

Primary Care Centre  
Inchicore

“To Touch the Earth Lightly”

Ryan Rafter - C18731475

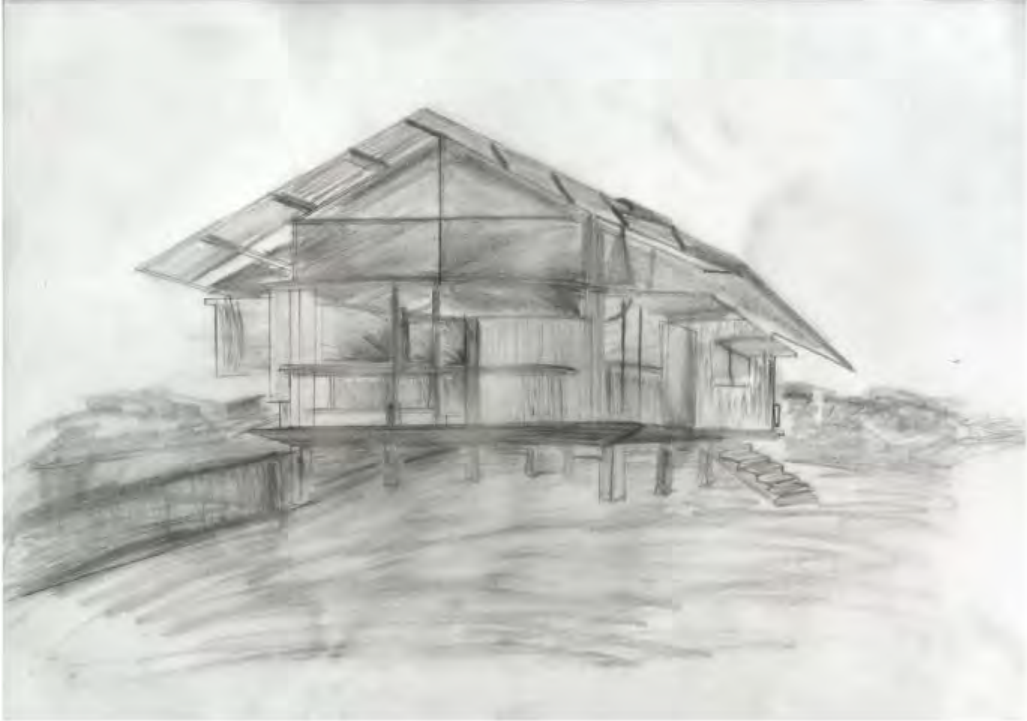


## “To Touch the Earth Lightly”

To Touch the Earth Lightly means to treat the land with grace and dignity, a simple concept that can be lost and forgotten in the construction of a building. To push forth this concept, structure and form must be considered together. A lightweight structure so as not to damage the land with heavy foundations, to minimise points of contact with the ground and allow the land to fall away from the building. Speaking on Glen Murcutt, the Pritzker jury described his work as a, “testament that aesthetics and ecology can work together to bring harmony to man’s intrusion in the environment”



## “To Touch the Earth Lightly”



Glenn Murcutt, lived by gracing the land with elegant buildings, undercrofts and open buildings to let nature be with building while harming it as little as possible

Sean O'Casey community centre sees a clever interaction between a high density high rise and intimate garden spaces



## “To Touch the Earth Lightly”

A reading from E.M. Forester's, 'A Room with a green view; says, "the emotional importance of the nature of the view from our windows is only now understood. Even though we won't stare out the window very long, the short periods of green & blue scenes make us feel good.

*Using this statement will greatly benefit the drive for the project, a corridor wrapping a green courtyard now has a purpose to serve more than just circulation, but to better the quality of life as you move throughout the building.*

## “To Touch the Earth Lightly”

A reading from Italo Calvino's, 'Six Memos for the Next Millennium' says, "the idea of the world as composed of weightless atoms is striking just because we know the weight of things so well. So, too we would be unable to appreciate the lightness of language if we could not appreciate language that has some weight to it" - "Lightness for me goes with precision and determination, not with vagueness and the hap-hazard. Paul Valéry said:(One should be light like a bird, and not liek a feather)."

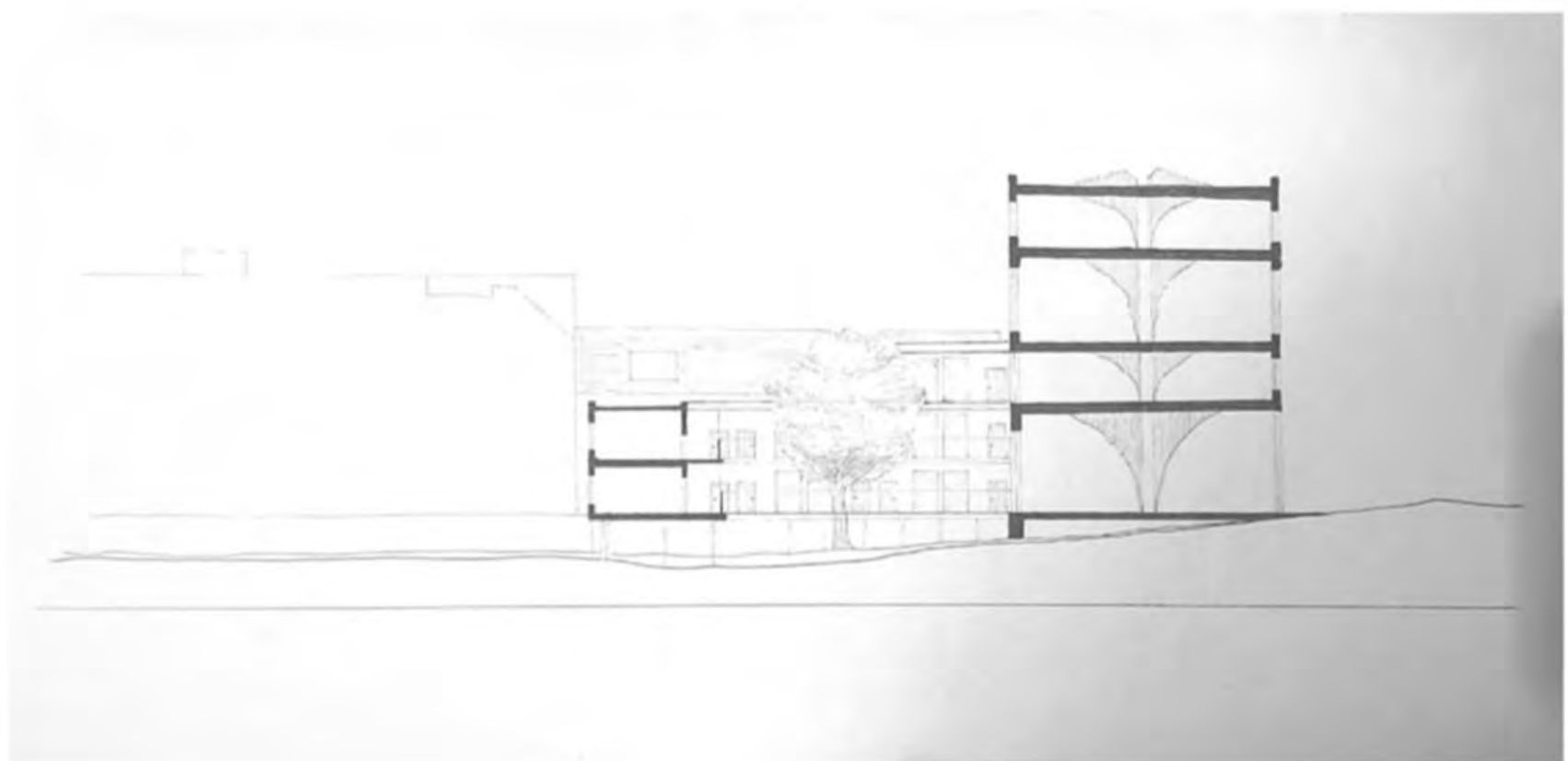
*This take on lightness translate very well to the structure of a building that means to touch the earth lightly, a support is there where it needs to be and not, 'just because'. This theory pushed the design further to understand what it means to be light.*



## “To Touch the Earth Lightly”



Drawings that quickly became the driver for the project, pushing for a light building that starts at 'one strong support'. I wanted to use this as a metaphor for the care centre itself, especially the mental health aspect to the brief, a space to feel safe and protected in.

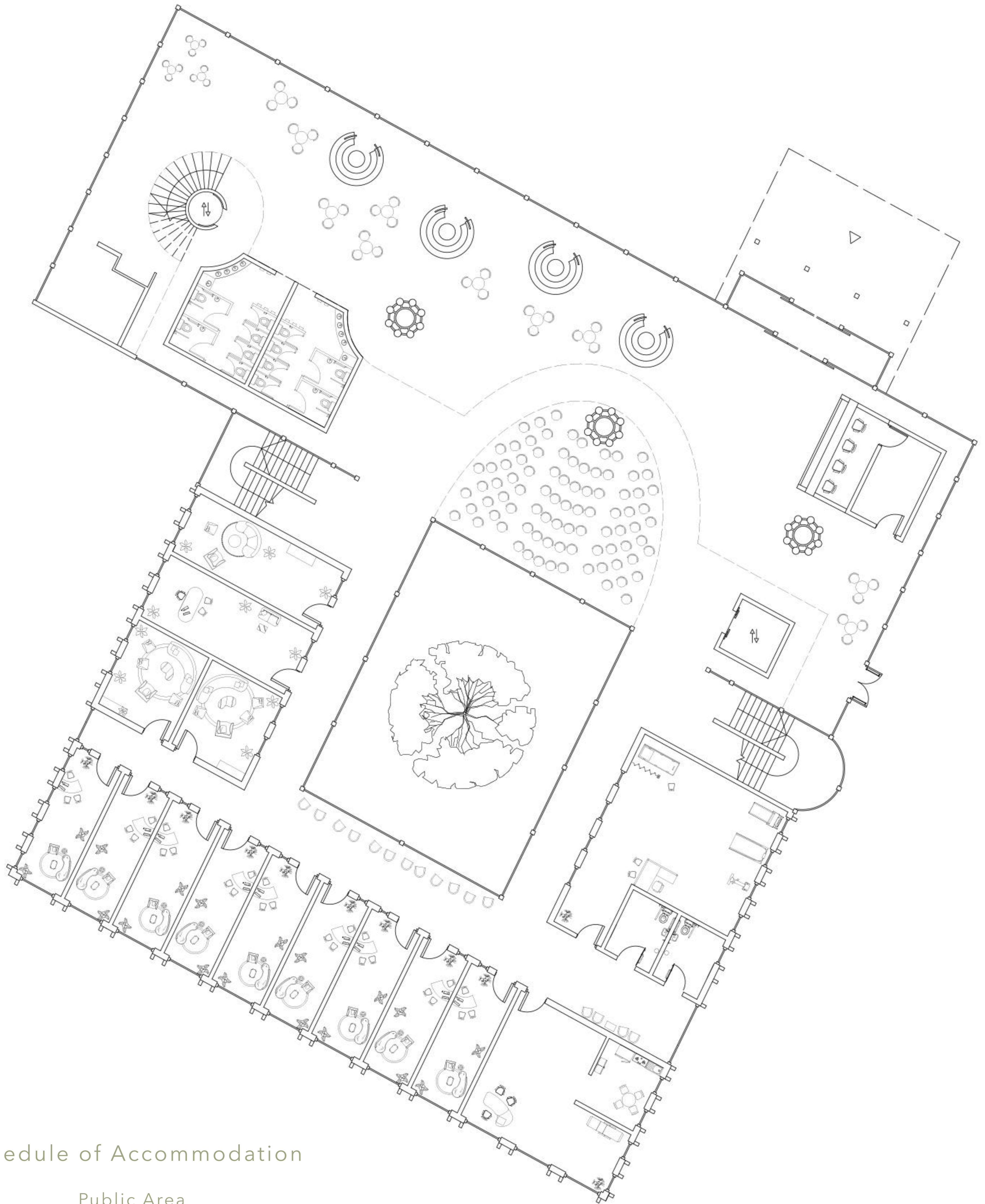


## “To Touch the Earth Lightly”

Finally, to look at Marcel Breuer and his invention of heavy lightness. Marcel evokes the thought of how could an architect who had made the purist of lightness the essence of his design aspirations become one of the great form-givers of the aesthetics of weightiness?



"To Touch the Earth Lightly"  
Ground Floor Plan 1:100



Schedule of Accommodation

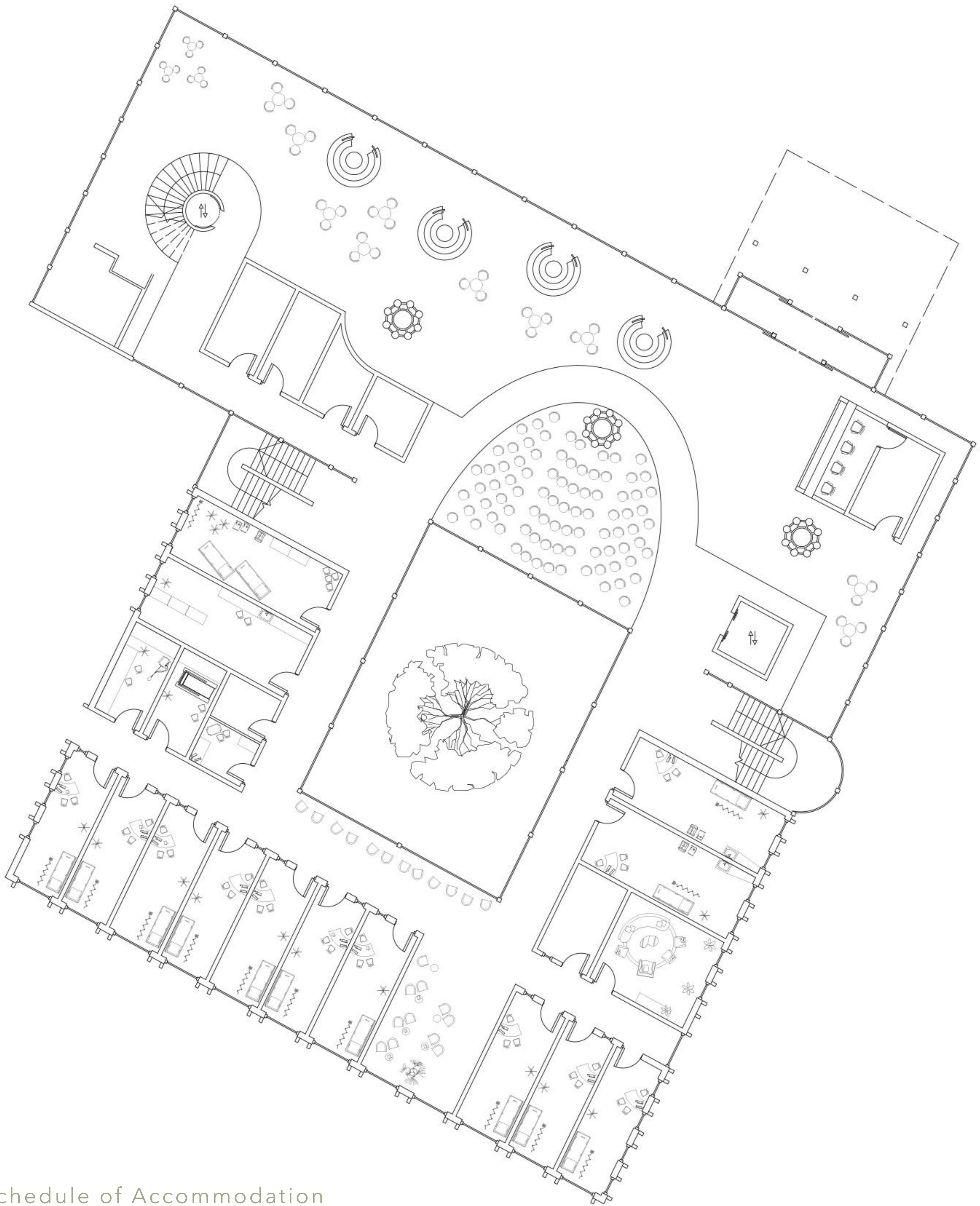
Public Area

Group 2 Treatment/Consulting Rooms



# "To Touch the Earth Lightly"

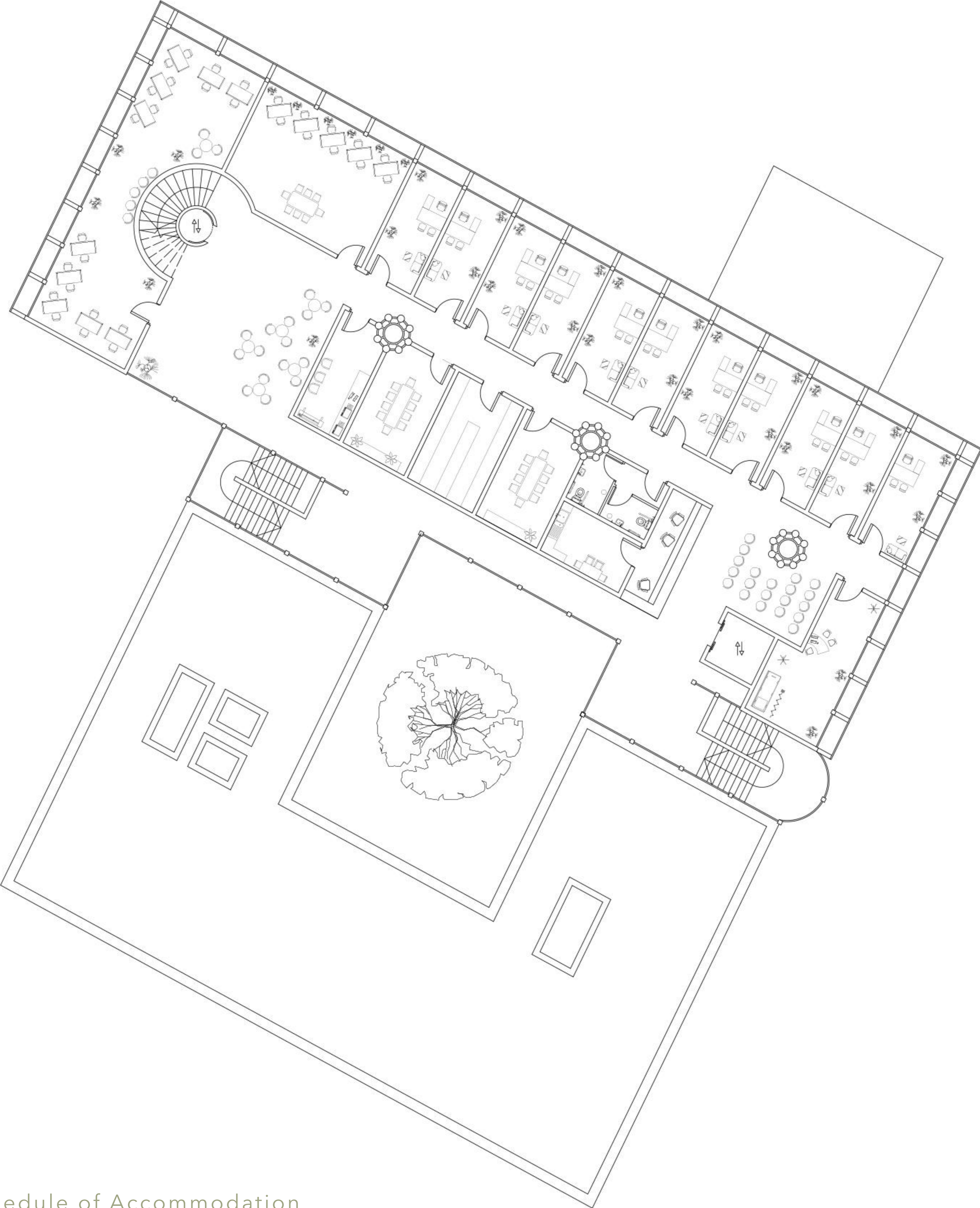
First Floor Plan 1:100



## Schedule of Accommodation

- Group 1 Treatment/Consulting Rooms
- Group 1 Support Rooms
- Group 2 Support Rooms
- Building Facilities

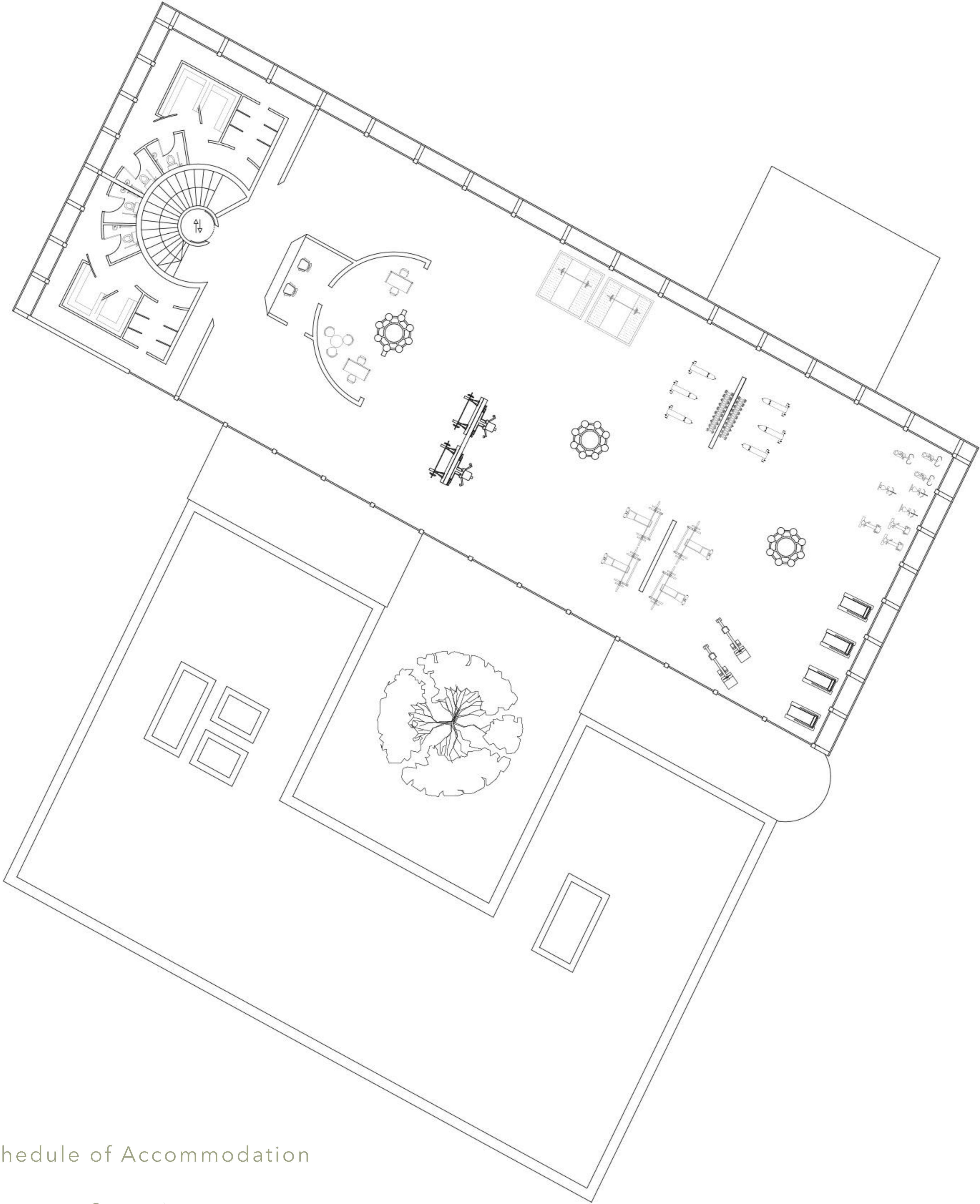
"To Touch the Earth Lightly"  
Second Floor Plan 1:100



Schedule of Accommodation

- Group 3 GP Facilities
- Administration
- Administration Support Rooms
- Staff Facilities

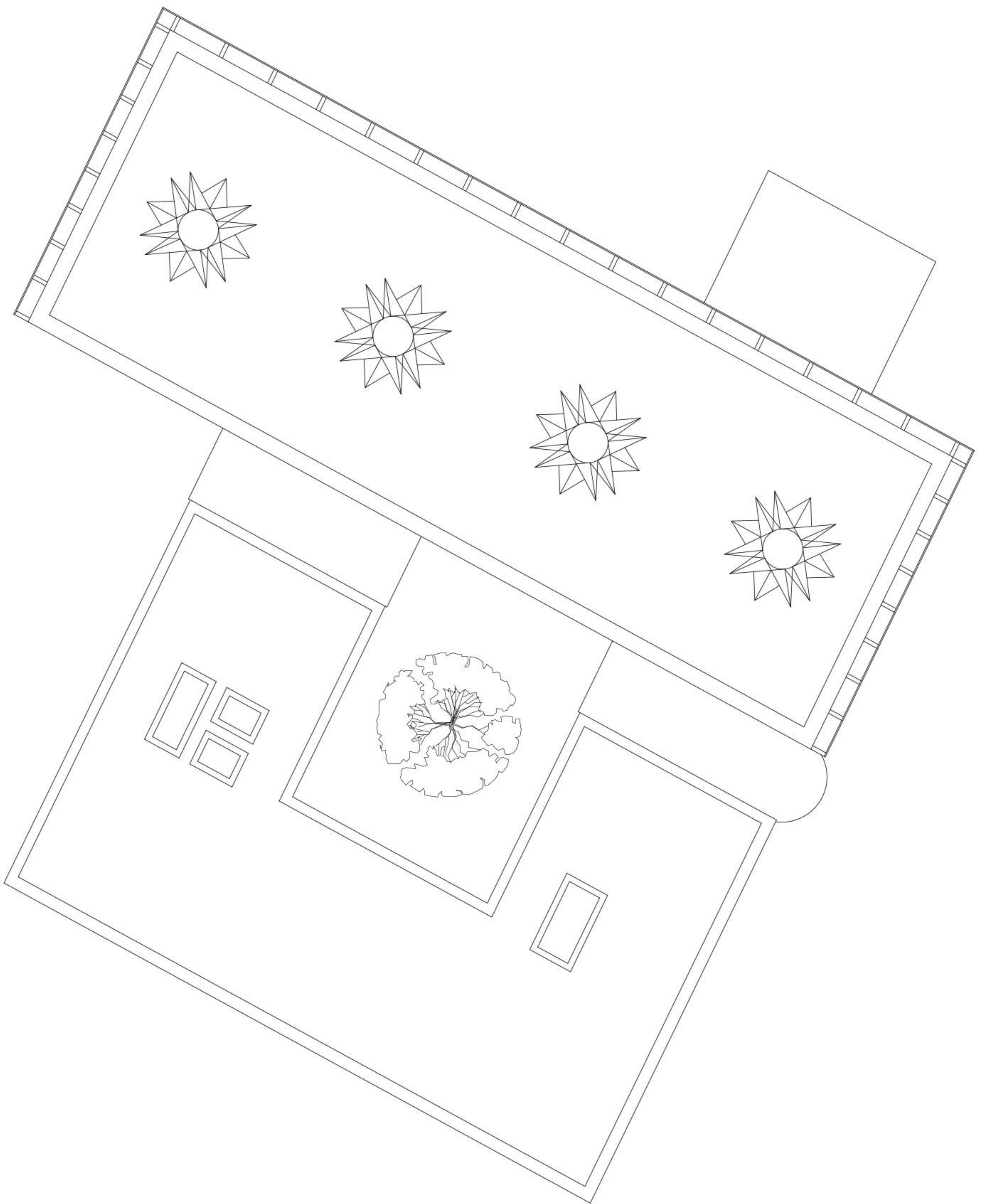
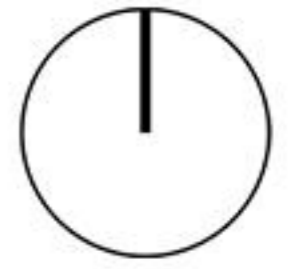
"To Touch the Earth Lightly"  
Third Floor Plan 1:100



Schedule of Accommodation

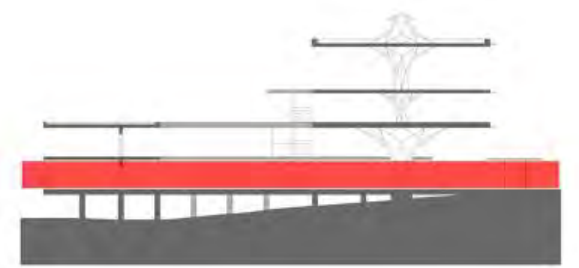
Gymnasium

"To Touch the Earth Lightly"  
Third Floor Plan 1:100



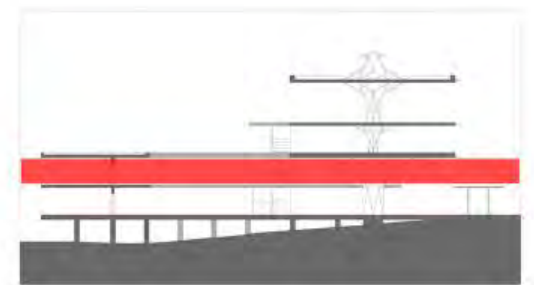
"To Touch the Earth  
Lightly"

Ground Floor Plan 1:500



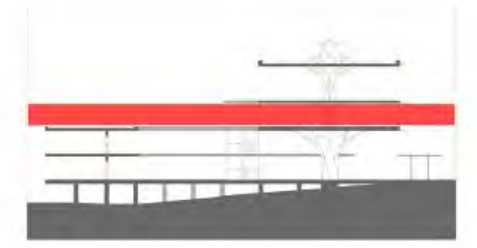
"To Touch the Earth  
Lightly"

First Floor Plan 1:500



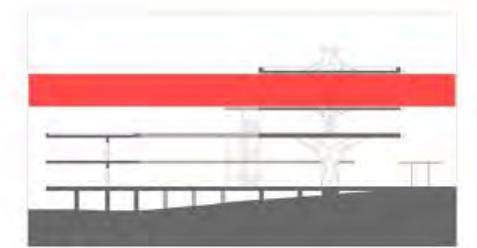
"To Touch the Earth  
Lightly"

Second Floor Plan 1:500



"To Touch the Earth  
Lightly"

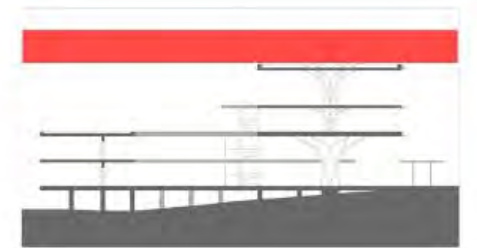
Third Floor Plan 1:500





"To Touch the Earth  
Lightly"

Roof Plan 1:500



# "To Touch the Earth Lightly"

North South Section Looking West

1:200



# "To Touch the Earth Lightly"

North South Elevation Looking West

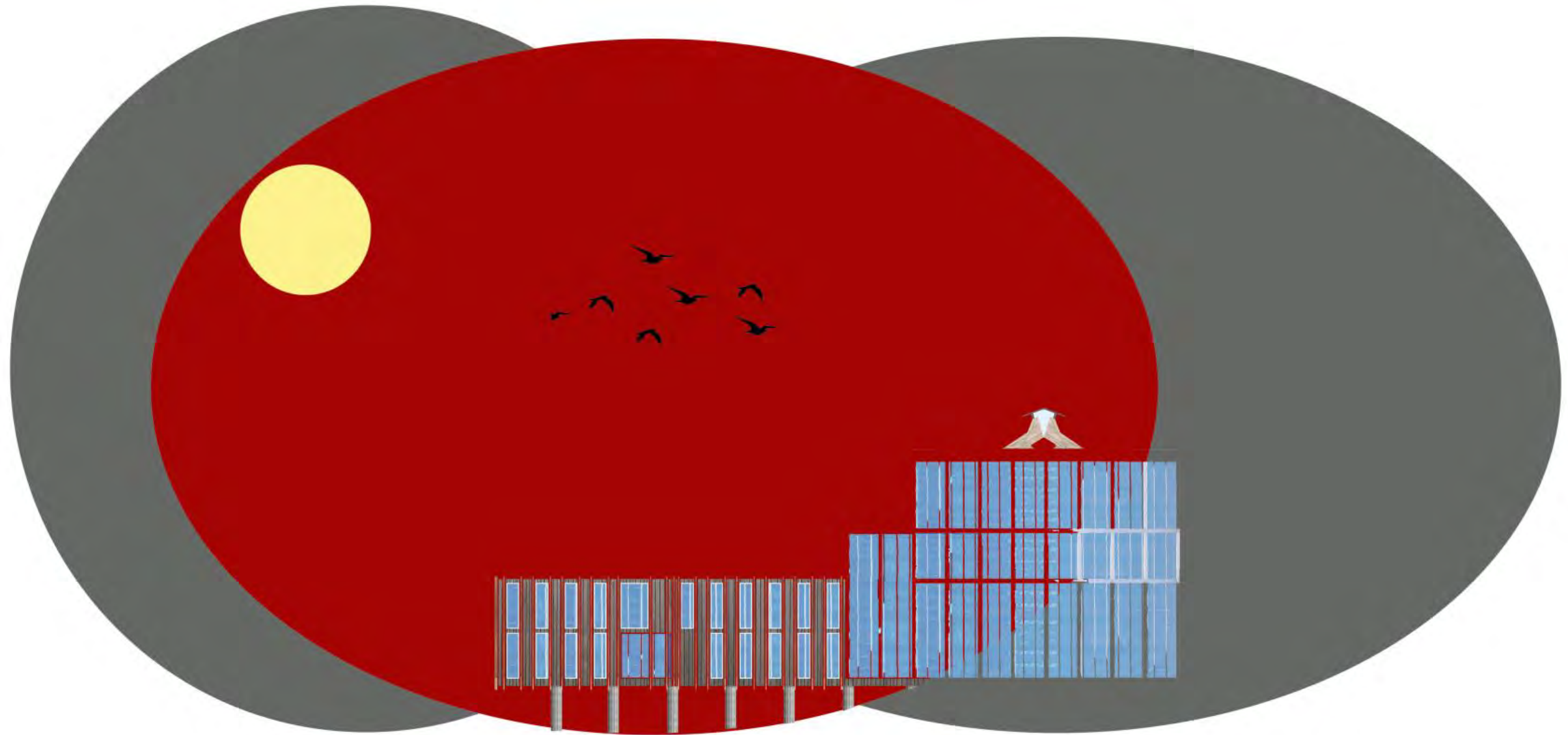
1:200



# "To Touch the Earth Lightly"

Materials Elevation

1:200



# Tracking an Environment Position

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Elevation Collage

# Site 03 Flora & Fauna Analysis

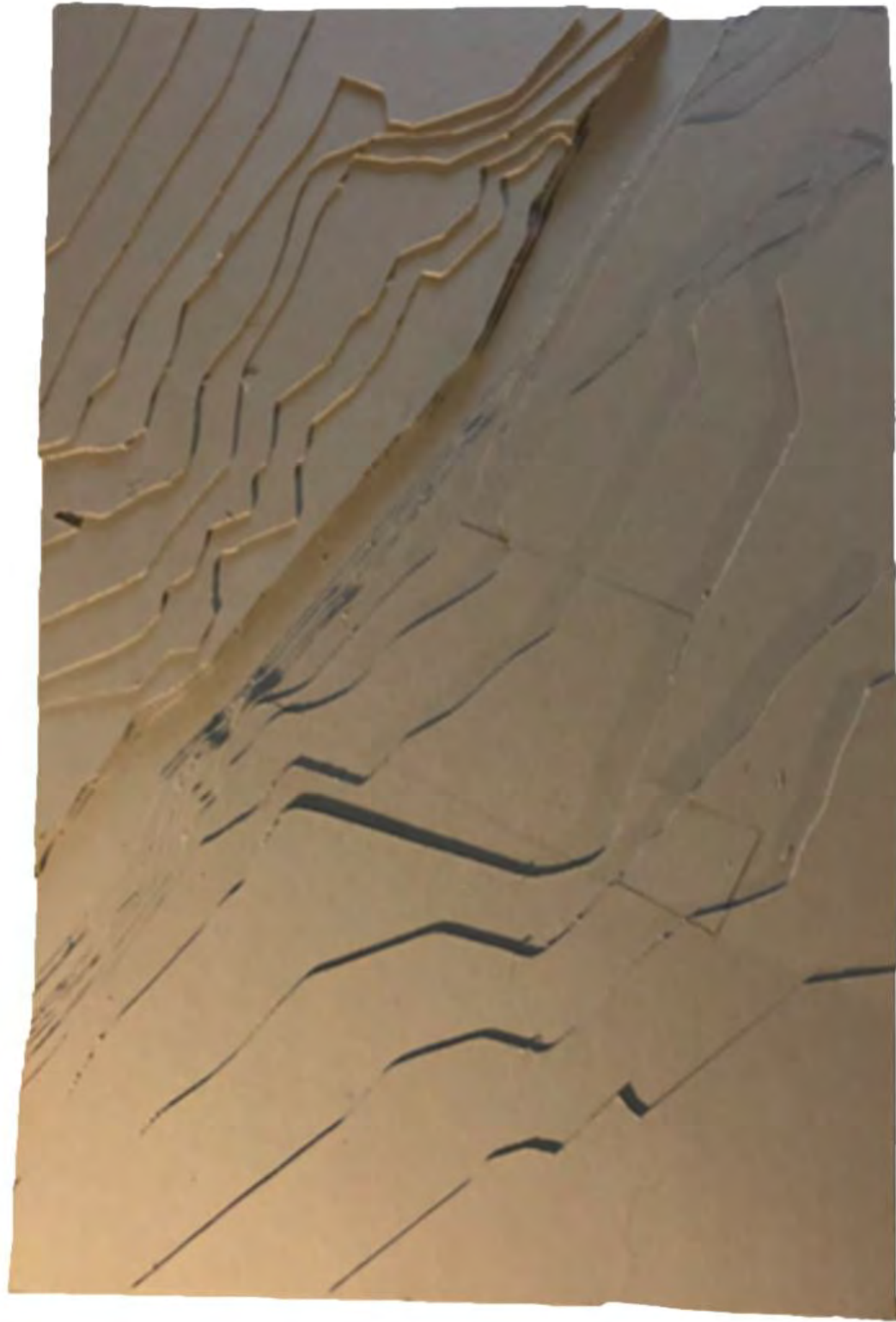


- Birds** 
- Common Blackbird
- Common Moorhen
- Great Black-backed Gull
- Herring Gull
- Lesser Black-backed Gull
- Mute Swan
- Peregrine Falcon
- Winter Wren
  
- Butterflies** 
- Common Blue
- Meadow Brown
- Orange-tip
- Painted Lady
- Peacock
- Ringlet
- Small White
- speckled wood
  
- Insects** 
- Blue-tailed Damselfly
- Common Darter
- Bombus lucorum agg
- Common Carder Bee
- Bumble Bee
- Red Tailed Bumble Bee
- Moss Carder-Bee
- Garden Bumble Bee
- Currant Clearwing
- Arthurdendylus triangulatus
  
- Mollusc** 
- Common Bithynia
- Horny Orb Mussel
- Keeled Ramshorn
- Rosy Pea Shell
- Shining Pea Mussel
- Wandering Snail

- Terrestrial Mammal** 
- Eurasian Badger
- Red Fox
  
- Amphibian**
- Common Frog
  
- Flowering Plant** 
- Alexanders
- Black Medick
- Chicory
- Common Fleabane
- Common Nettle
- Common Ragwort
- Common Reed
- Cowslip
- Dove's-foot Crane's-bill
- Glaucous Sedge
- Hoary Ragwort
- Indian Balsam
- Ivy-leaved Toadflax
- Japanese Knotweed
- Lamium Galeobdolon
- Redshank
- Nuttall's Waterweed
- Taraxacum
- Wild Cherry
  
- Protected Species** 
- Invasive Species** 
- Threatened Species** 

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# Flora & Fauna Analysis



1:250 Topography Model







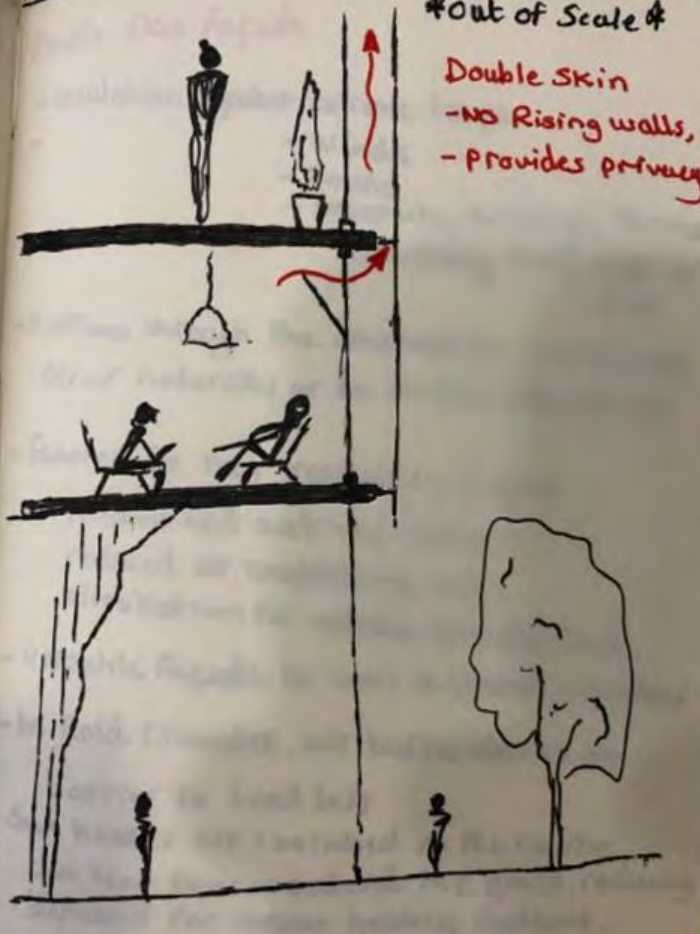
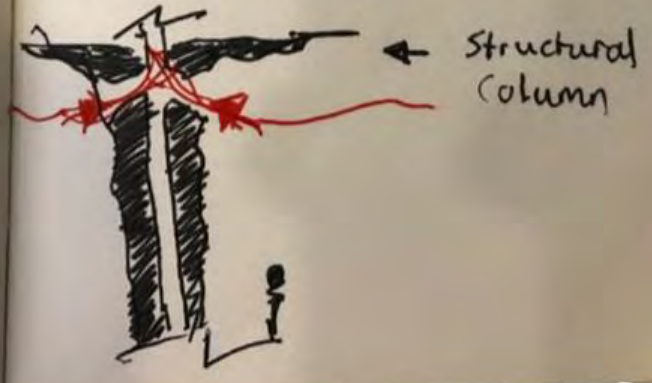
Building Model



Ventilation.  
Cross ventilation from South Westerly Prevailing Winds sweep through the dual aspect rooms, ridding of dirty, stale warm air and replacing it with clean, fresh, cool air.  
Courtyard space helps drive current of air up along the building.



Structural Timber/columns trunks Provide Ventilation & extraction of stale air, large columns act very well as extractor fans.



\*Out of Scale\*  
Double Skin  
- No Rising walls,  
- provides privacy

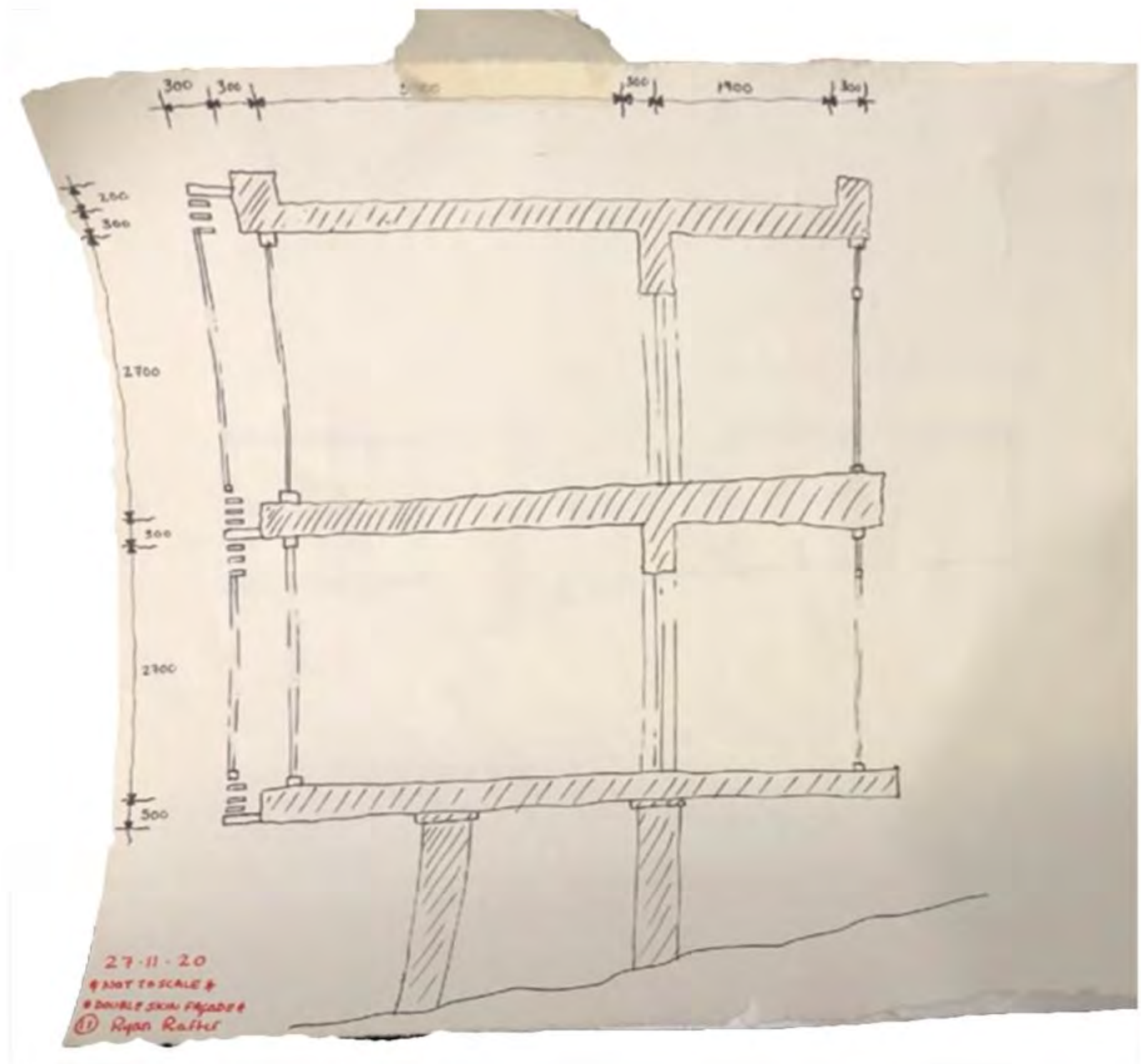
Initial Sketches

Design

26.11

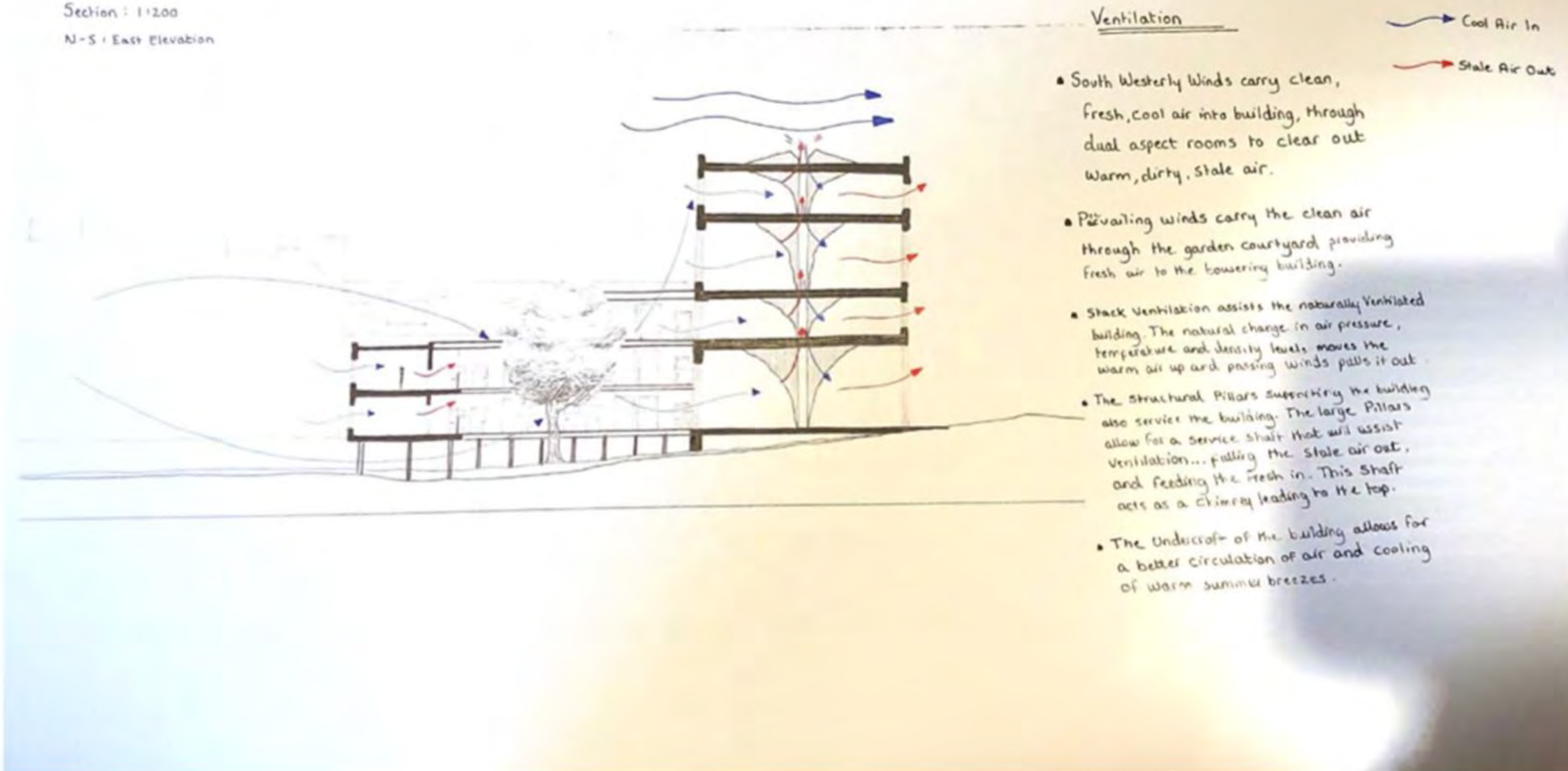
### Double Skin Façade

- insulation against extreme temps
  - winds
  - sound
  - Improving buildings thermal efficiency both high & low
- Airflow through the intermediate cavity can occur naturally or be mechanically driven.
- favored for their transparent façade, thermal and auditory comfort
  - reduced air conditioning costs
  - elimination for window specific tech.
- versatile façade to cool & warm weather
- In cold climates, air buffer works as barrier to heat loss
  - sun heater air contained in the cavity can heat spaces outside the glass, reducing demand for indoor heating systems.



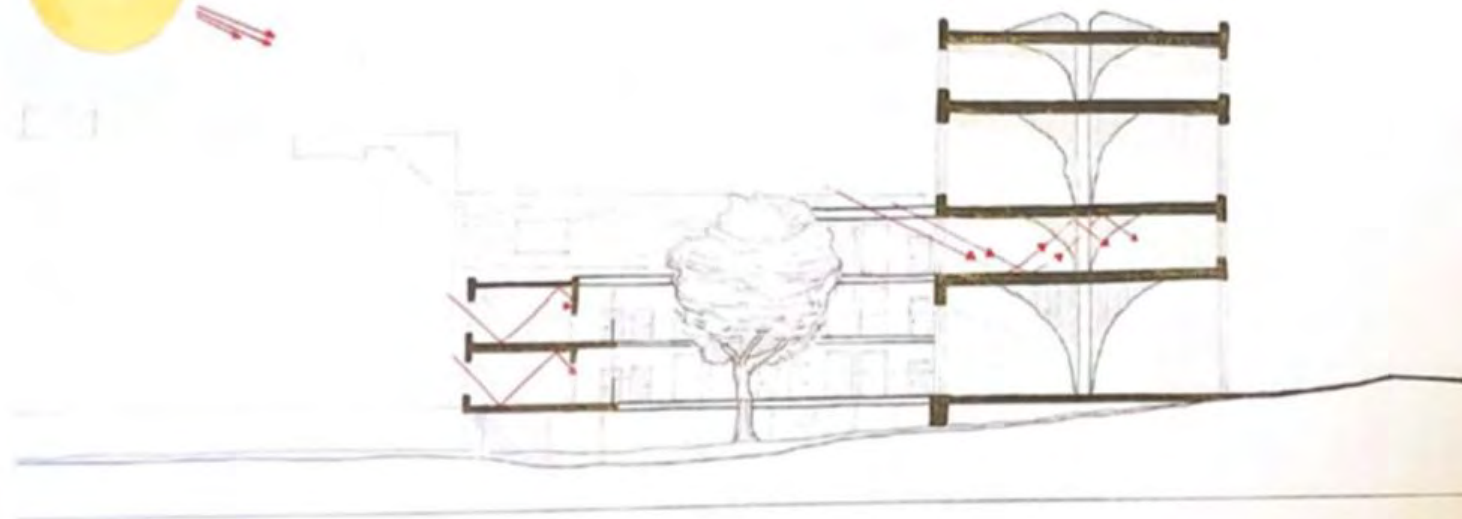
Initial Sketches

Inchicore Medical Centre,  
15 Grattan Cres,  
Inchicore,  
Dublin 8.  
53° 20' 25.1" N 6° 19' 12.4" W  
Section: 1:200  
N-S: East Elevation



Air Scheme Draft

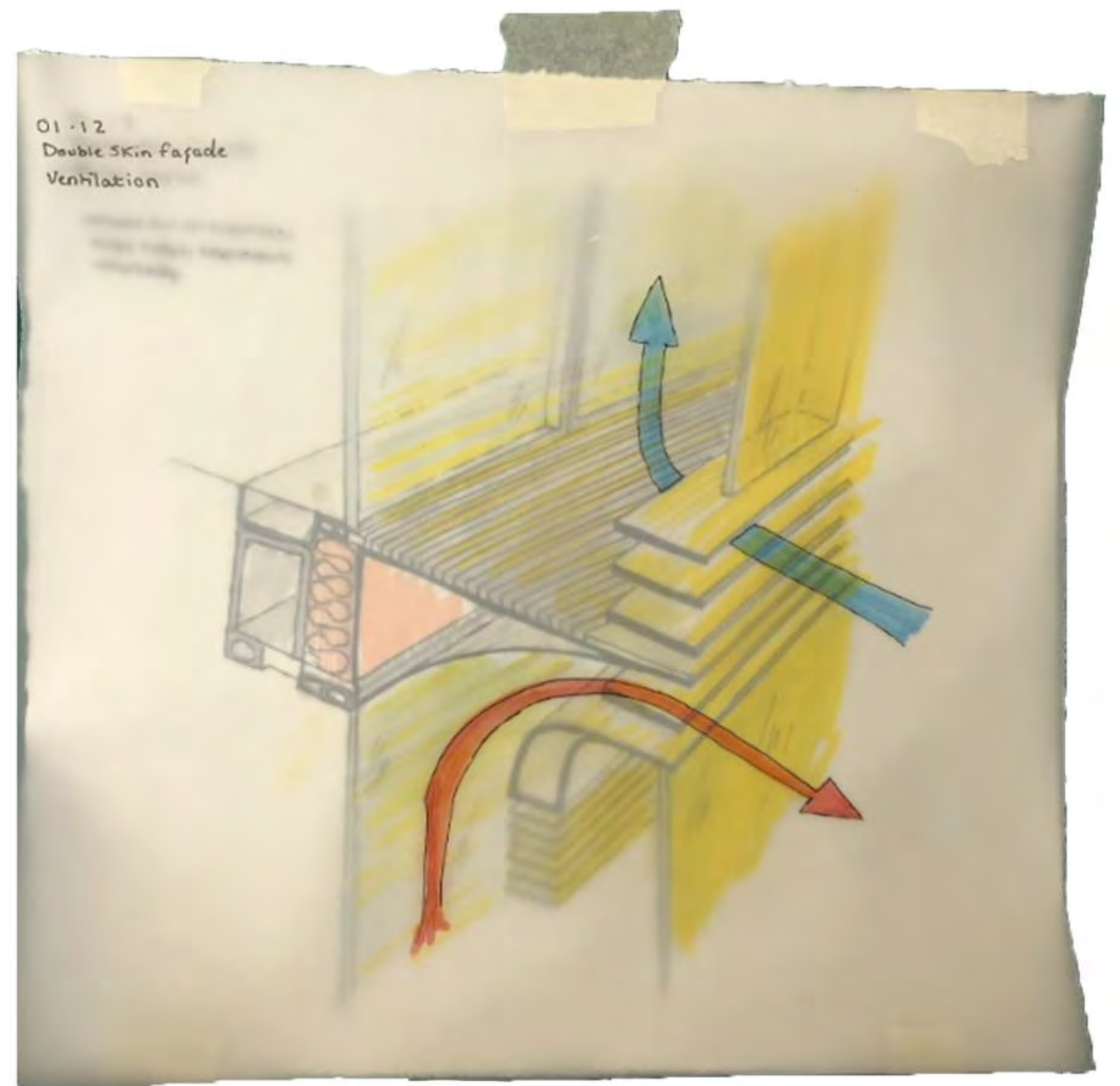
Inchicore Medical Centre,  
15 Grattan Cres,  
Inchicore,  
Dublin 8.  
53° 20' 25.1" N 6° 19' 12.4" W  
Section 1:200  
N-S: East Elevation



### Light

- South facing light well soaks the sun up.
- Large south facing facade of large building bounces light back into courtyard garden, providing a bright & vibrant space for flora & fauna to thrive in.

Light Scheme Draft



Double Skin Facade



Sun Path Site Plan

# Light

A south facing Care Centre, with a large courtyard to soak up the shining sun. Glass facades welcome the warmth and invite reflection to bounce and fill the rooms with light.

Inchicore Medical Centre,  
15 Grattan Cres,  
Inchicore,  
Dublin 8  
53°20'25.1" N 6°19'12.4" W



South facing rooms make use of the light throughout the day, with direct light and reflected light bouncing through the rooms.

Slender windows in the therapy rooms open to the corridor to allow for cross ventilation as well as a view to the garden to offer optional views.

Light fills the courtyard throughout the day with direct sunlight and reflection from the glazed facades ensures a bright space all day.

Every Room in the building receives direct sunlight to ensure a better quality of life for the patient and the doctor or nurse who will spend most of their time there.

The south facing facade on the left sees 67% of its facade glazed. Large windows open out to the green view and midday sun.

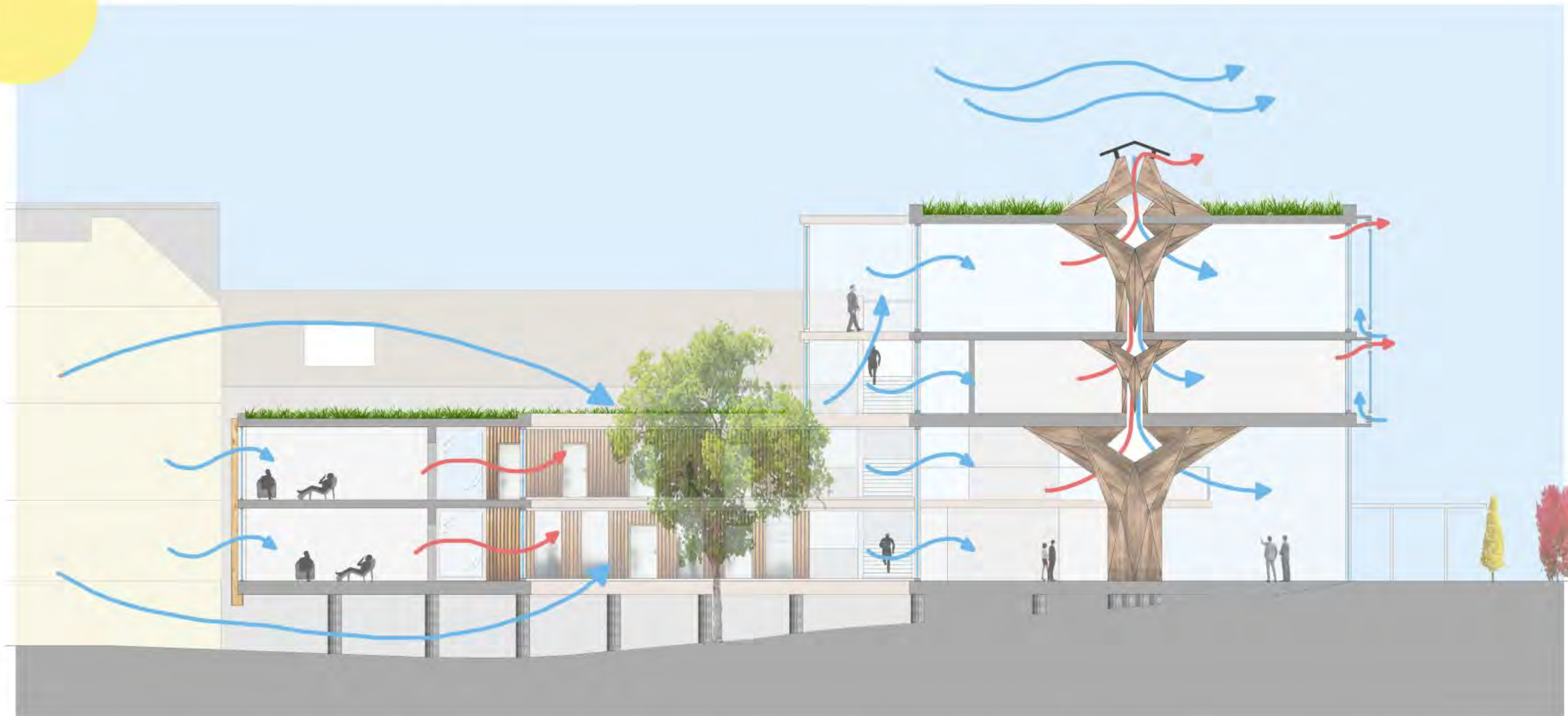
## Light Strategy



# Air

A Naturally Ventilated Care Centre with Dual aspect rooms to make use of cross-ventilation. A central structural column aids servicing, allowing stack ventilation to occur.

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ESM



The building makes use of the sites orientation, with a south-westerly wind channel allowing the prevailing winds to provide the natural ventilation it needs to breath.

Dual aspect rooms ensure bright, well ventilated rooms all day. Important therapy rooms see views of the garden and park along the Camac river.

The undercroft allows a channel for ventilation and fresh air to run through the garden and ensure clean air is provided to the care centre.

Stack Ventilation assists the naturally ventilated building. The natural change in air pressure, temperature and density levels moves the warm air up and passing winds pulls it out

The structural columns supporting the building also serve the building, allowing for a service shaft that assists the ventilation, pulling the warm stale air out, and feeding the cool fresh air in.

The blue arrows represent the cool, clean, fresh air that the prevailing winds carry in while the red represents the warm, dirty, stale air thats naturally pulled out of the building.

A double skinned facade aids with ventilation as well as heat extraction during the cooling period, solar shading devices are placed inside the cavity.

## Air Strategy

# Water

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A breathing building that uses structure and natural landscape to store and re-use rainwater. A green roof that helps purify water as it passes through the layers.



A Rainwater harvesting system located under the main structural column allows for the service shaft to carry rain water down through the building, bringing another element of function to the columns.

Another Water storage tank at the lowest elevation of the site uses the sites topography and natural fall to capture water for re-use later in the building.

The Green roof of the building aids in filtering the water before it enters the system, allowing for clean water to be reused for waste systems.

The water storage tanks work together in order to ensure in extreme cases like a storm that they can overflow to each other to avoid flooding of the systems or even breaking them.

Green Roof area = 1,002.09m<sup>2</sup>  
Average annual rainfall of 750ml - 1000ml in Dublin.  
 $1,002.09 \times 750 = 751,567.50L$  of rainfall on my building annually. Monthly average is 62,630.63L

## Water Strategy

## “To Touch the Earth Lightly”

The exploration of a topic such as this proved to be difficult, there were many deadends met and other issues such as if a building like this could work in the Irish climate. Murcutt famously only worked in Australia and he mastered his craft there so to translate a scheme like that to a new environment can be challenging.

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