

# **DESIGN FOR THE SENSES**

**SEVAK ARAMJAN**

# THE START

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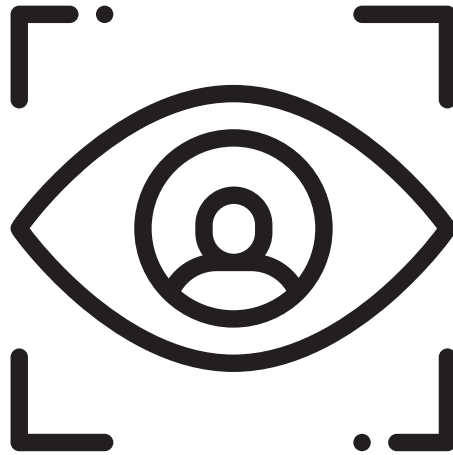
# TOPAZ ZUYDTWIJCK

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# VISUAL ANTHROPOLOGY

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# INTERVIEWS & LITERATURE

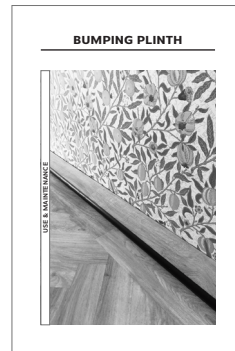
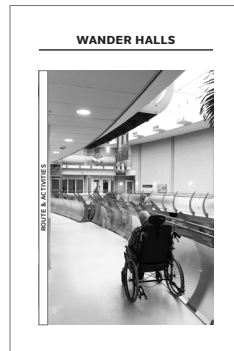
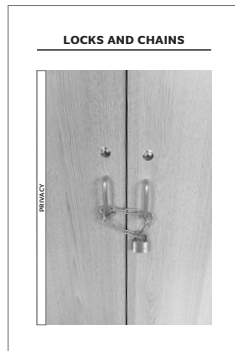
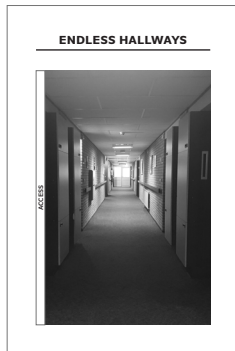
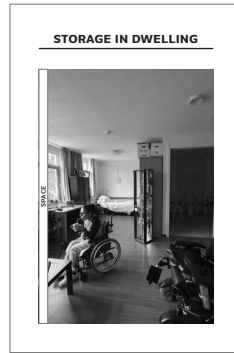
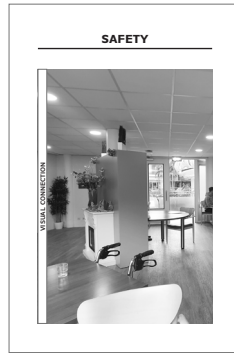
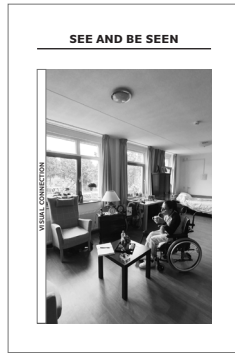
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1. The anthropological research during my fieldwork
2. Interviews conducted with the psychologist and the mental caregiver of the elderly, the specialist geriatric medicine, the nurses, and family and friends.
3. Theoretical research, that complements the anthropological research and the results of the taken interviews
4. Excursions to different care homes
5. Lectures and discussions with Henri Snel, founder of Alzheimer and Architecture
6. Visiting elderly and documenting a day in their life and walking around the faculty as "elderly".



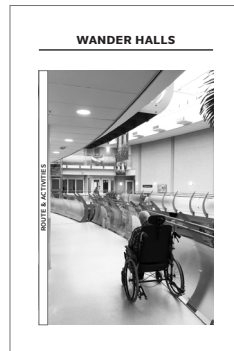
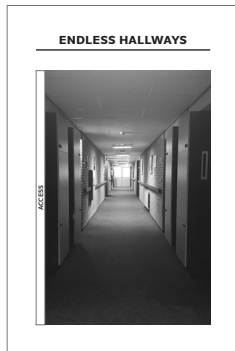
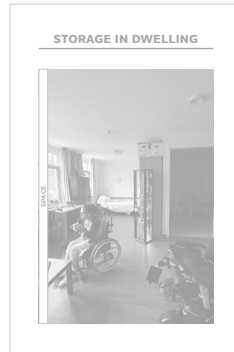
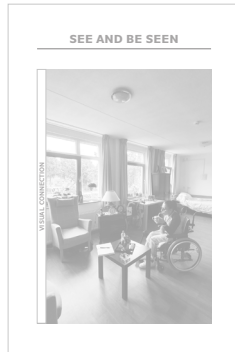
# FIELD RESEARCH BOOKLETS

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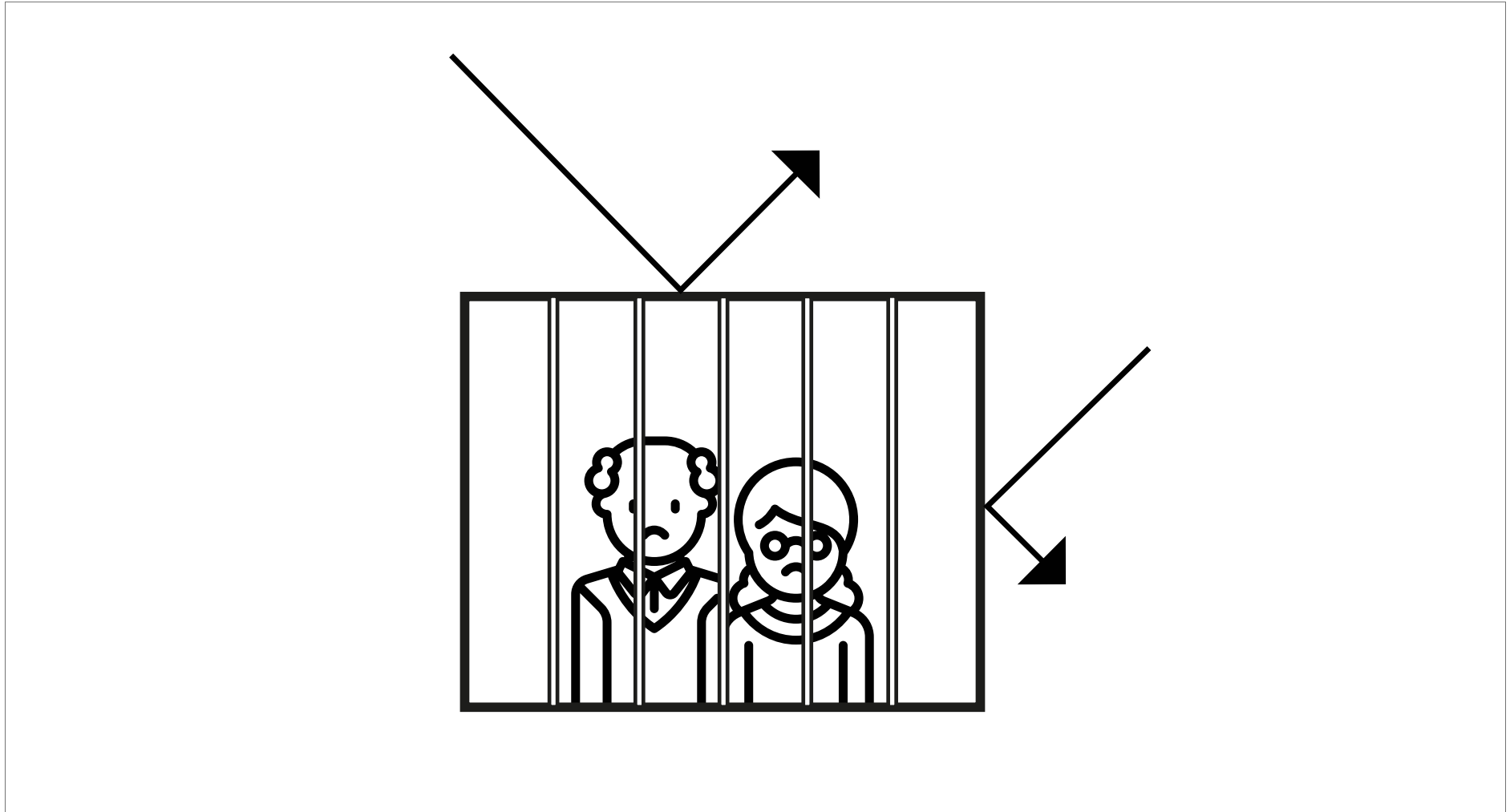
# HIGHLIGHT

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# NOTHING GETS IN OR OUT

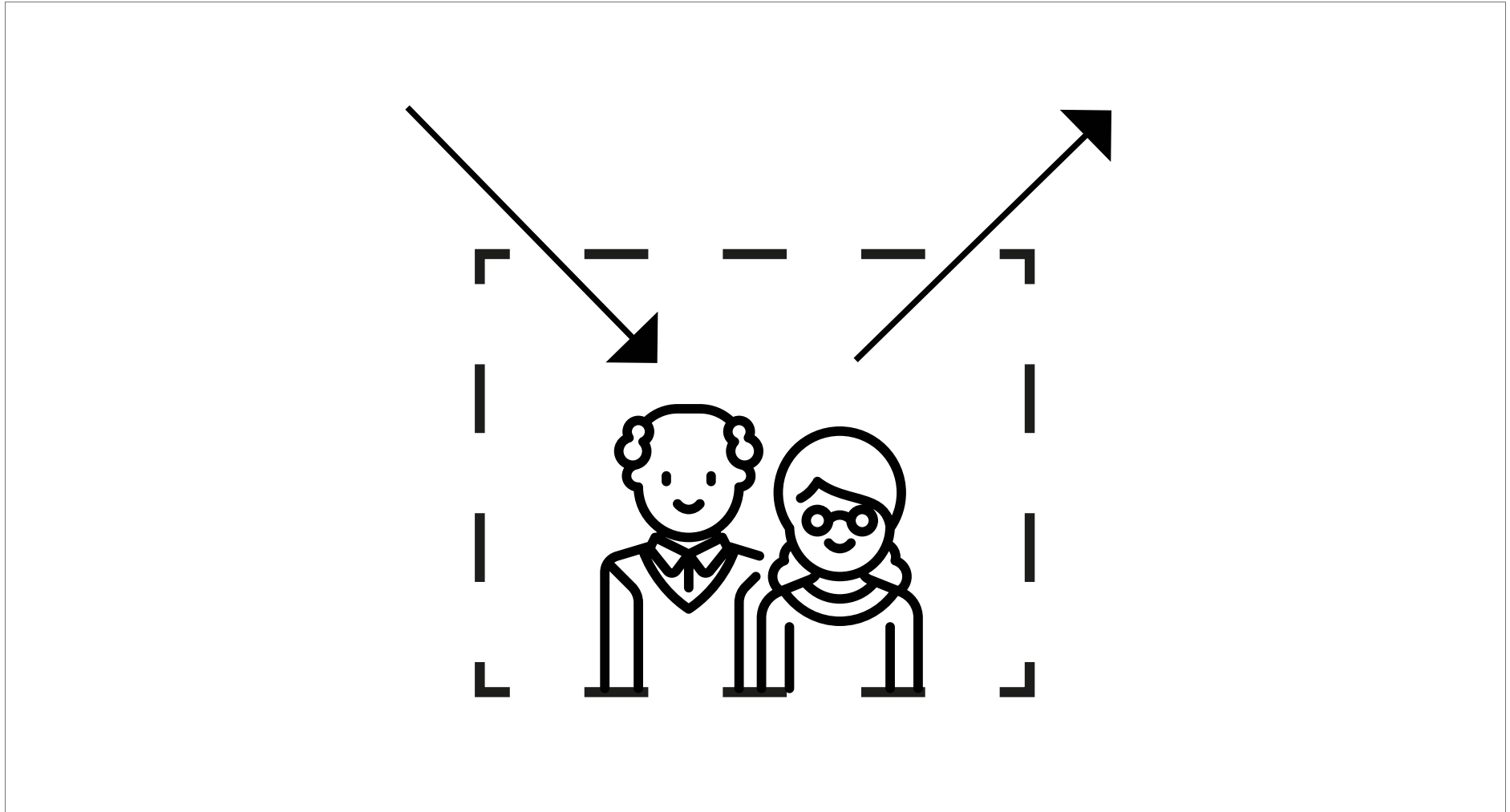
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# PROVIDING POSSIBILITIES

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# AGING POPULATION

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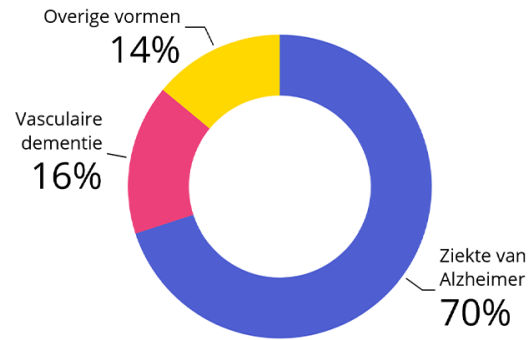
According to the CBS Population Forecast, the number of people over 65 will increase from 2.7 million people in 2012 to 4.7 million in 2041.

[www.zorgvoorbeter.nl](http://www.zorgvoorbeter.nl)

The number of people with dementia has increased fivefold due to the aging population. From 50.000 in 1950 to over 280.000 now. The numbers will double to more than half a million in the next 25 years. In 2040 there will be 520.000 people with dementia.

[www.alzheimer-nederland.nl](http://www.alzheimer-nederland.nl)

# FACTSHEET - ALZHEIMER-NEDERLAND.NL



8  
jaar

1. Dementie
2. Hartfalen
3. Longkanker

De meest voorkomende vorm van dementie is de ziekte van Alzheimer (70%).

Mensen met dementie leven gemiddeld 8 jaar met de ziekte.

Dementie is de snelst groeiende doodsoorzaak in Nederland, volgens CBS.

## Aantallen

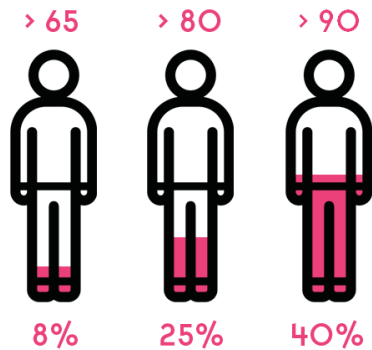
Het aantal mensen met dementie is door de vergrijzing vervijfvoudigd. Van 50.000 in 1950 tot ruim 280.000 nu. Het aantal zal de komende 25 jaar verdubbelen tot meer dan een half miljoen.

[www.alzheimer-nederland.nl](http://www.alzheimer-nederland.nl)

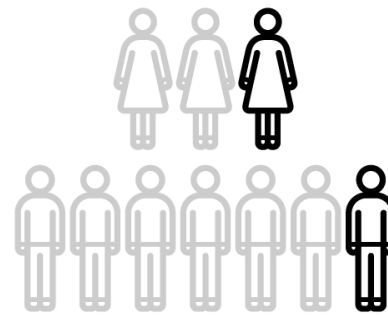




# FACTSHEET - ALZHEIMER-NEDERLAND.NL



De kans op dementie neemt sterk toe met de leeftijd. Toch zijn er 12.000 mensen met dementie jonger dan 65 jaar.



1 op de 3 vrouwen krijgt dementie. Bij mannen is dit 1 op 7.

**5**  
mensen/uur

Er komen in Nederland ieder uur 5 mensen met dementie bij.

## Impact op de patiënt

Dementie is volgens artsen en onderzoekers de volksziekte met de hoogste ziektelast voor de patiënt.

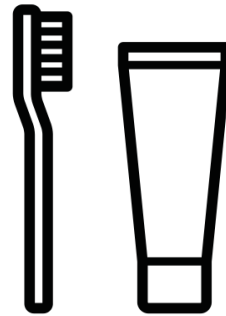


# FACTSHEET - ALZHEIMER-NEDERLAND.NL

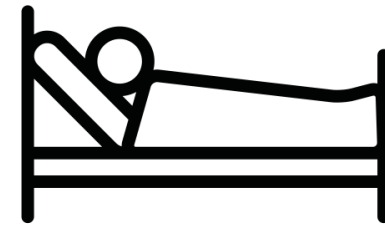
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14  
maanden

Erkenning duurt lang. Het duurt gemiddeld 14 maanden voordat de diagnose wordt gesteld.



Mensen met dementie kunnen dagelijkse handelingen steeds minder goed uitvoeren.

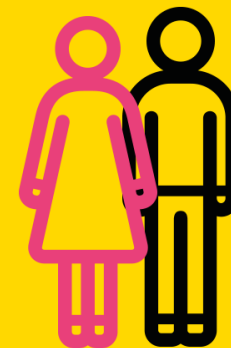


Uiteindelijk wordt een groot deel van de patiënten bedlegerig.

## Impact op mantelzorgers

Er zijn 350.000 mensen die zorgen voor iemand met dementie die thuis woont. De helft combineert de mantelzorg met een baan en/of de zorg voor kinderen.

[www.alzheimer-nederland.nl](http://www.alzheimer-nederland.nl)



# RESEARCH QUESTION

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**How can the architecture of housing provide possibilities to trigger the senses of the elderly in their everyday life?**

**Hoe kan architectuur mogelijkheden bieden om de zintuigen van mensen met dementie te prikkelen in hun dagelijks leven?**



# FOR WHO IS THE DESIGN?

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Healthcare priority package (zzp) 3 to 5 plus 7.

**ZZP 3 VG:** live with guidance and care (elderly that need homecare)

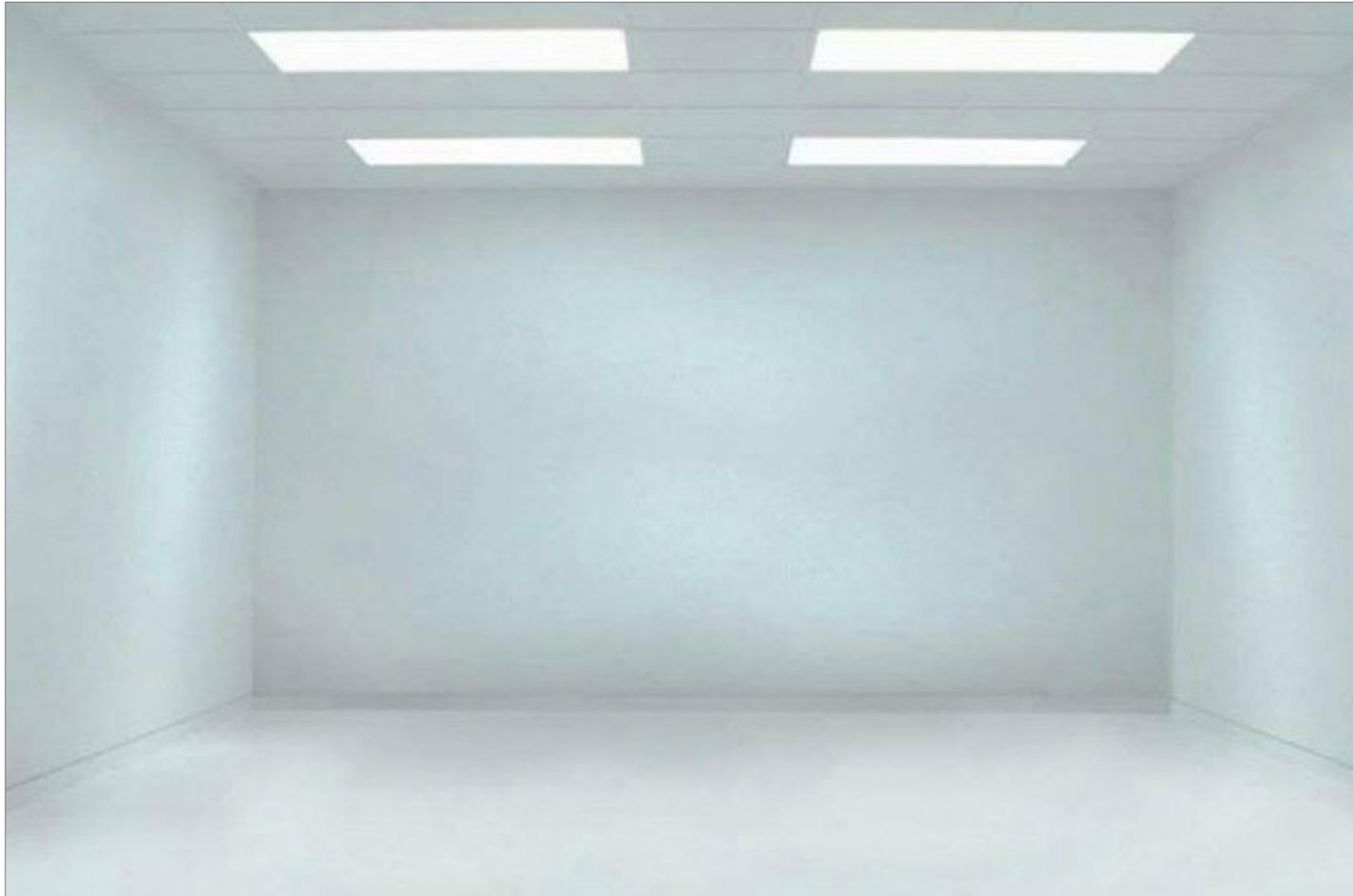
**ZZP 4 VG:** Living with intensive guidance and comprehensive care (elderly that need homecare)

**ZZP 5 VG:** Protected living with intensive dementia care.

**ZZP 7 VG:** Protected living with very intensive guidance, care and behavioral regulation.

# WHY ARE THE SENSES IMPROTANT?

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# SENSORY DEPRIVATION

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**Sensory deprivation or perceptual isolation is the deliberate reduction or removal of stimuli from one or more of the senses.**

# SENSORY DEPRIVATION

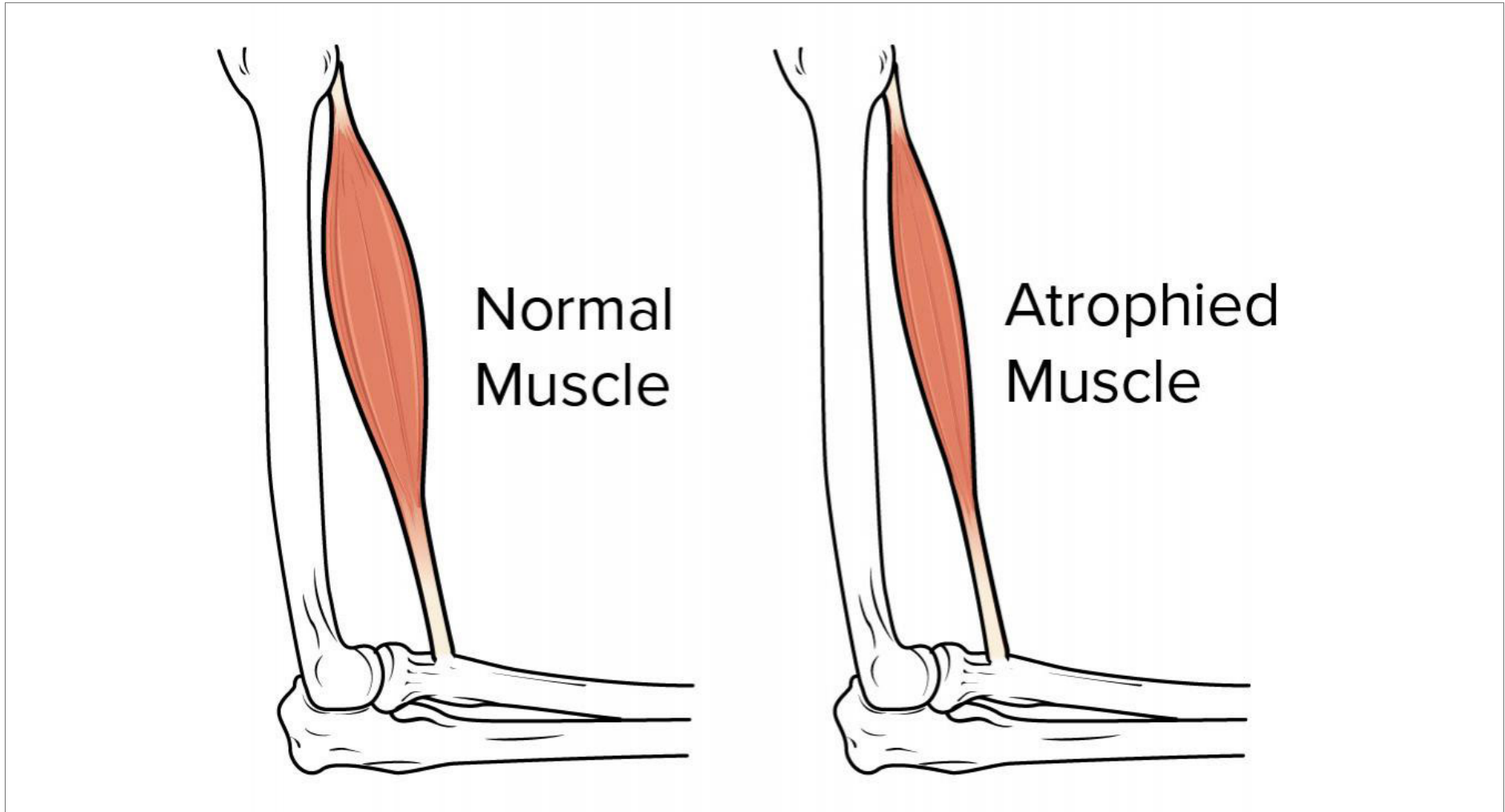
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**Sensory deprivation is as bad for your brain as the lack of stimulation is to your muscles.**

**Atrophy: (of a part of the body) to be reduced in size and therefore strength, or, more generally, to become weaker.**

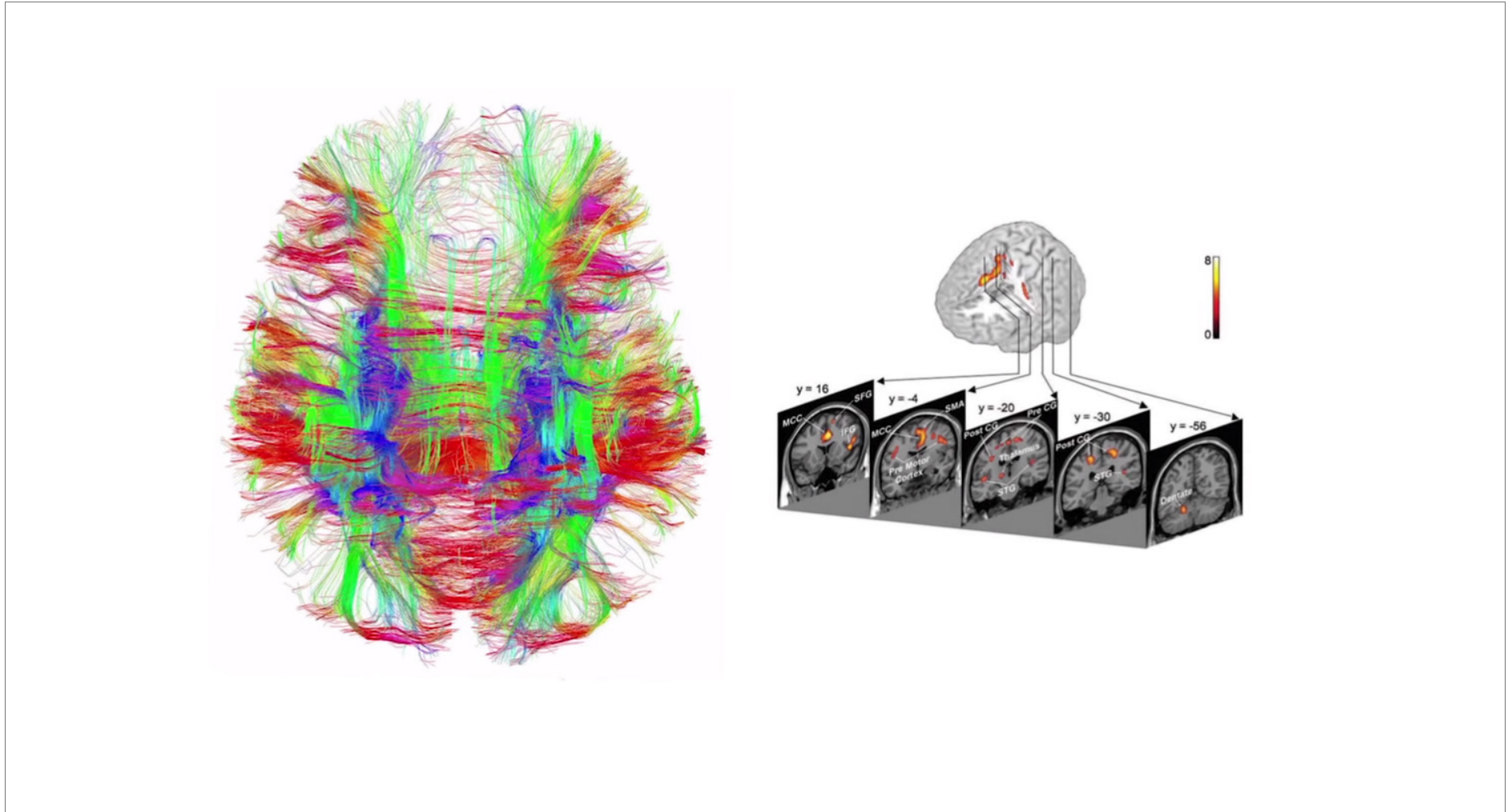
# ATROPHY

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# VARYING SENSORY STIMULATION

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# WALK IN THE FOREST

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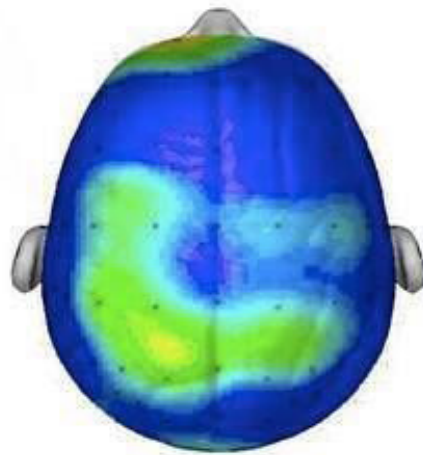




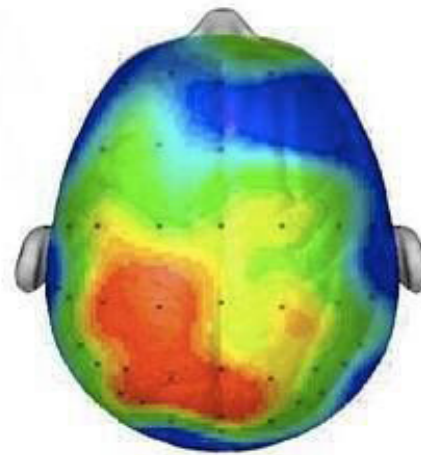
# WALK IN THE FOREST

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Composite of 20 student brains taking the same test



After sitting quietly



After 20 minute walk

Research/Scan compliments of Dr. Chuck Hillman University of Illinois

# DAYLIGHT

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# LITERATURE

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"For people with dementia, sensory experiences play a central role. This applies especially to how we experience space. As people's cognitive faculties start to decline and the memory of recent events fades away, what remains are direct sensations. As the disease progresses, these become increasingly important."  
(Feddersen, 2014, p.15)

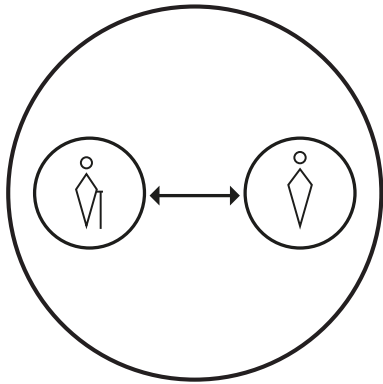
# LITERATURE

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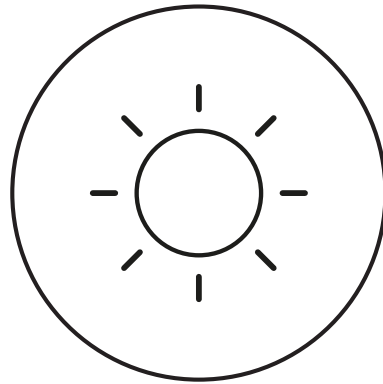
"Om te beginnen hebben demente mensen, om hun eigen bestaan te kunnen ervaren, dynamische prikkels nodig: beweging en geluid. Daarnaast is lopen heel belangrijk voor dementerenden, voor iedereen trouwens. Tot slot spelen kleuren en materialen een grote rol." Nillesen, 2013, p.7) dr. Anneke van der Plaats – specialist hersenkunde bij dementie, Breincollectief

# TRIGGERS

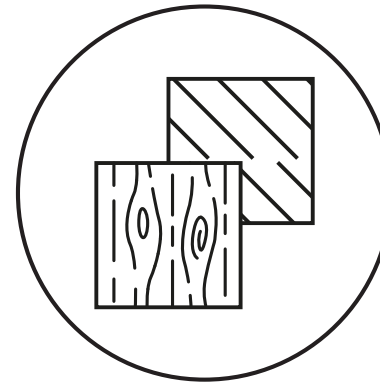
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contact



daylight



texture

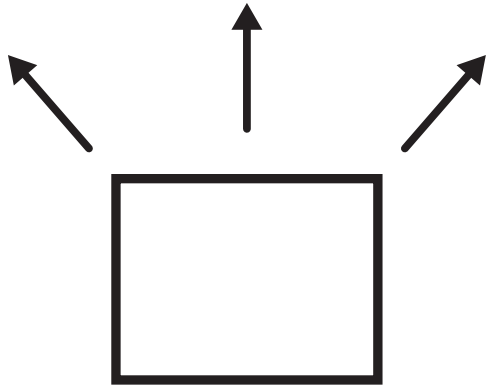


nature

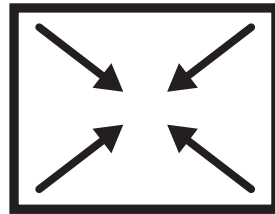


# THE SCALES

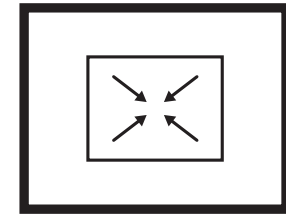
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Surrounding

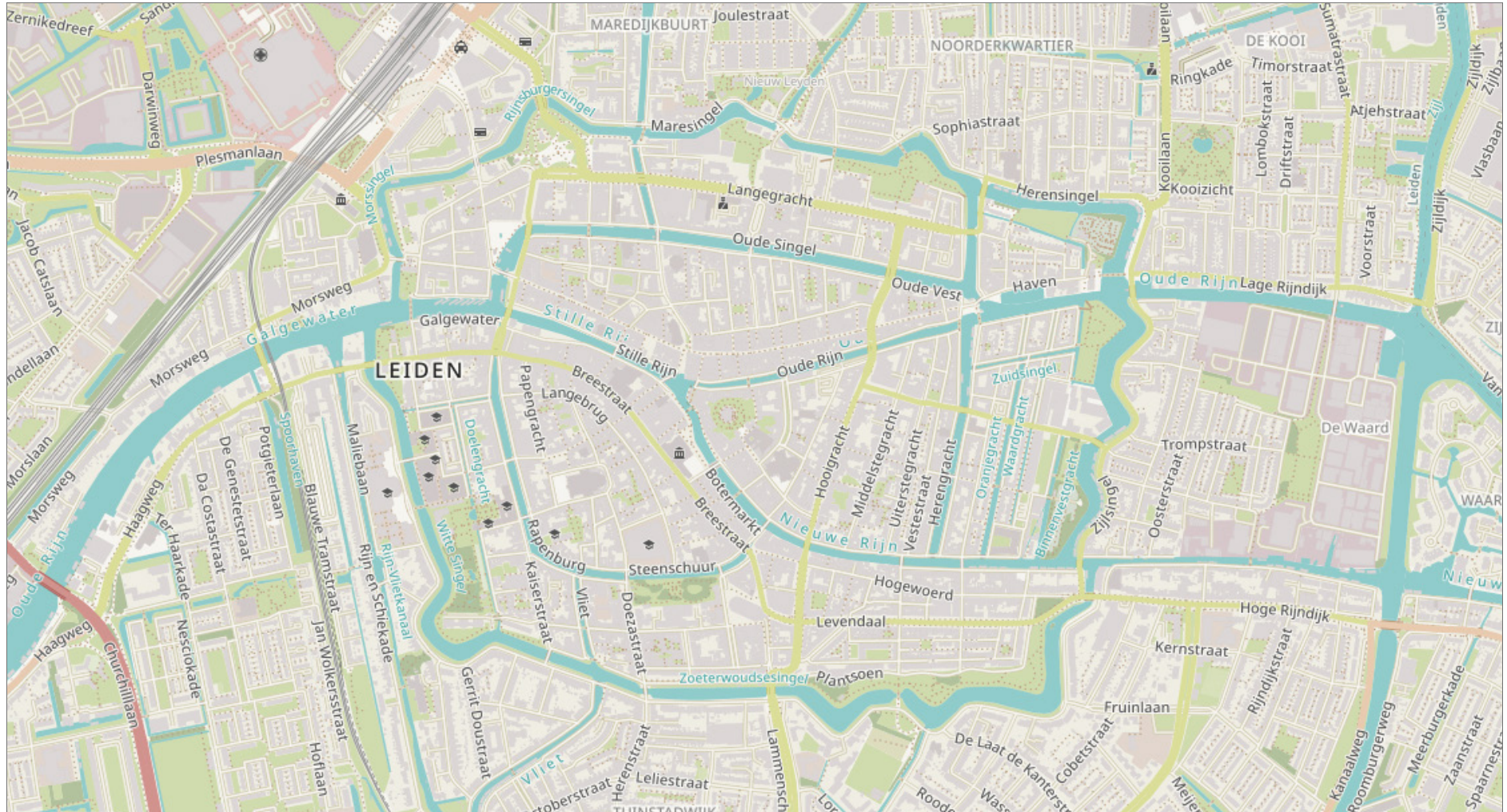


Building



Room

# Leiden





# Hofjes in Leiden





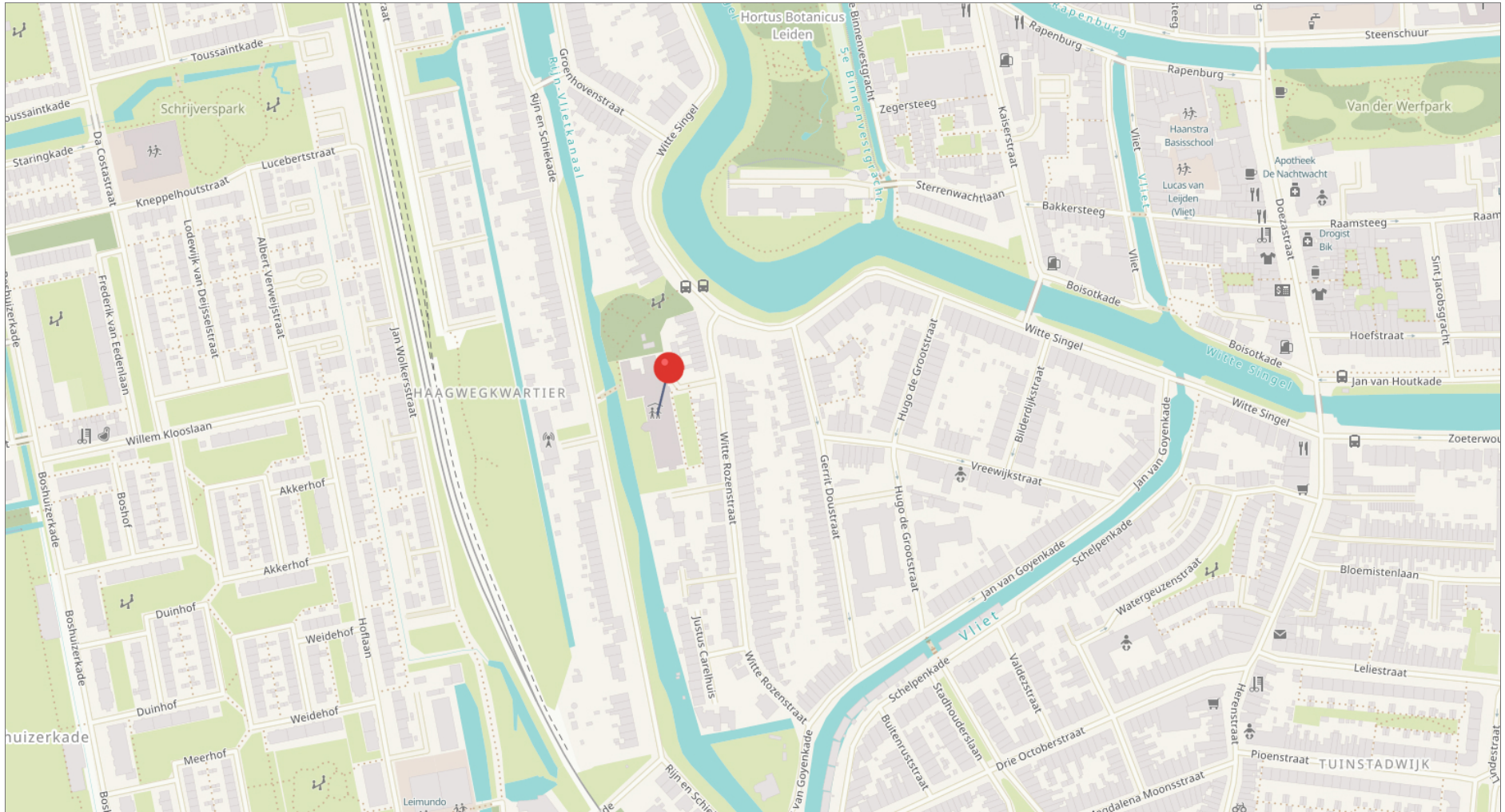
# De Leidse Hofjesconcerten

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# SITE





# SITE





# SITE

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# GREENERY, WATER & INDOOR GARDENS

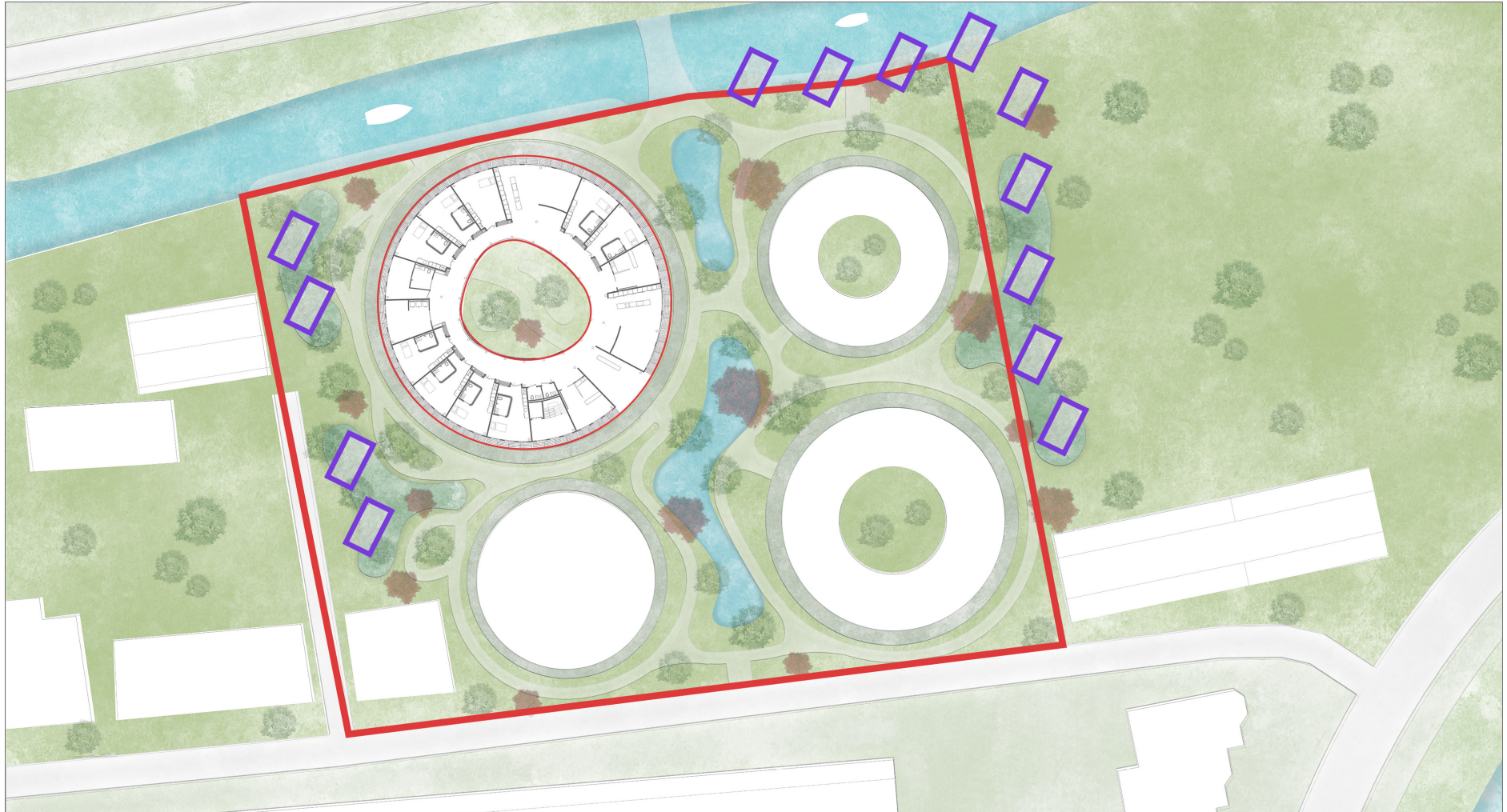
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# SITE - EXPLAINING CONCEPT

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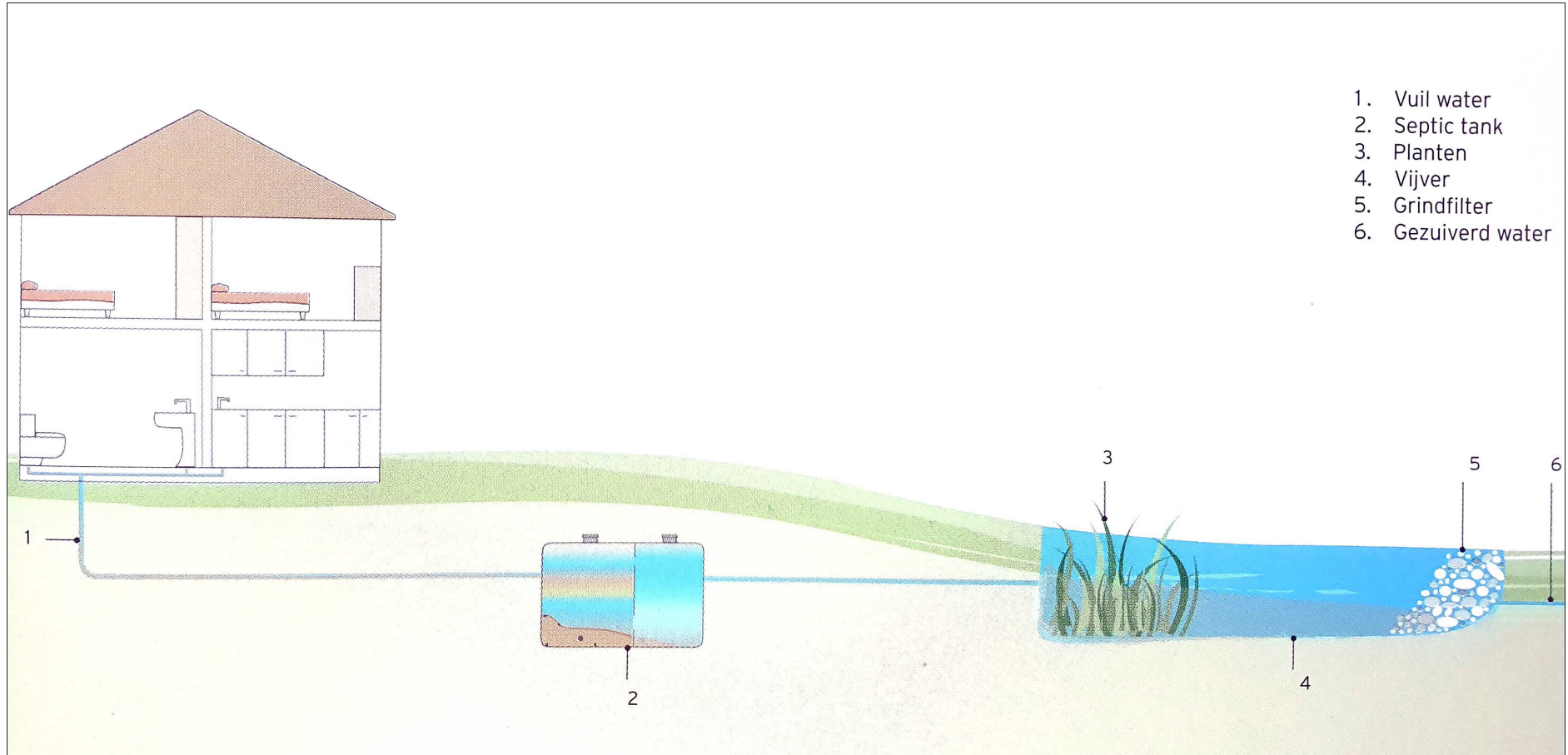






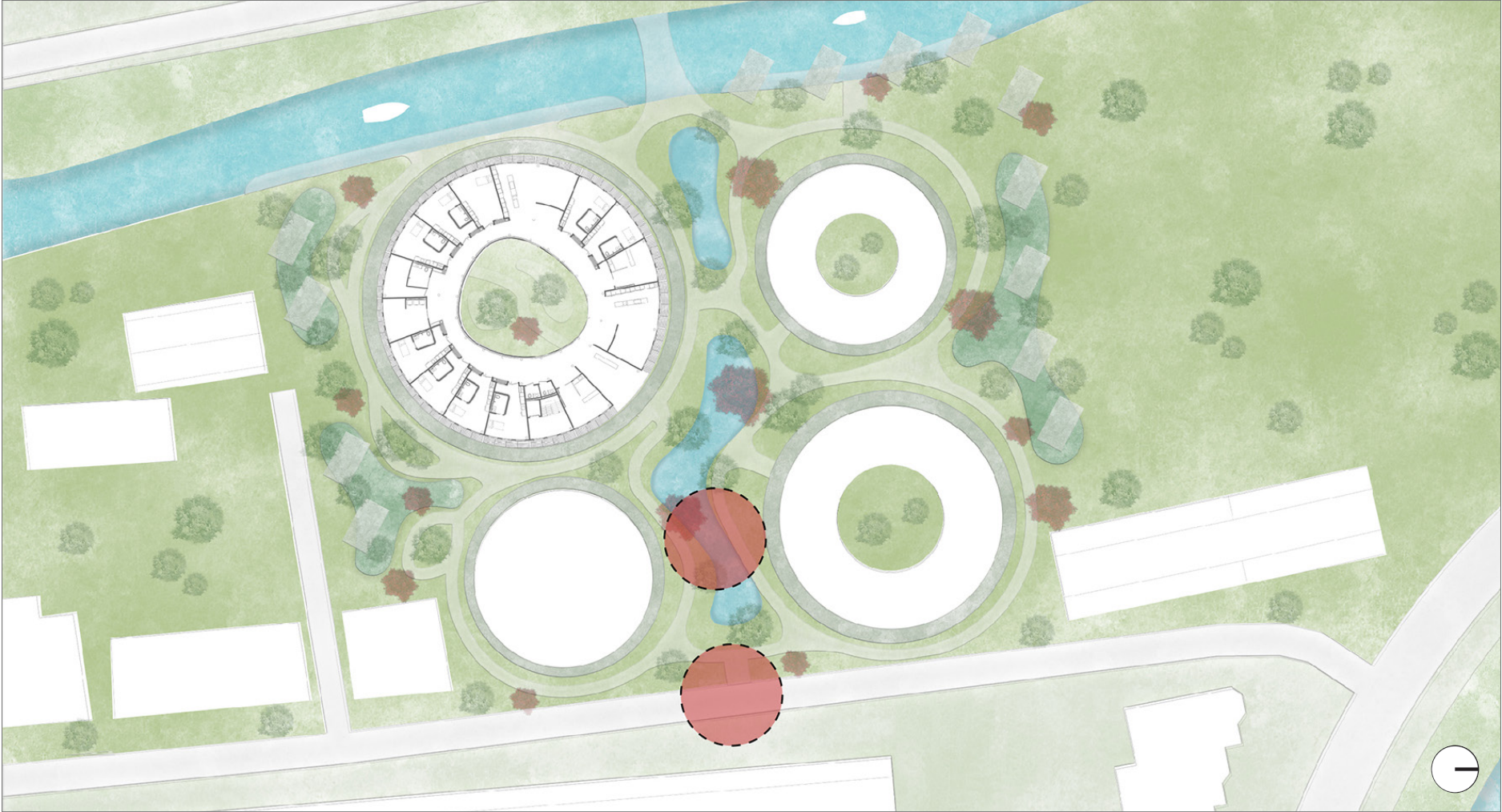


# WATER PURIFICATION POND



Ecohuis - duurzaamheid in de woning - waterzuiveringsvijver

# TRANSITION - STREET - PARK



# TRANSITION - STREET - PARK

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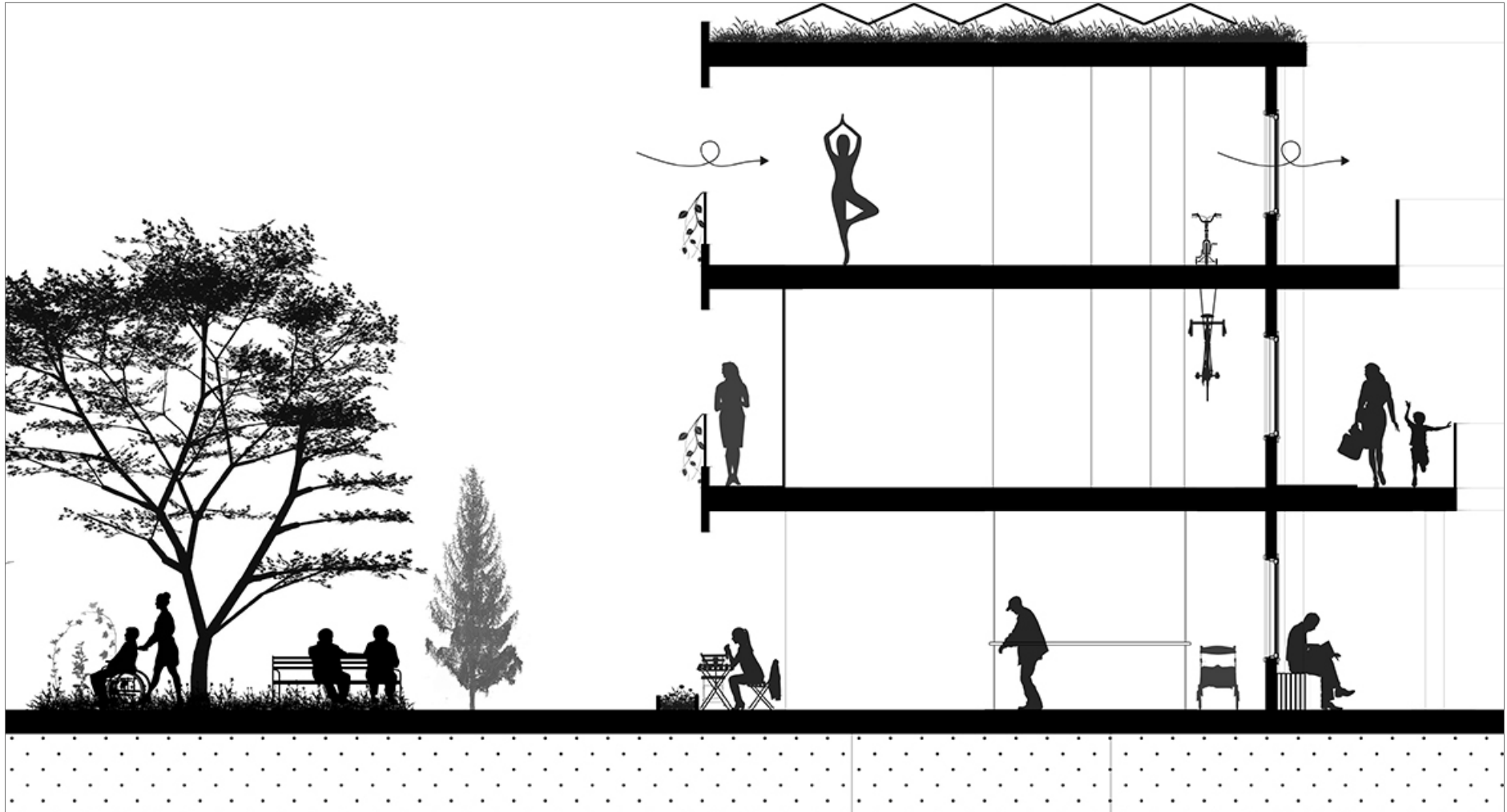
# TRANSITION - PARK - DWELLING

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# TRANSITION - PARK - DWELLING

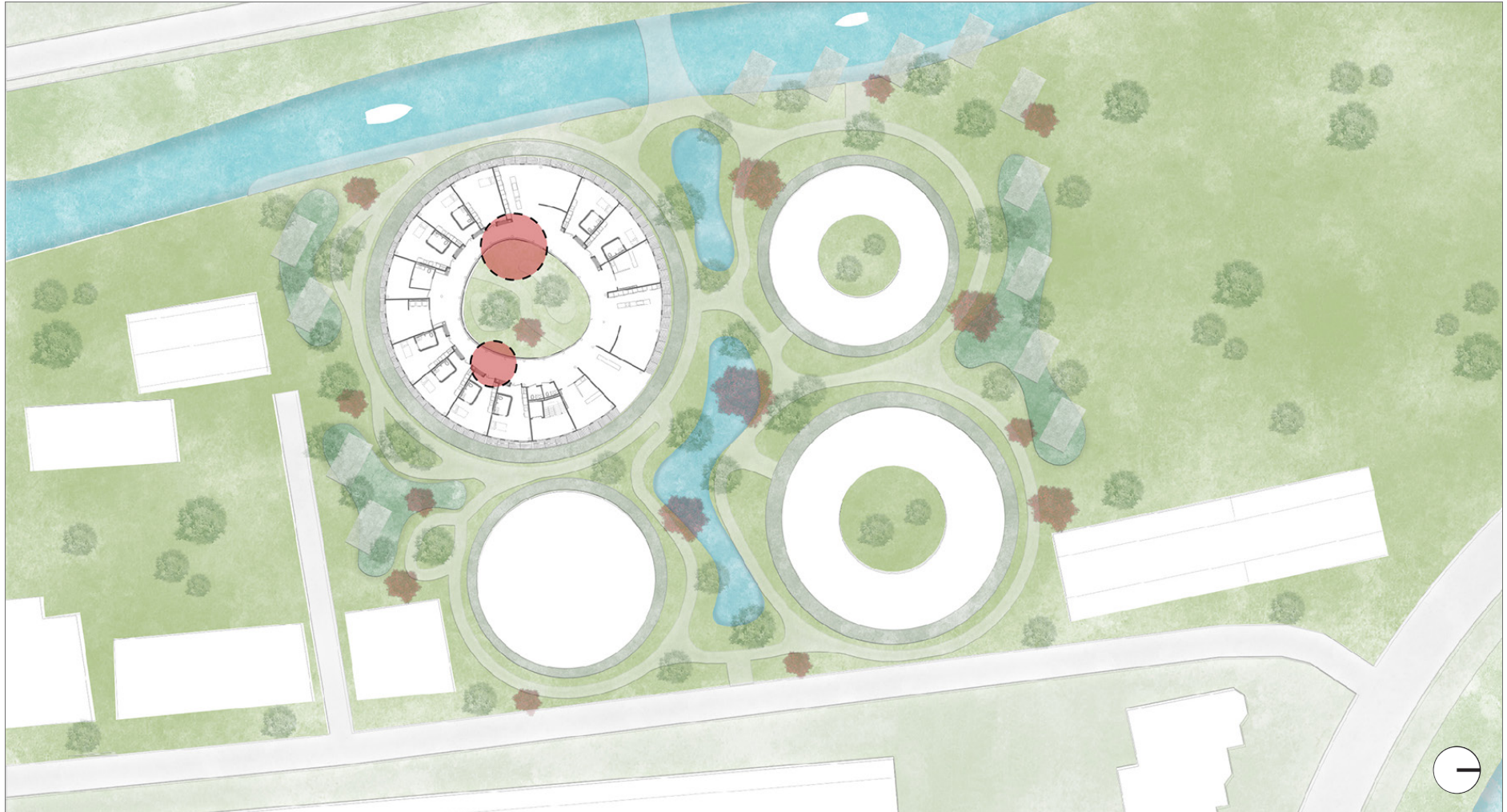
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# TRANSITION - HALLWAY - INNER GARDEN

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# TRANSITION - HALLWAY - INNER GARDEN

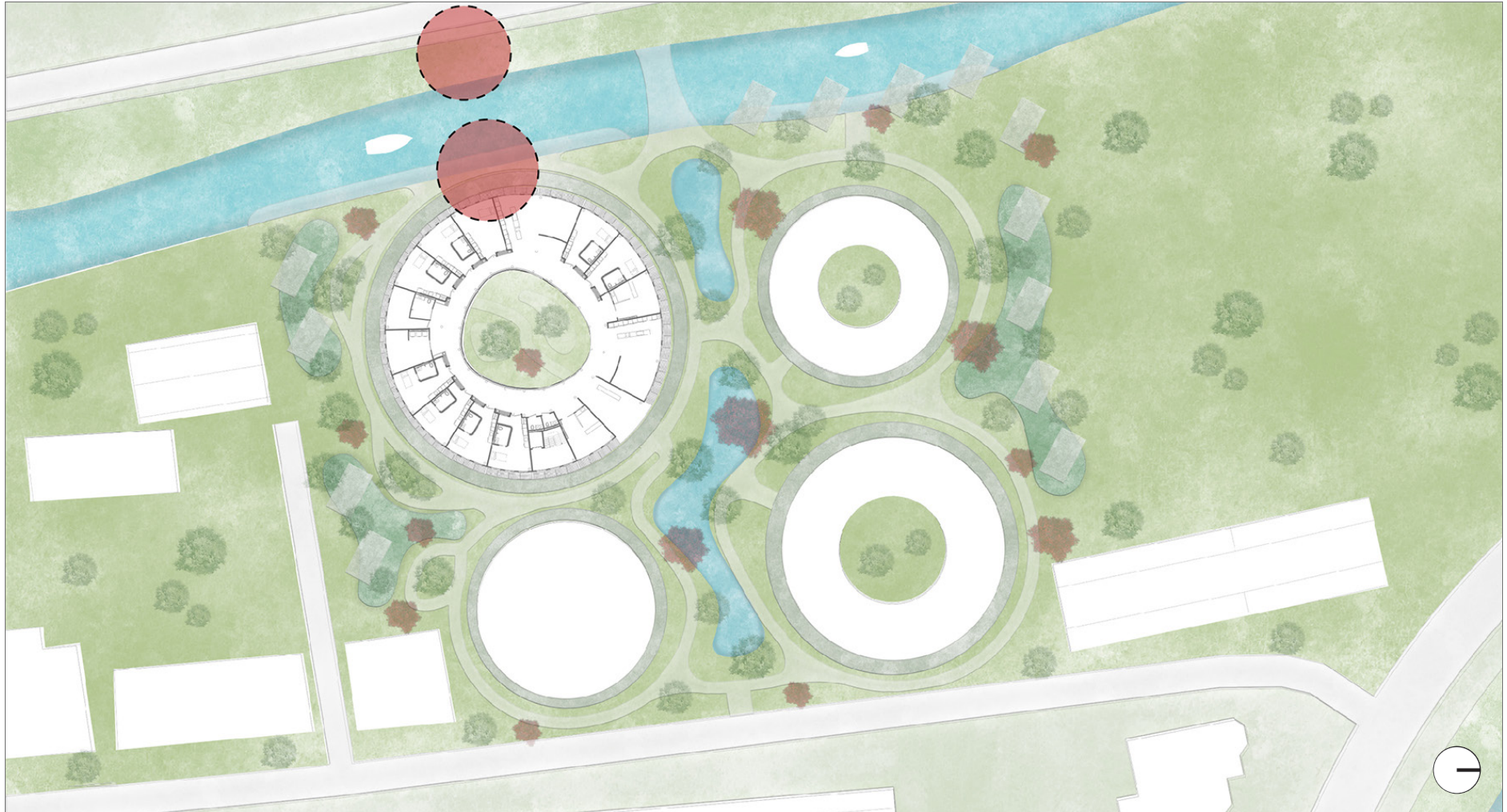
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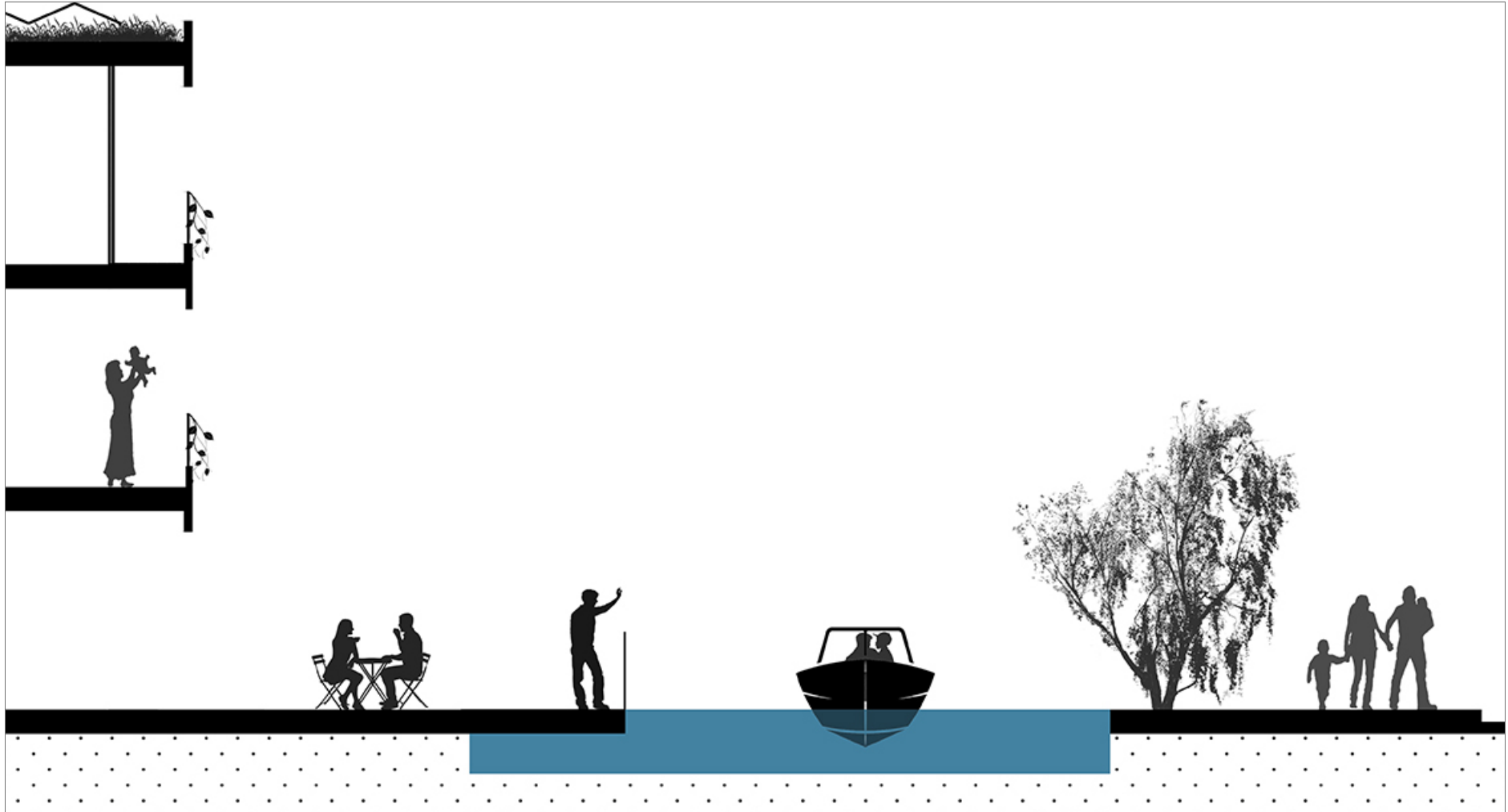
# TRANSITION - TERRAS - WATER - STREET

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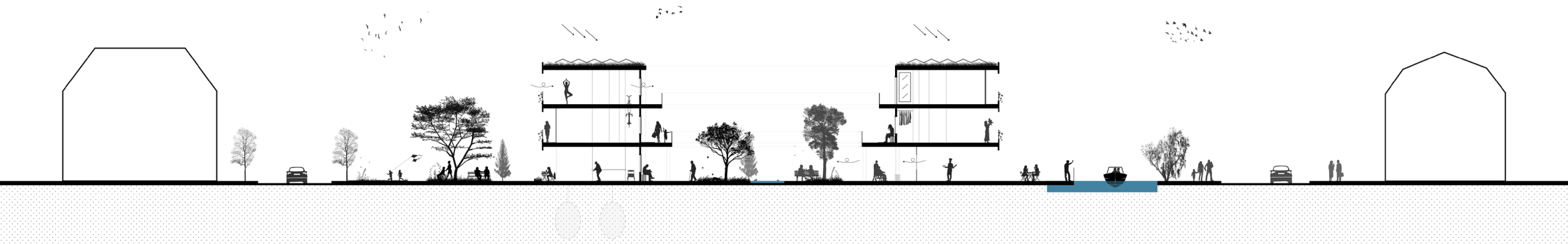
# TRANSITION - TERRAS - WATER - STREET

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# OVERVIEW

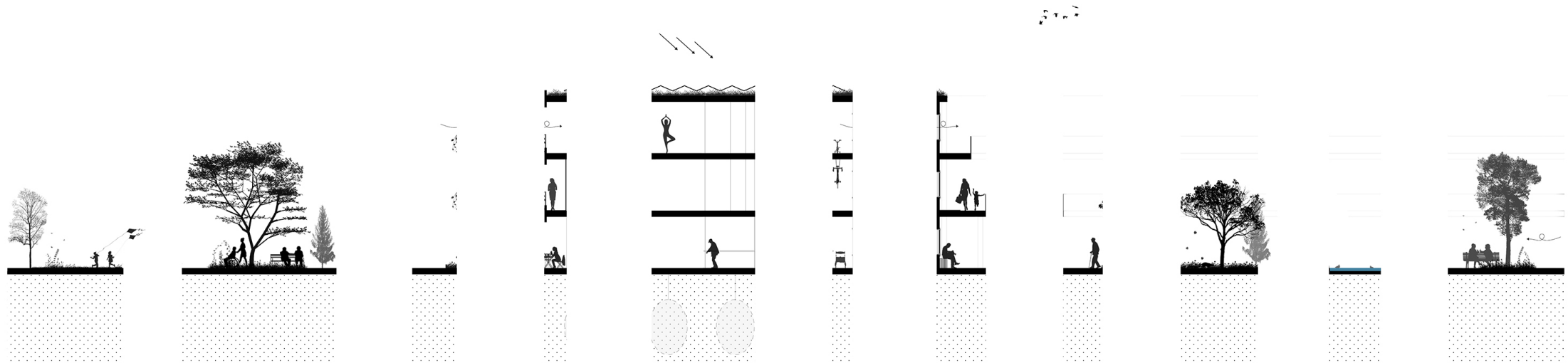
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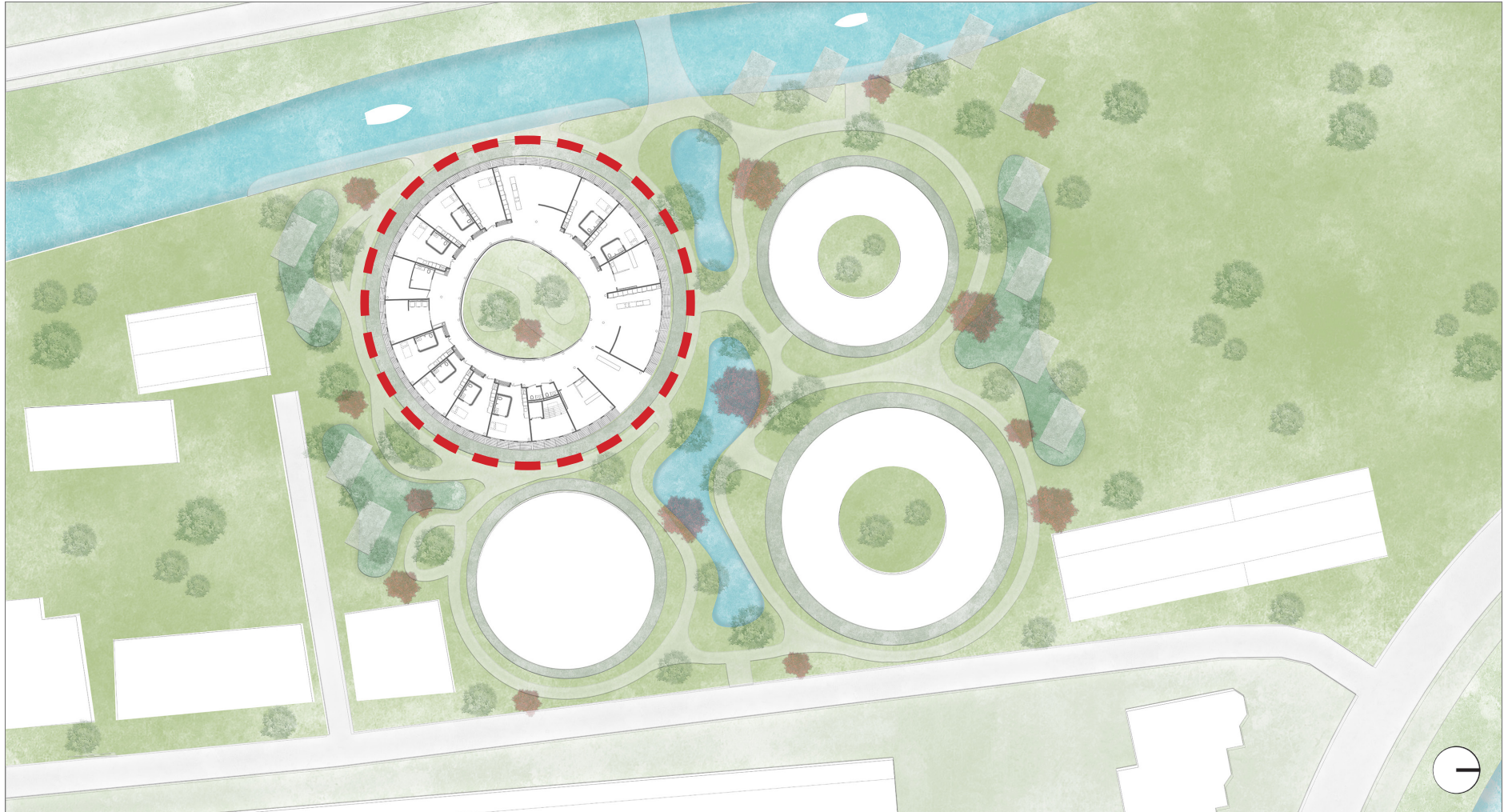
# PROVIDING POSSIBILITIES

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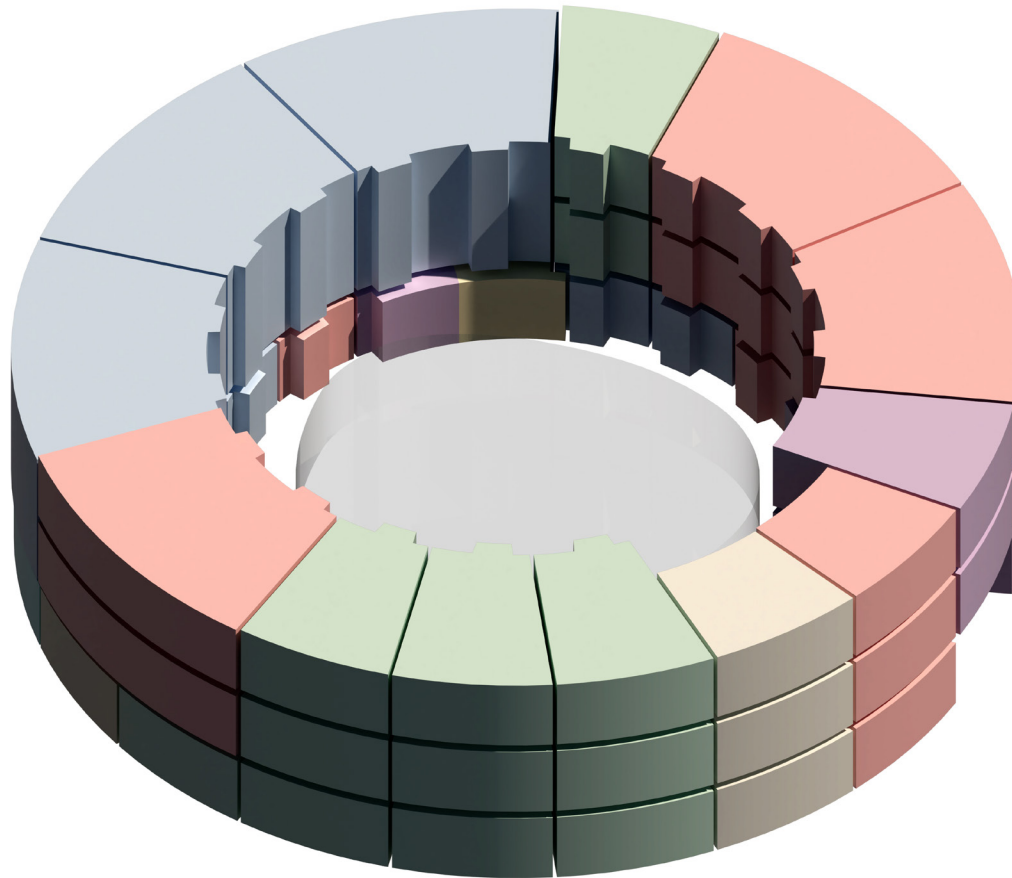
# ZOOMING IN

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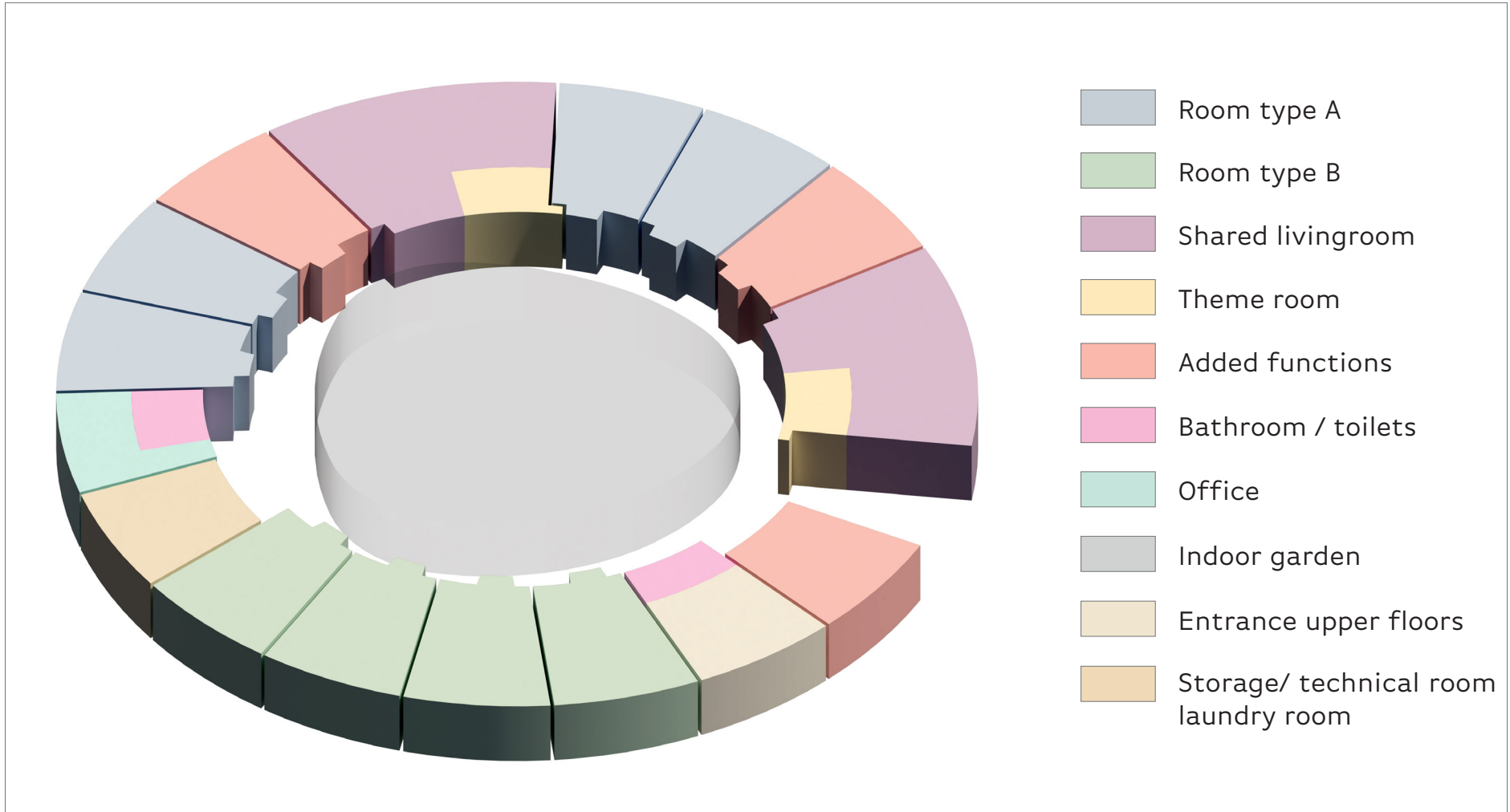


# MIX OF PEOPLE

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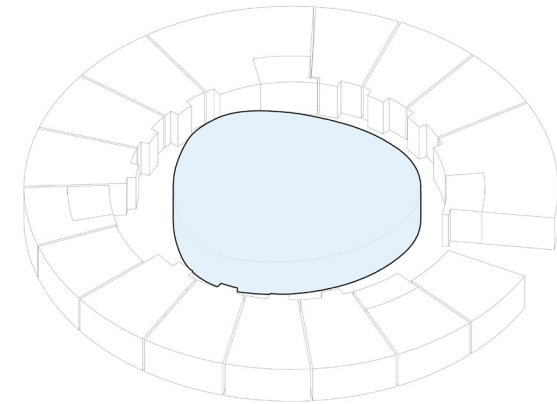
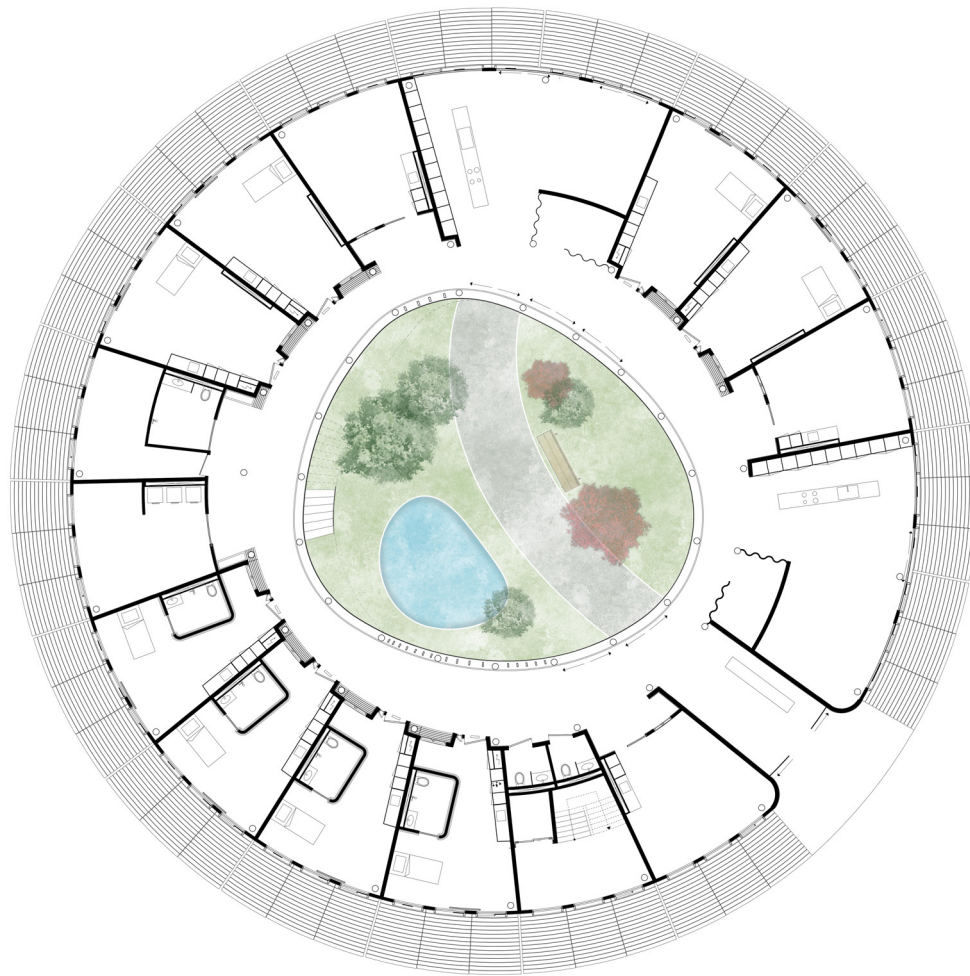


# FUNCTIONS





# OVERVIEW FLOORPLAN - INNER GARDEN



# DIFFERENCE

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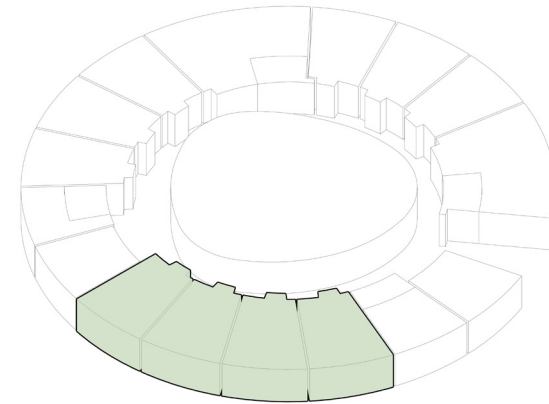
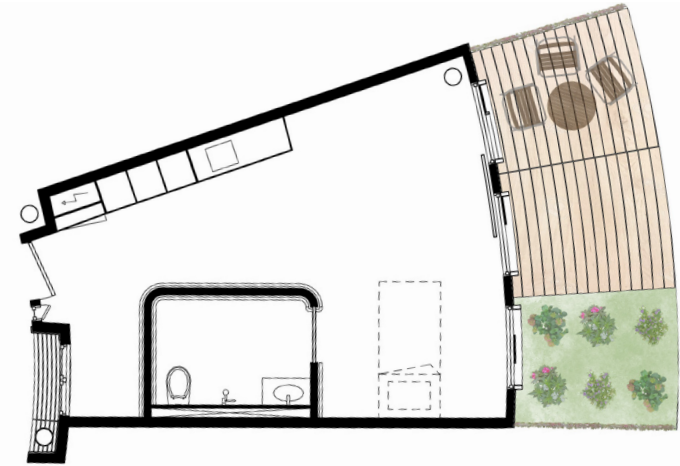
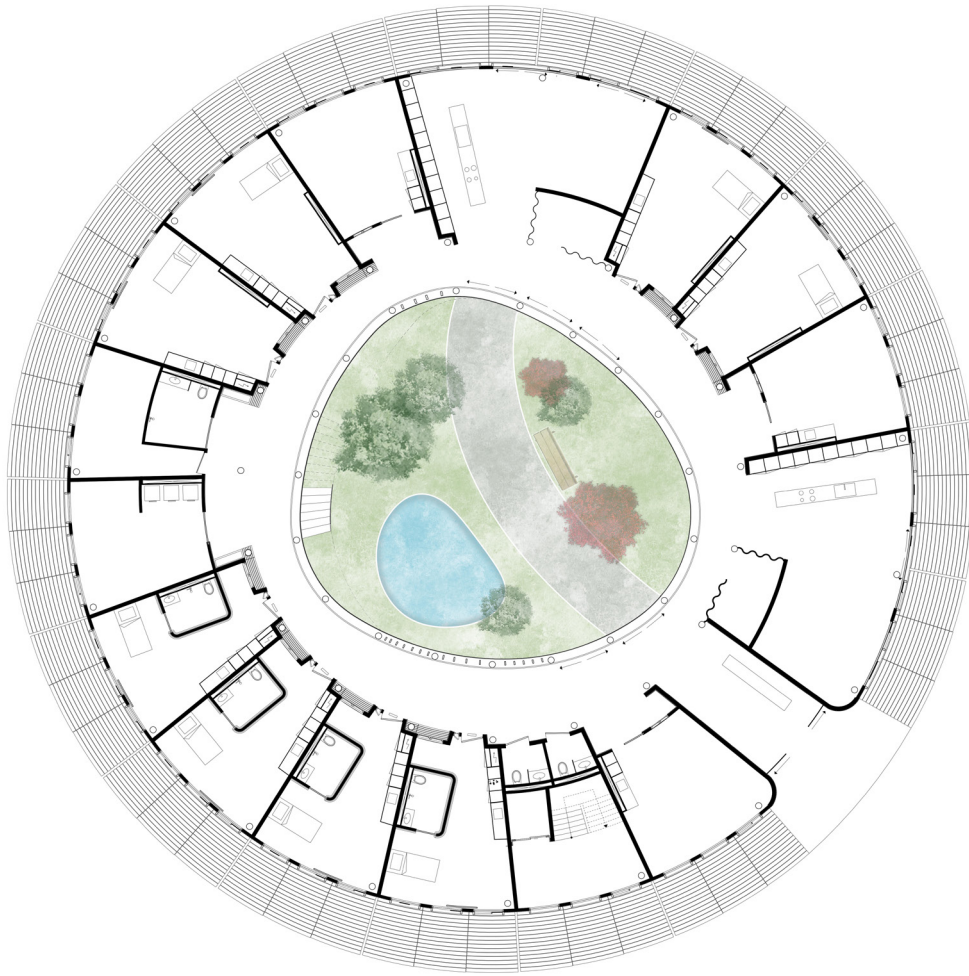


# GARDEN

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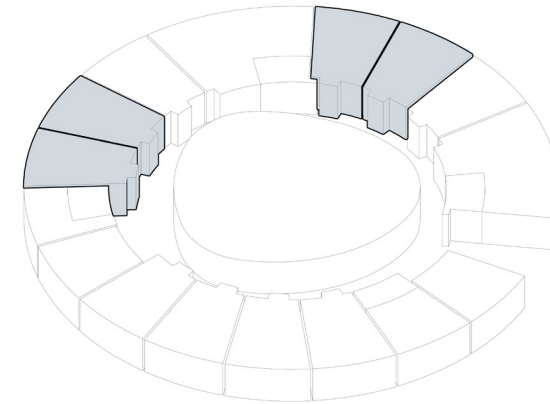
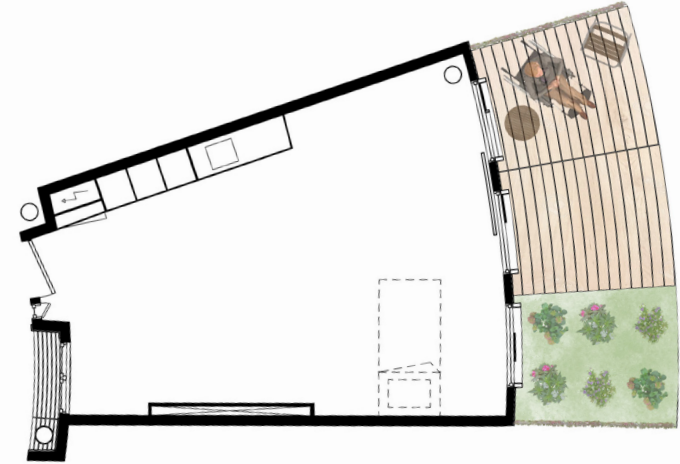
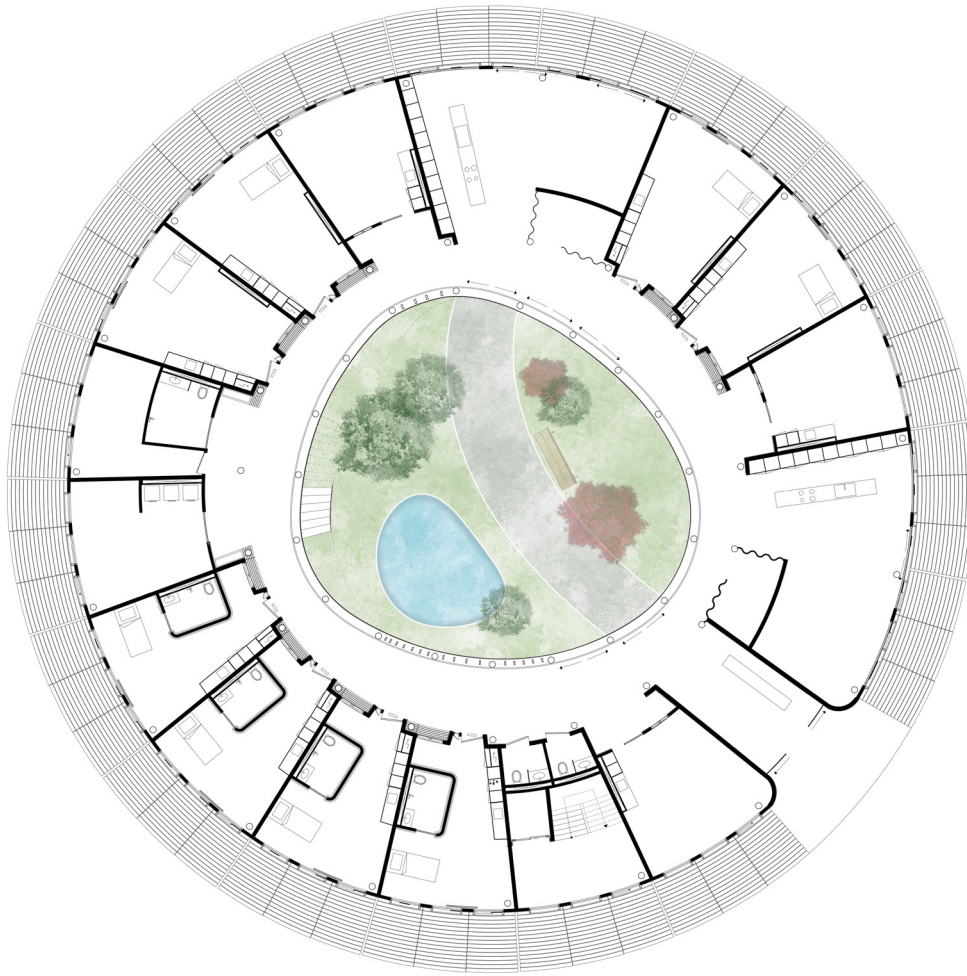
"Een goed ingerichte, gevarieerde tuin blijkt wel van groot belang: het leidt er toe dat bewoners vaker buiten komen en er is een positieve samenhang met het cognitief functioneren."  
(Van Liempd e.a., 2009, p. 8)

# FLOORPLAN - ROOM TYPE A



Type A: 4 x 28 m<sup>2</sup>

# FLOORPLAN - ROOM TYPE B

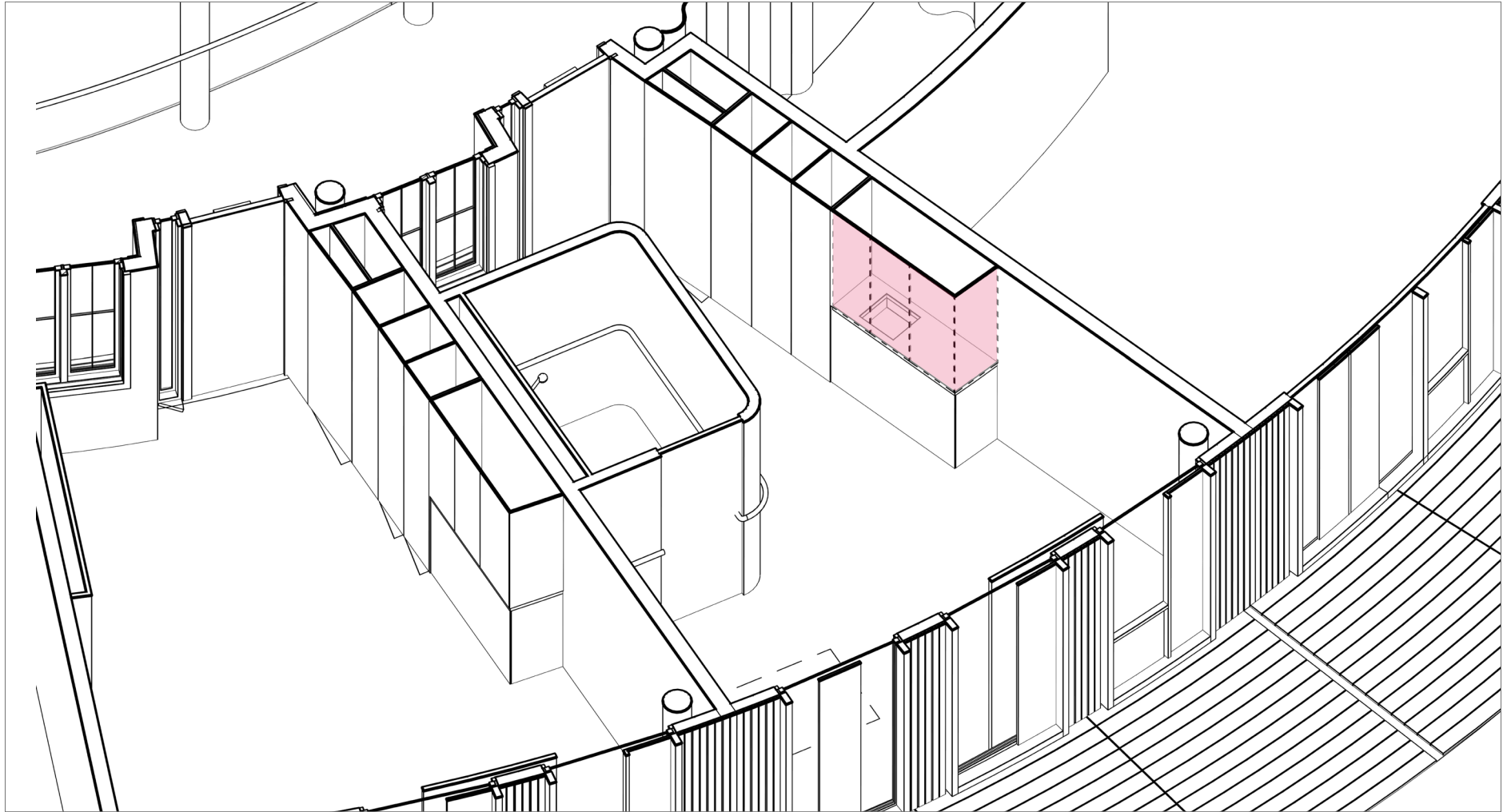


Type B: 4 x 28 m<sup>2</sup>



# KITCHEN

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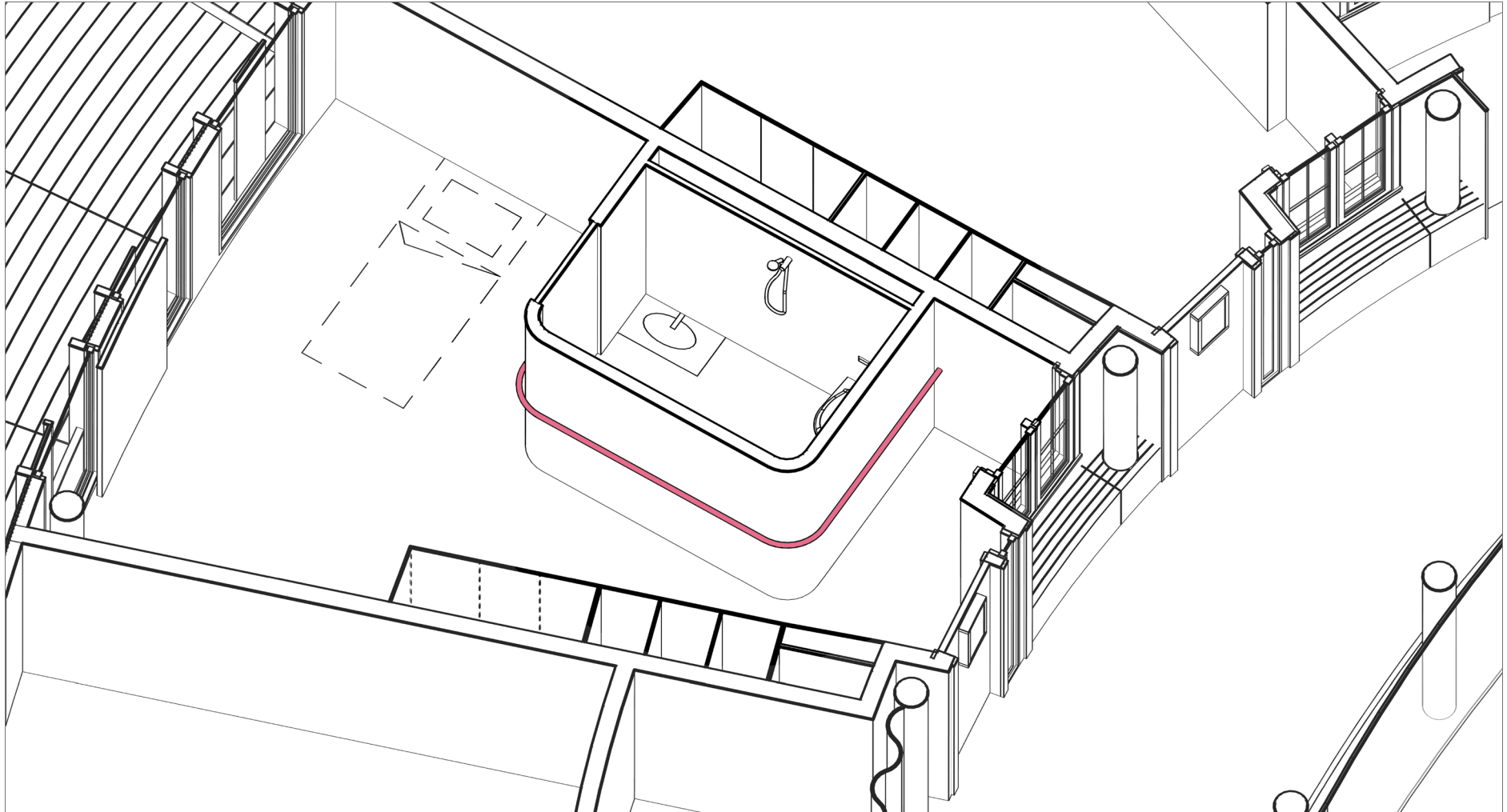
# CRANE TAP

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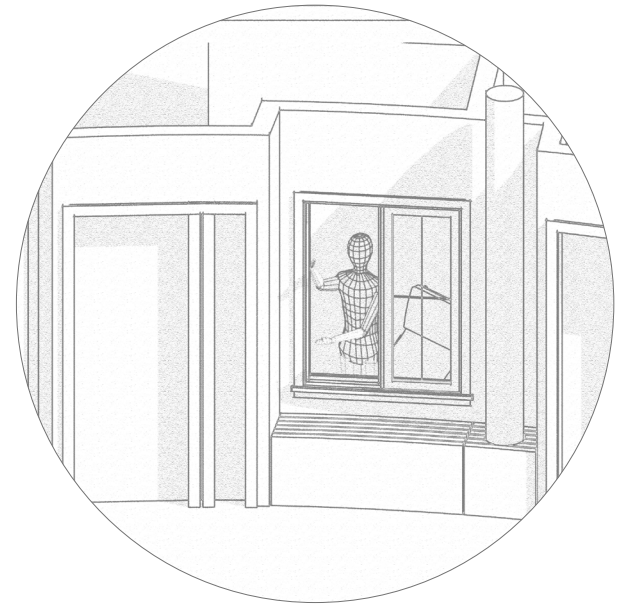
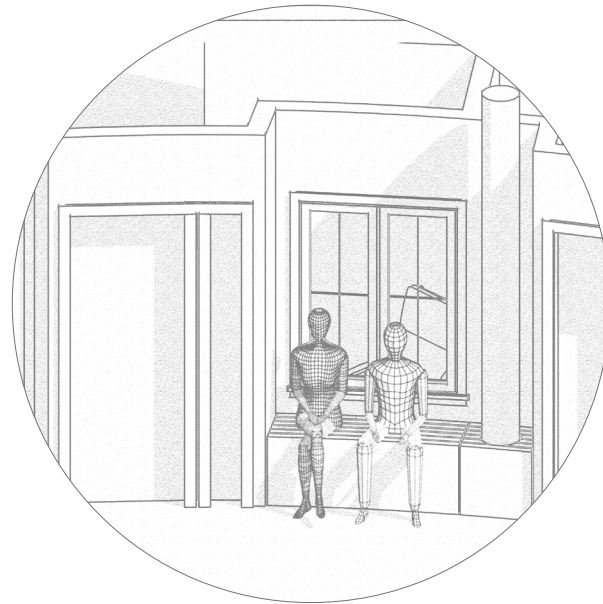
# CONTINUOUS RAILING

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# PROVIDING POSSIBILITIES

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# PROVIDING POSSIBILITIES

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# DOOR FRAME - PICTURE OR OBJECT

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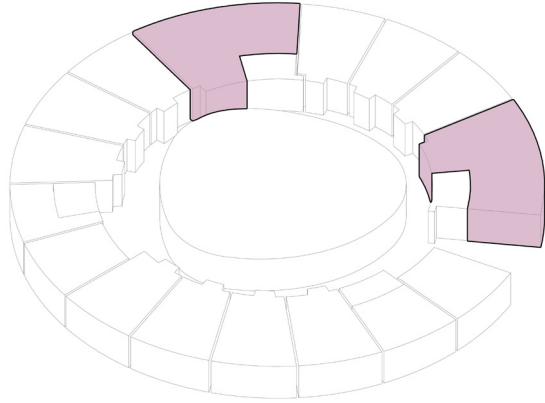
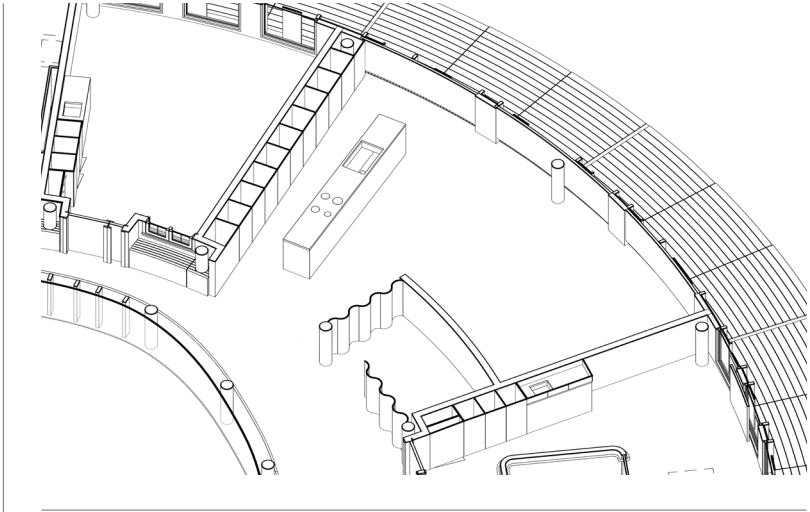
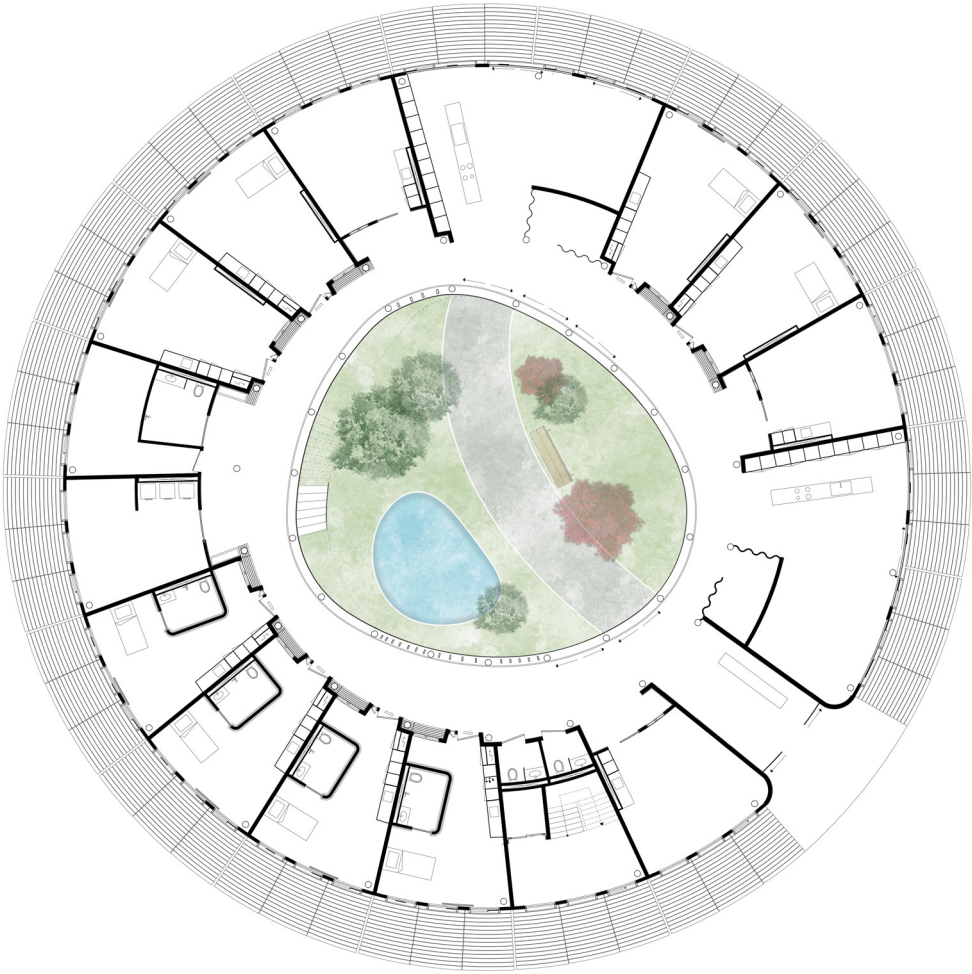
# EXISTING SITUATION

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# SHARED LIVING GROOM

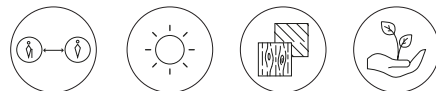
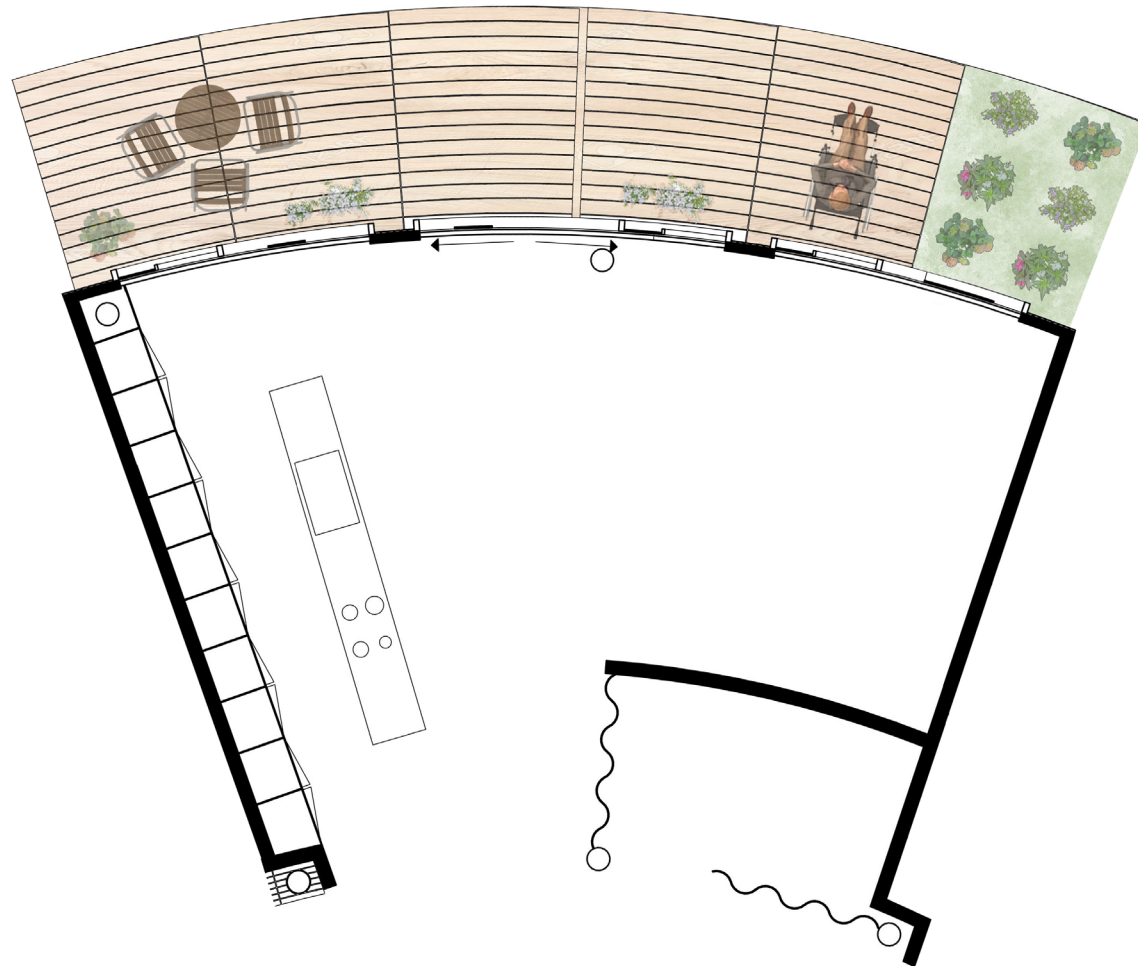
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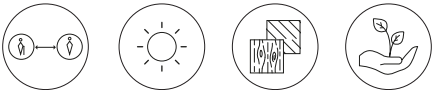
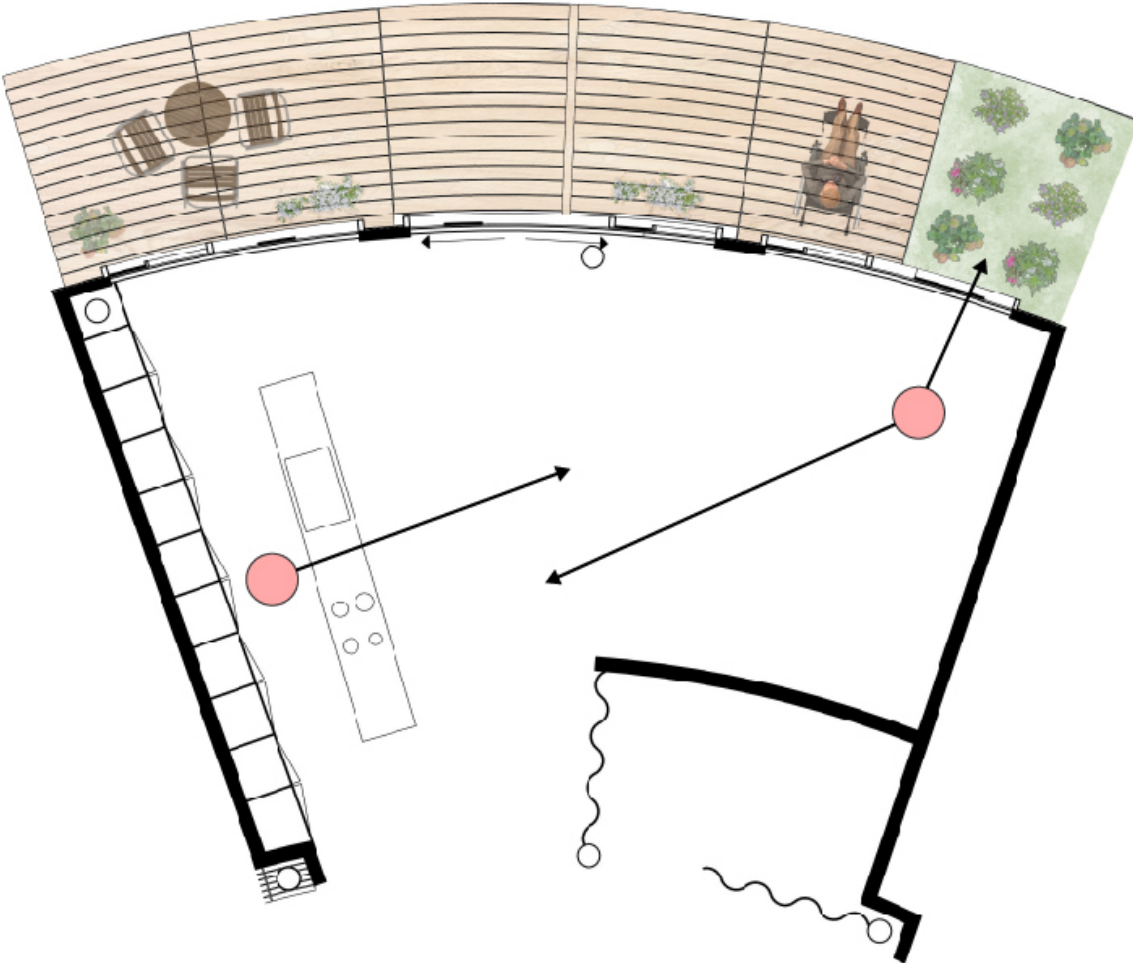


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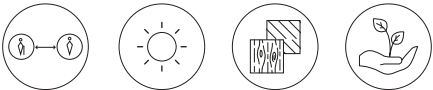
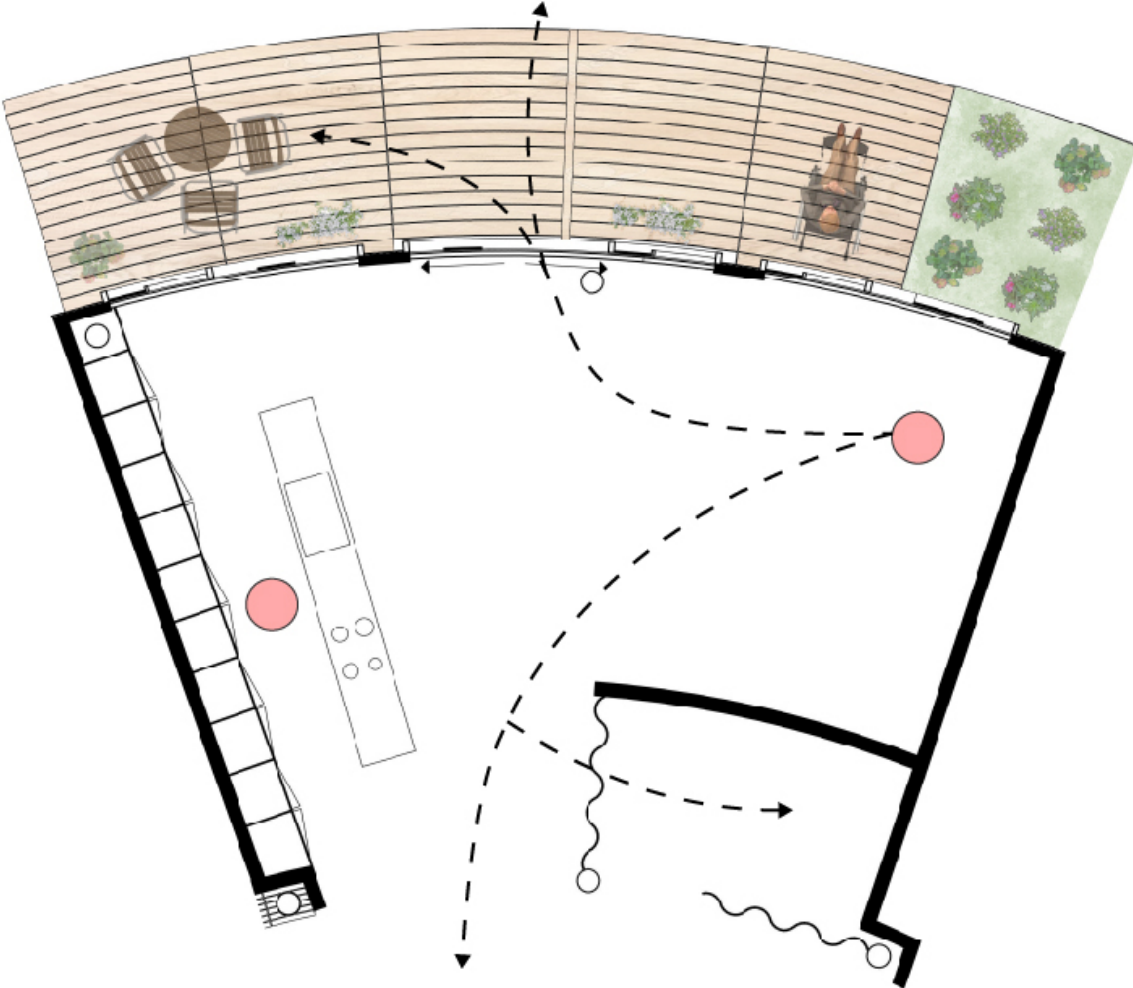
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# SHARED LIVING GROOM



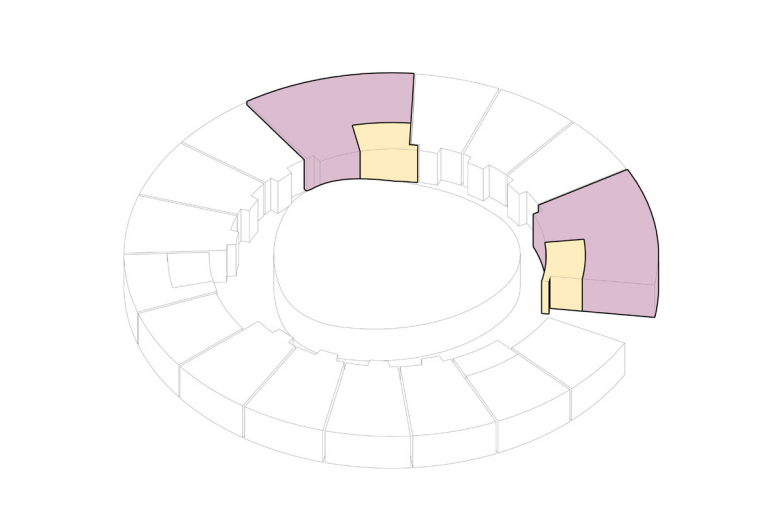
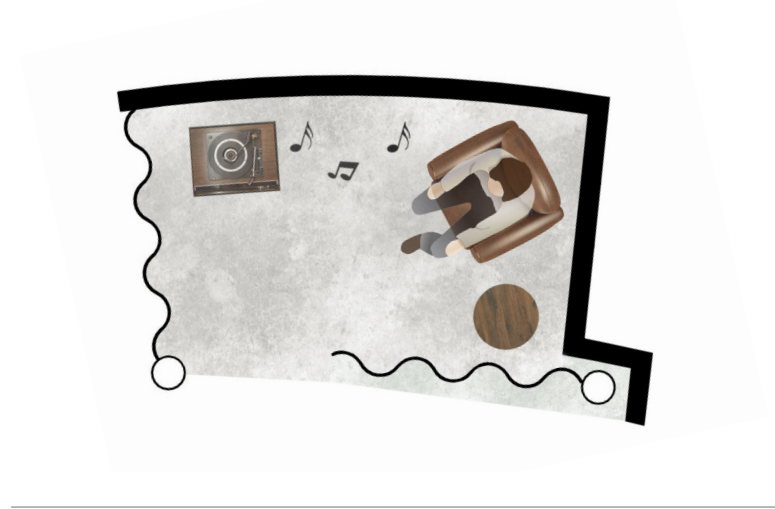
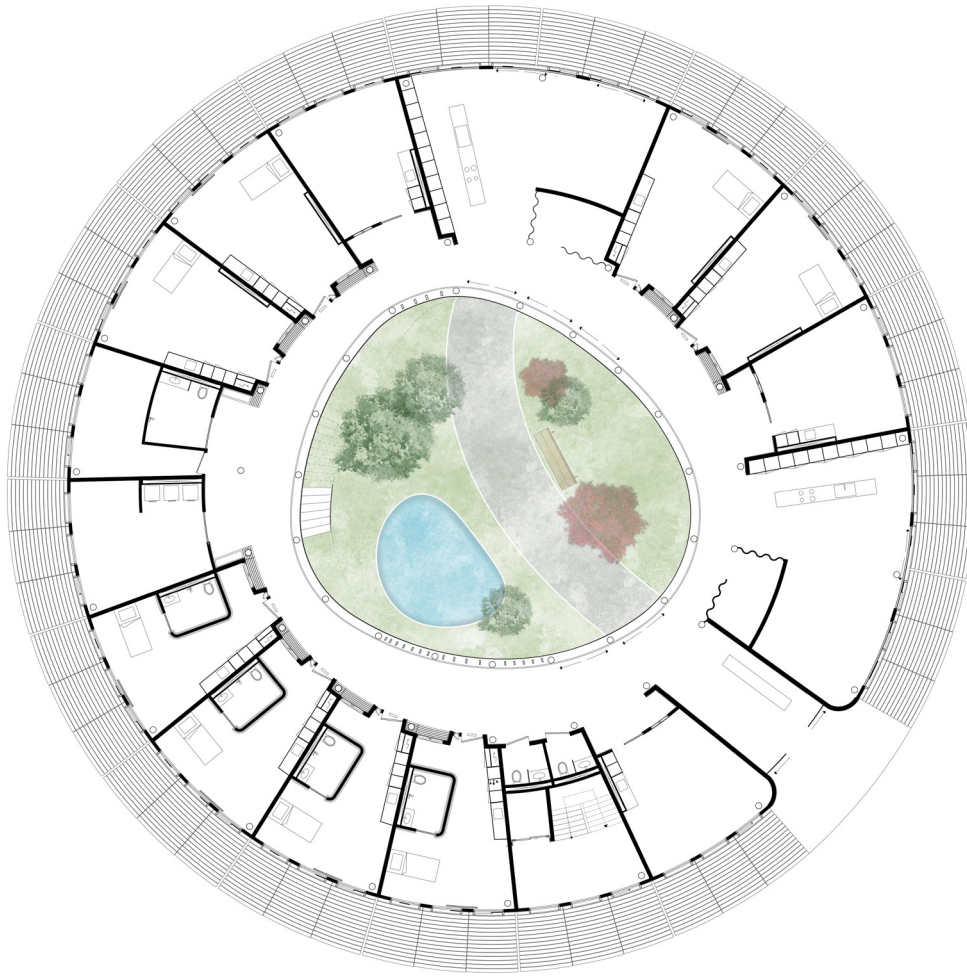
# SHARED LIVING GROOM



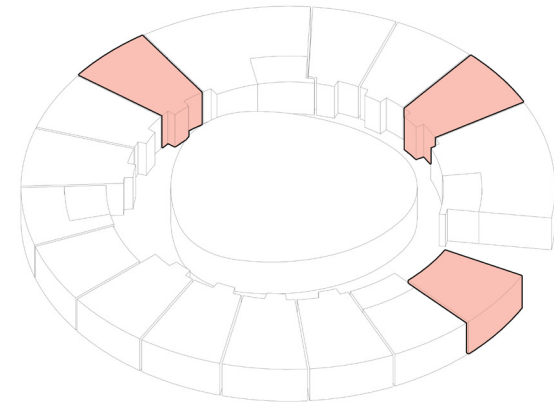
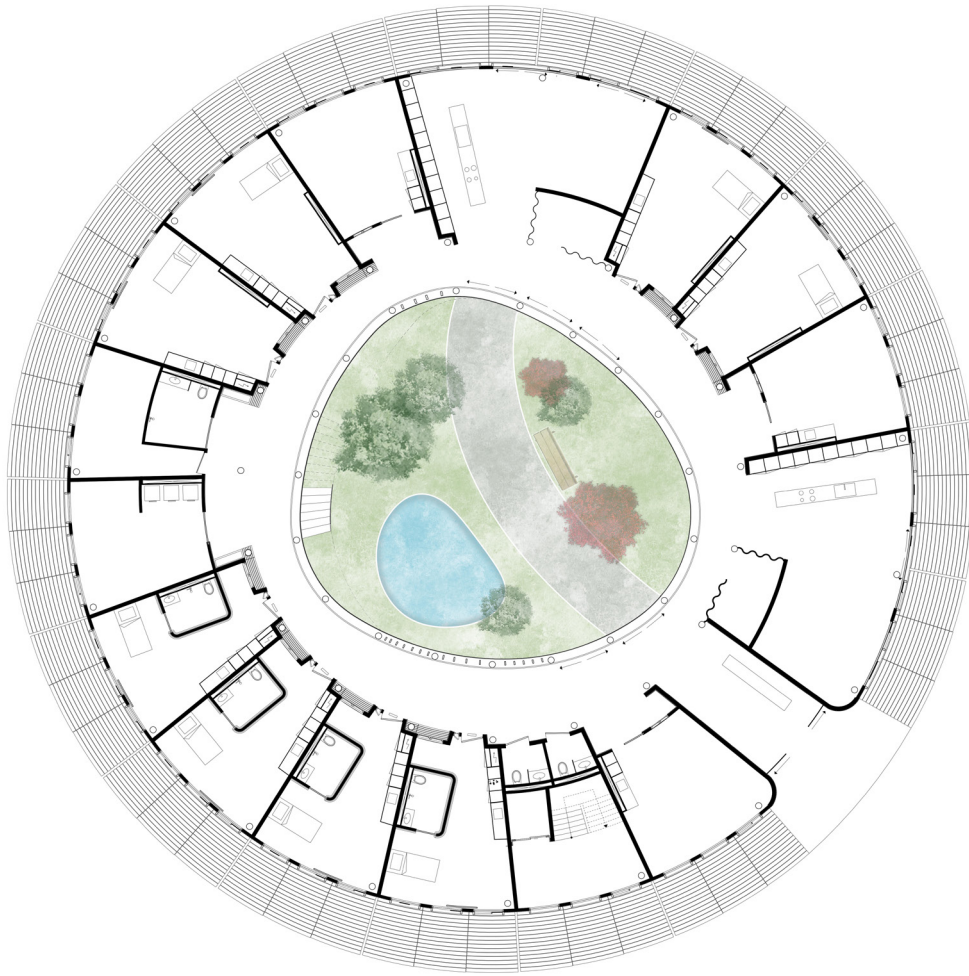


# THEME ROOM - FLEXIBLE

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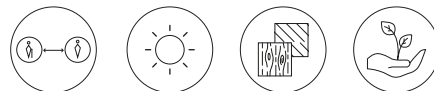


# ADDED FUNCTIONS



# ADDED FUNCTIONS

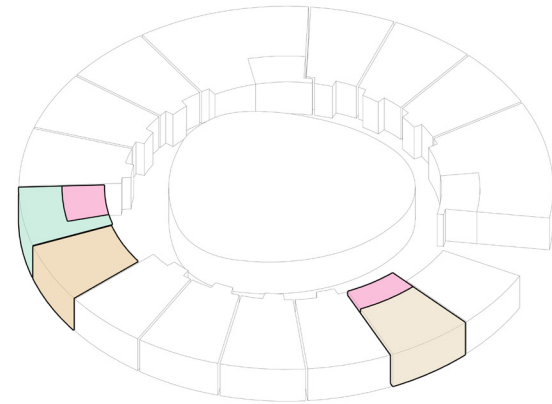
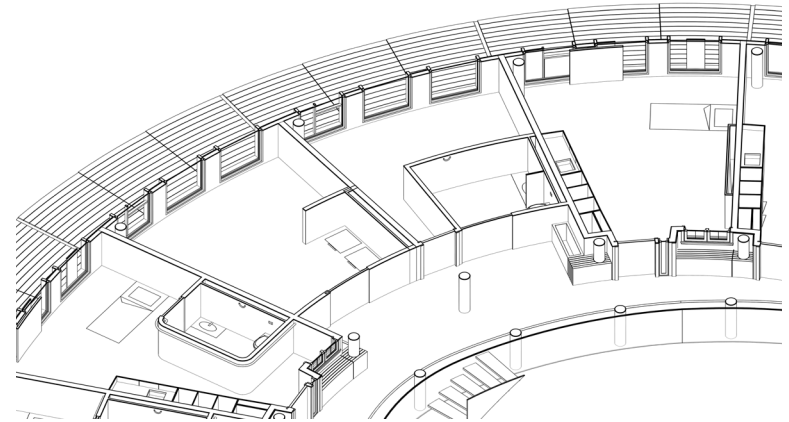
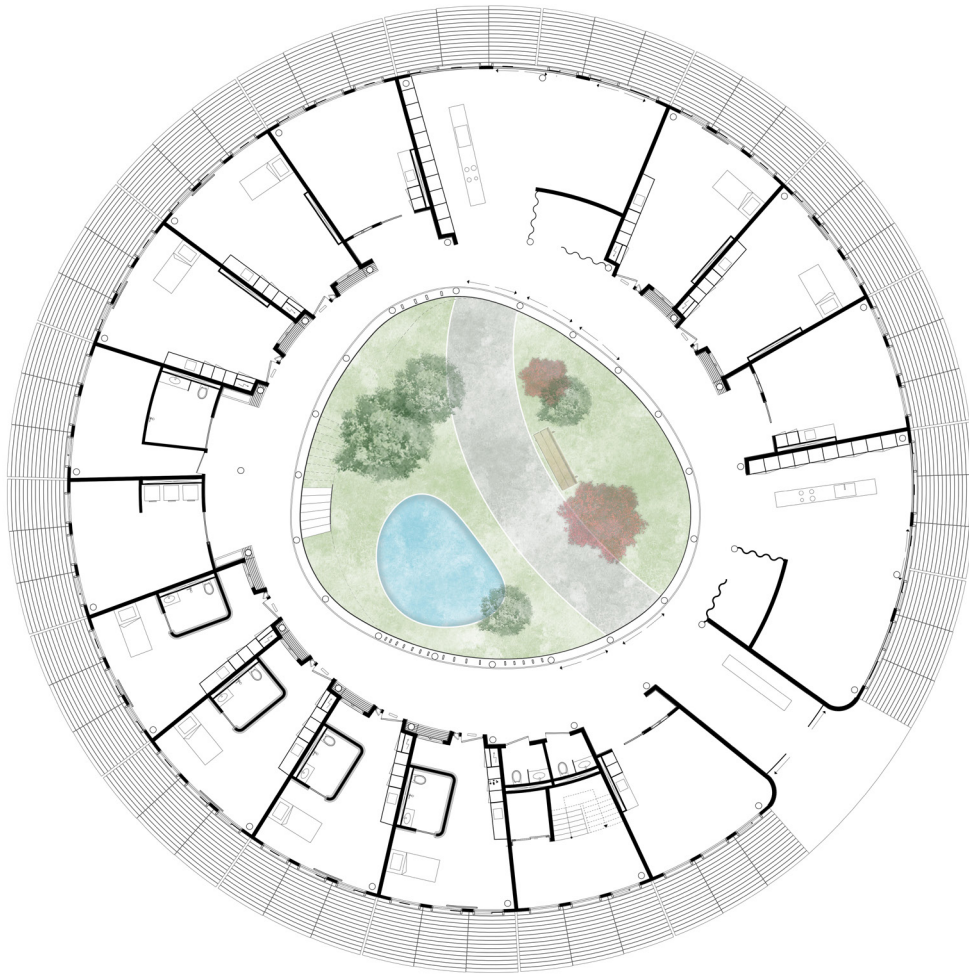
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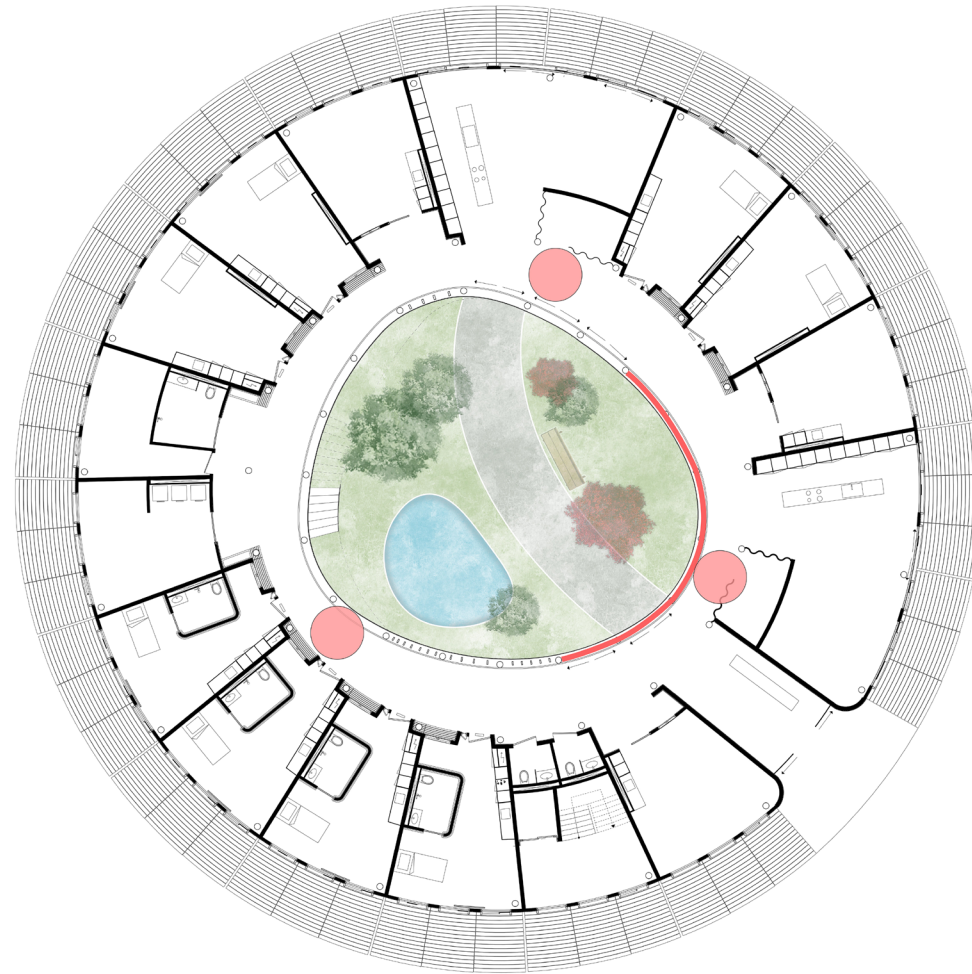
# OTHER FUNCTIONS

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# SOUTH FACADE

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# GREENERY - SUN SHADE + TRIGGER

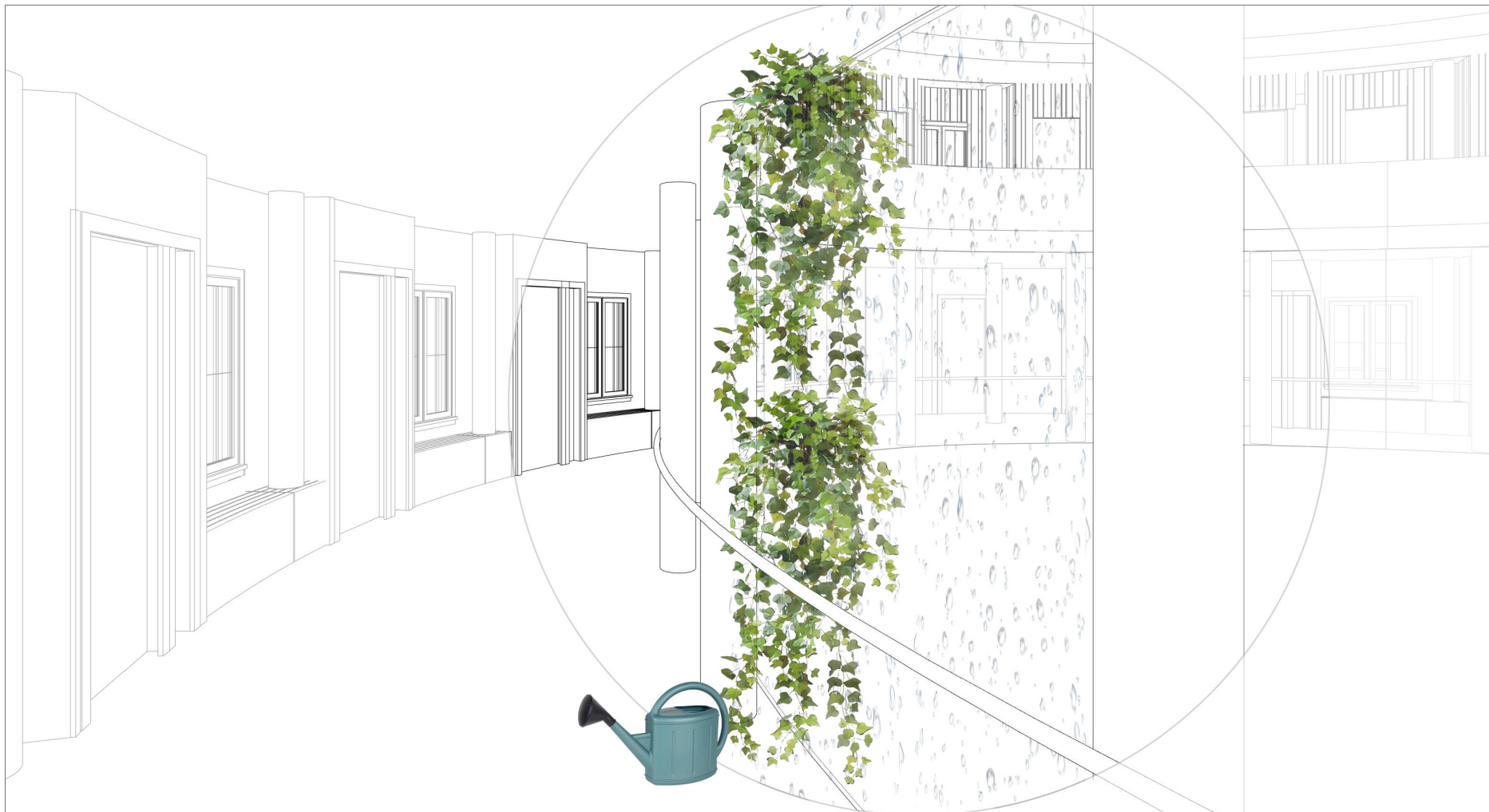
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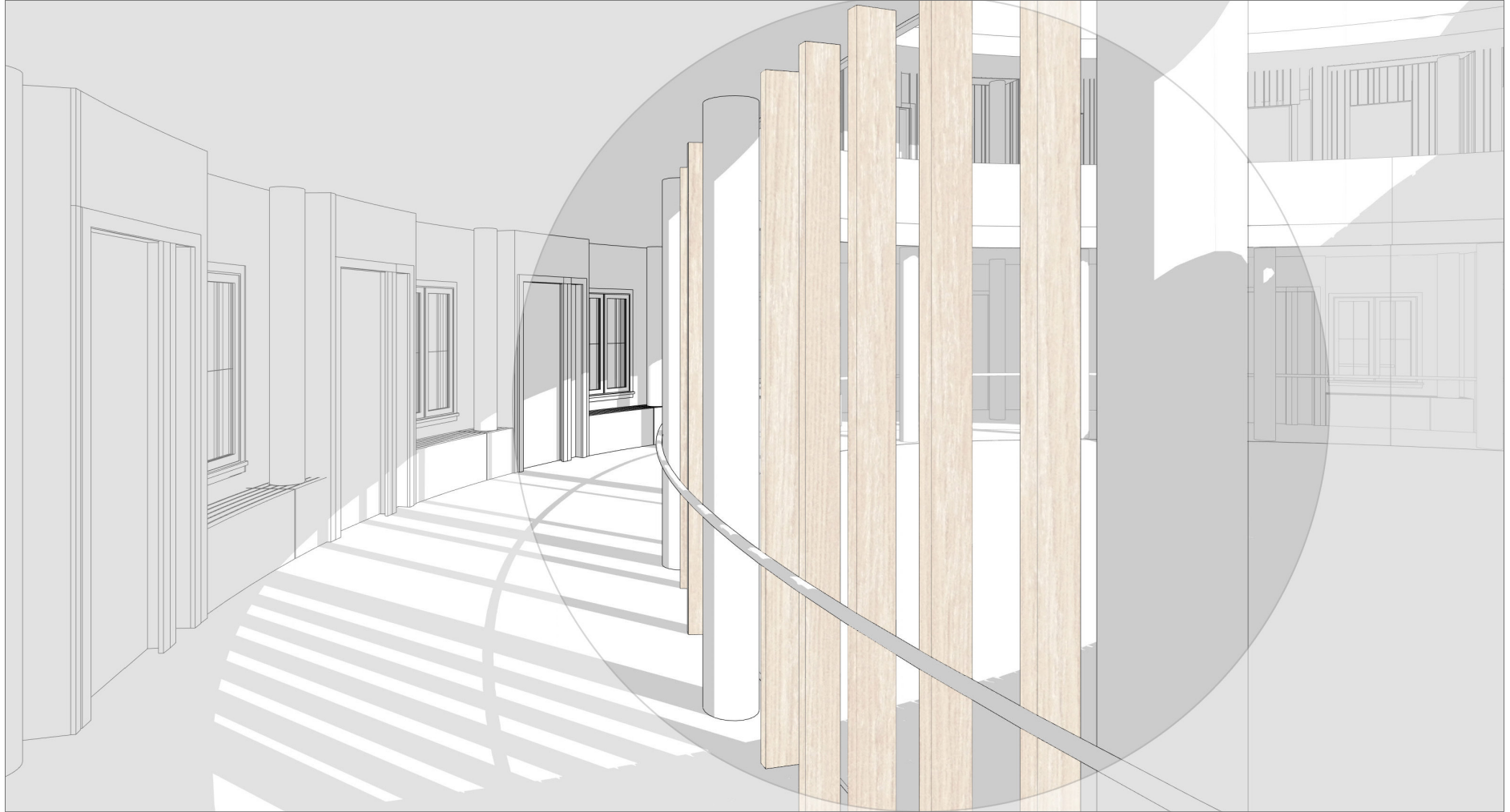
# RAIN + ACTIVITY

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# DIVERSITY OF LIGHT

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# PERSPECTIVE OF THE ELDERLY

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# CONTRAST + SEASONS

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# DIFFERENCE

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# DIFFERENCE

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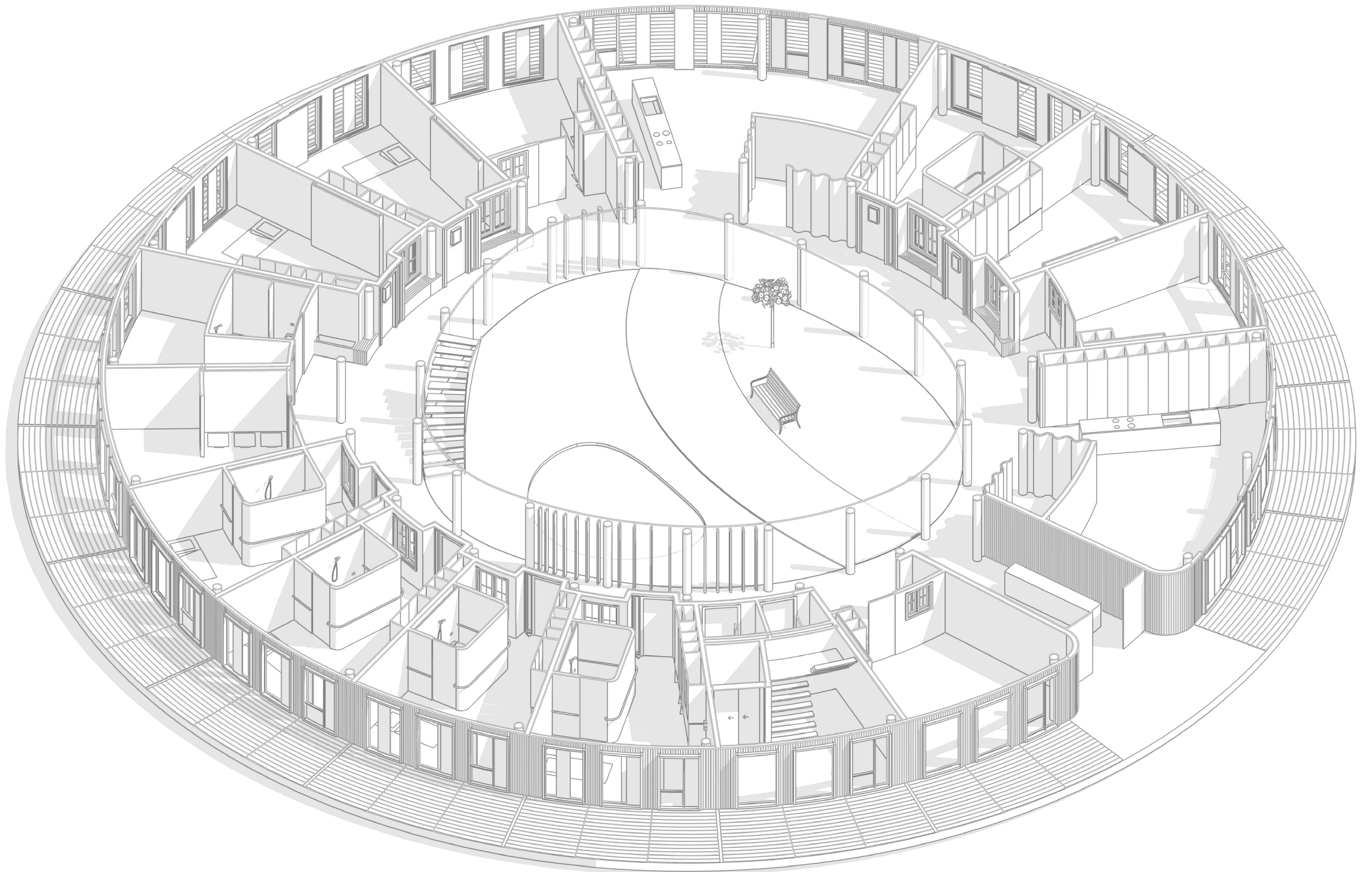


# APPEALS TO PEOPLE

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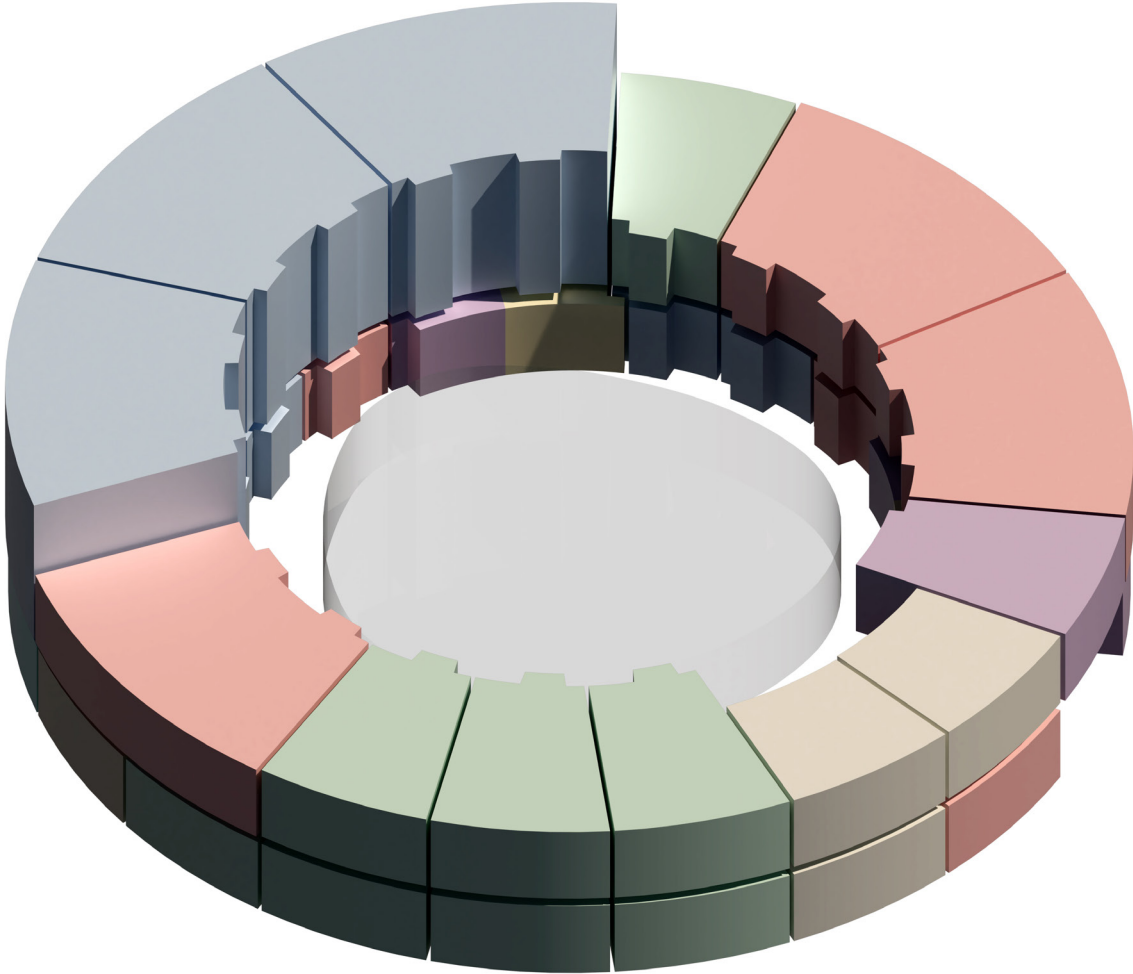
"Architecture that through its use of proportions, materials, light, color and acoustics communicates elementary sensory experiences equally appeals to people with or without dementia." (Feddersen, 2014, p.11)





# FIRST FLOOR

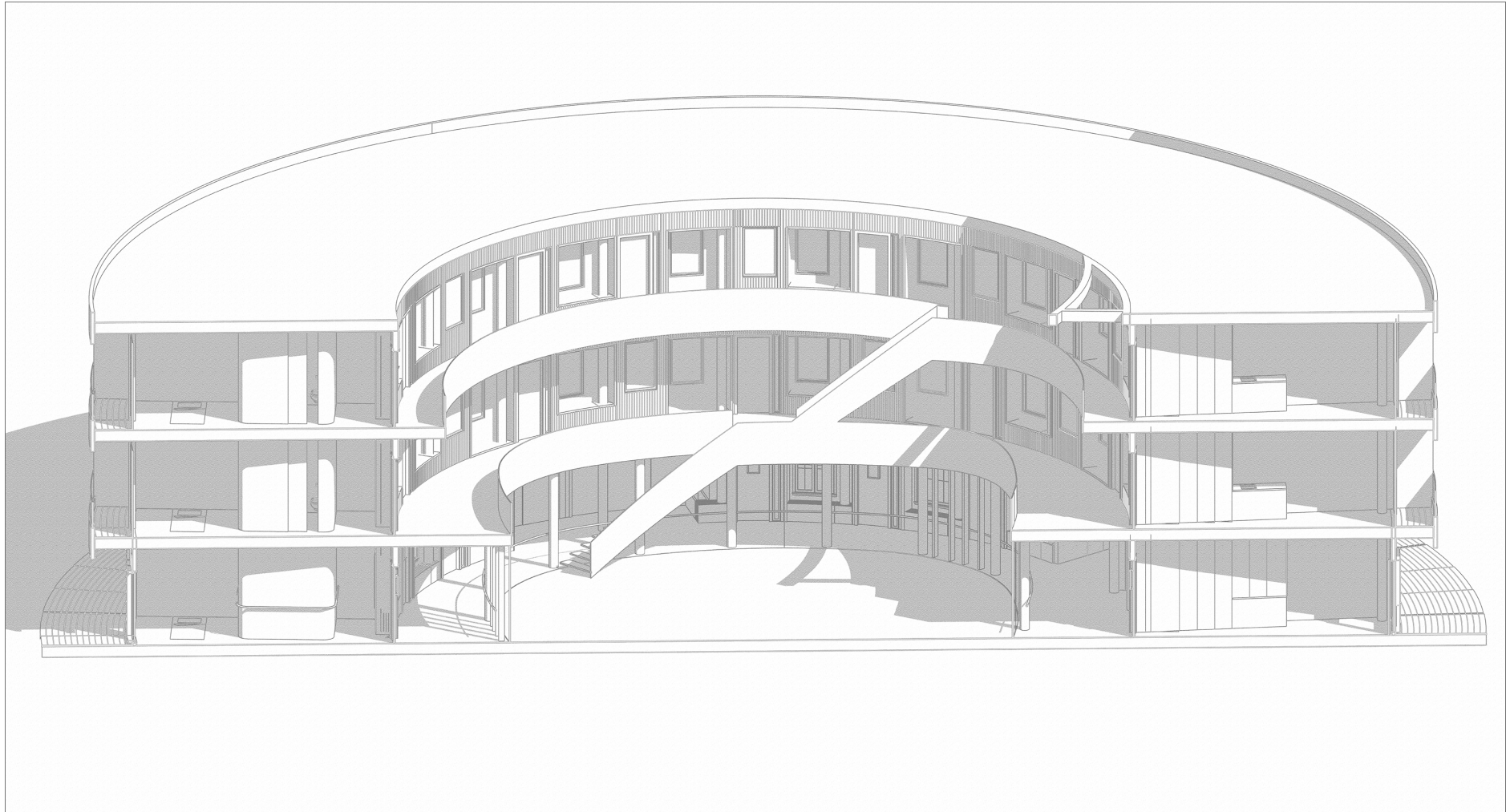
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- Family house
- Starters house
- Studio/ temporary
- Entrance
- Common room
- Indoor garden

# OVERVIEW - SECTION

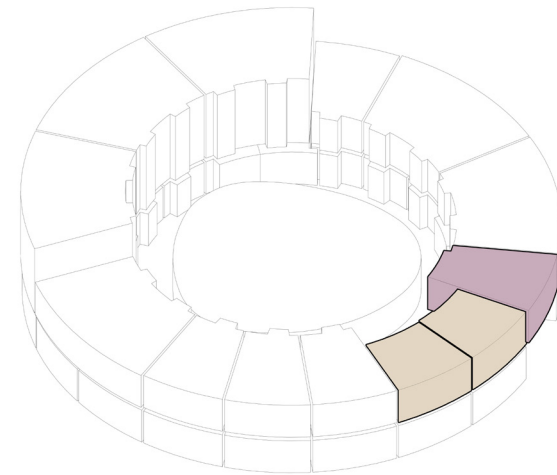
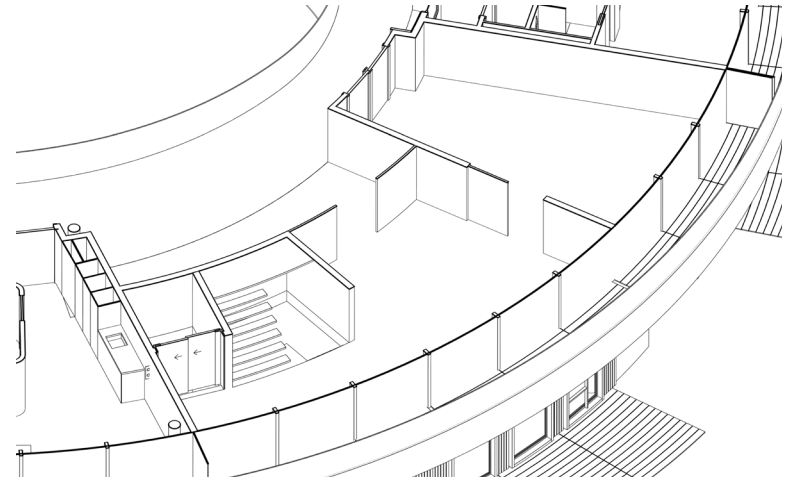
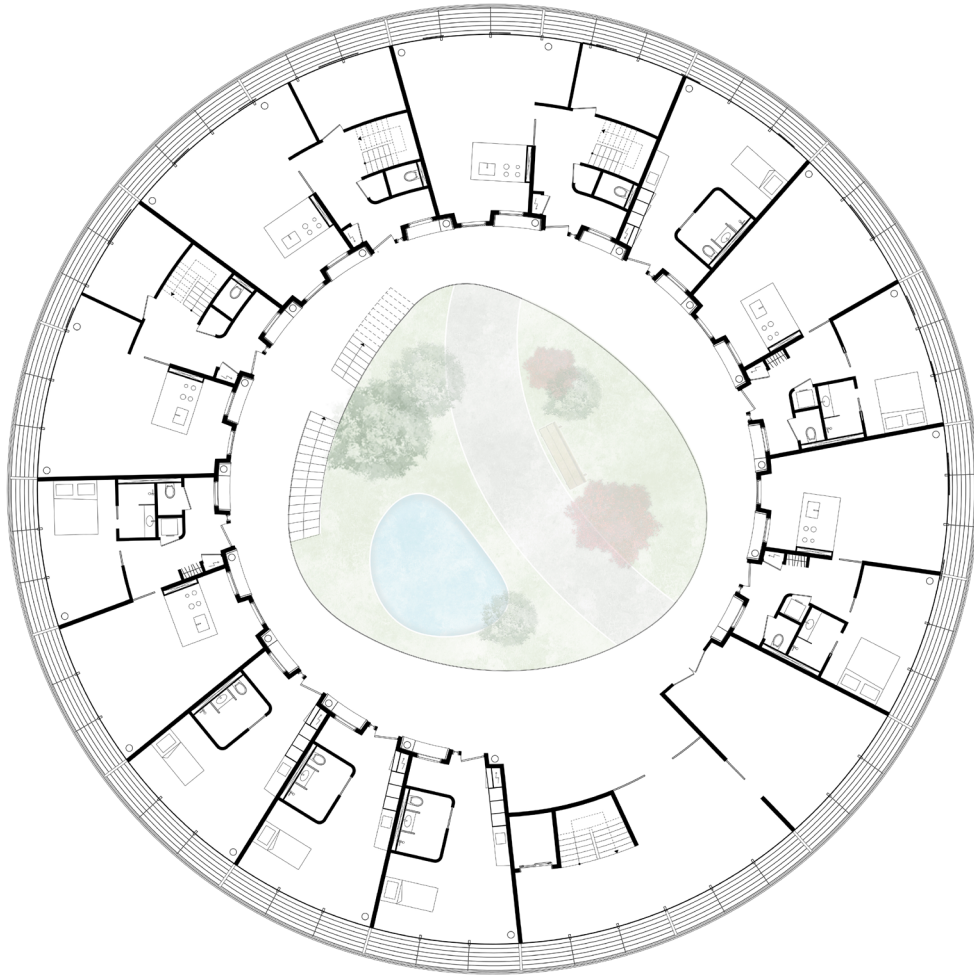
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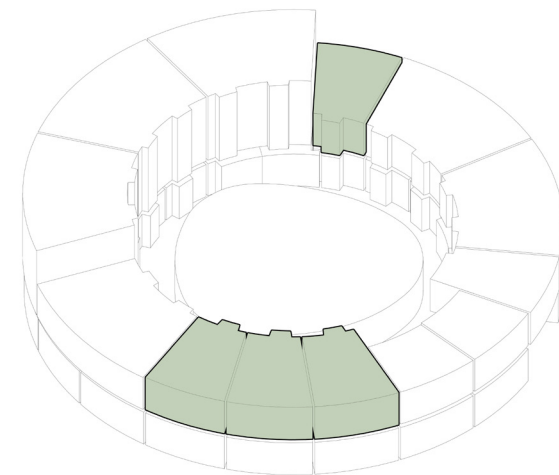
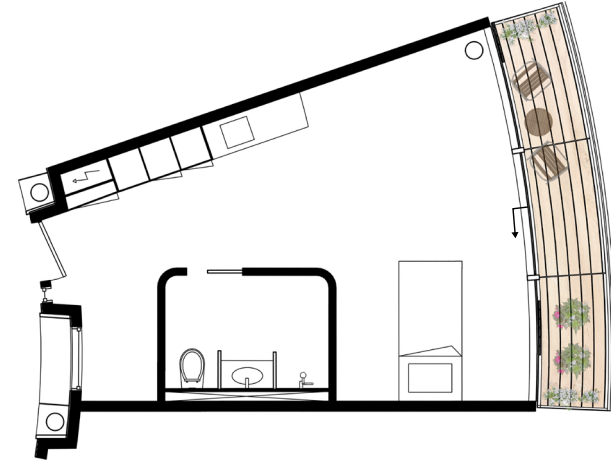
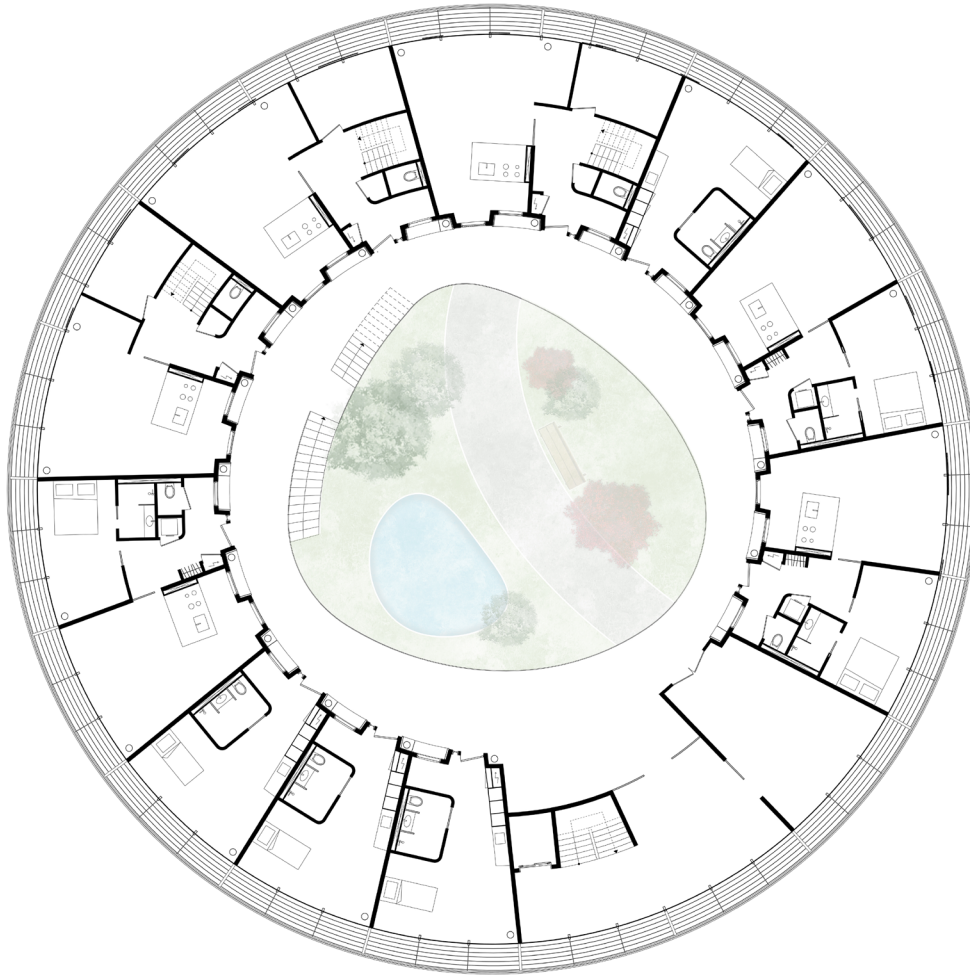
# ENTRANCE

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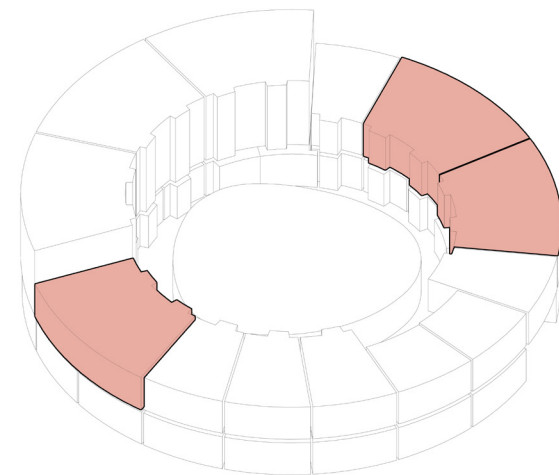
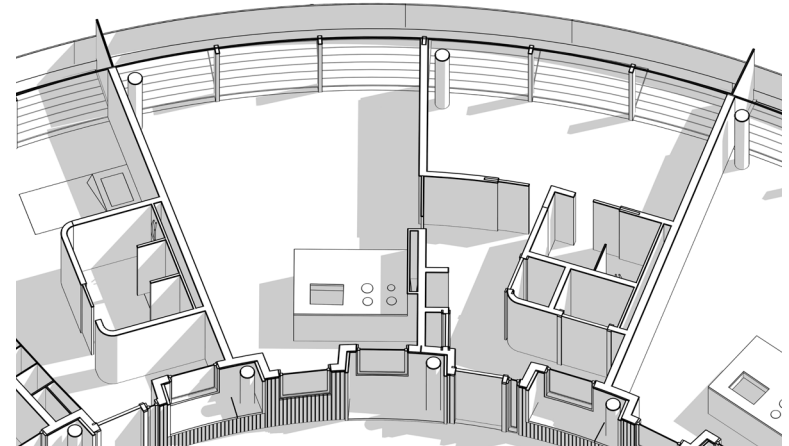
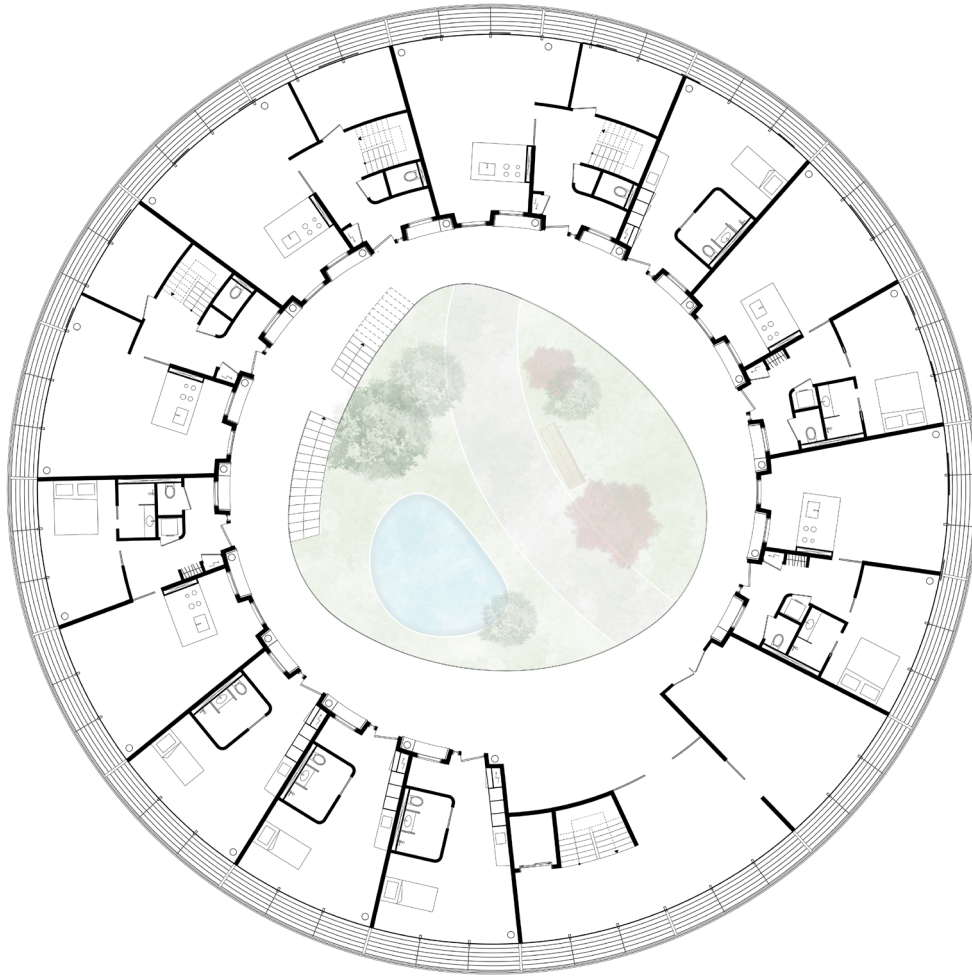
# STUDIO

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Studio: 8 x 28 m<sup>2</sup>

# STARTERS

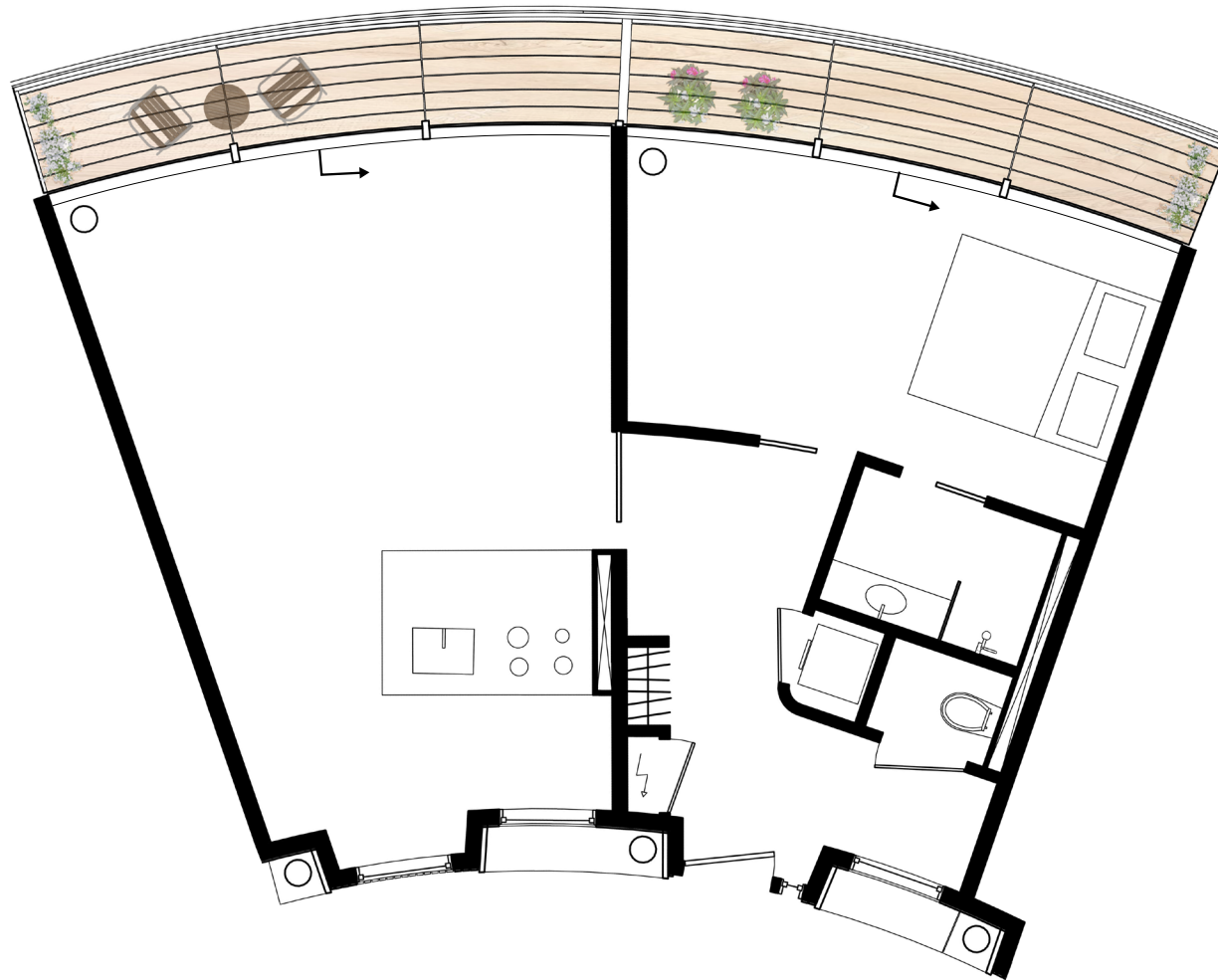


Starters: 6 x 56 m<sup>2</sup>

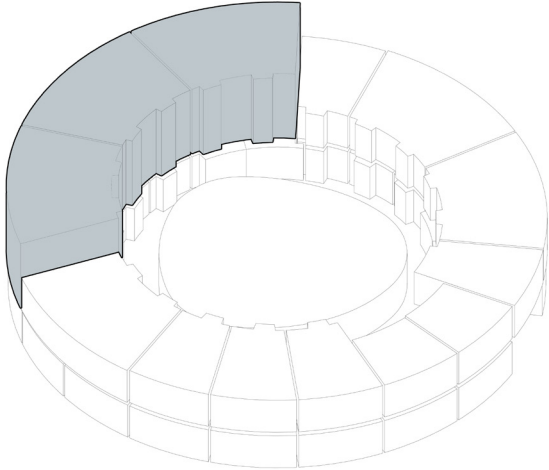
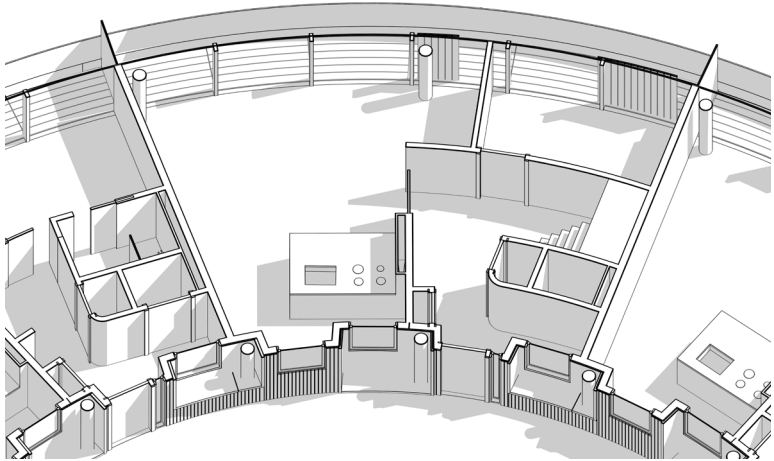
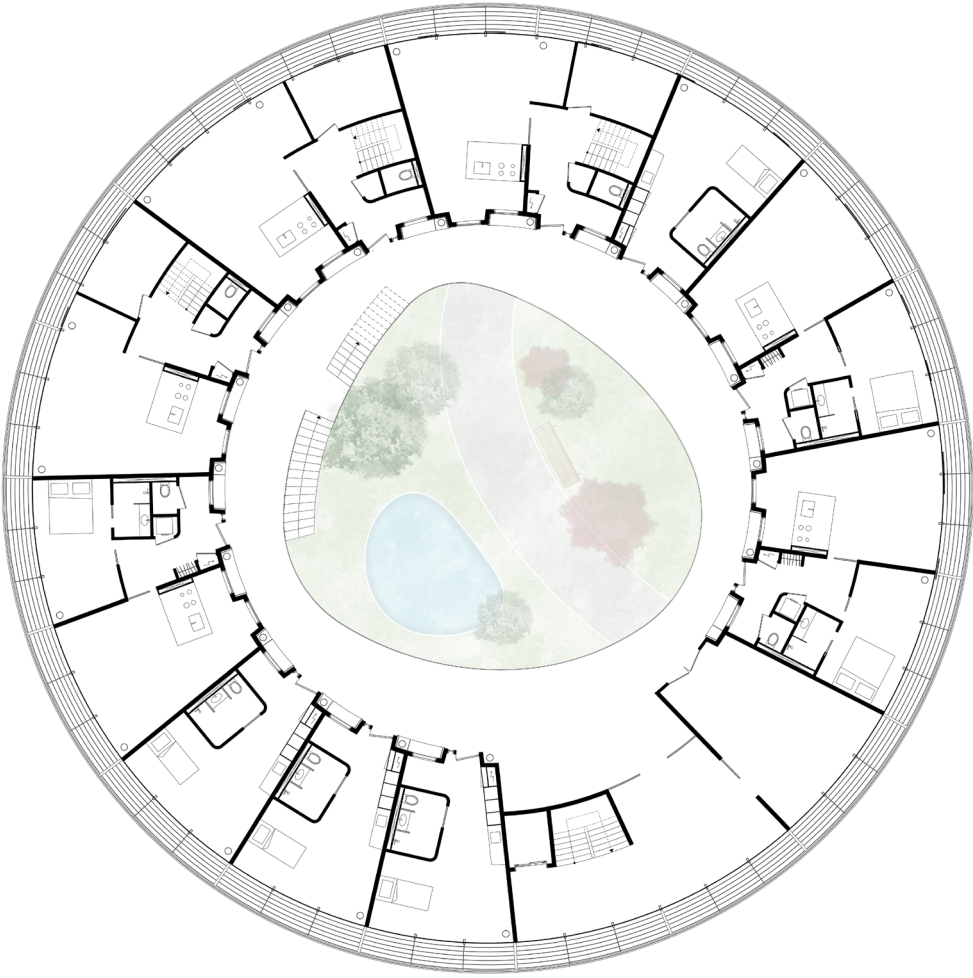


# STARTERS

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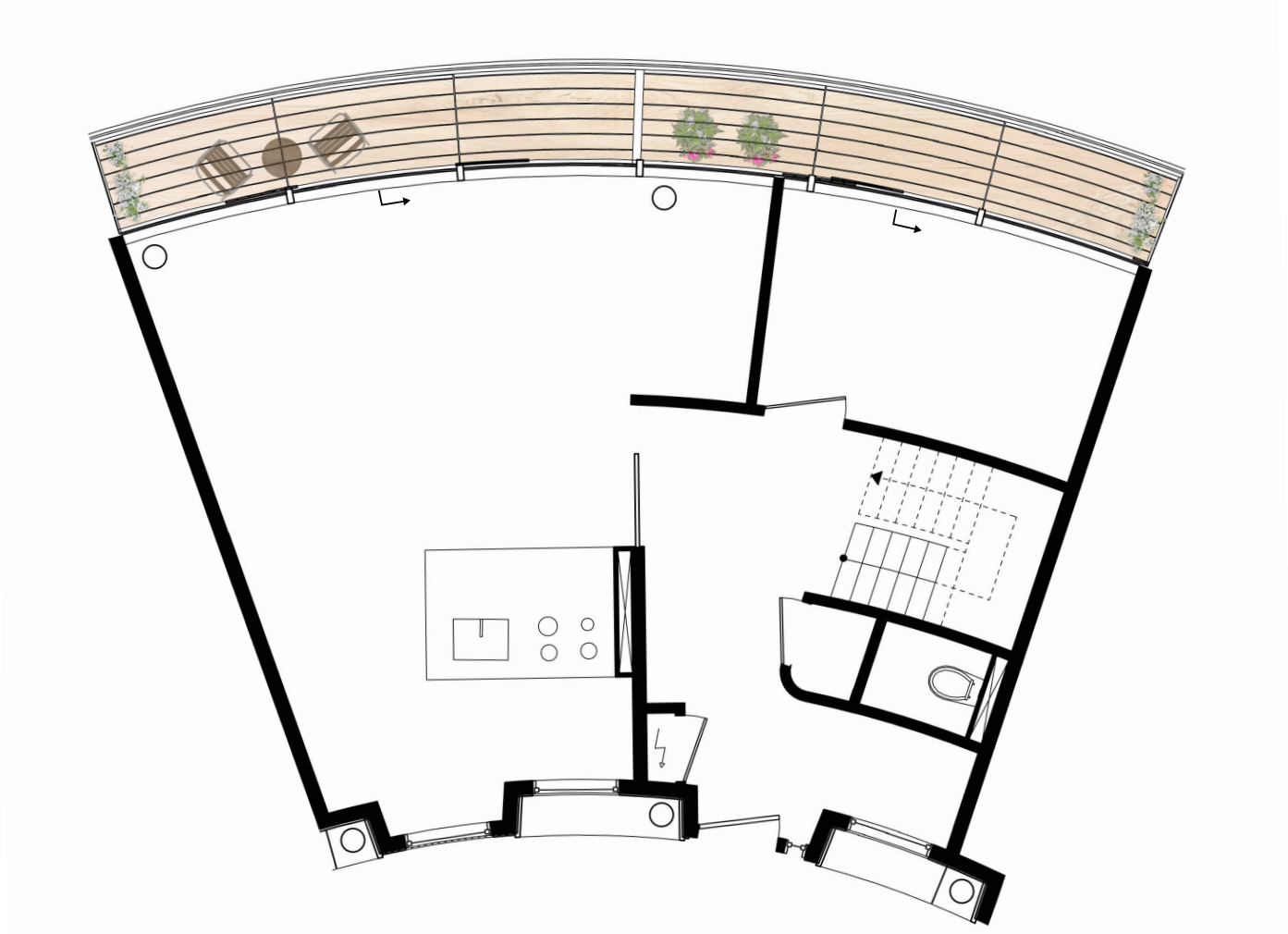
# FAMILY HOUSE



Family house: 3 x 112 m<sup>2</sup>

# FAMILY HOUSE

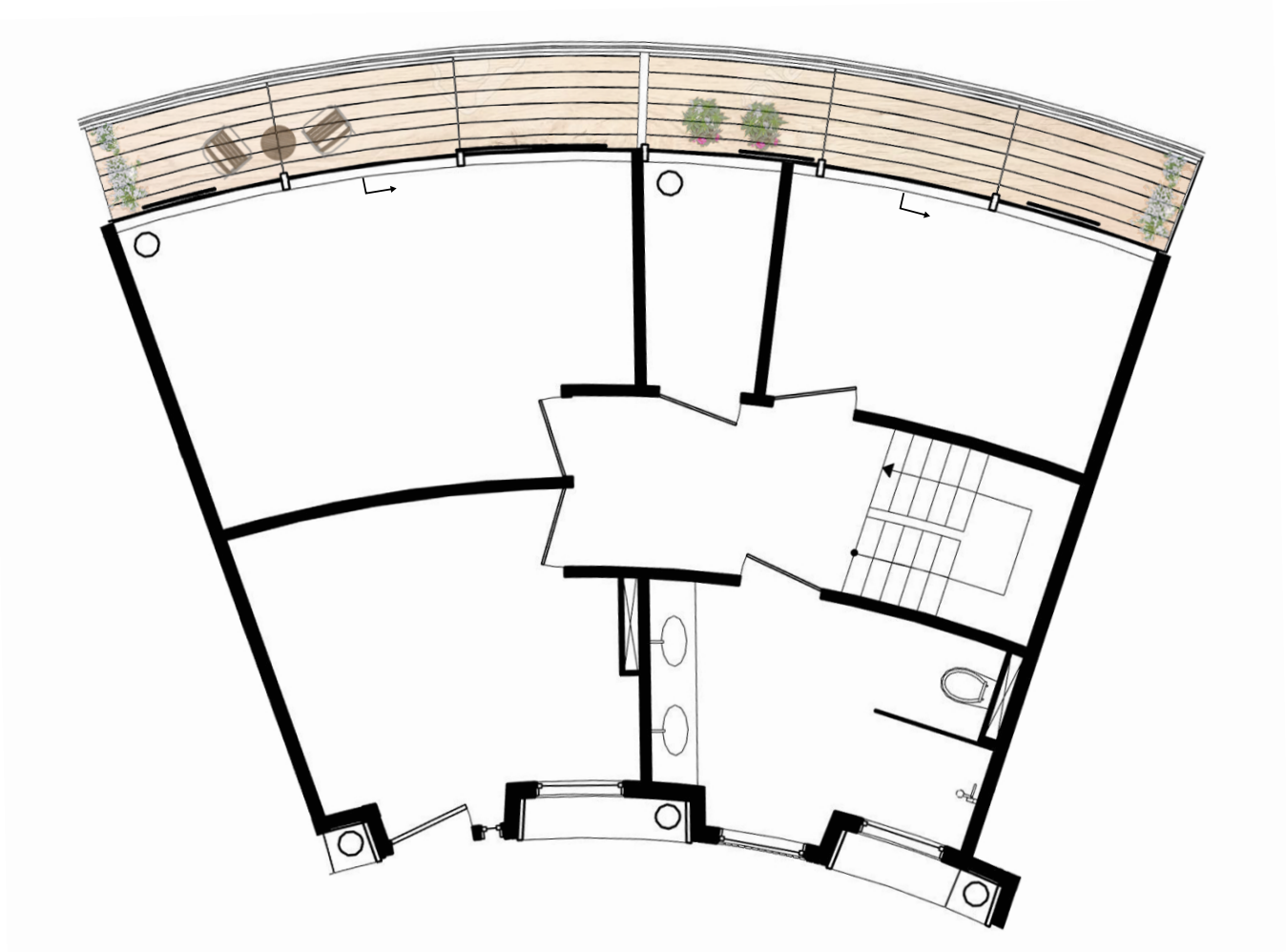
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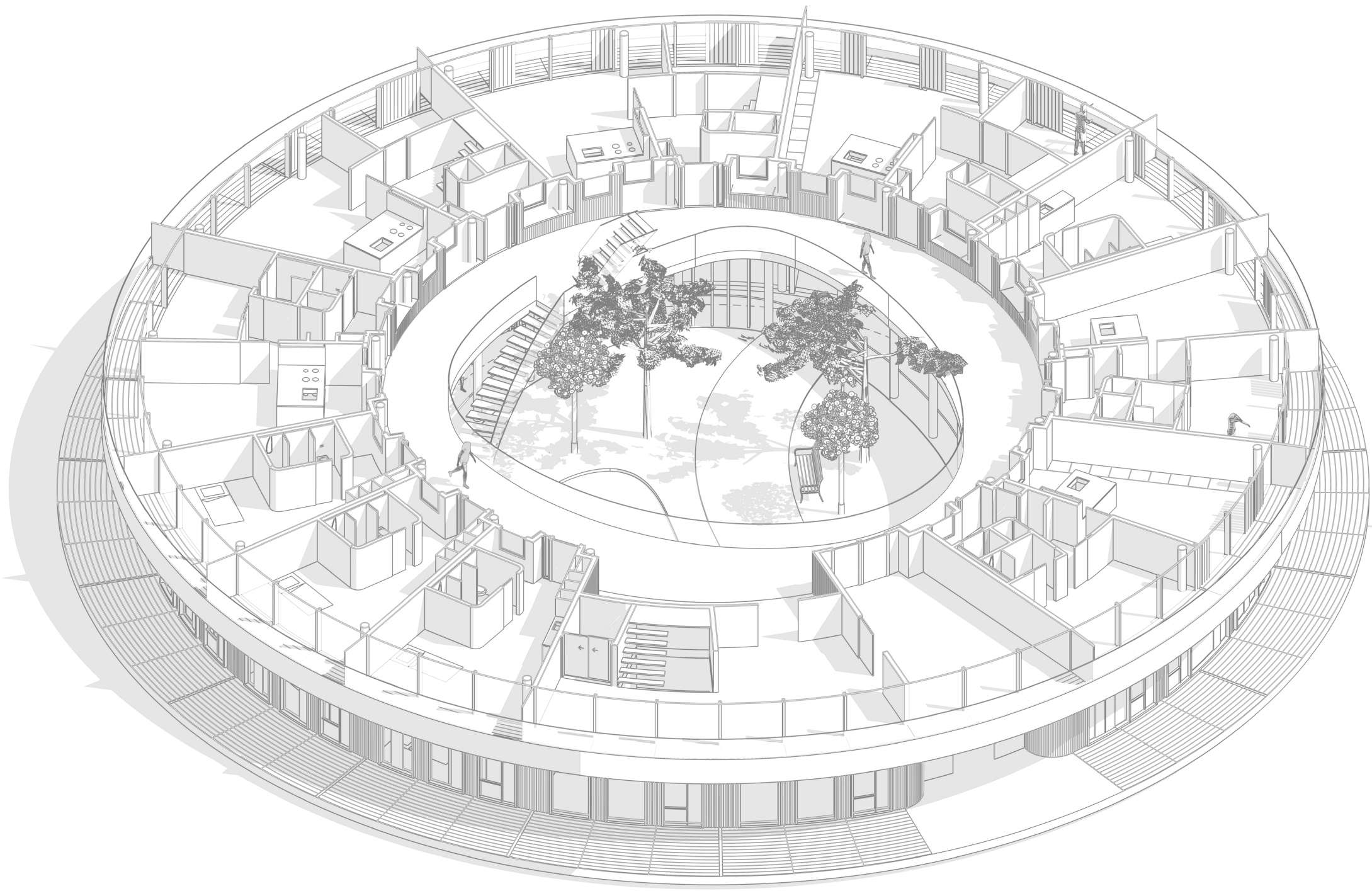




# FAMILY HOUSE

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# GALLERY - FIRST FLOOR

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# FACADE FIRST EN SECOND FLOOR

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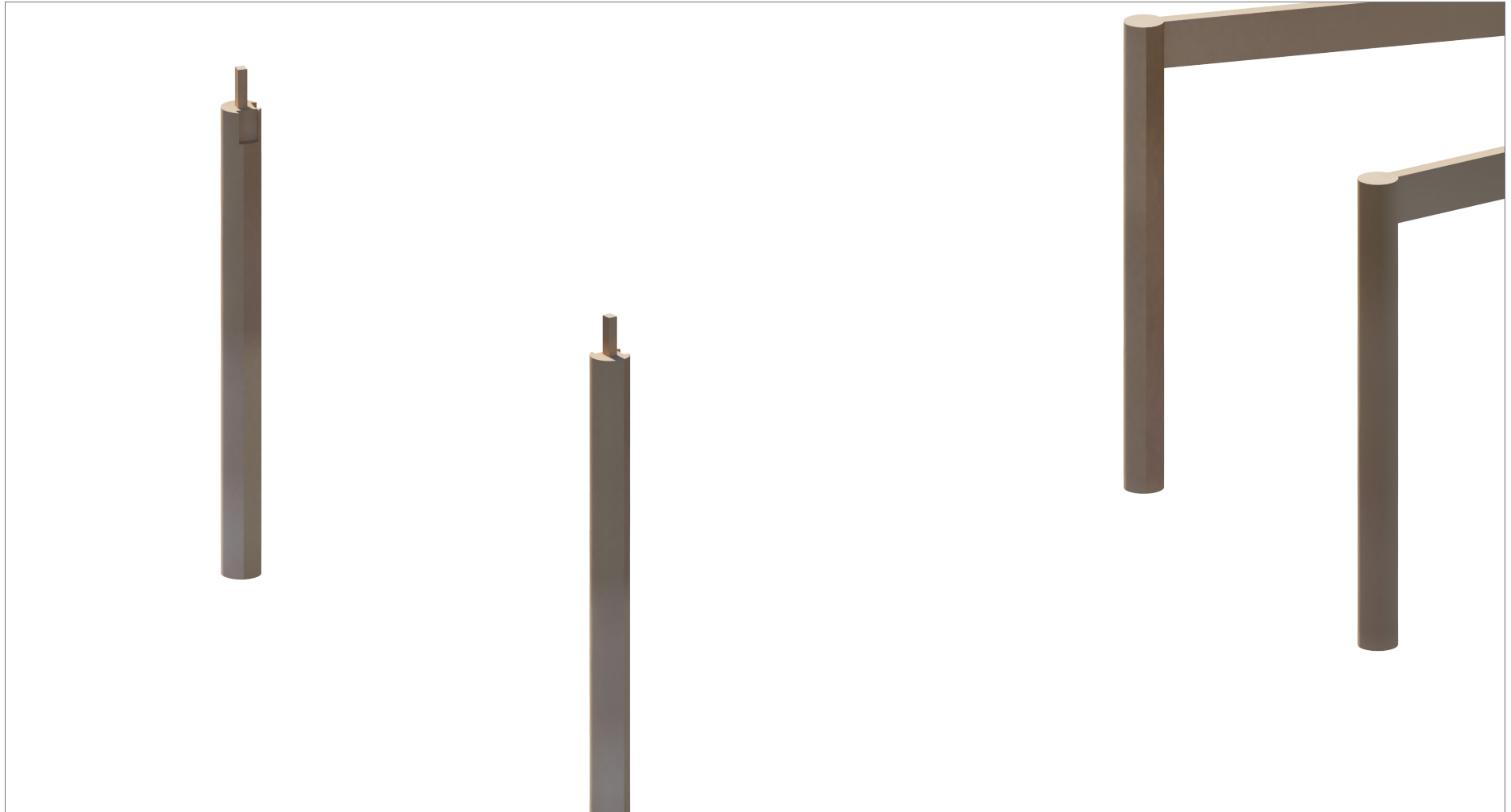
# ZOOMED IN

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# CONSTRUCTION

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# CONSTRUCTION

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# CONSTRUCTION

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# CONSTRUCTION

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# CONSTRUCTION

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# CONSTRUCTION

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# CONSTRUCTION

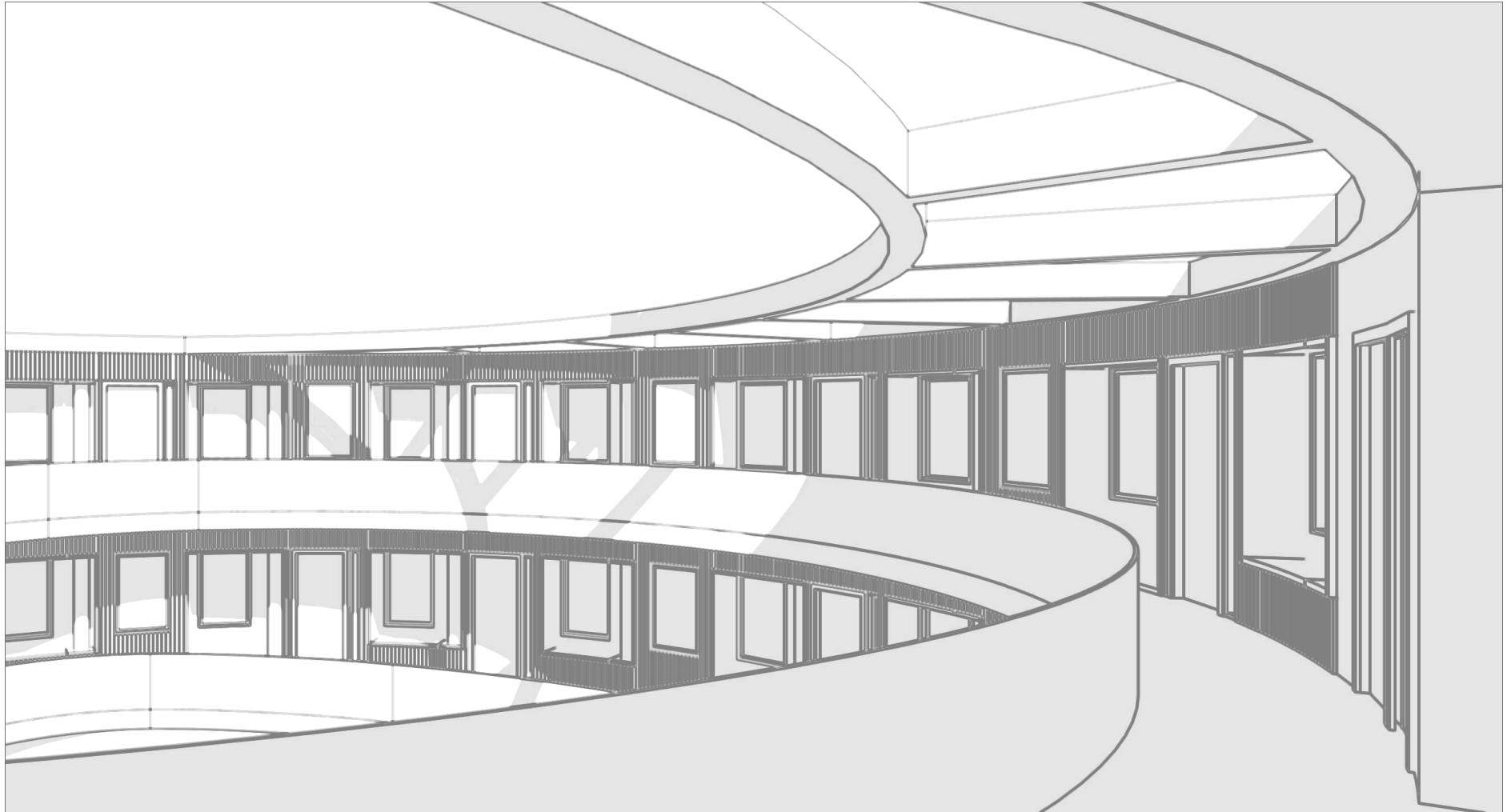
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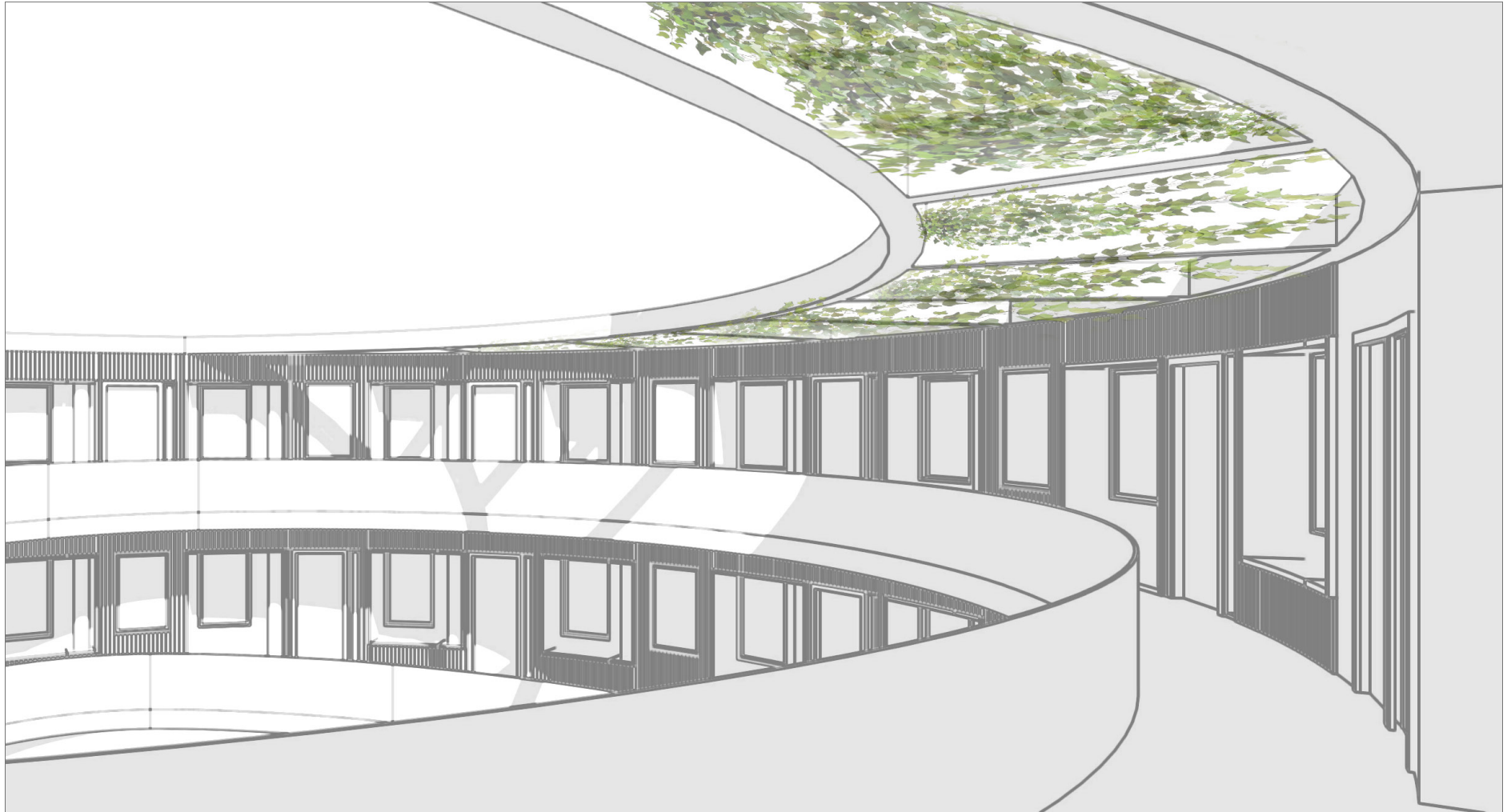
# GALLERY SECOND FLOOR + SUN SHADE

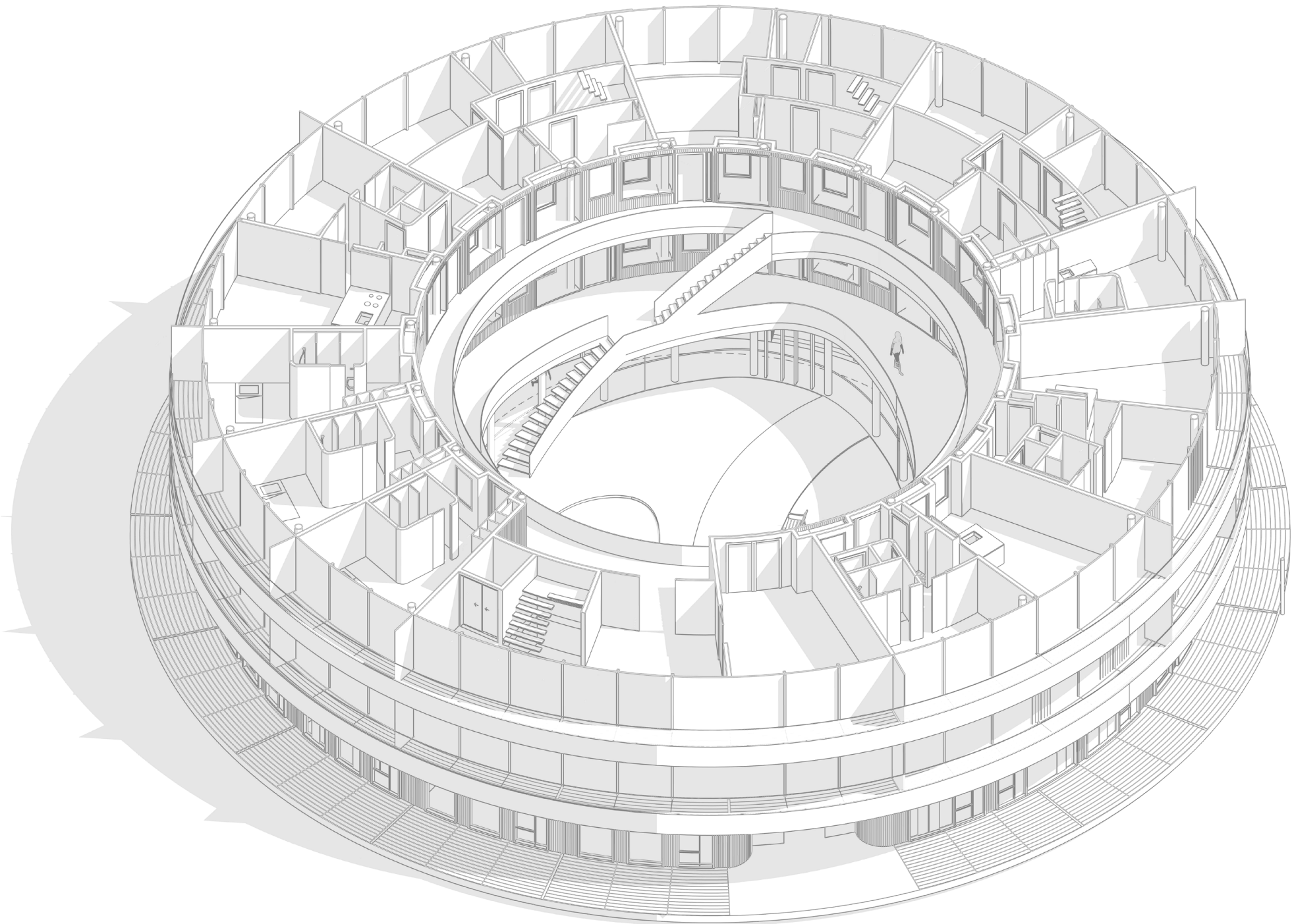
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# GALLERY SECOND FLOOR + SUN SHADE

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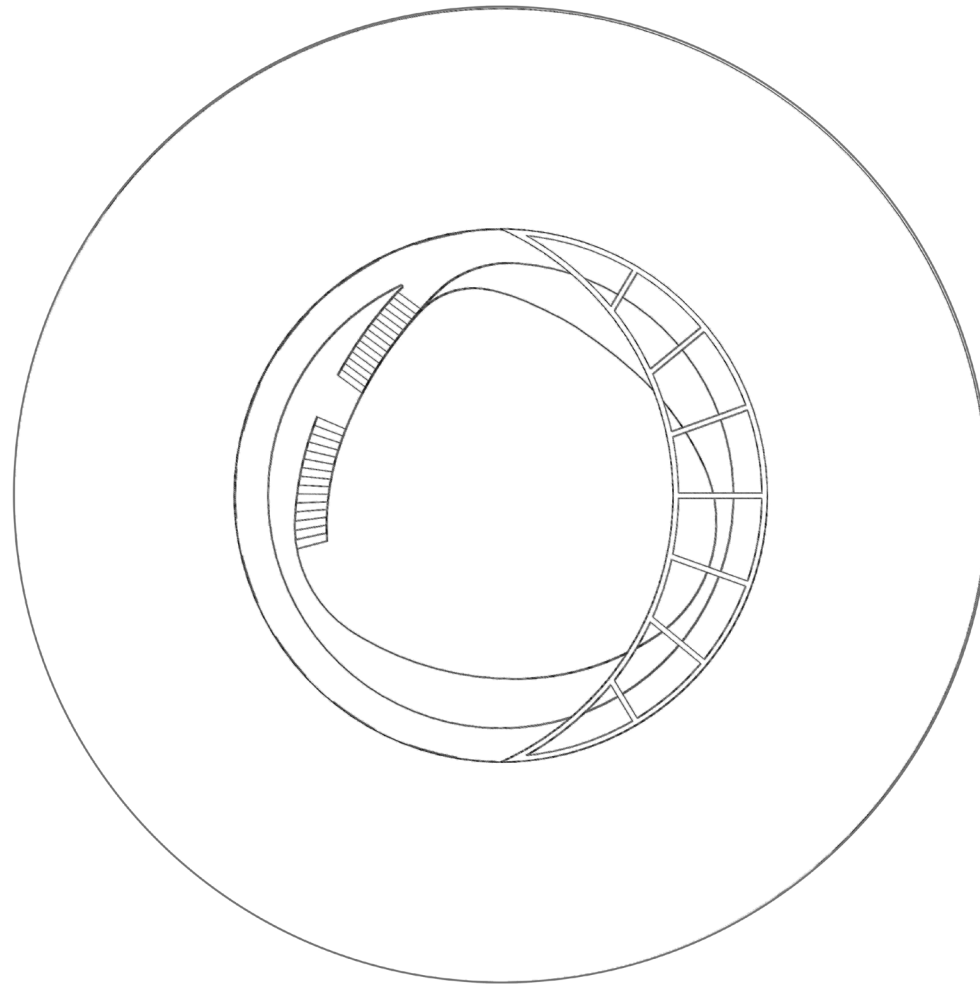






# TOP VIEW

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# OUTER FACADE

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# FACADE - WINDOW SIZE

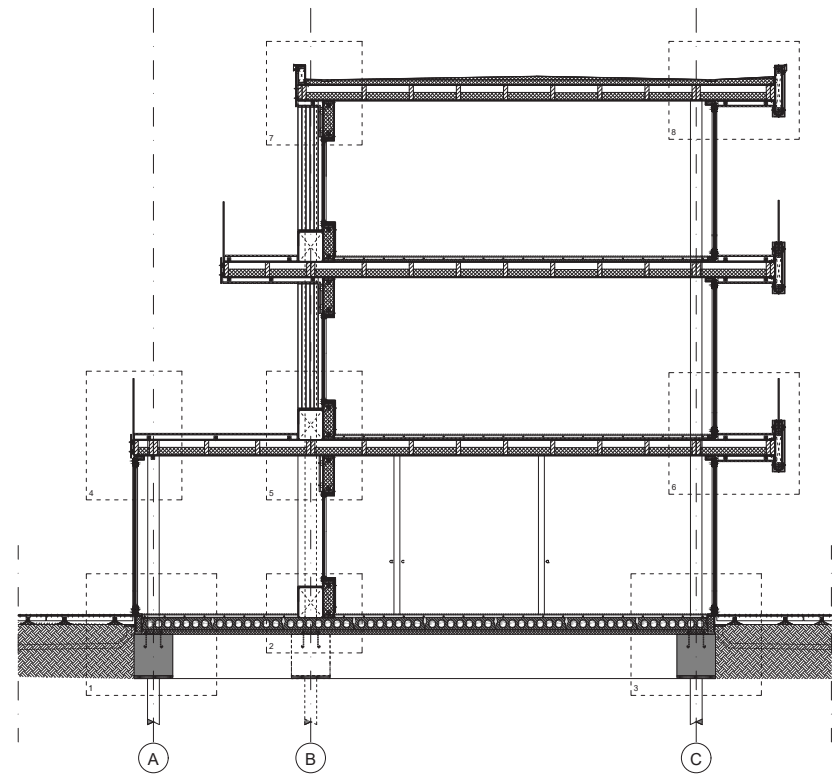
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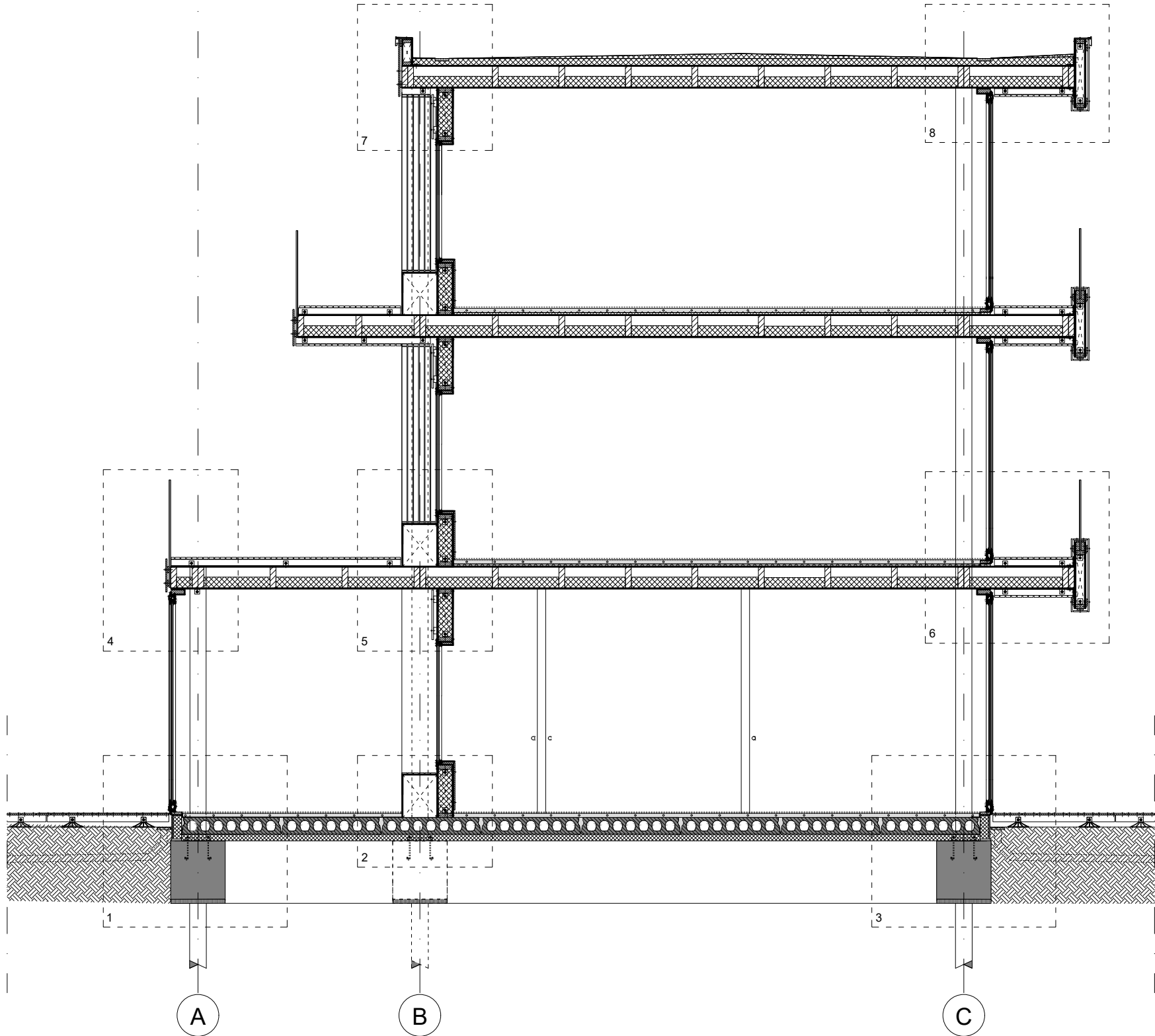





# FACADE + TECHNICAL DRAWINGS

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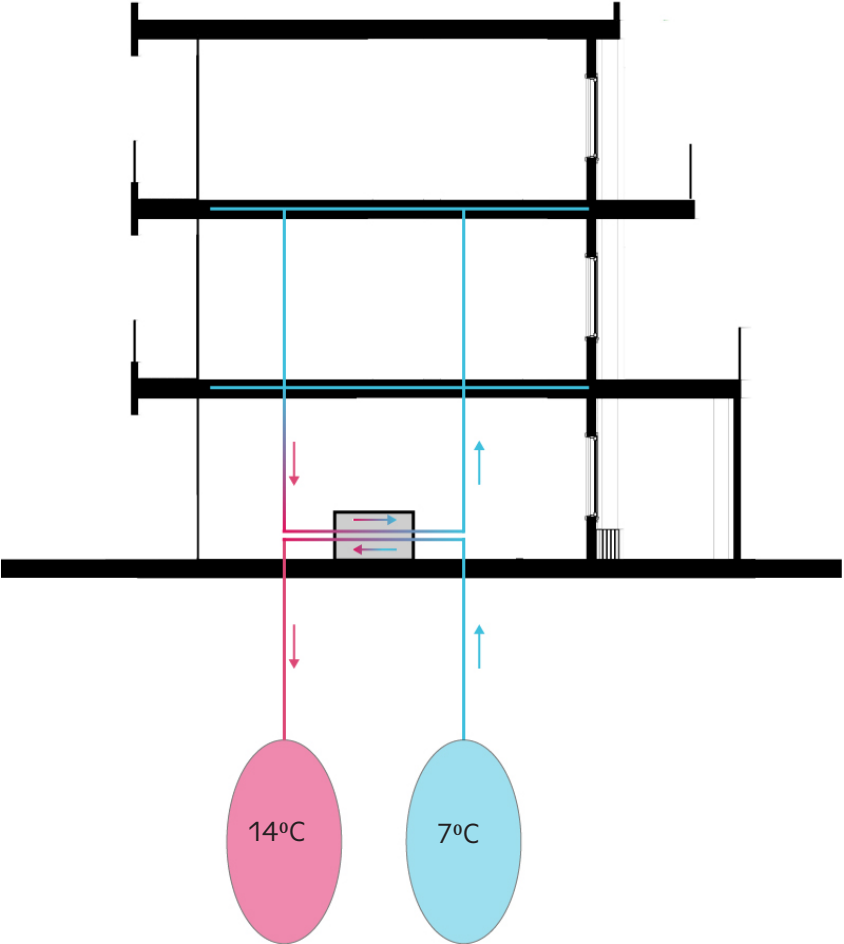
# HEATING & COOLING

 Heating & Cooling

 Ventilation

 Rainwater

 Energy





# VENTILATION

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Heating & Cooling



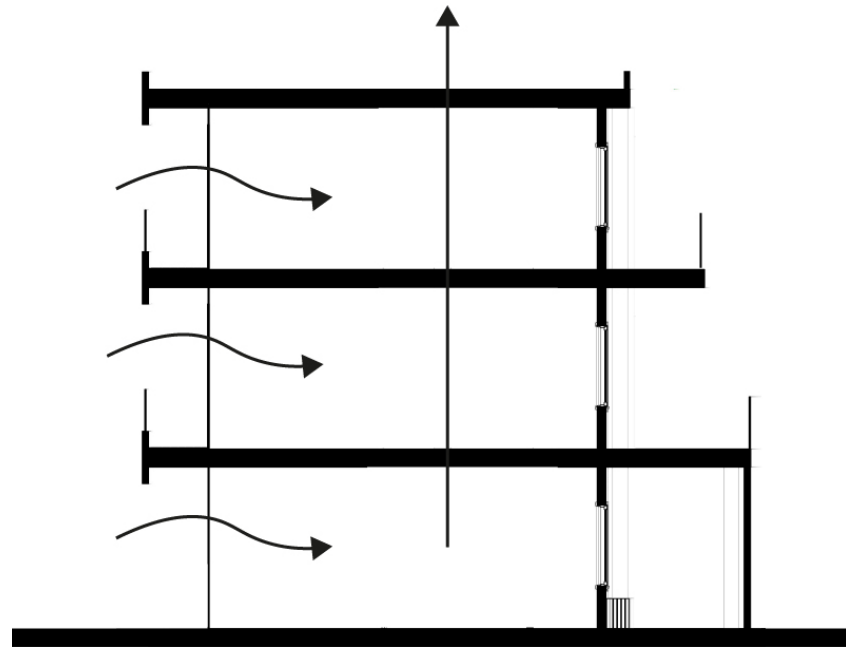
Ventilation



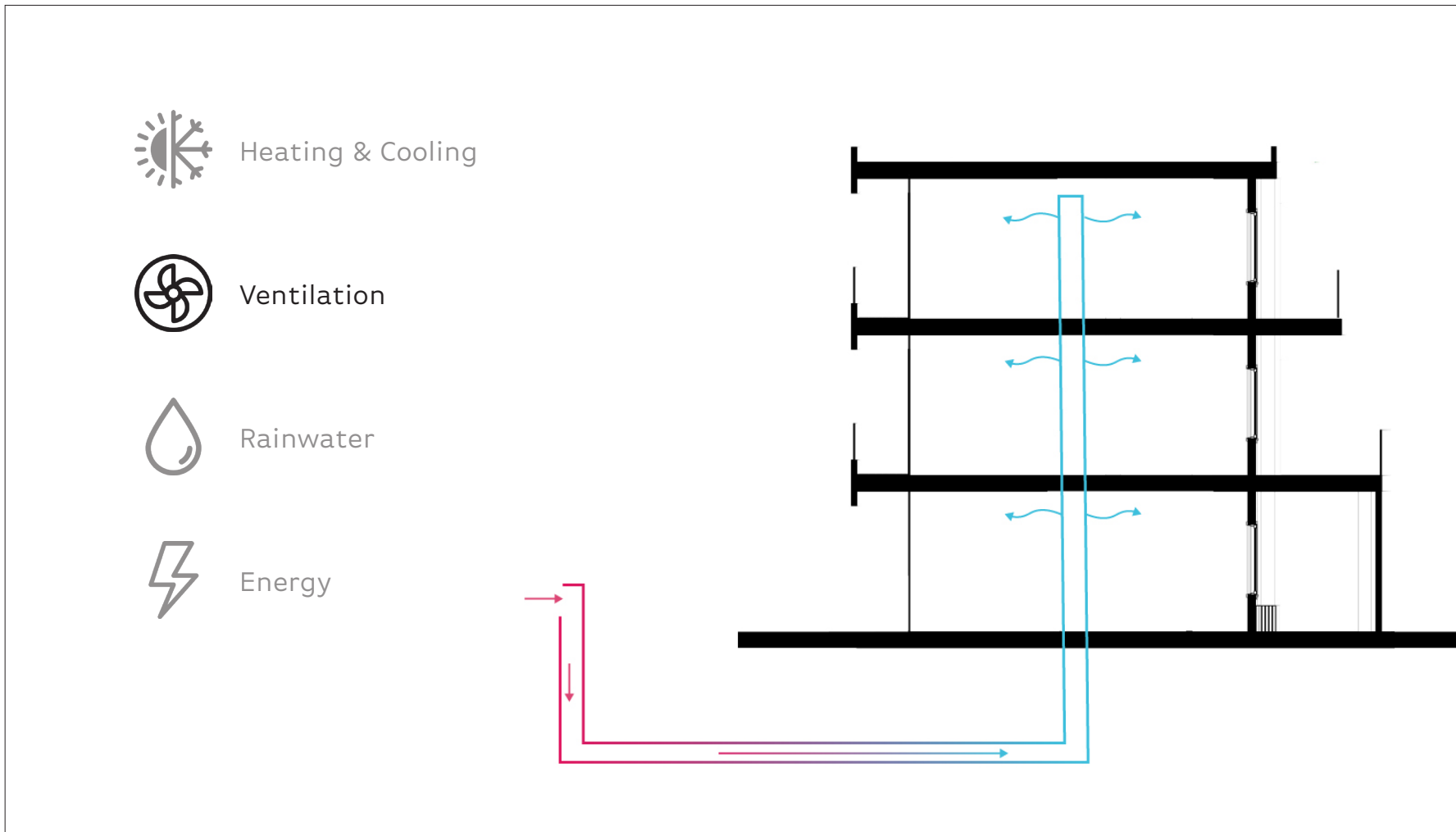
Rainwater



Energy



# VENTILATION




# ENERGY

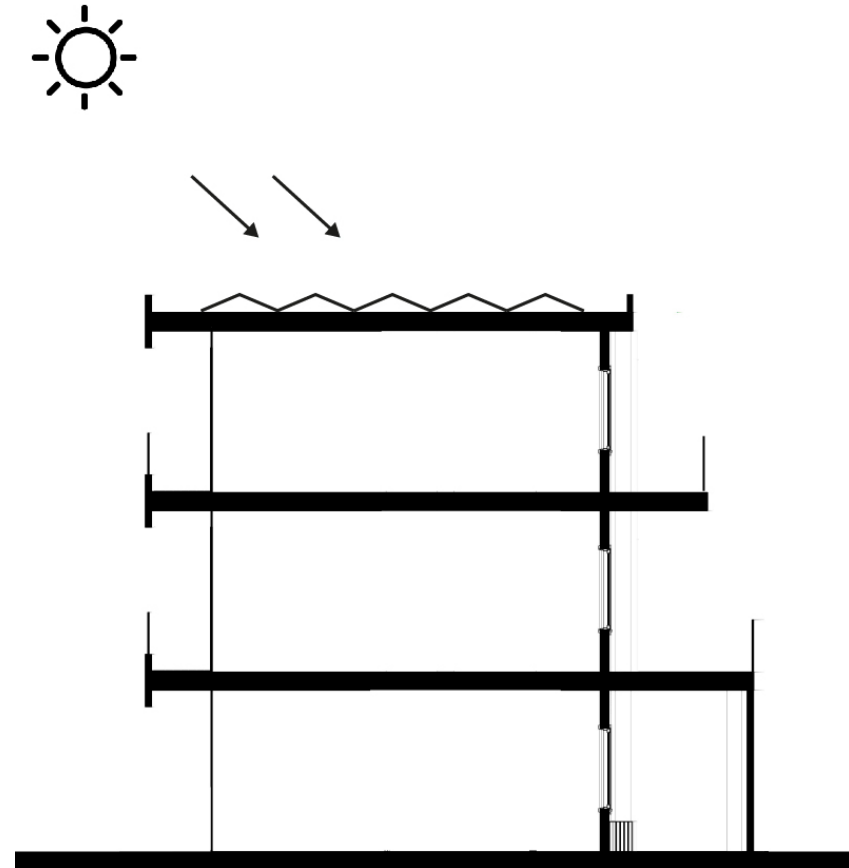
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 Heating & Cooling

 Ventilation

 Rainwater

 Energy





# RAINWATER

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Heating & Cooling



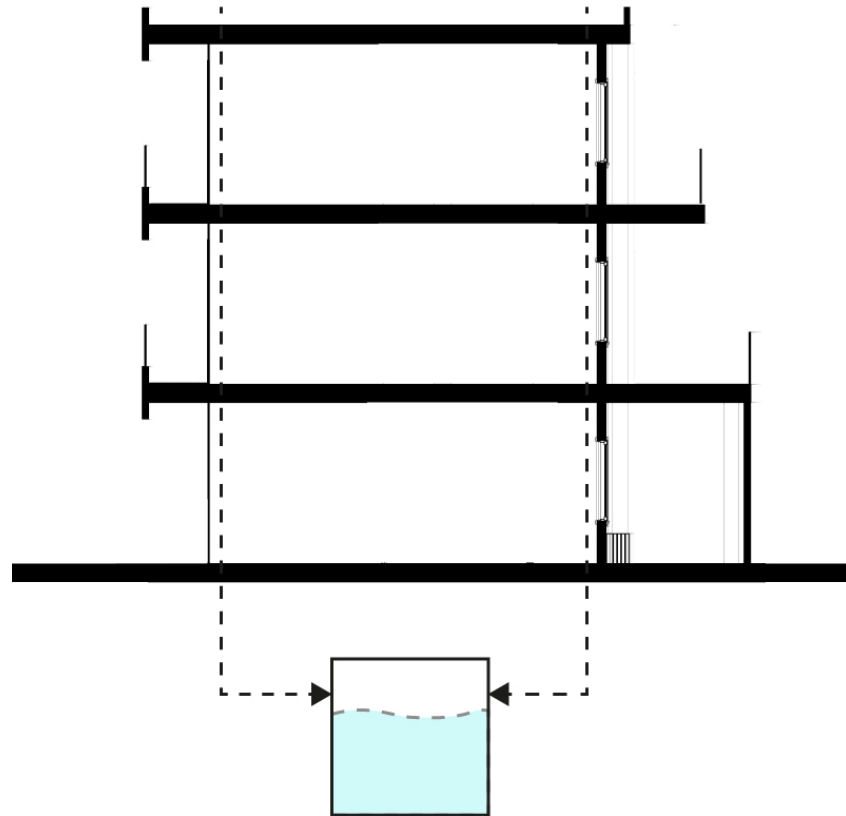
Ventilation



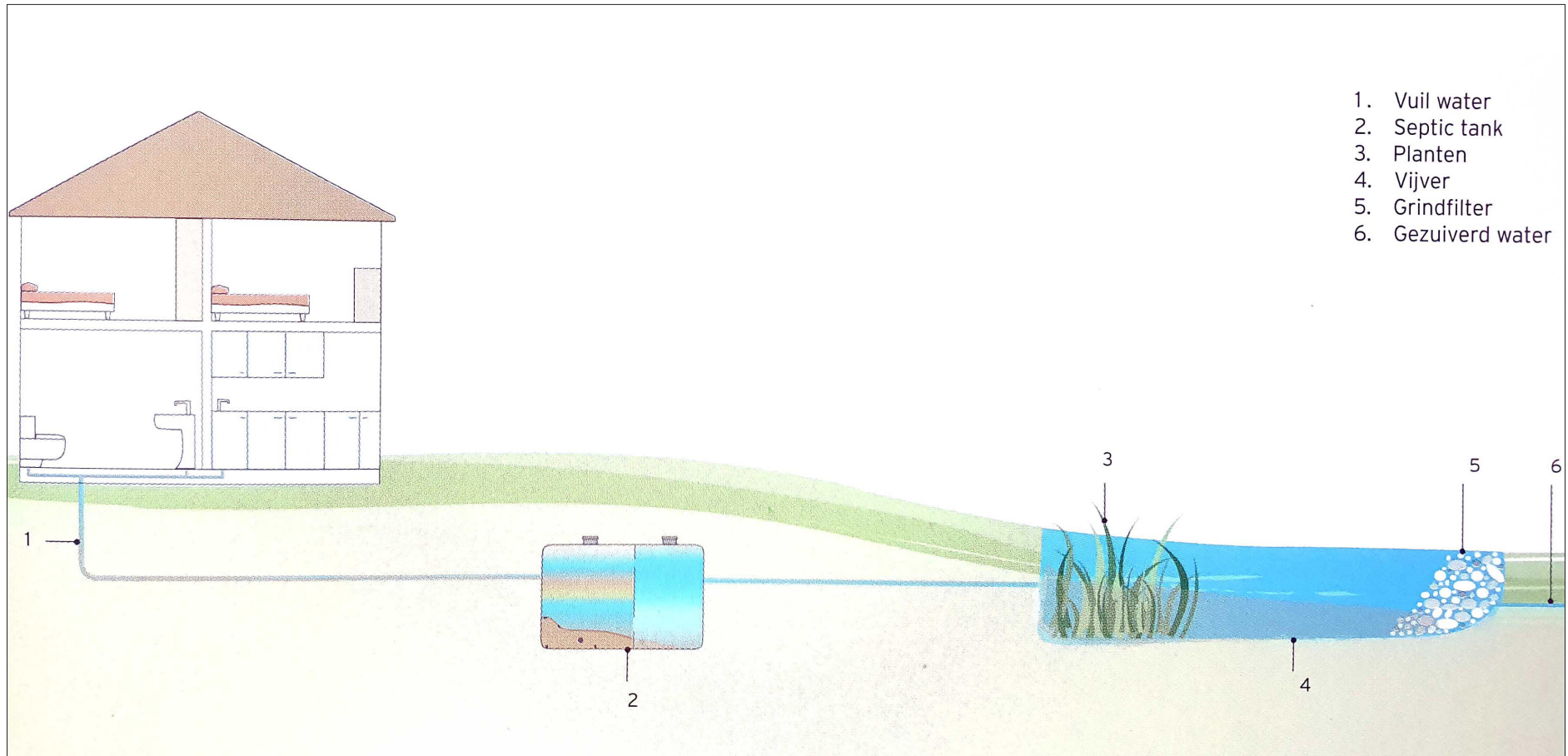
Rainwater



Energy



# WATER PURIFICATION POND



Ecohuis - duurzaamheid in de woning - waterzuiveringsvijver



# WATER PURIFICATION POND

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Ecohuis - duurzaamheid in de woning - waterzuiveringsvijver



# **There is no "standard" dementia**

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Several roads lead to Rome.



# THANK YOU!

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