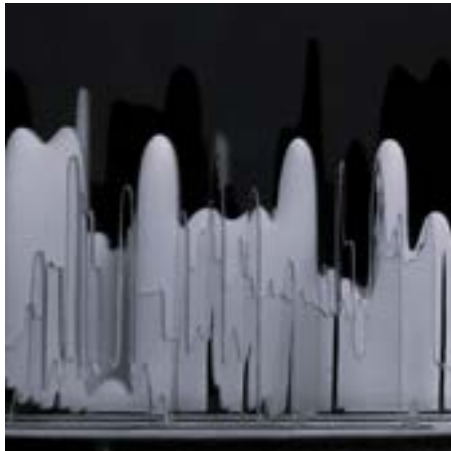


UNDERGRADUATE PORTFOLIO



KLARA STEFANI JAVIER

ENVIRONMENTAL DESIGN & SUSTAINABILITY STUDENT

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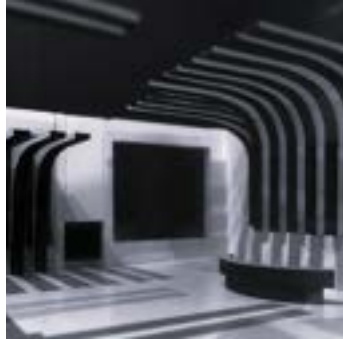
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ILLUMINATING
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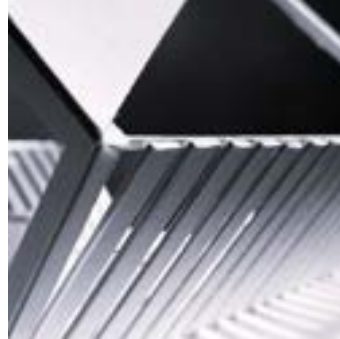
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THESIS



01

RESONANCE HOTEL

SOUNDWAVES OF COMFORT, RHYTHM OF PRODUCTIVITY, A STAY THAT RESONATES

CONTEXT: ACADEMIC | SEM 6 | STUDIO: RETAIL & HOSPITALITY

DURATION: TWELVE WEEKS

ROLE: PROJECT LEAD, DRAFTING LEAD, GRAPHIC LAYOUT DESIGNER, MODEL MAKER

LOCATION: 460 KING ST W, TORONTO, ON M5V 2J4

PROJECT WITH **EMMANUEL NWOKEJI & SIFON UKPEH**

Resonance is built around the **energy of music**, how it fuels productivity, sparks creativity, and brings people together. Inspired by sound waves, **rhythm** and the **movement of music** is translated into a space that feels alive, dynamic, and intentional. Each area, from the lobby to the reception, is **shaped by the natural flow of sound**, creating zones that enhance focus, collaboration, and relaxation.

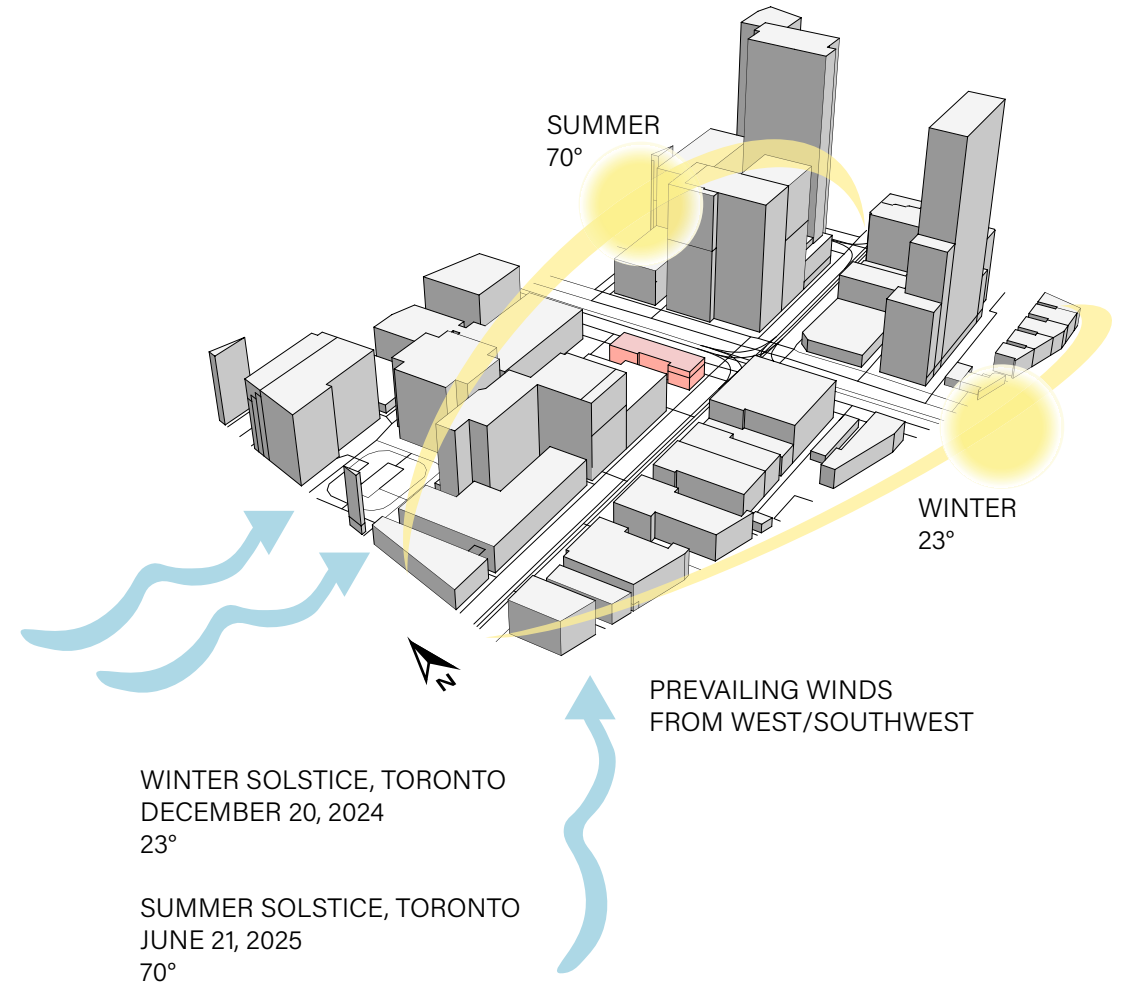
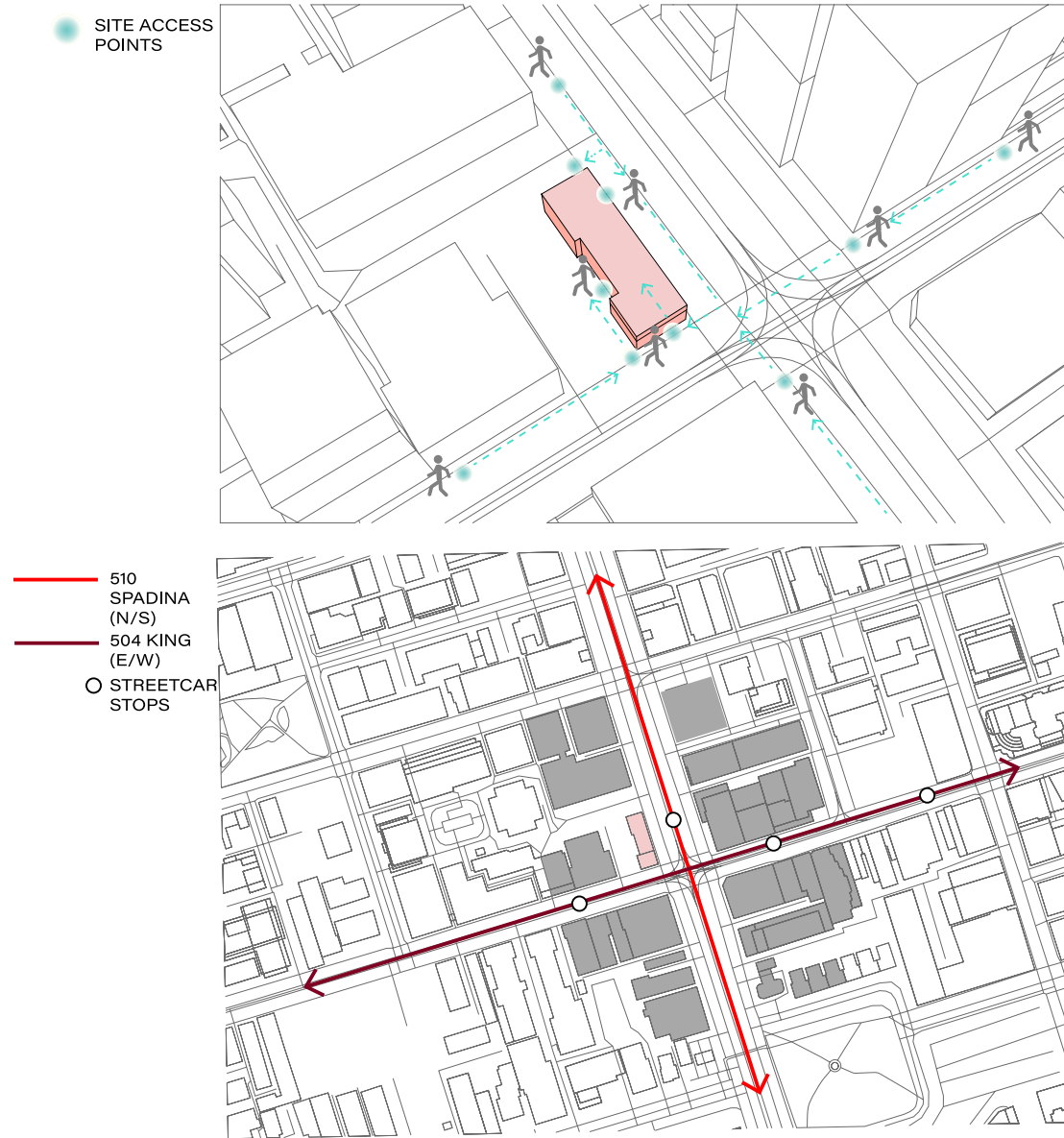
Located in the Entertainment District of Toronto, The Resonance offers a comfortable and productive stay for business travellers or anyone visiting the city. Inspired by the **soundscapes of productive environments** and the designers' favourite songs, its design is immersive and memorable, leaving guests with a feeling of wanting to return; whether for work, inspiration, or just to experience the **rhythm of a space** again.

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SITE CONTEXT - KING ST W & SPADINA AVE

CLIMATE & CIRCULATION



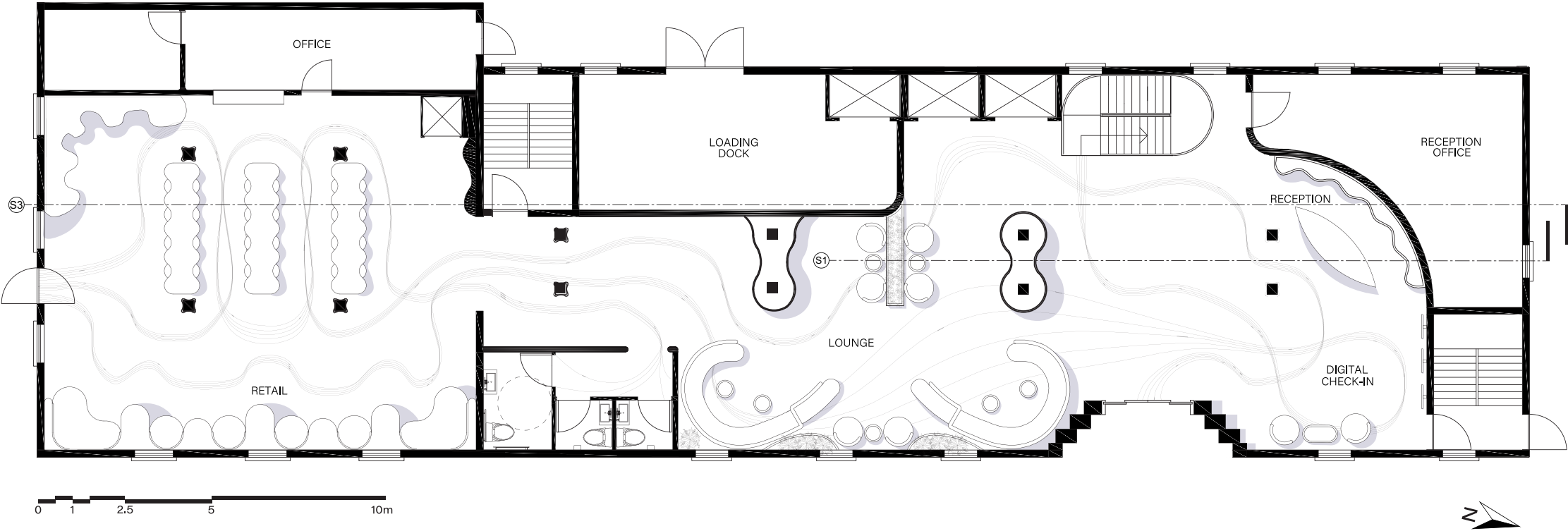
SOUNDWAVES CONCEPT MODEL





RESONANCE LOBBY

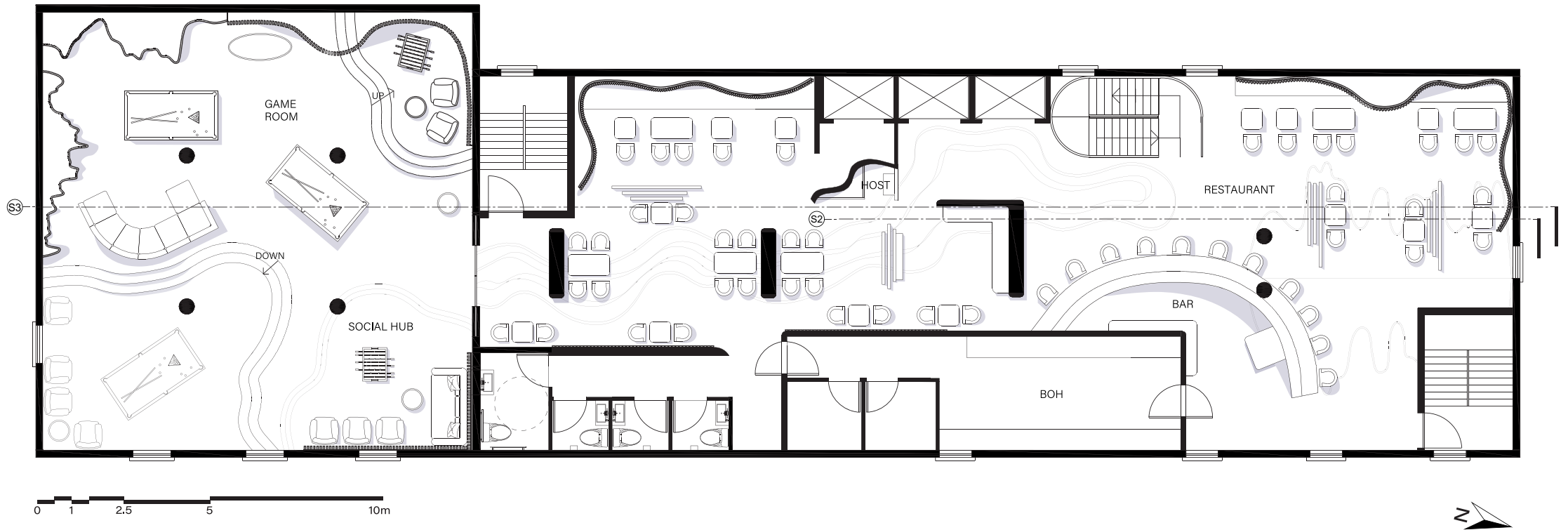
FIRST FLOOR PLAN



SECOND FLOOR PLAN



SINGLE BED ROOM





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SONATA EATS

SONARE = TO SOUND

THE RESONANCE HOTEL FEATURES A SOUND-INSPIRED RESTAURANT AND BAR. ITS FURNITURE IS ARRANGED IN A WAY THAT MIMICS NATURAL SOUNDWAVES. CURVED WOOD PANELS CREATE THESE SOUND ZONES FOR GUESTS TO SOCIALIZE AND EXPERIENCE GREATER AUDIO COMFORT.

RESONANCE RECORDS

THE DESTINATION FOR MUSIC ENTHUSIASTS

A RESONANCE-EXCLUSIVE RETAIL SPACE WITH RECORDS, CDS, VINYLs, AND LOCAL ARTISTS' MERCHANDISE; OFFERS A VINYL LISTENING EXPERIENCE, AS WELL AS BASIC TRAVEL ESSENTIALS AND HOTEL MERCH.

02

SUSTAINABLE ARCHITECTURE STUDIO

CONTEXT: ACADEMIC | SEM 5 | BUILDING SYSTEMS

DURATION: TWELVE WEEKS

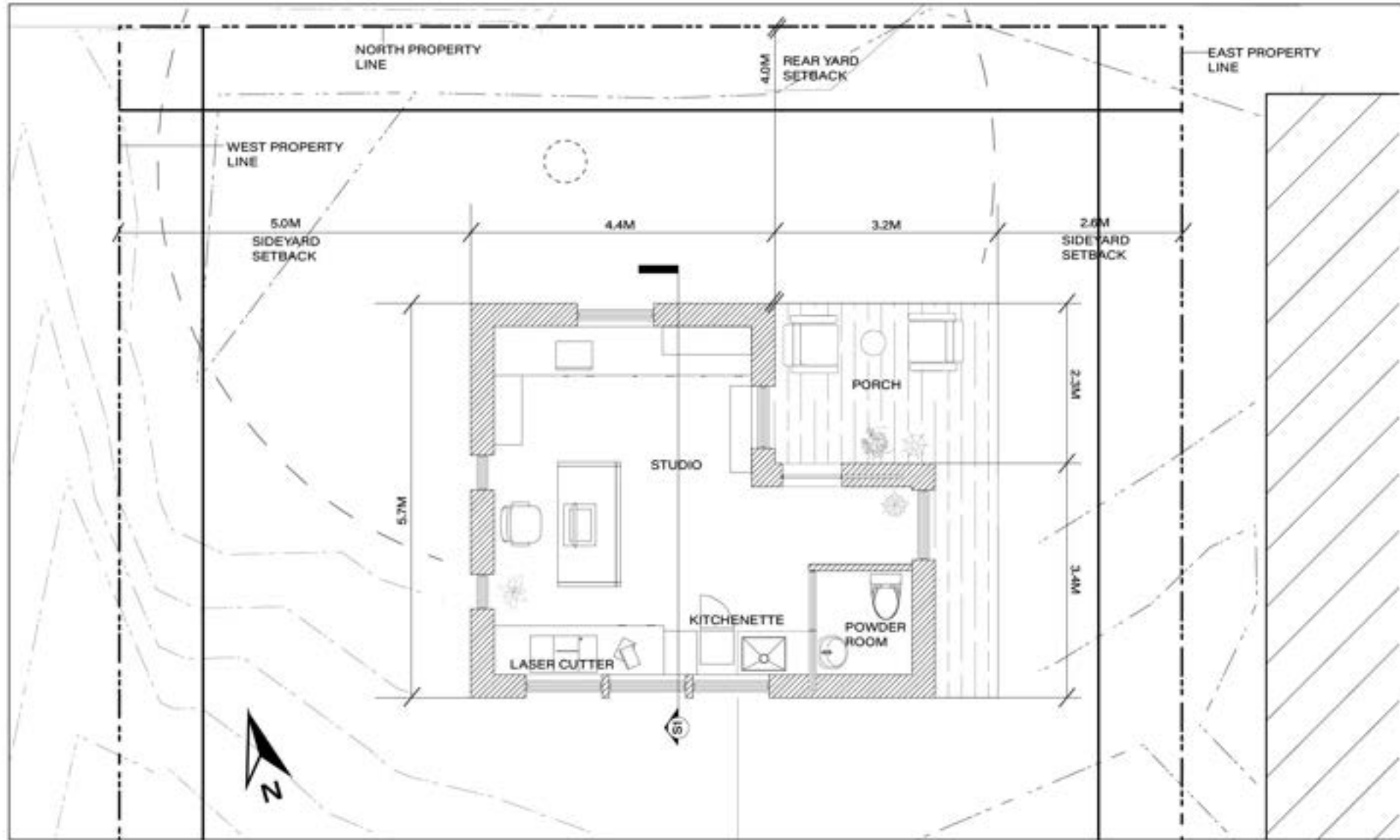
ROLE: INDIVIDUAL

LOCATION: 166 STANLEY AVE, HAMILTON, ON, L8P 2L4

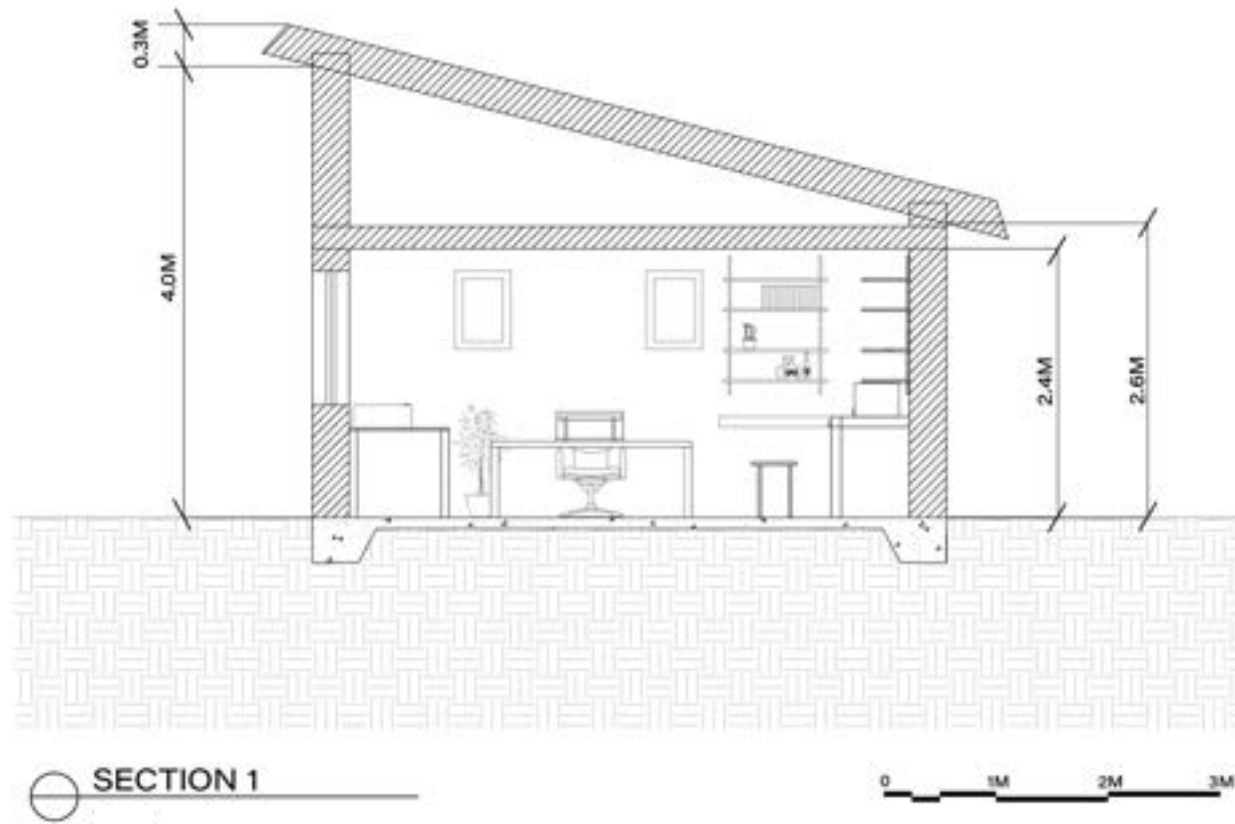
RECOGNITION: FIRST PLACE WINNER — MAKE IT SMALL
ARCHITECTURE STUDENT CONTEST, 2025

Independent studios work as efficient productive spaces, especially for designers. Fortunately, designing a small studio workspace can be functional, modern, and sustainable. Guided by climate-responsive design and resilient strategies, this energy-efficient studio sits just behind a residential building, creating a sustainable and productive space for a creative client.





⊙ **FIRST FLOOR PLAN**



RESILIENCY APPROACH

COLD CLIMATE/HARSH WINTER

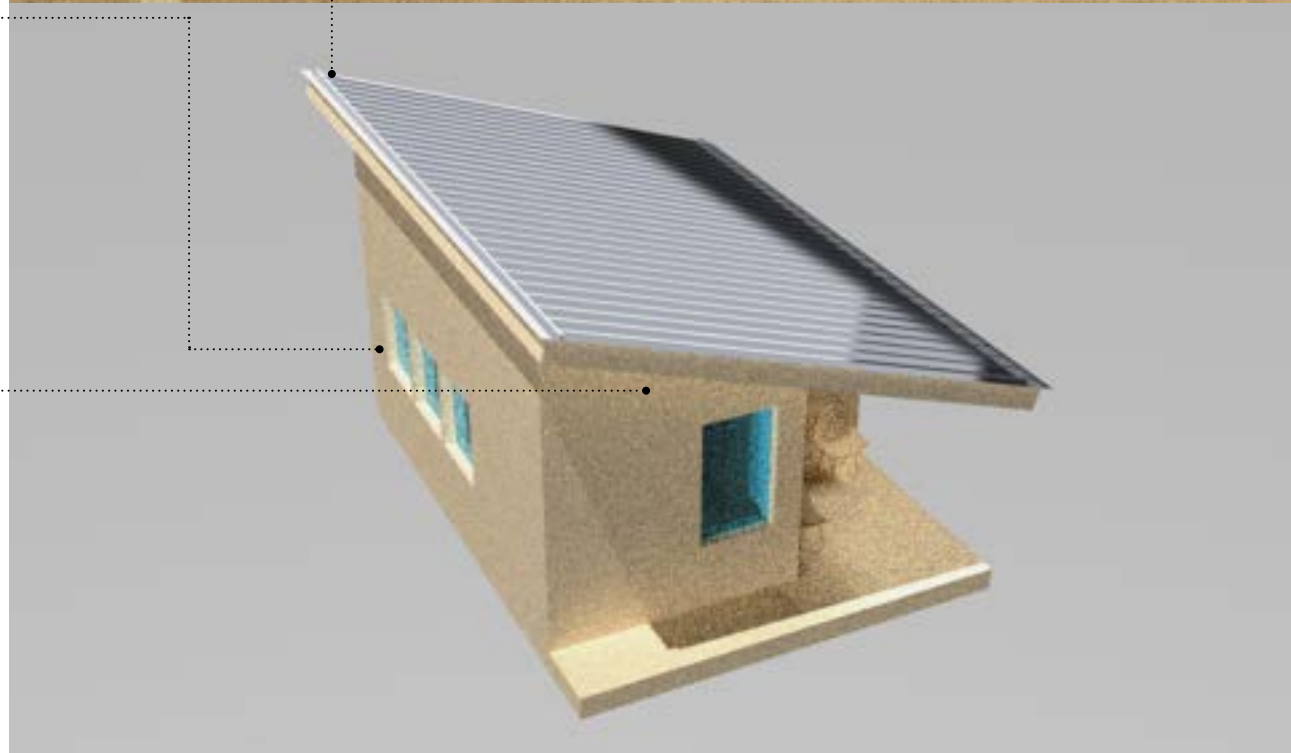
- **High-performance insulated envelopes**, enough to minimize heat loss during the harsh cold winter, while using less energy
- **Pipe insulation** to prevent freezing during the cold

RAIN/FLOOD

- **Pitched roof design** to withstand heavy loads of snow, ice, and rain
- **Natural drainage system**, recessed facade/window to improve deflection and reduce rainfall exposure, as well as rigid foam board in the wall and continuous insulation directing away from the wall to improve drainage

FOREST FIRE

- **Enhanced wood cladding** for fire resistance and limited combustibility
- **Steel roof cladding**, a non-combustible material to increase fire resistance



SUSTAINABILITY APPROACH

DAYLIGHT, HEAT GAIN, SUN LOCATION

Maximizing solar energy through strategic window placement

MATERIALS

Vernacular structural material, e.g. timber obtained by recycled trees from the local area, to reduce embodied carbon

CONSTRUCTION OF WALL ENVELOPES

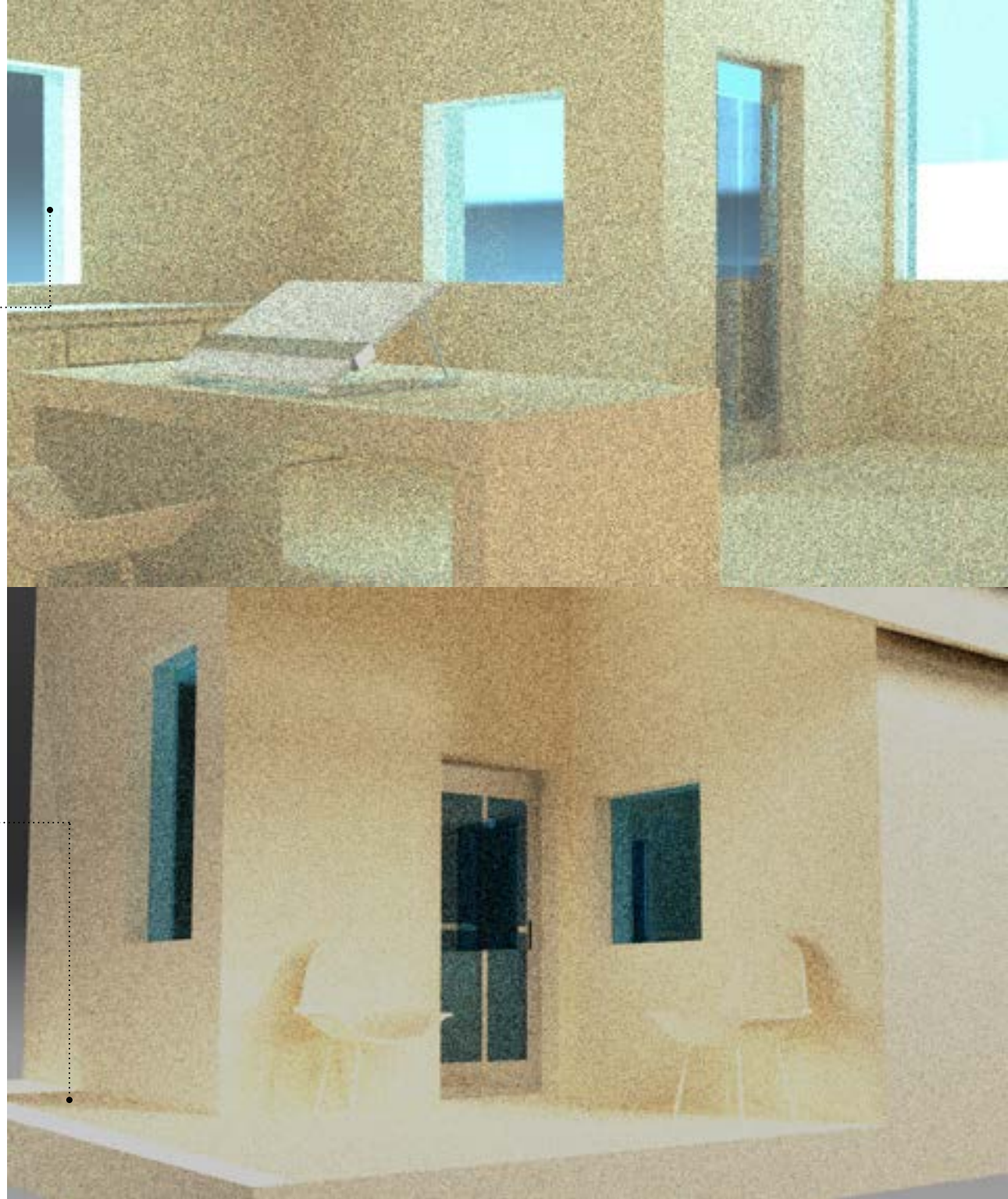
Cellulose fiber insulation inside stud walls that is made from recycled materials, while reducing heat loss

FRESH AIR

Strategic window and building placement, to improve natural air circulation i.e. northeast gets the most prevailing/dominant winds, porch is also there

POWER

LED lighting is used, as it promotes energy-efficient lighting, reducing carbon footprint and overall energy consumption



03

ILLUMINATING PATHWAYS

A JOURNEY THROUGH LIGHT AND MOVEMENT

CONTEXT: ACADEMIC | SEM 5 | STUDIO: RESIDENTIAL DESIGN/INCLUSION

DURATION: TWELVE WEEKS

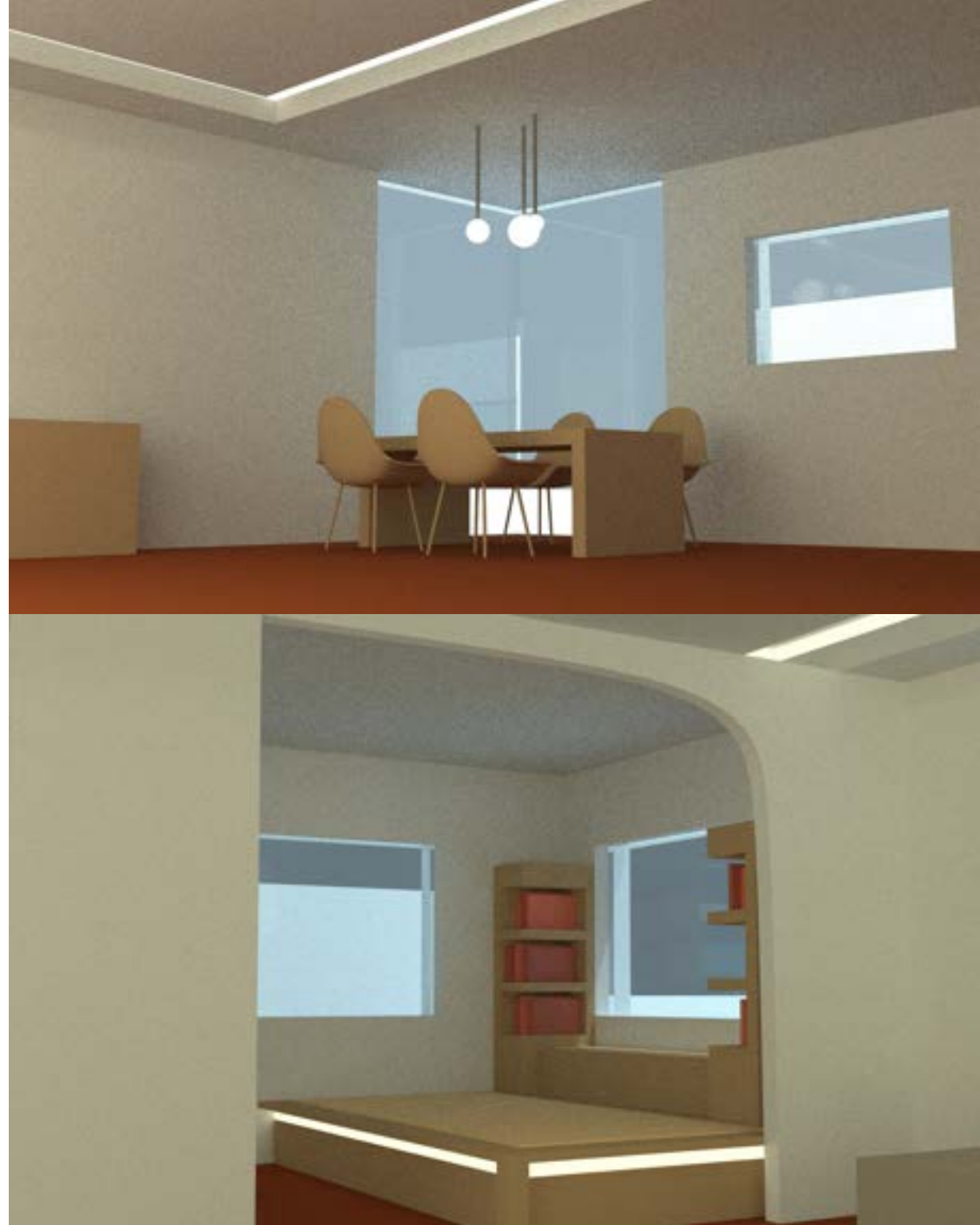
ROLE: INDIVIDUAL

LOCATION: 37 BULWER ST, TORONTO, ON M5T 1A1

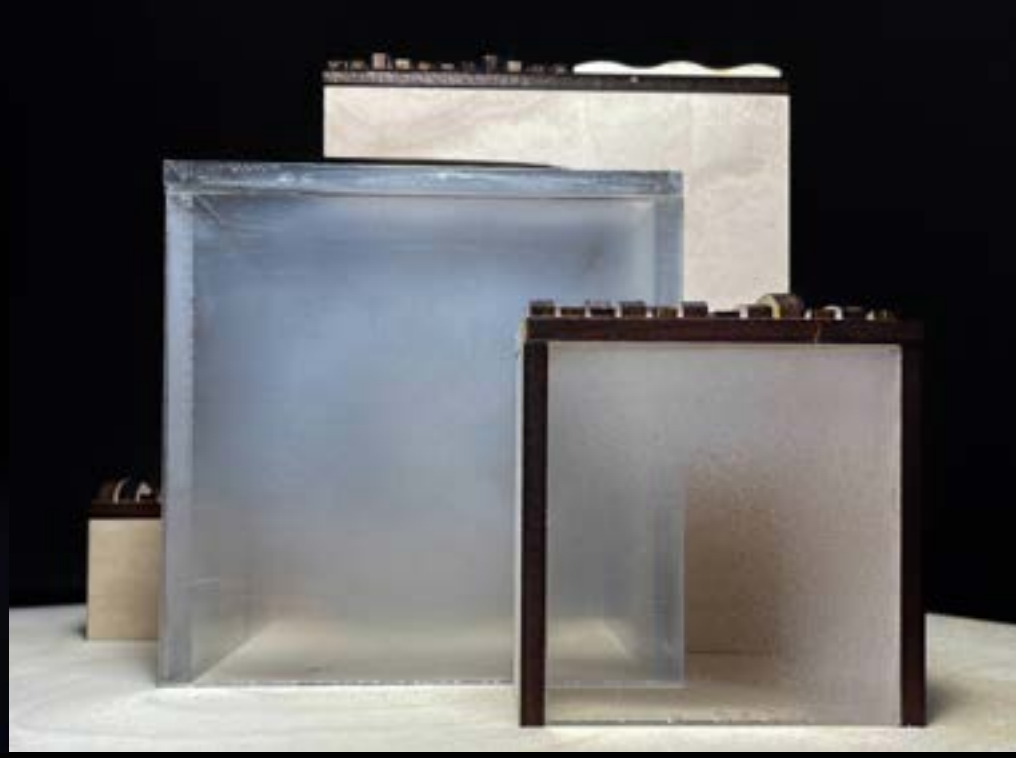
Guided by **light**, **movement**, and **tactility**, this home offers an intuitive living experience for a couple navigating vision challenges. Designed for a client with cataracts and her partner, this house emphasizes natural light, LEDs, and texture to create an **intuitive** and **accessible living experience**. Recessed floor lights, layered ceilings, and skylights are used as guiding tools, and to help differentiate programs in the open-spaced layout. A central spine is directed by the layered ceiling and this acts as a main pathway. The open yet private layout fosters comfort for both residents.

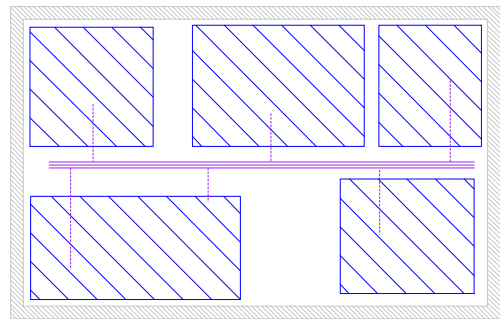
Mitski is a teacher at an elementary school, and was diagnosed with cataracts. Her husband, Hiro is a professor of mathematics. The couple has been living together in their previous apartment, but has grown to be inaccessible. Mitski especially, found herself having difficulty working at home. The couple wants a more **open-spaced home** where they can coexist and be **productive**, to make it easier for accommodations. Mitski wears glasses and does not use a white cane nor guiding stick, but is considering one for the future. **Illuminating Pathways** introduces the seamless design of an **inclusive** home for the couple to **navigate** and **live comfortably**, without the need for additional technology.

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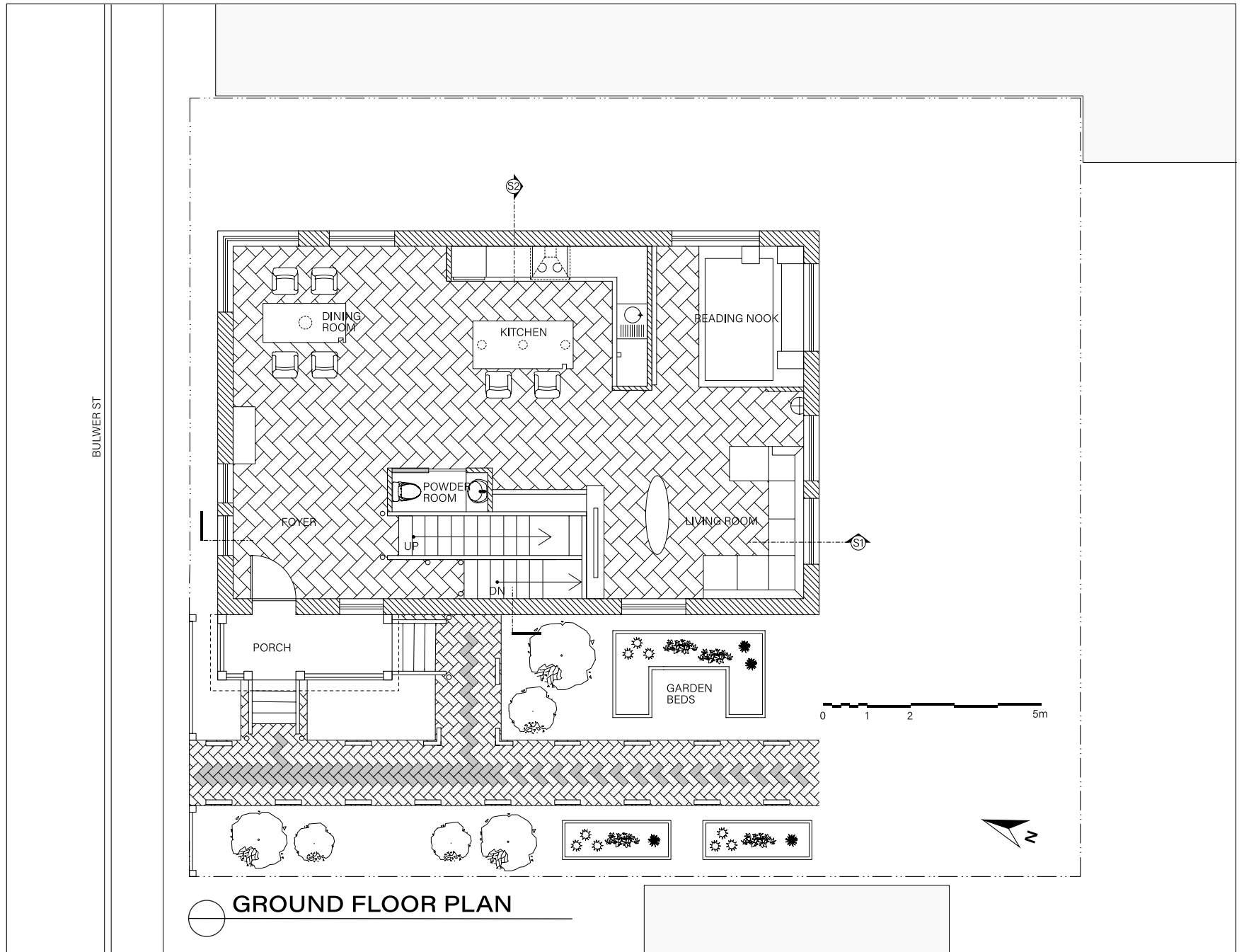


LIGHT & MOVEMENT
CONCEPT MODEL

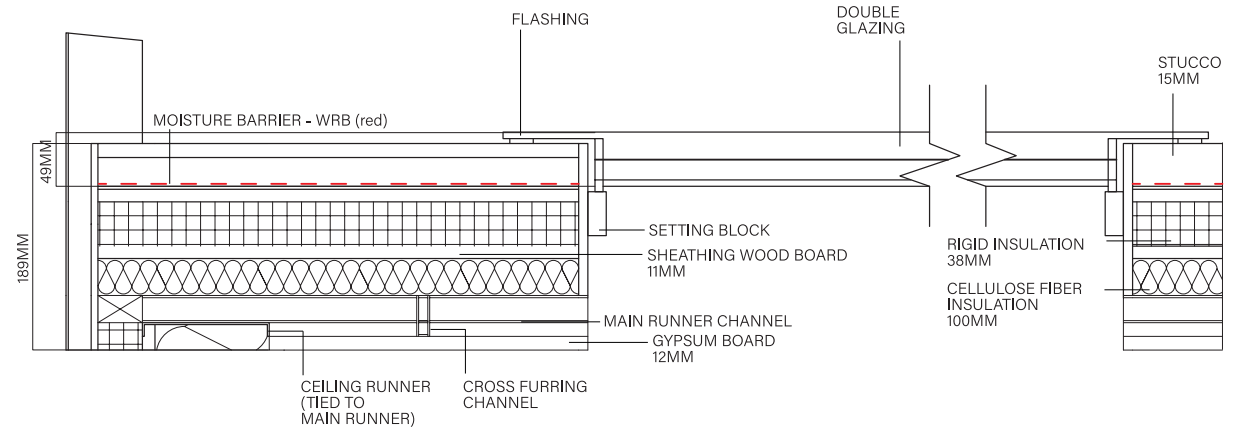




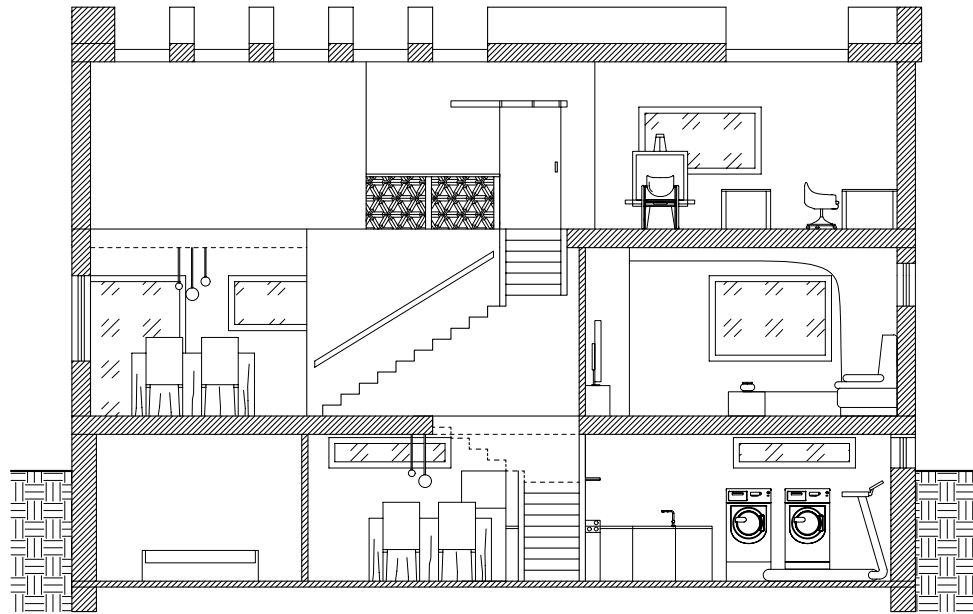
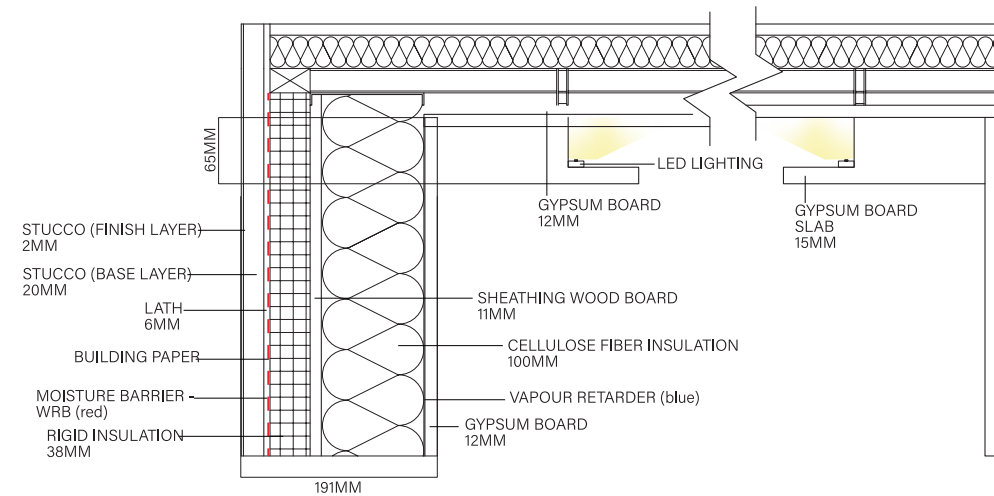
MOVEMENT 
 LIGHT 



ROOF SKYLIGHT DETAIL

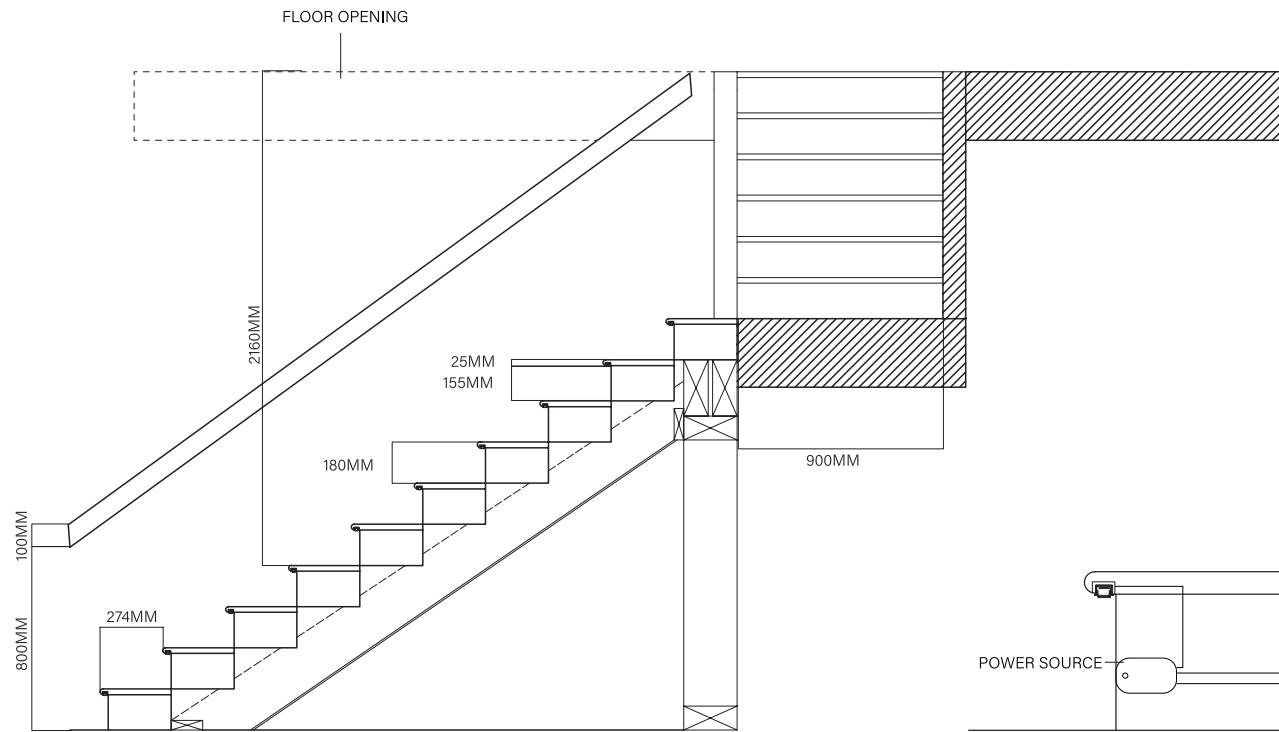


DROPPED CEILING DETAIL

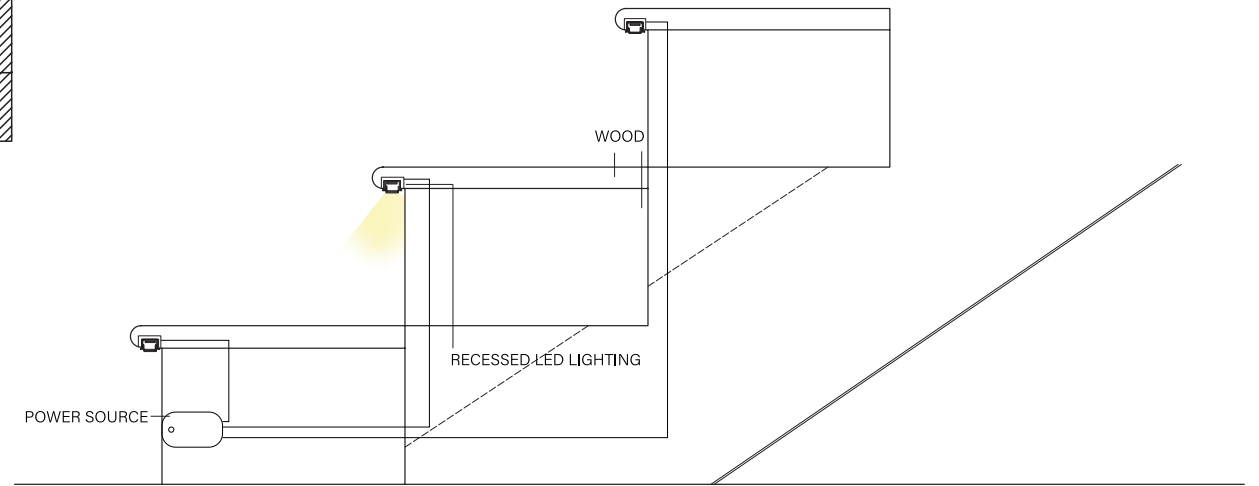


0 1 2 5m

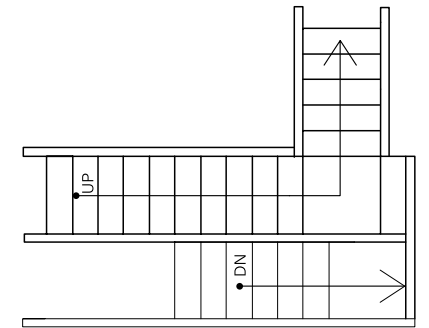
SECTION 1



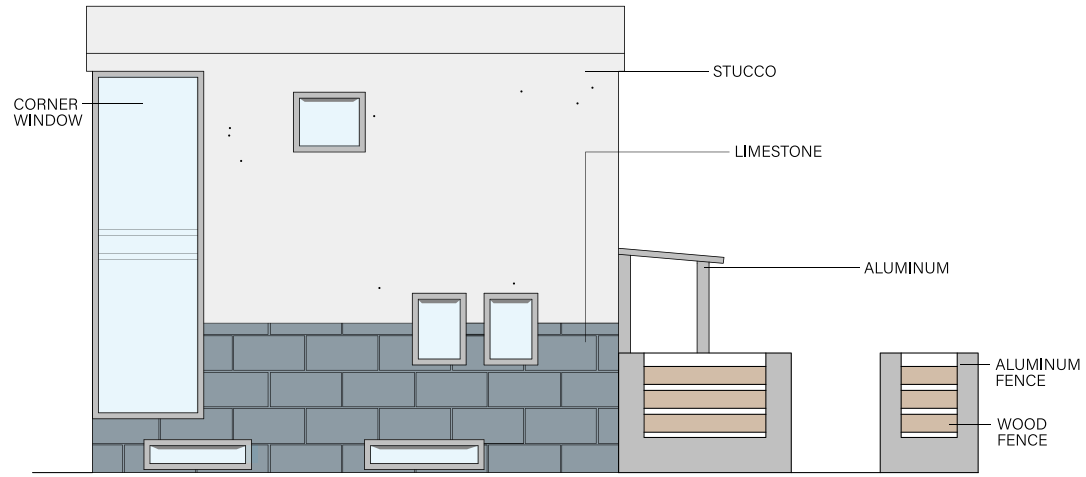
STAIR SECTION



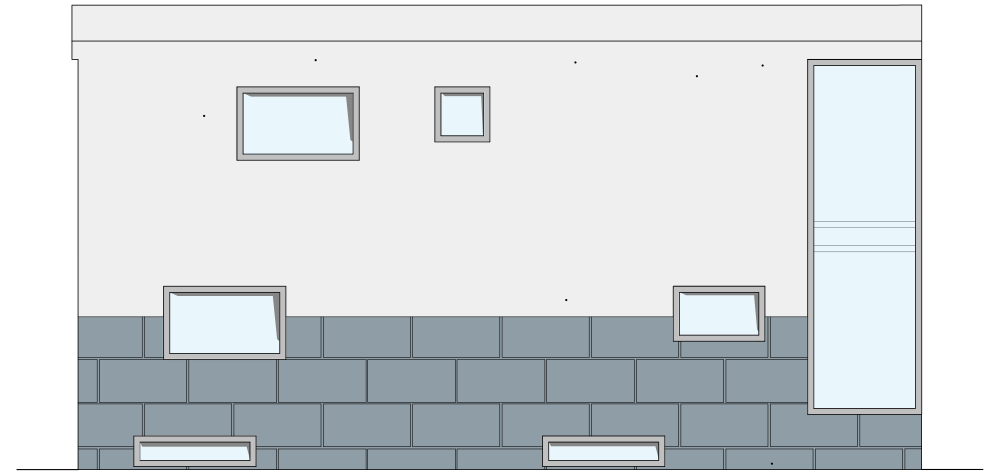
STAIR LED DETAIL



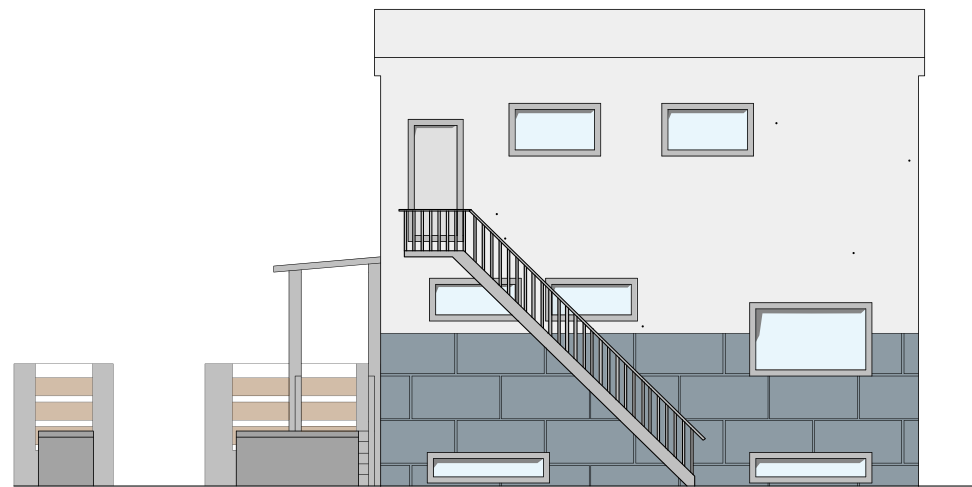
GROUND FLOOR STAIRS



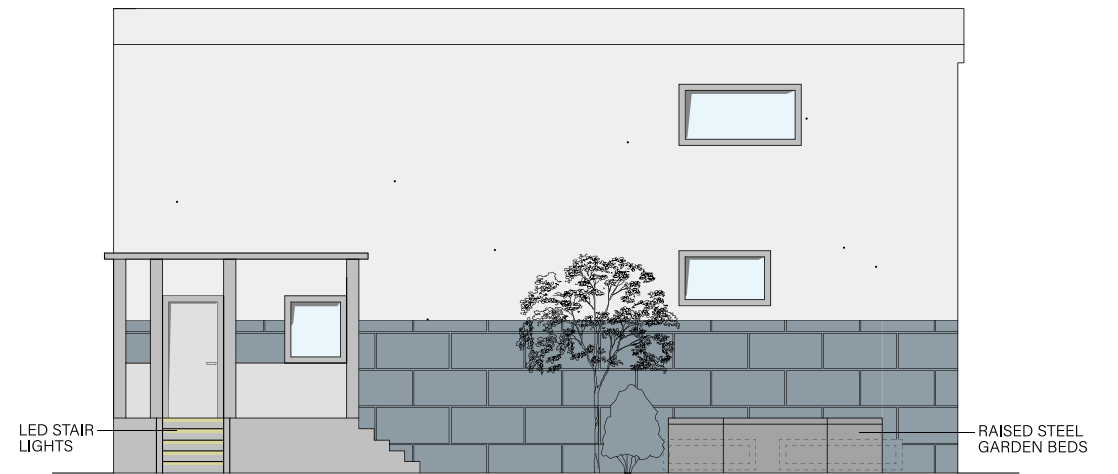
○ NORTH ELEVATION



○ EAST ELEVATION



○ SOUTH ELEVATION



○ WEST ELEVATION

04

ACE MOVEMENT & PHYSICAL CENTRE

*KING ST W AND DUFFERIN ST
TRANSFORMED*

CONTEXT: ACADEMIC | SEM 4 | STUDIO: SOCIAL SPACE & DIVERSITY

DURATION: TWELVE WEEKS

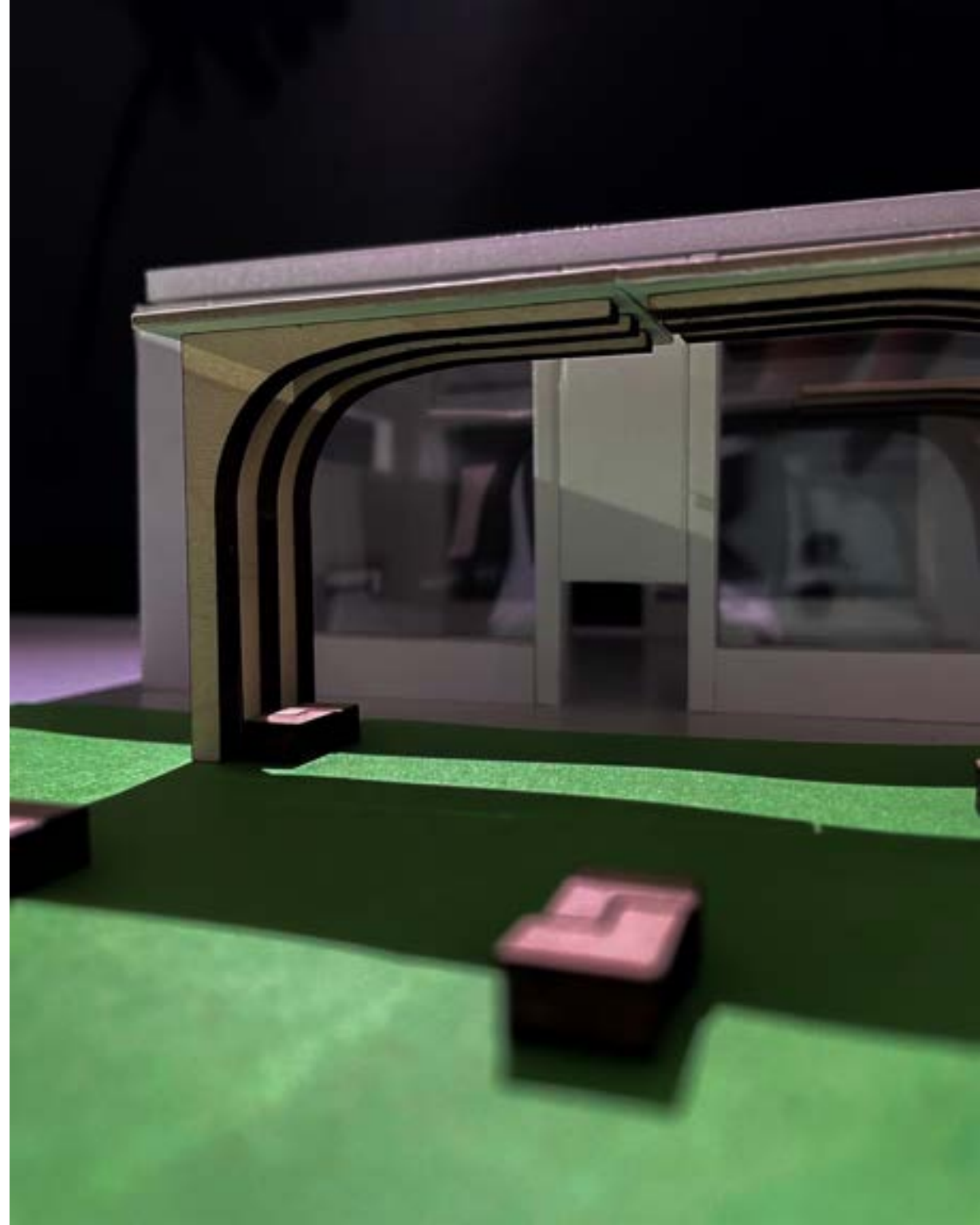
ROLE: INDIVIDUAL

LOCATION: KING ST WEST AT DUFFERIN ST, TORONTO, ON M6K 1G3

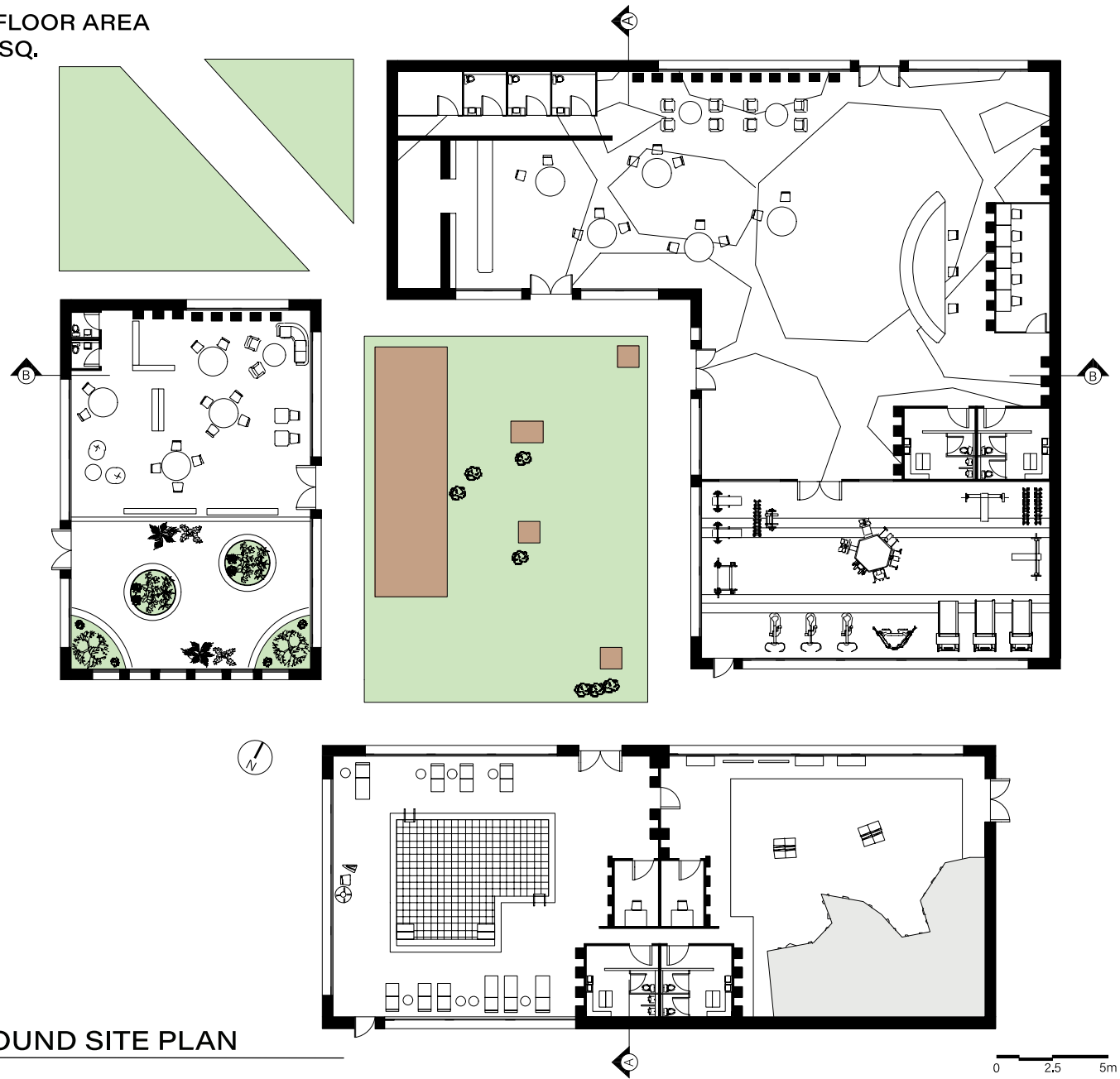
Activity, Community, Environment = ACE

ACE Movement and Physical Centre caters to kids ages 12-17, and encourages them to be physically active. It also acts as a third space for kids to relieve stress from school and other possible burdens in their daily lives. The overall centre is divided into three buildings to not only centralize the courtyard, but to also motivate users to **keep moving** whilst connecting to nature, even if that includes transferring to different buildings. ACE is accessible through public transportation. The curved interior wood columns invoke a sense of **fluidity** and **movement**, which matches the centre's program perfectly. These structures are meant to motivate users to keep moving across the centre, making the most use out of it. In terms of community, kids are encouraged to continue building their **social skills** and **expand their real world experience** by interacting with their peers and helpful staff. A prime example that brings community together is the indoor garden, which always welcome **volunteers** to care for the plants, and only members of the centre have the opportunity to take some in-season vegetables home. In terms of environment, this centre is motivated by **material sustainability**. The floor plans are created with rationality making them free of excess ornamentation, and all materials used are sustainable and obtained locally.

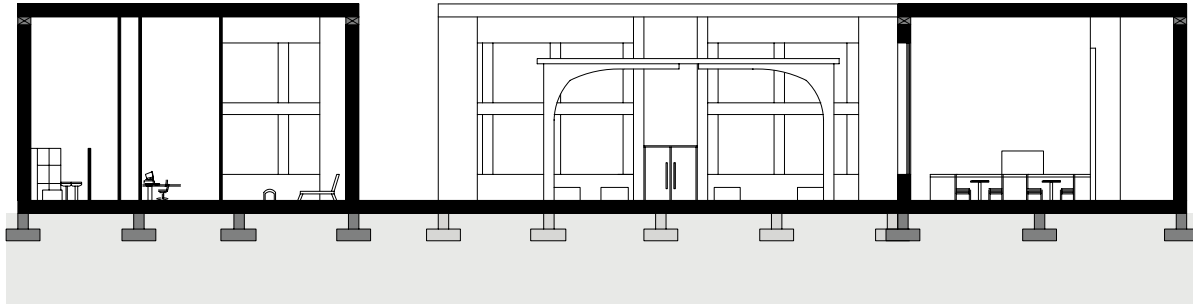
KLARA S JAVIER



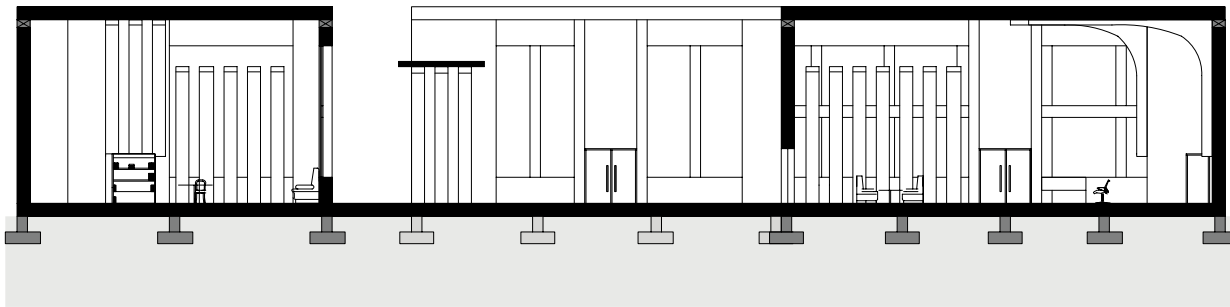
GROSS FLOOR AREA
1113.5 M. SQ.



GROUND SITE PLAN



SECTION A



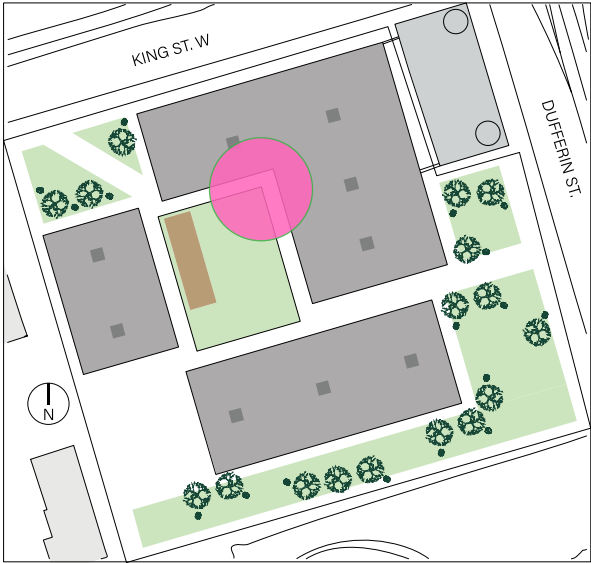
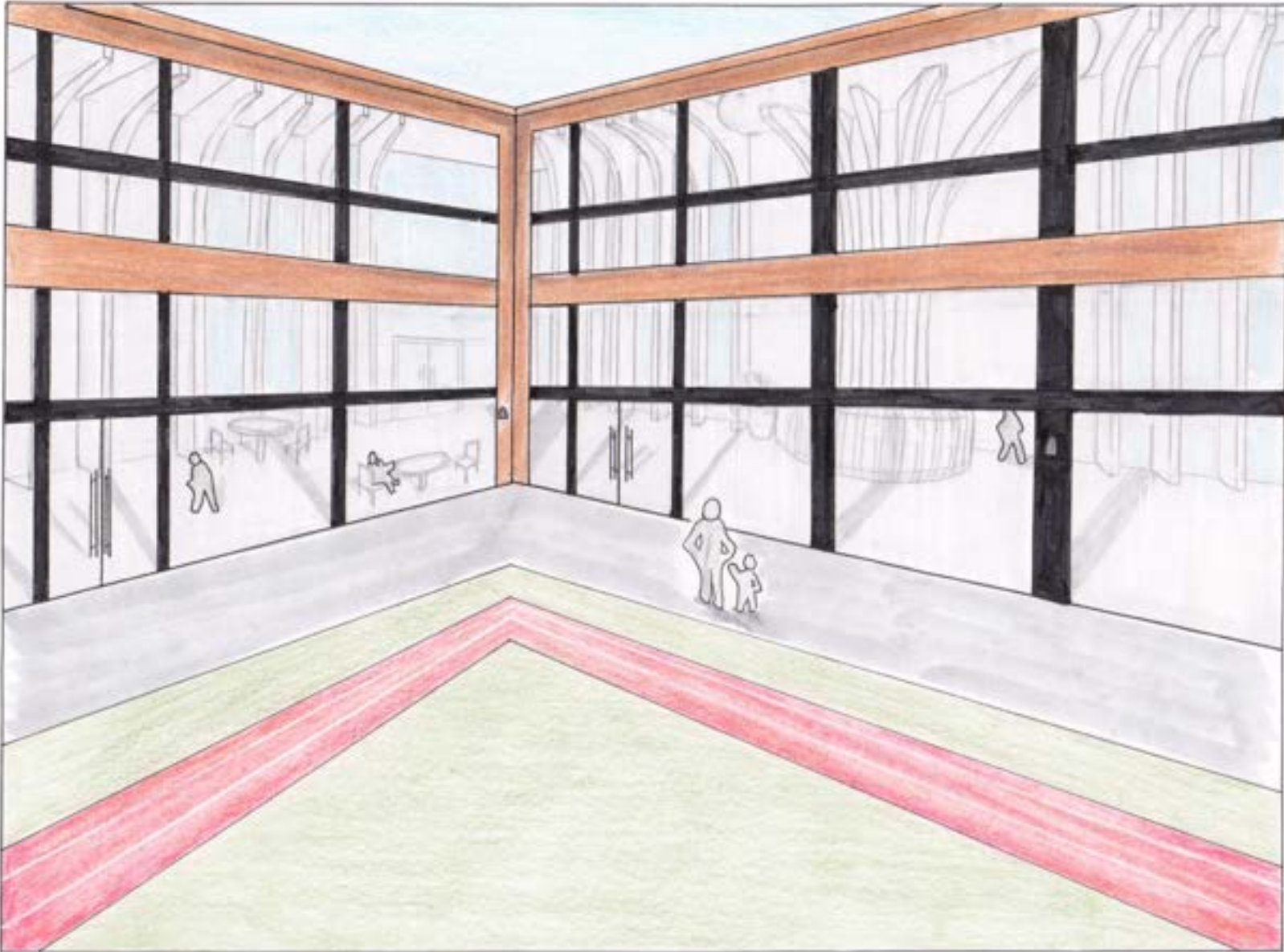
SECTION B

0 2.5 5m



VISUAL SITUATION

COURTYARD FACING NORTHEAST BUILDING



05

DIVERSE HORIZONS PAVILION

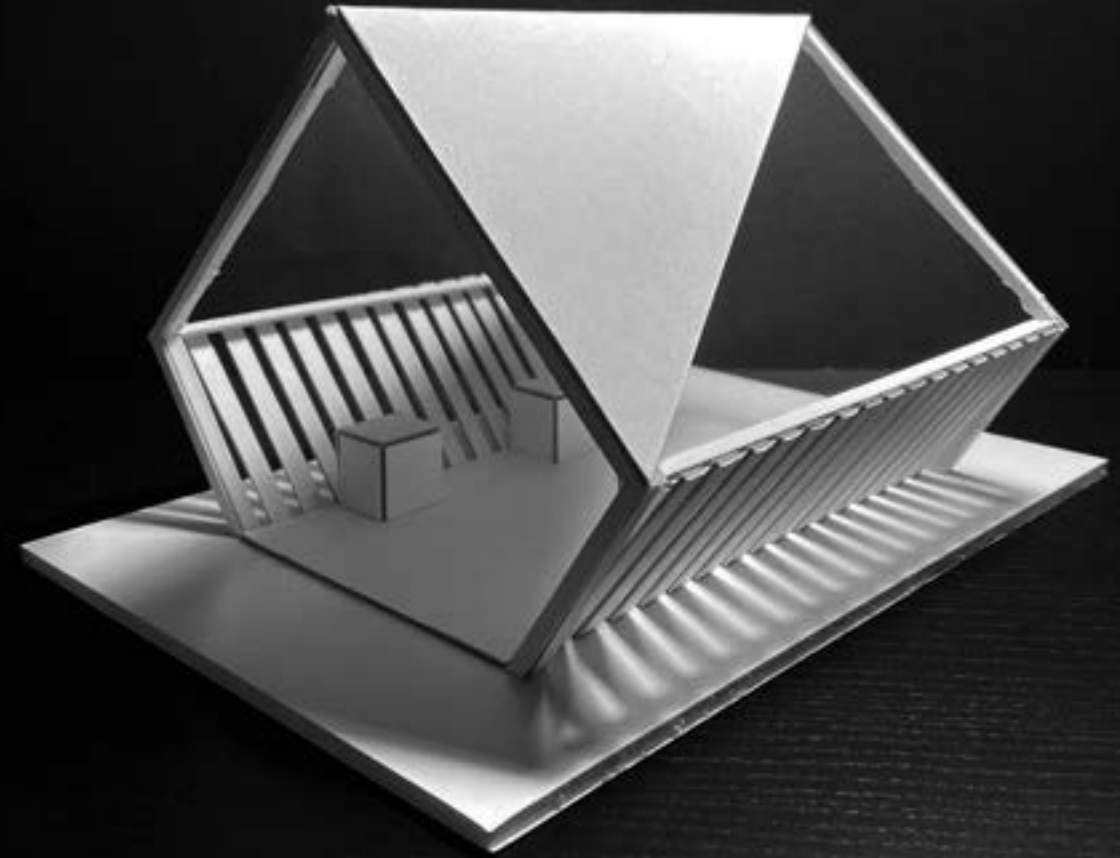
CONTEXT: ACADEMIC | SEM 3 | STRUCTURE 1

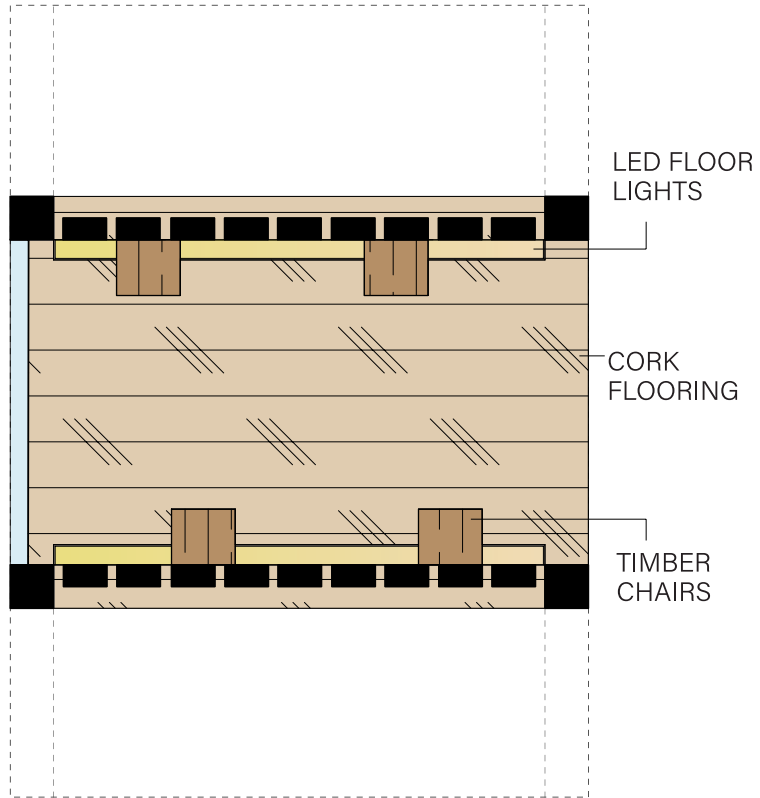
DURATION: TWELVE WEEKS

ROLE: INDIVIDUAL

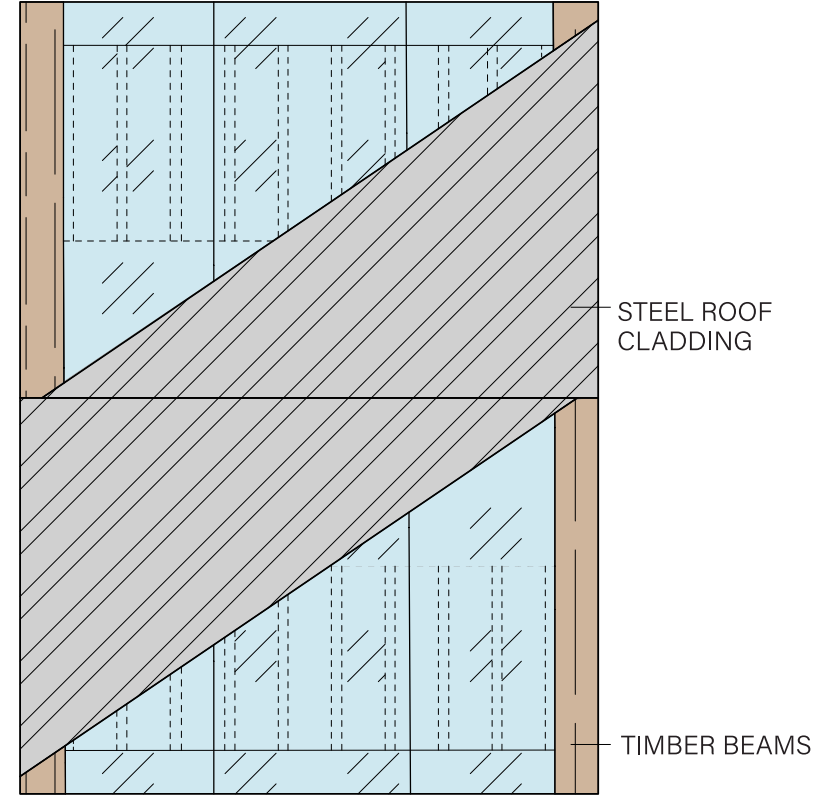
LOCATION: NATHAN PHILLIPS SQUARE, 100 QUEEN ST W, TORONTO, ON
M5H 2N3

Located near the heart of Toronto, the Diverse Horizons Pavilion blurs the barrier between the built environment and nature. With Nathan Phillips Square being a vibrant gathering spot for global guests and locals, this pavilion embraces diversity through material sustainability and its connection to nature.



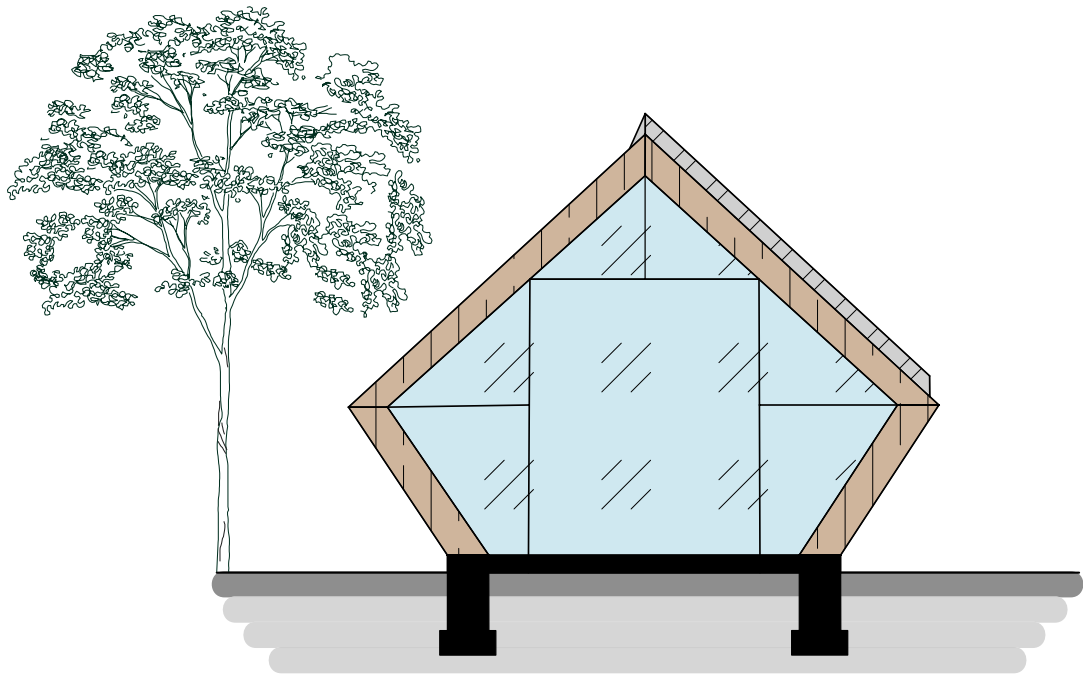


○ GROUND PLAN



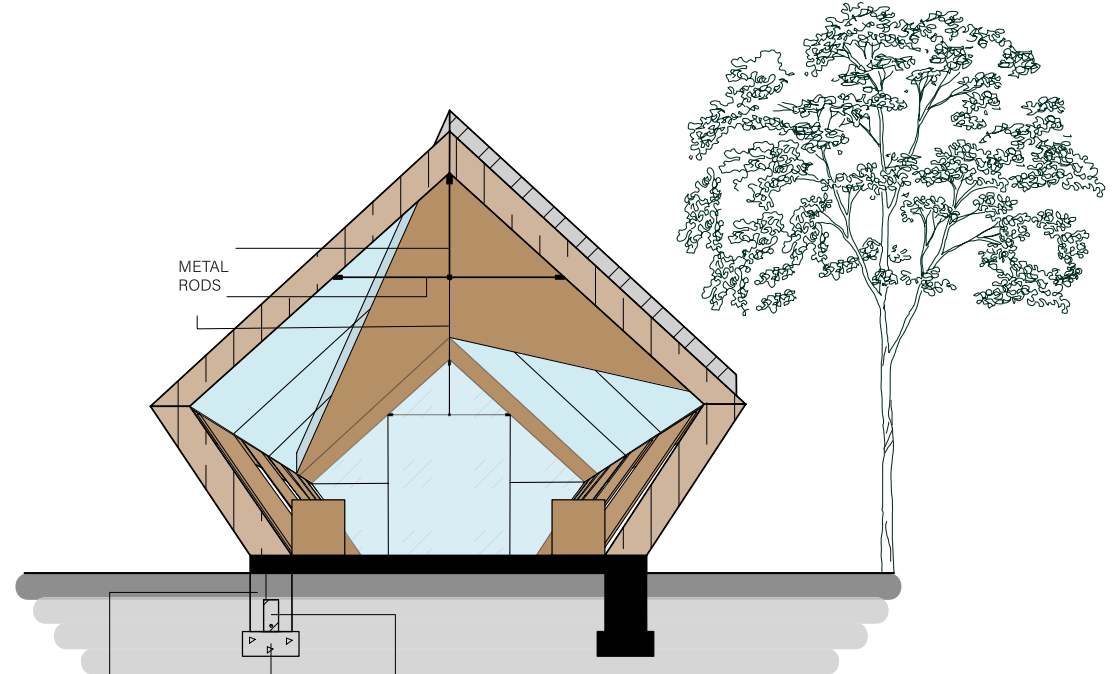
0 0.2 1 2m

○ ROOF PLAN



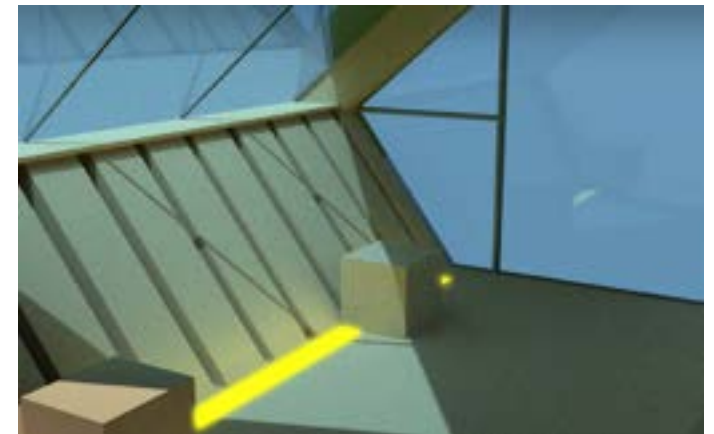
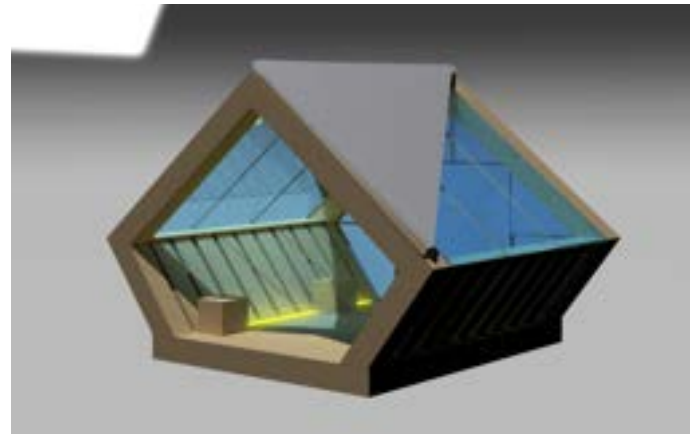
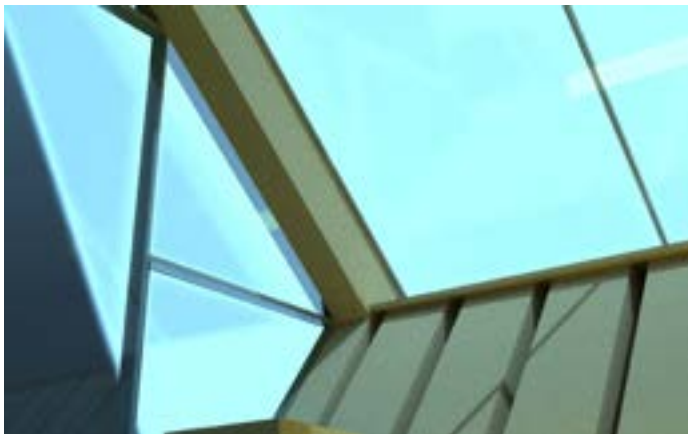
0 0.2 1 2m

○ WEST ELEVATION



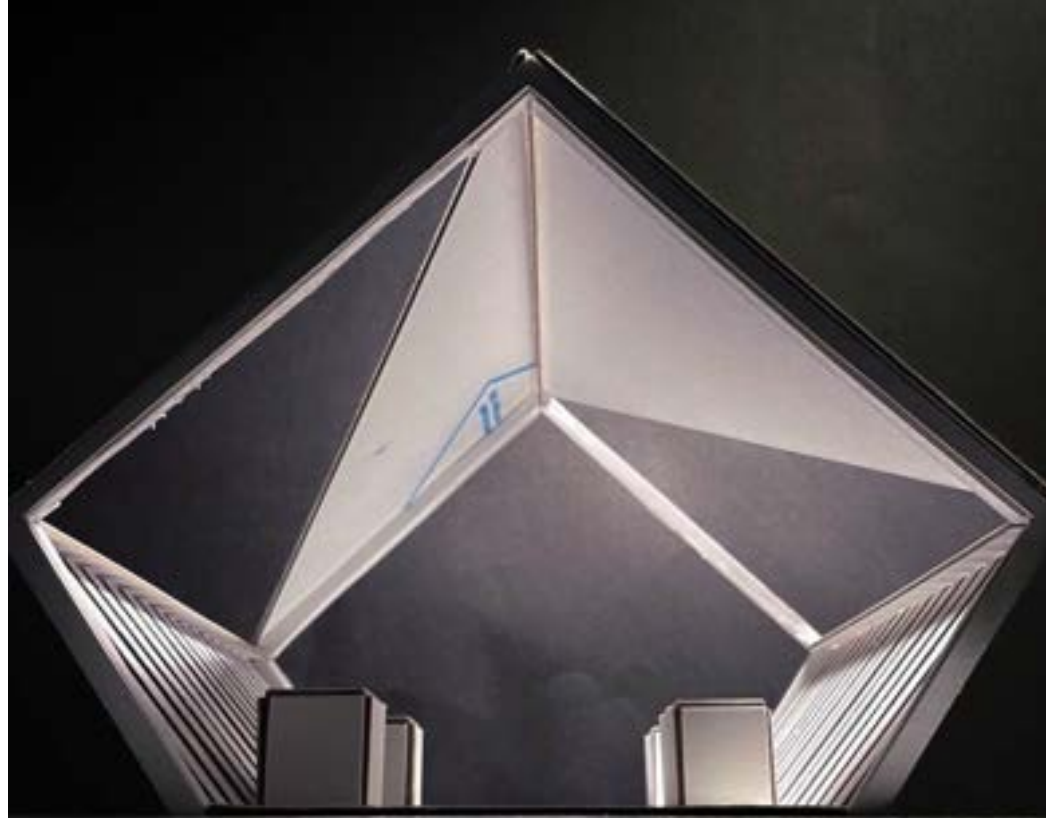
WOOD BEAM
STEEL BASE
CONCRETE FOOTING

○ EAST ELEVATION



DIVERSE HORIZONS

MODEL



06

STORMWATER MANAGEMENT HUB

STORMWATER-RESPONSIVE HUB TO MITIGATE URBAN FLOODING

CONTEXT: ACADEMIC | SEM 8 | UNDERGRADUATE THESIS (CURRENT)

DURATION: TWELVE WEEKS (INTERIM)

ROLE: INDIVIDUAL

LOCATION: EVERGREEN BRICK WORKS, 550 BAYVIEW AVE, TORONTO, ON
M4W 3X8

With the increase of urban flooding in Toronto's Don Valley Parkway (DVP) area, flood mitigation systems require a shift from reactive infrastructure to collection systems that are responsive to stormwater. When Evergreen Brick Works closed because of a flood in July of 2024, it became disadvantageous towards their local community, which is one of their highest values. This project introduces a **transformative cultural hub that promotes water stewardship education through live demonstration of stormwater management.**

The TD Future Cities Centre is the easternmost building of the Brick Works, and it is home to the old firing kilns. Evergreen currently uses it occasionally as an event space. This project is guided by the concepts: **transform**, **flow**, and **ripple**. Rather than concealing this collection process, the water is revealed in this project- recognizing it as an **active element of life**. Visitors are taken across the span of the building to learn about the entire process of collecting and treating stormwater which leads them back to the entrance, creating this seamless, *flow-like* navigation experience. Programs such as the open art gallery and mini theatre allow for community-engaging water education. The presence and absence of stormwater has the ability to transform this space from a stormwater collection hub to an **experiential intervention**- taking visitors on a storytelling experience of live flooding. This hub is meant to create a positive ripple to the rest of Toronto's flood management systems in totality.



TRANSFORM

A transformative cultural hub— one that functions without stormwater collection, and still operates while it's raining.

FLOW

Mimic the natural action of water flowing, to create a seamless navigation experience.

RIPPLE

To create a positive ripple to the rest of Toronto's stormwater management systems.



CONCEPT & ICON MODELS

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KLARA STEFANI JAVIER