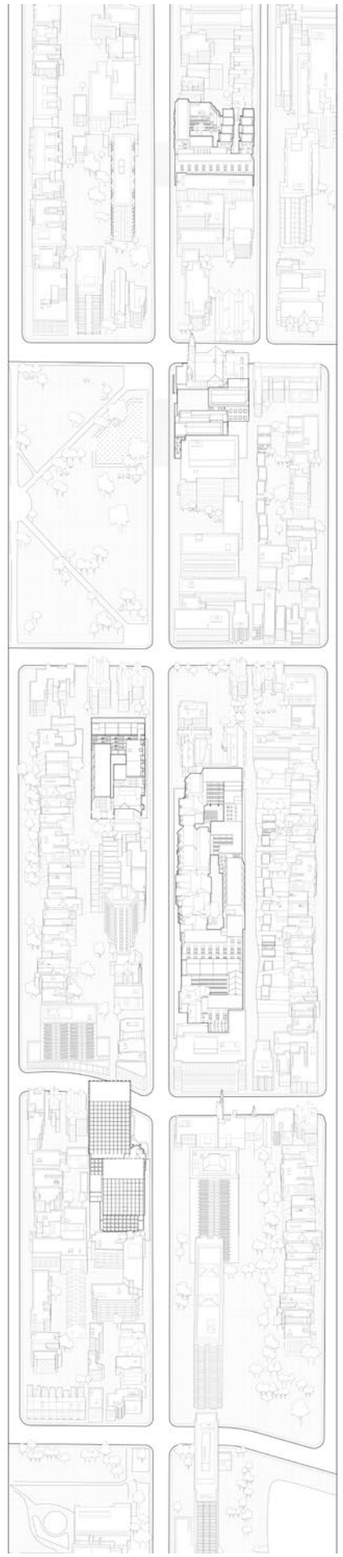
Public programs are tailored to low-income resident's needs, like child-care, ESL centers, food banks and community kitchens, and employment services.

Each site builds on Toronto's existing 'secondary grid' of laneways, taking advantage of new bylaw provisions to increase stock of 'the missing middle' housing. Community spaces on laneways requires a certain density of people and cars for people to feel safe enough to actually use their spaces. Formal street fronts/backs are maintained, and outdoor spaces are designed to delineate between public, site public, and private.

Sherbourne Street itself is manipulated to serve the people who live in the community – not the cars who pass through it at 8am and 6pm each day. Widened sidewalks, bike lane separation, community spill-out spaces, and rough paving helps pedestrians and slows cars to a manageable level.

NO.1 improves upon proven methods of successful urban development to help the people in our city who need it most – providing shelter and facilitating the development of a resilient community.

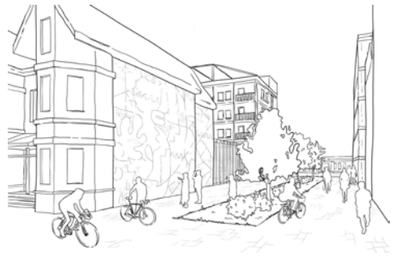
Images on this spread were completed in collaboration with Gareth Bracewell, Byron Cai, Vicky Cao, and Franklin Min



Site 1 Courtyard

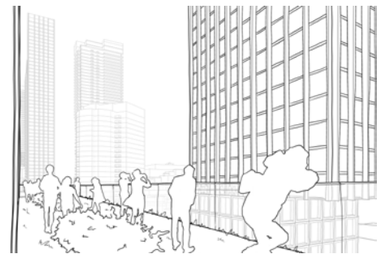
Site 2 Allan Gardens

Site 3 Sherbourne St.



Site 4 Open Lane

Site 4 Rooftop Garden



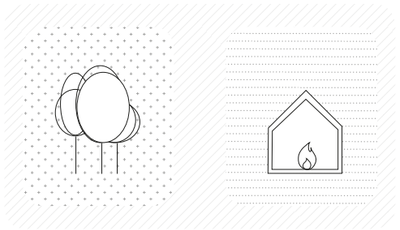
Site 5 Public Terrace

SYSTEM EFFICIENCY

Boundaries of open systems are important because they can tell very different stories about the ‘efficiency’ of a system. Efficiency is the % transformation of one form of energy into the desired form.

Tree to Wood: 100%

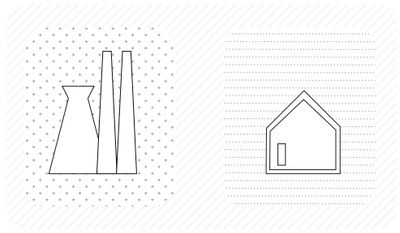
Wood to Heat: 70%



Total: 70%

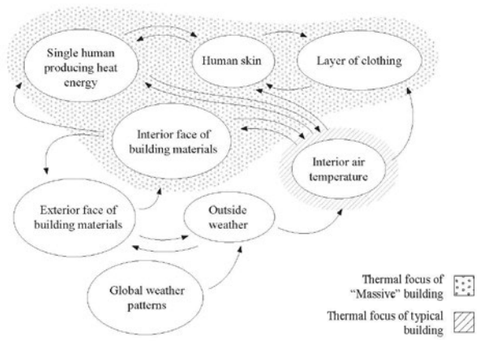
Nuclear to Electric: 55%

Electric to Heat: 95%

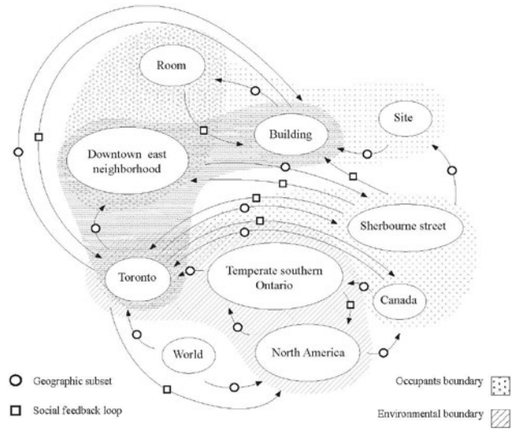


Total: 52%

THERMODYNAMIC SYSTEM BOUNDARIES

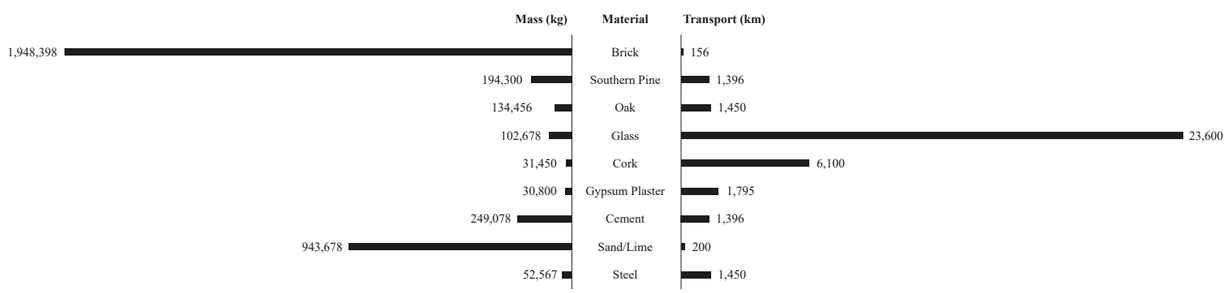


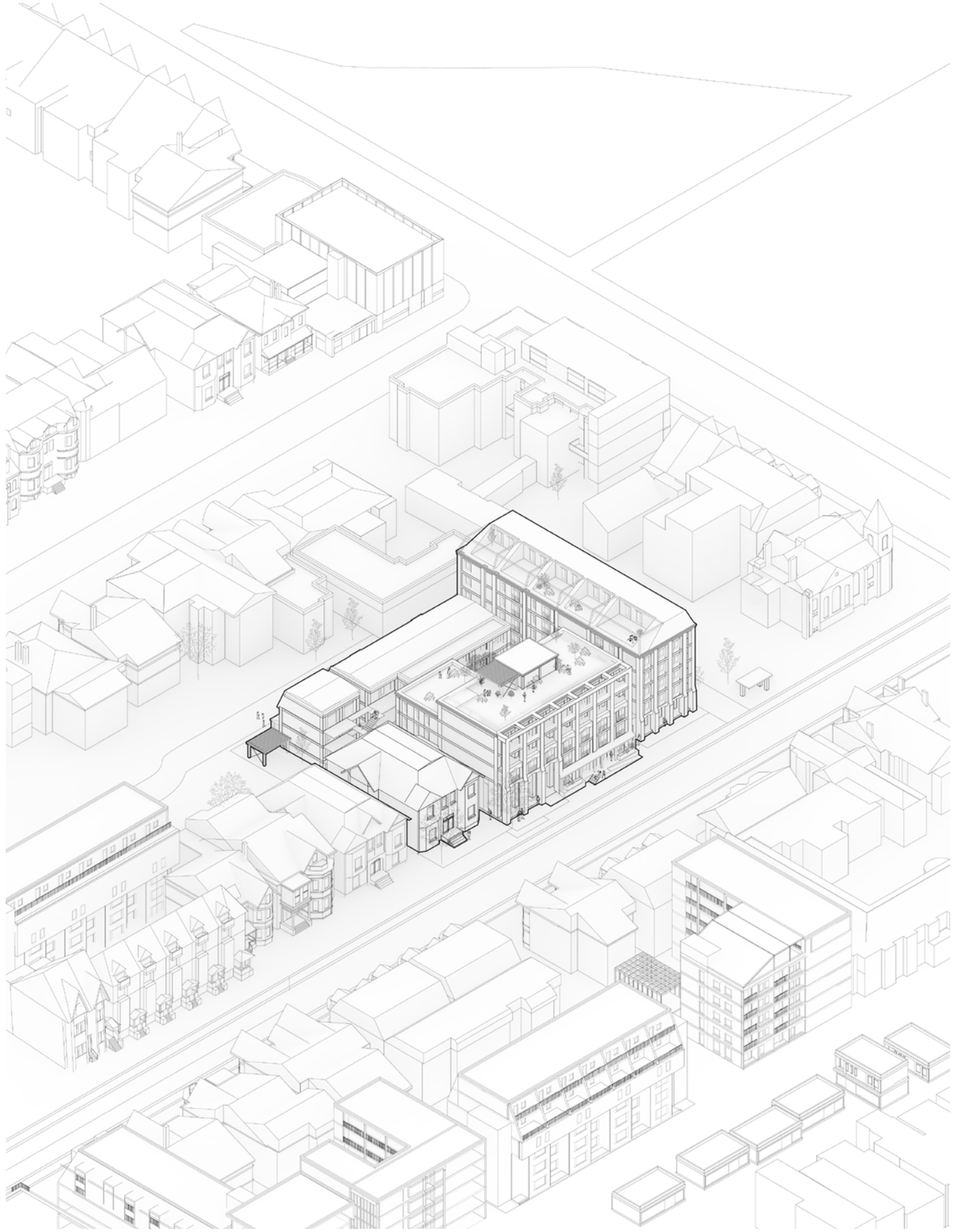
PHYSICAL SYSTEM BOUNDARIES



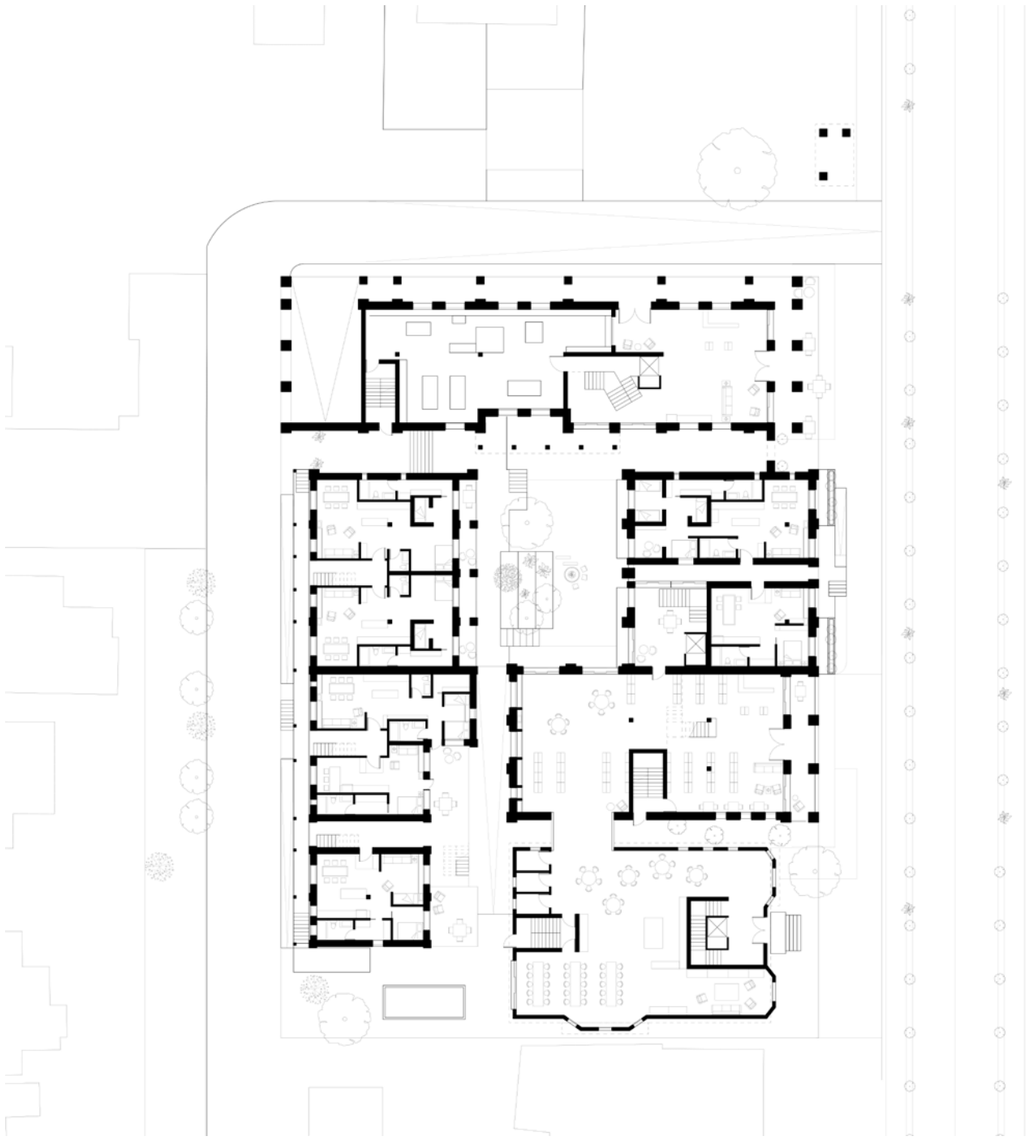
MATERIAL TRANSPORT VS. MATERIAL MASS

By far the most massive, and therefore carbon-intensive material to transport is the brick, which travels the shortest distance of any material in the construction.

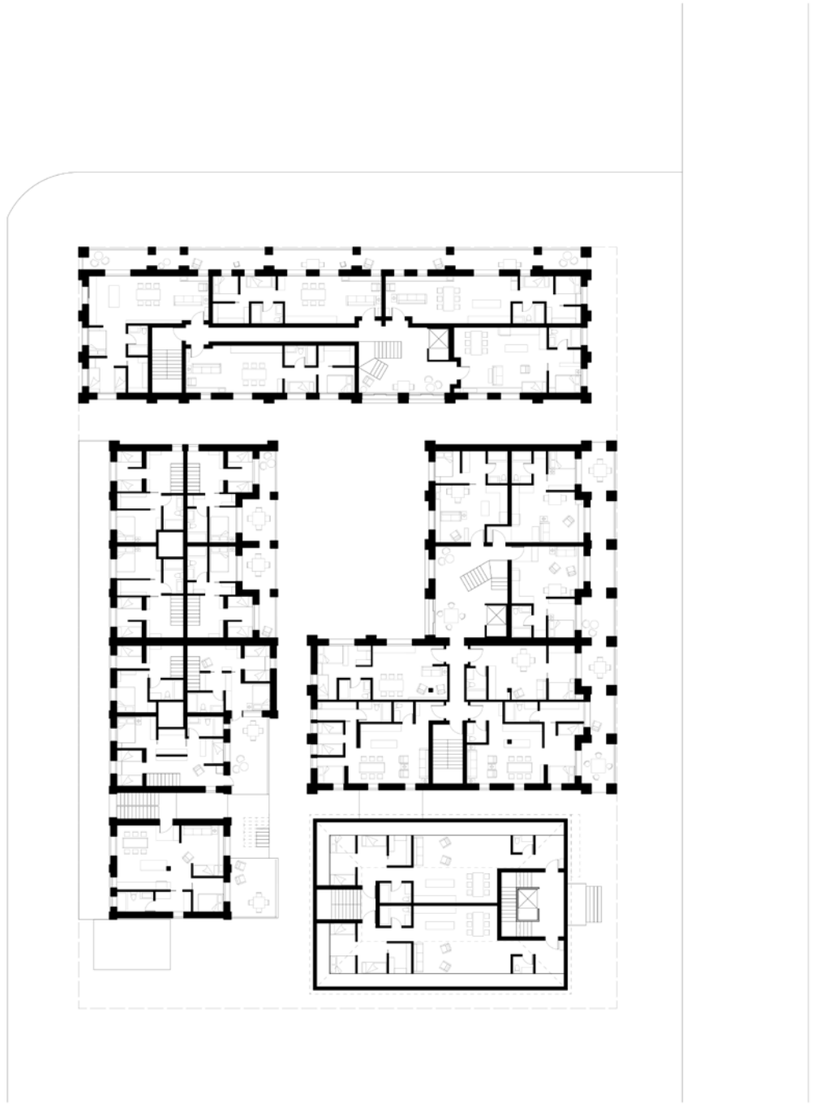




AXONOMETRIC



GROUND FLOOR PLAN



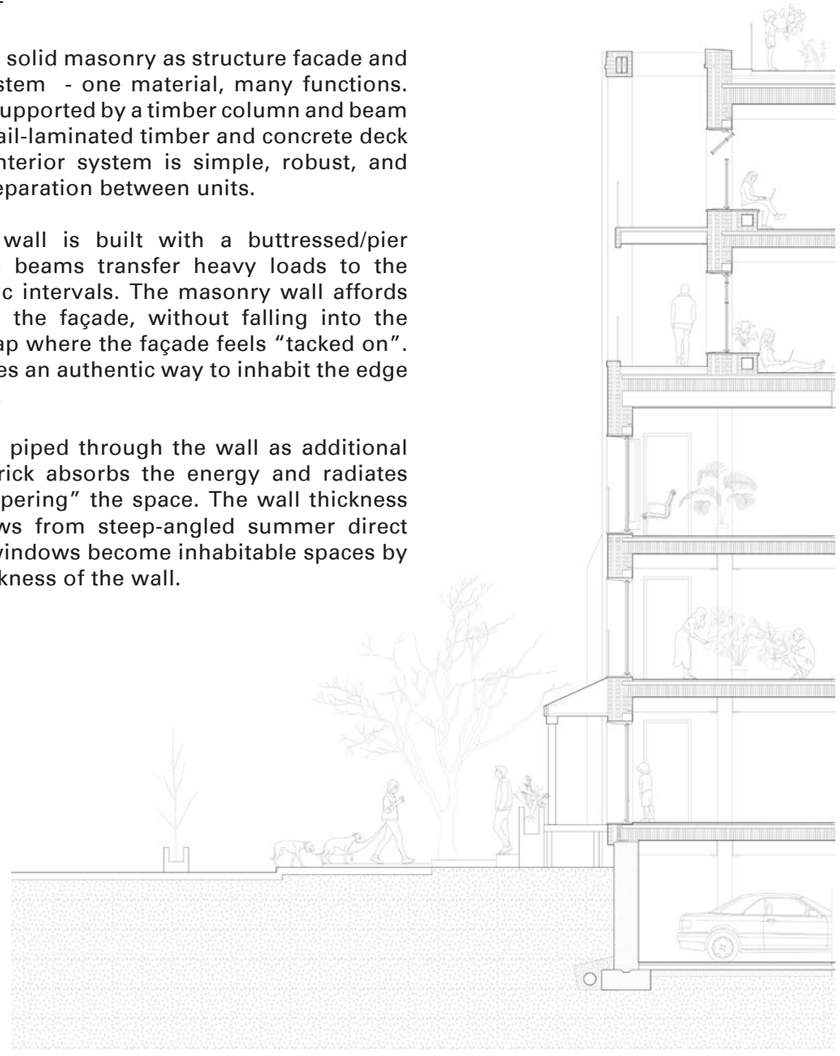
LEVEL 4 PLAN

THE MATERIAL

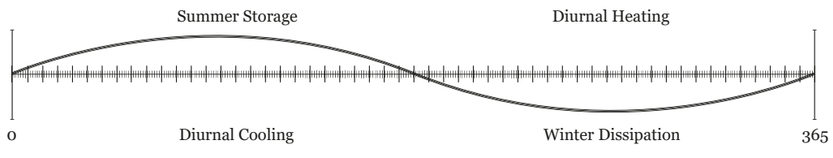
HOUSING uses solid masonry as structure facade and mechanical system - one material, many functions. The interior is supported by a timber column and beam system, with nail-laminated timber and concrete deck on top. This interior system is simple, robust, and provides fire separation between units.

The masonry wall is built with a buttressed/pier system, where beams transfer heavy loads to the walls at specific intervals. The masonry wall affords great depth in the façade, without falling into the postmodern trap where the façade feels “tacked on”. The brick creates an authentic way to inhabit the edge of the building.

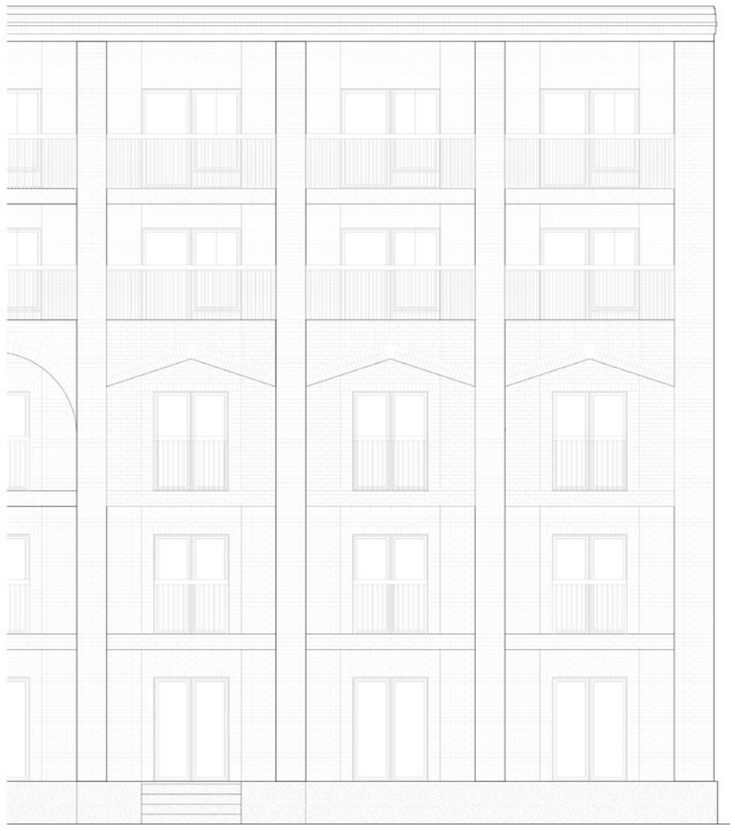
Warm water is piped through the wall as additional heating, the brick absorbs the energy and radiates it slowly, “tempering” the space. The wall thickness shades windows from steep-angled summer direct sunlight, and windows become inhabitable spaces by way of the thickness of the wall.



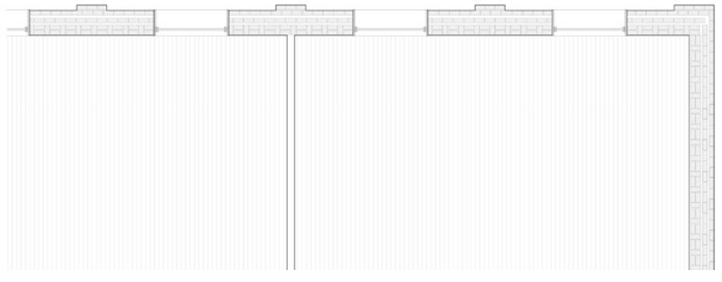
DETAIL SECTION - FACING S



BRICK HEAT FLUX



DETAIL ELEVATION - E



DETAIL PLAN

STAIR

MArch 1 Design Studio
December 2023
Supervised by Prof. William O'Brien Jr.

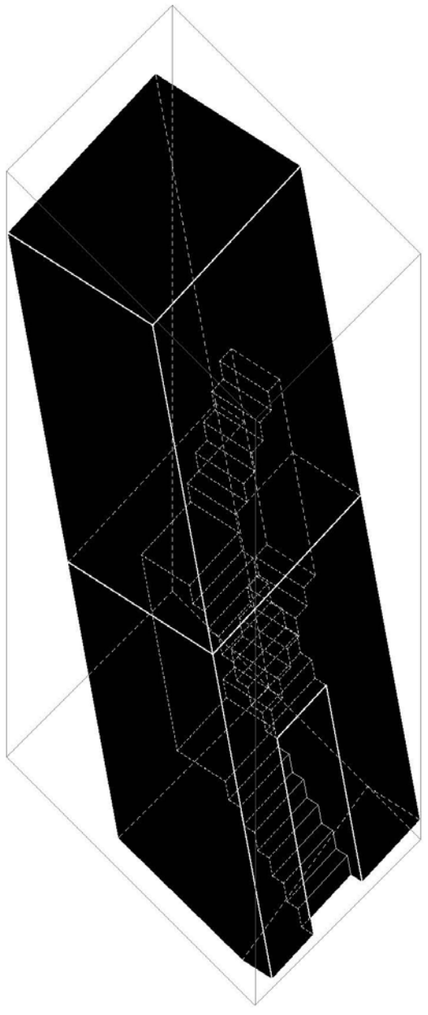
"A stair to there and a stair to nowhere."

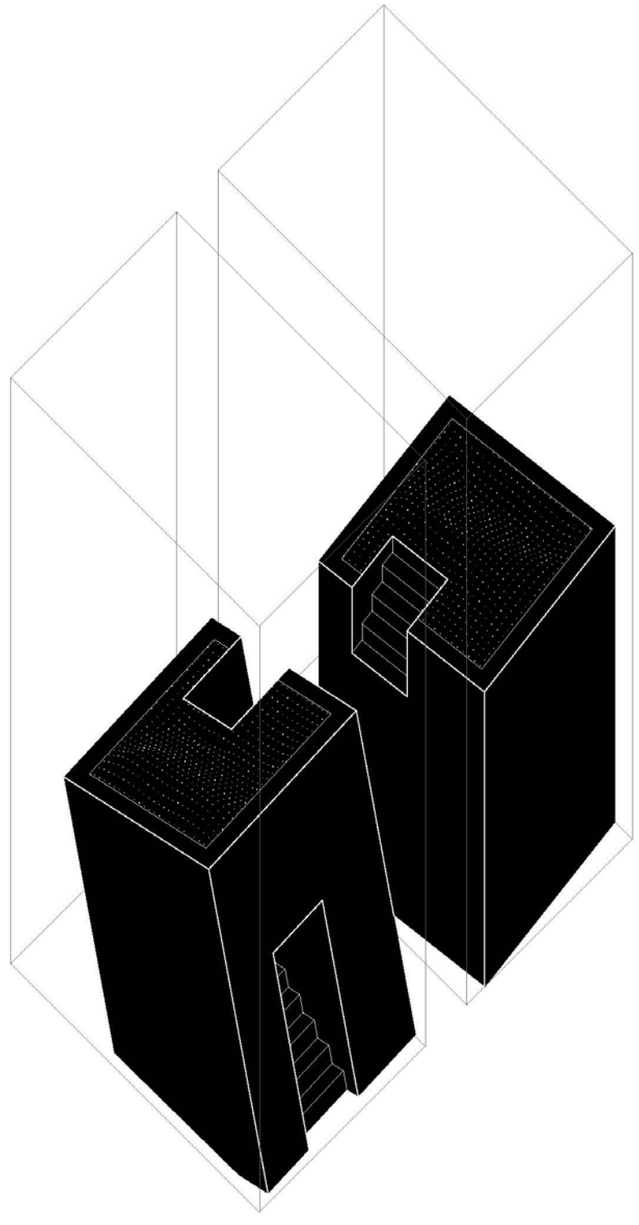
The act of slicing the base of a 3" x 3" x 10" rectangular prism allows it to touch all six sides of a 4" x 6" x 10" bounding box. This simple move creates a host of implications. Suddenly we have a front side and a back side. We have an orientation and a relationship with a surface. We even deal with gravity and friction, for if we create too steep of an angle the object falls.

Next we carve a stair through the monolith. The stair implies more specific directionality. It may also suggest a time line, for the stairs are parallel to the original orientation of the prism and now sit at an angle relative to the ground.

Finally, we break the object. We now have two stairs and two monoliths with distinct characters. One tilted, one straight. Flip them and the stair's relationship with the subject is inverted. Are we meant to walk up and reach nowhere, or down and find the ground? The act of chiselling a break in the monolith creates a unique 'key' that provides enough friction for the two parts to remain balanced. Were the break created in a different way, the pair would not stand together.

No single mode of representation can adequately convey the concepts of the design fully, rather it is only through the strategic coordination of the suite of modes of representation that one is able to convey the design concepts to their fullest.





P1: AXONOMETRIC 1

P1: AXONOMETRIC 2

ARTIFACT

MArch Geometric Disciplines
Supervised by Prof. J. Jih
December 2023

The object is strange, yet almost familiar. It is not quite designed and not quite found. It is unstable but feels grounded. An angled monolith in three parts. This project explores the manipulation of an object through transformations of its form and material - what is lost and what may be retained while creating something completely new.

A single cut is made at the base of a wooden block to change it's relationship with horizontal surface. Then the block is charred. The char leaves traces throughout the final work, transforming plaster and wax into something new and uncanny. The plaster is struck by a chisel twice, leaving 'keys' in the material. This unique pattern is made standard through a silicone mold, and the center of the monolith is replaced by translucent wax.

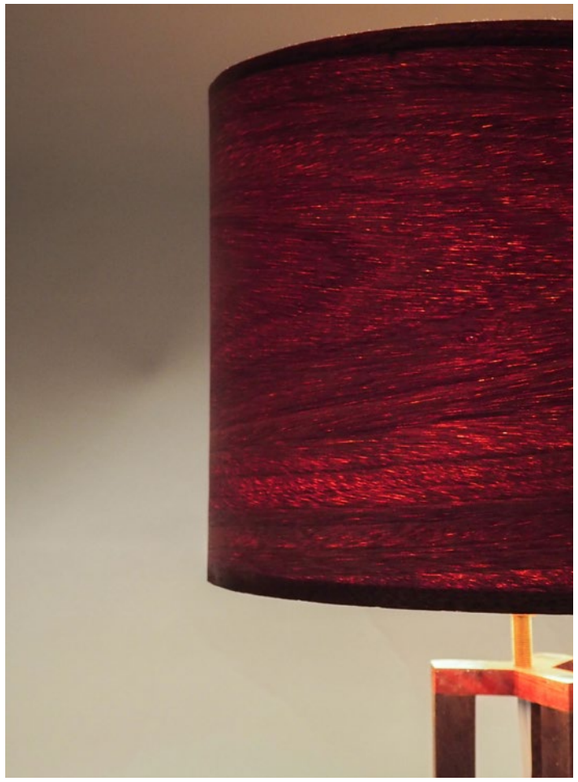
The act of making intervenes on the perceived clarity of thinking through something. The doing is not purely iterative, you must have an intuition to begin, but must also remain open and react to the unexpected results of making something.

OBJECTS

Fine Woodworking Projects
Supervised by Heinz Koehler
August 2019

The objects are an exercise in craftsmanship and detail-oriented design. Original designs of a lamp and a small box.

The lamp and the box are coordinated, swapping walnut and sapele details and structure. The box has sapele walls with a walnut lid panel and joinery ‘keys’. The lamp uses walnut for legs, with sapele supports and a hand-made sapele veneer lampshade.

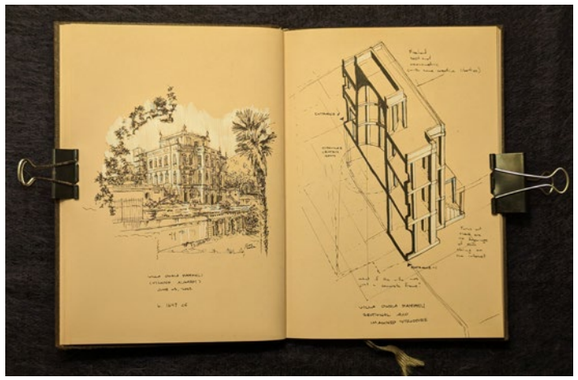
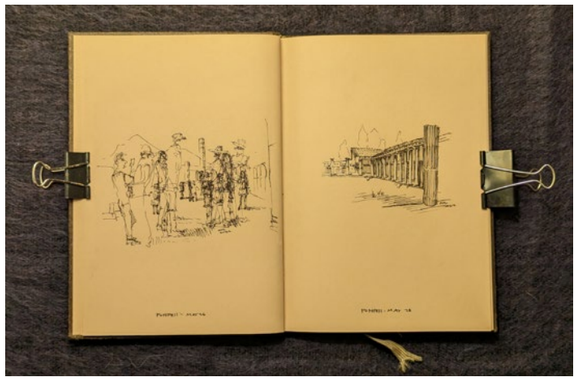


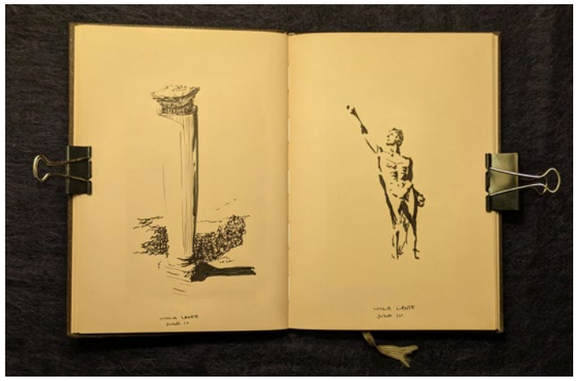
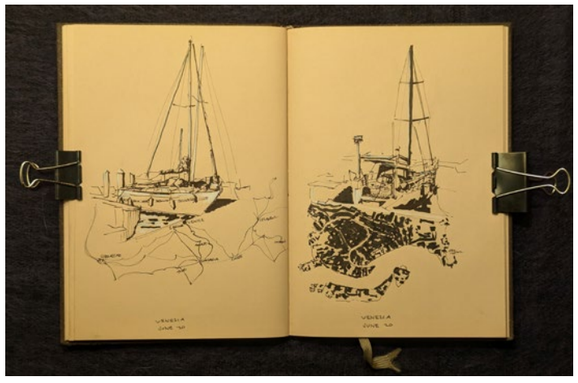
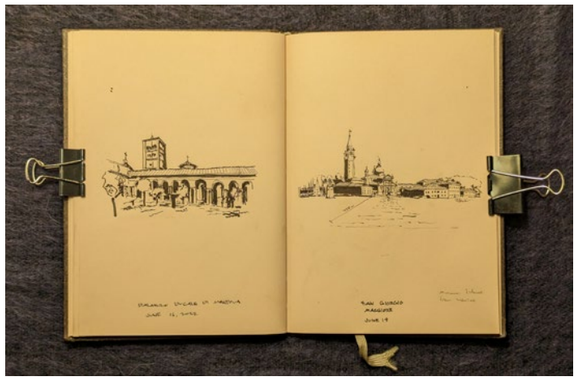
ROME

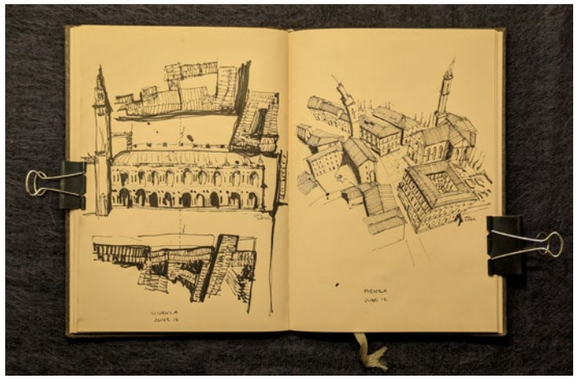
Personal Sketches and ARCH 446
Supervised by Prof. Rick Haldenby
May-July 2022

For the 4A term at the University of Waterloo, students have the opportunity to live and study in Rome, Italy. This immersive historical and cultural experience is foundational to the program. It was so important to me personally, that I deferred my studies for a year to ensure I would not miss the term due to Covid-19.

Observational urban sketching is a key part of the term. When asked what architecture students do while in Rome, Rick Haldenby has said “They draw. And they draw. And then they draw.” I produced ~80 sketches live and on-site in Italy. The scans on the right are a sample of my work. I try to adapt my drawing style in each work, hoping to create a composition which stands on its own and feels right for the moment it was created in.



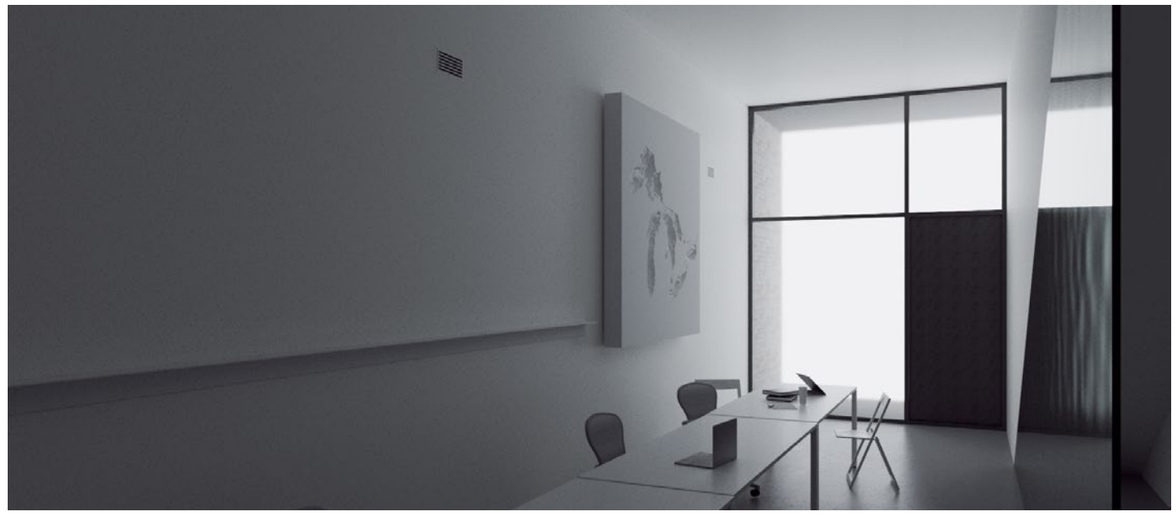
GH3*

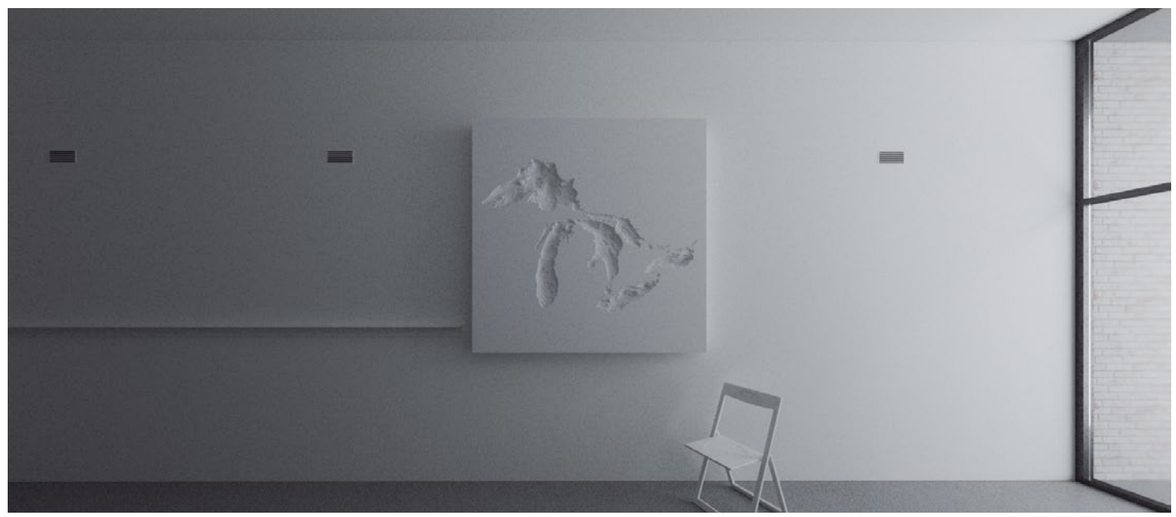
Internship
Aug - Dec 2022
Toronto, Ontario

The team at GH3* is small and very collaborative, so I had the opportunity to work on many projects. Working through design development on a regional train expansion in Toronto, I delivered drawing packages for tender and site planning applications. Top right is an image included for site planning, which shows exact locations of municipal amenities like lighting, signage, cross-walks, curbs, and entrances.

I also worked on competitions across Canada, dense housing in Toronto's downtown, and a very early stage cultural center in Scarborough.

Shown middle and bottom right is a rendering set for a piece of artwork for the GH3* office. A 2m x 2m acoustic panel depicting the bathymetry of the Great Lakes in Canada. Designed and modelled the artwork and office in Rhino and V-Ray, with data extracted from QGIS.



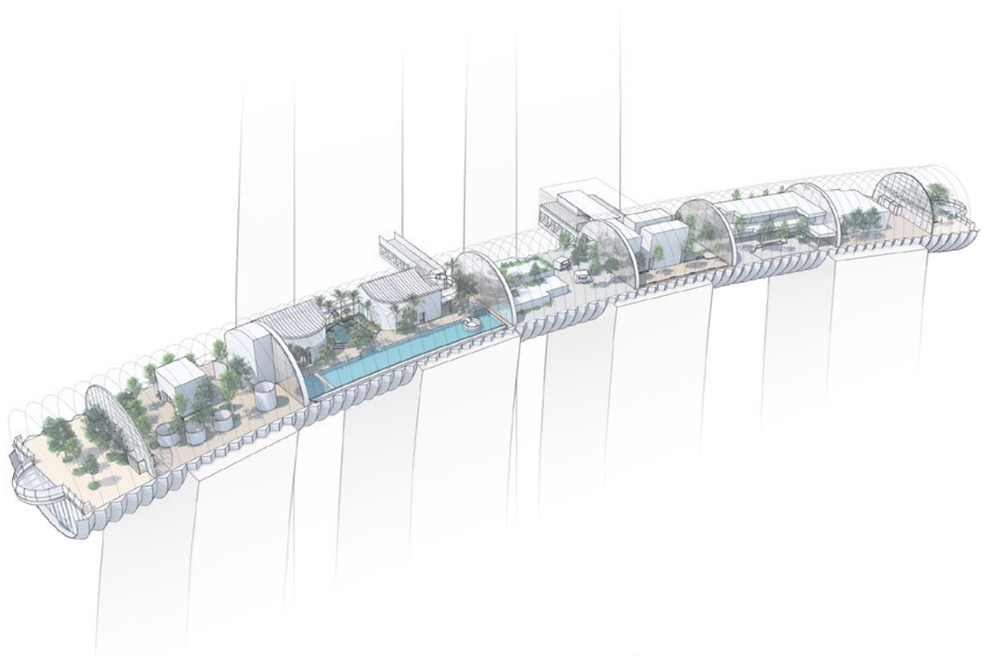


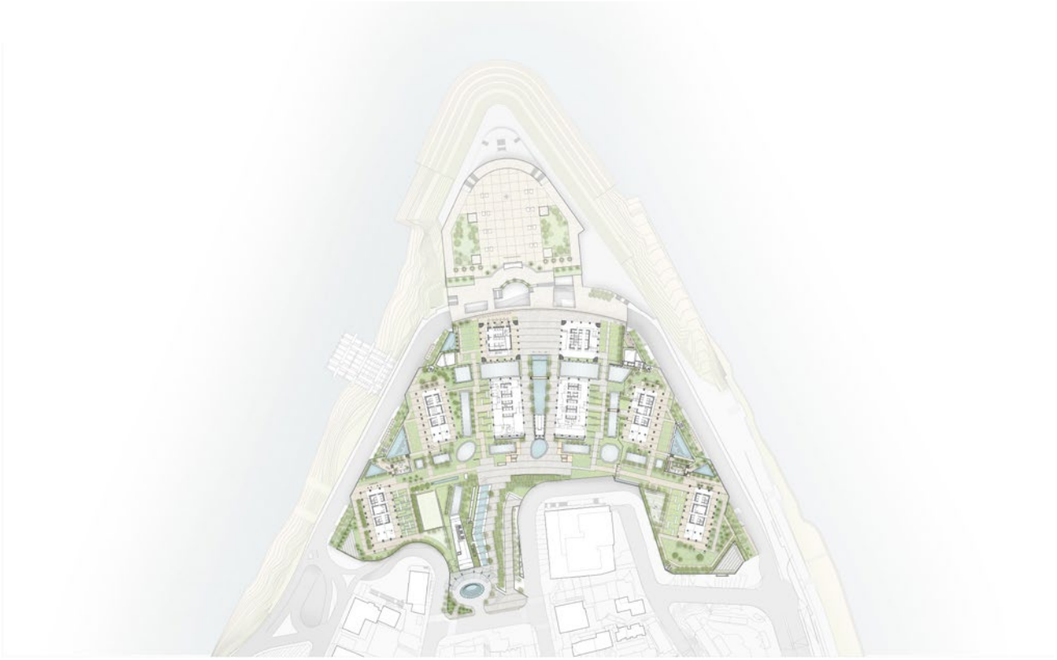
SAFDIE ARCHITECTS

Internship
Sept - Dec 2019
Cambridge, Massachusetts

At Safdie Architects I worked primarily on an expansion to the Marina Bay Sands integrated resort in Singapore. I developed the Revit model for this project as the team made the transition from CAD to BIM. The project team constantly managed the 12-hour time difference from Cambridge to Singapore, handing off coordination and drawings multiple times per week.

I also worked on the Raffles City Chongqing mixed-use development, as it neared completion of construction. I produced graphics (see right for sample works I created for this project) to be used in press kits, web communications, opening ceremonies occuring in March 2020, and lectures by Moshe Safdie.





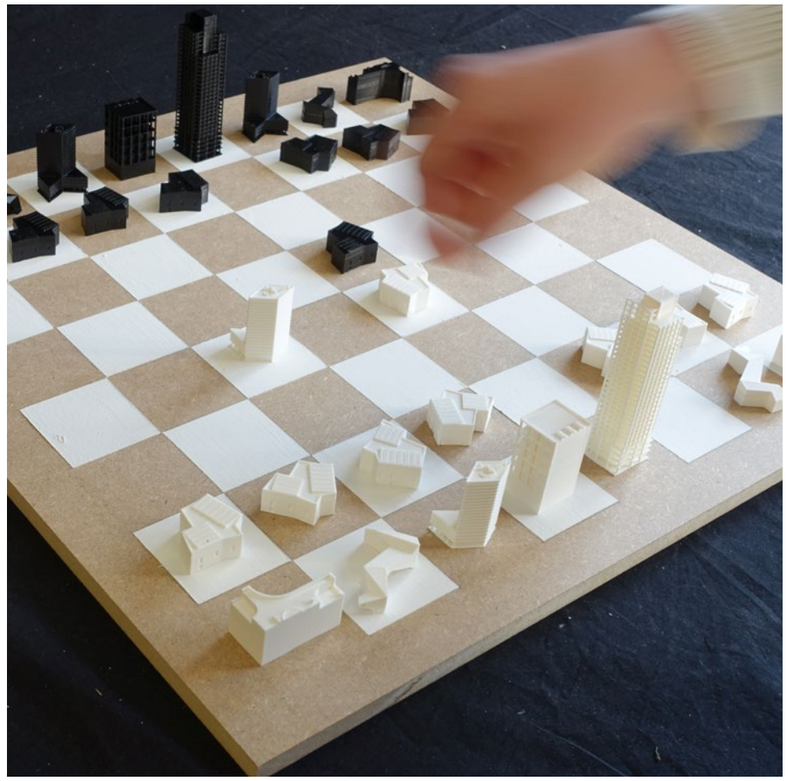
CHRIST & GANTENBEIN

Internship
May 2021 - May 2022
Basel, Switzerland

During my year-long tenure at CG I was able to work on many projects and all construction phases. I primarily worked on design development for a medical lab in St. Gallen, where I developed drawing sets, designed the core and façades, modelled solar studies, and produced presentation renderings, one of which is shown top right. During a period of transition at the office, I was the most experienced member of the project team, when we successfully submitted a Design Development 'Index D' package. The average age of our 4-person team was 25.

I was solely responsible for the delivery of the final revision planset for the Roche multifunctional office building in Grenzach, Germany. I also worked on a new project at the office from it's inception - a complex renovation and adaptation of a 1970's office building. This involved project organization, site analysis, drafting, physical model-building, and concept design sketches.

Shown bottom right is a chess set made of CG buildings, custom modelled and 3D printed as a going-away present for a co-worker and friend.



THANK YOU

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+1 857 320 8424