

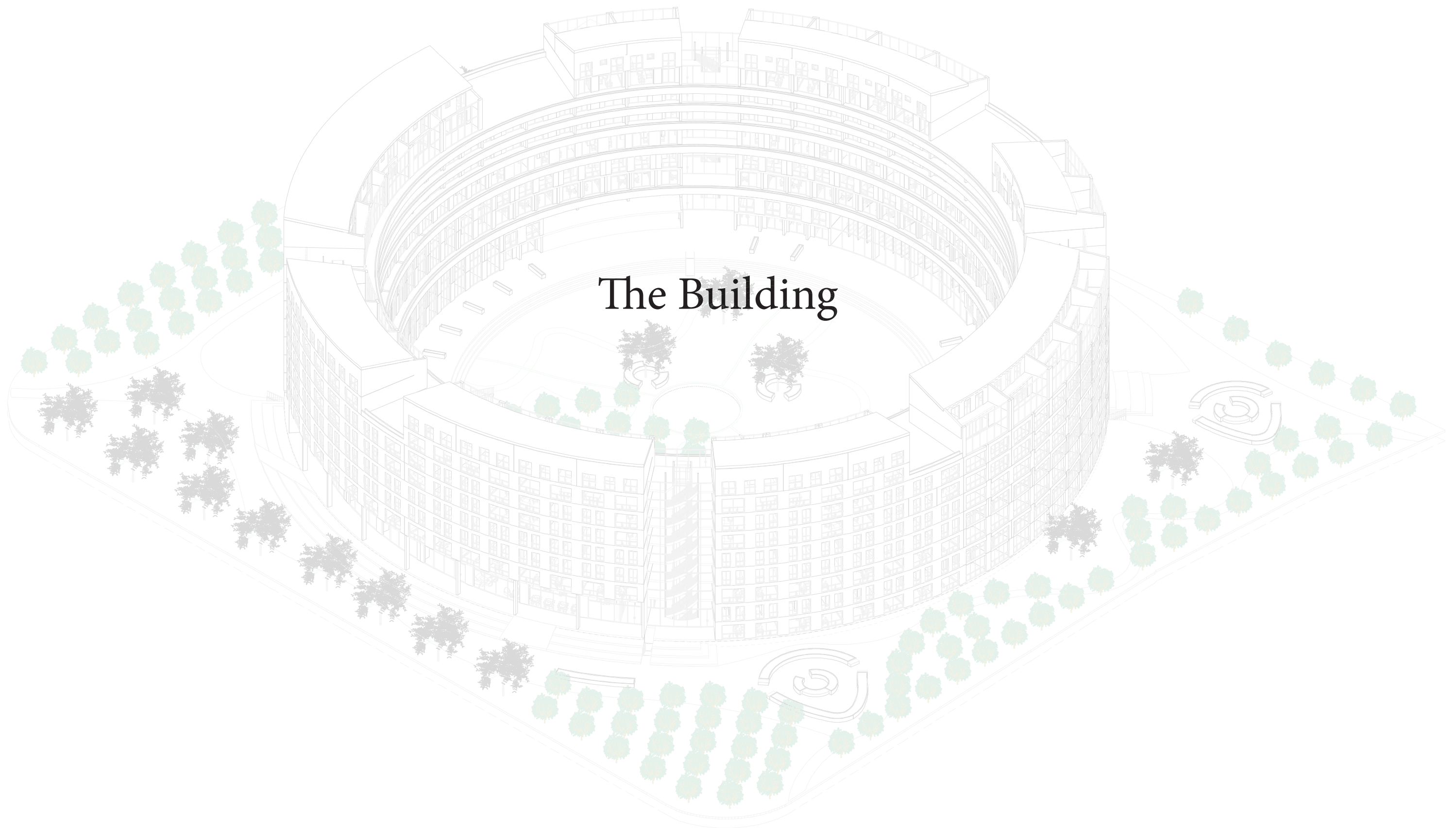
The Fertile City

Raising Food Awareness Through Architecture

Drawing booklet



Jino Fattah

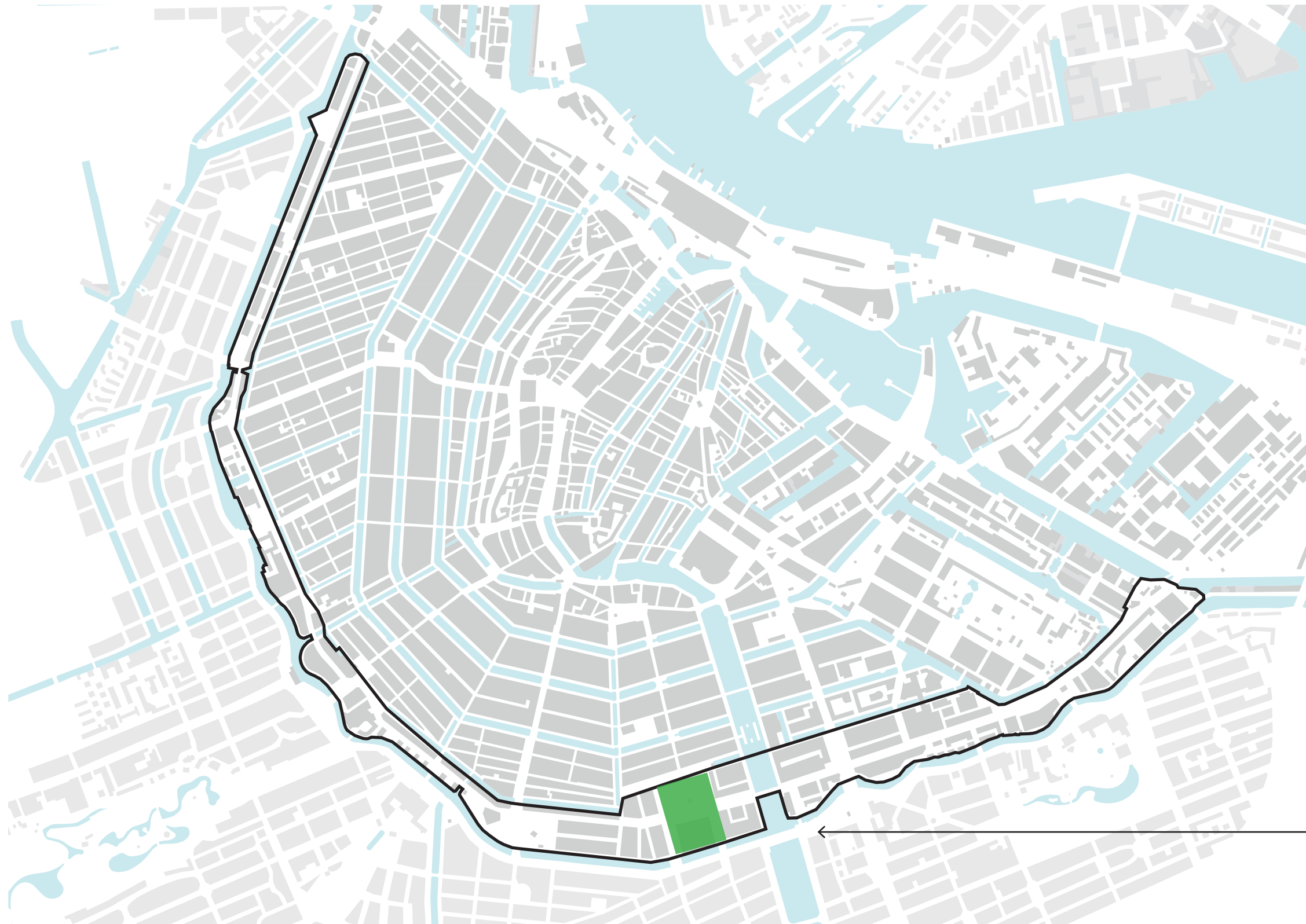


The Building

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Project location

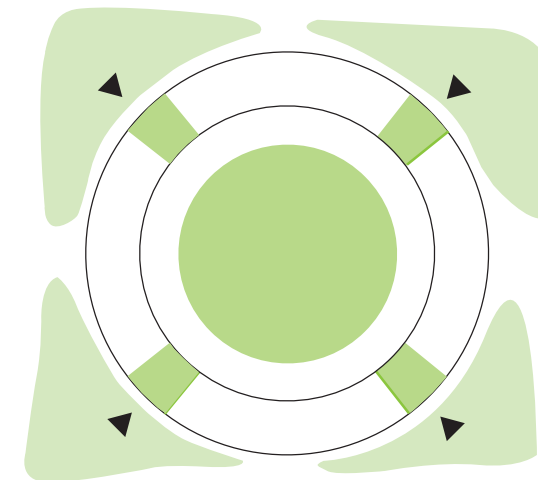
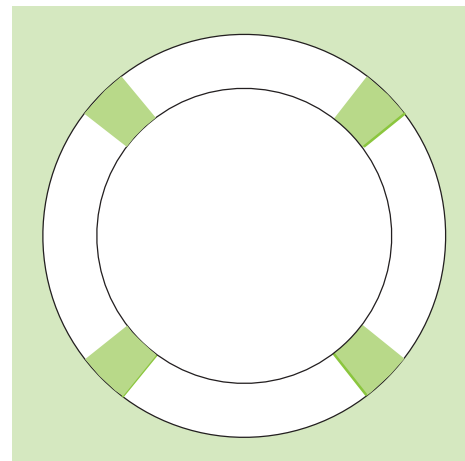
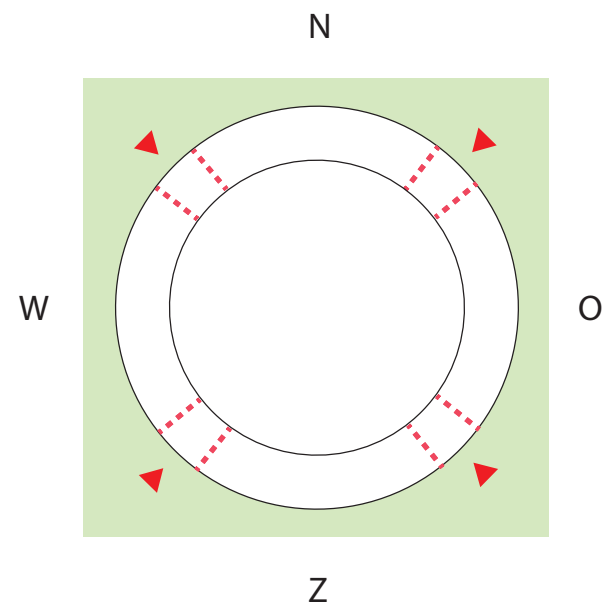
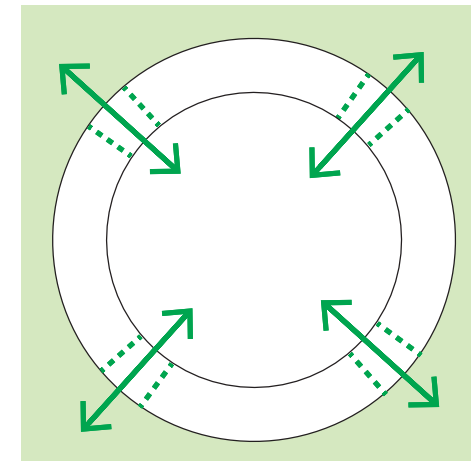
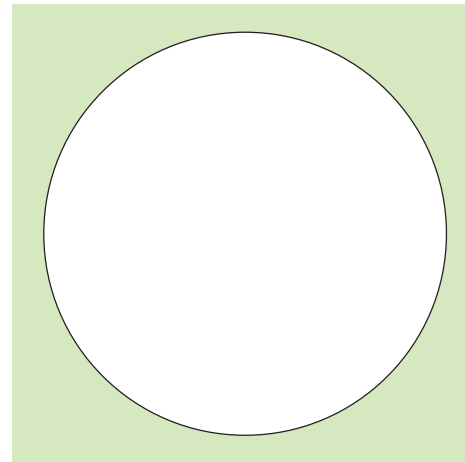
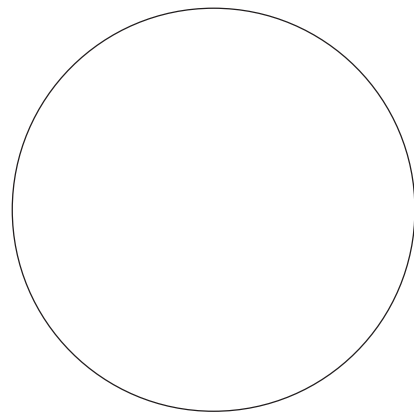


Frederiksplein
Amsterdam

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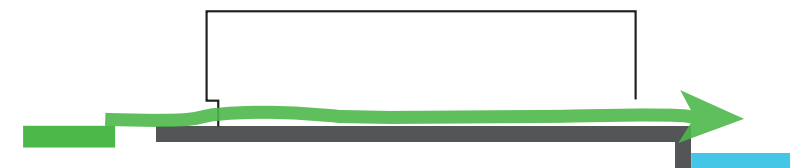
Design concept



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Design concept



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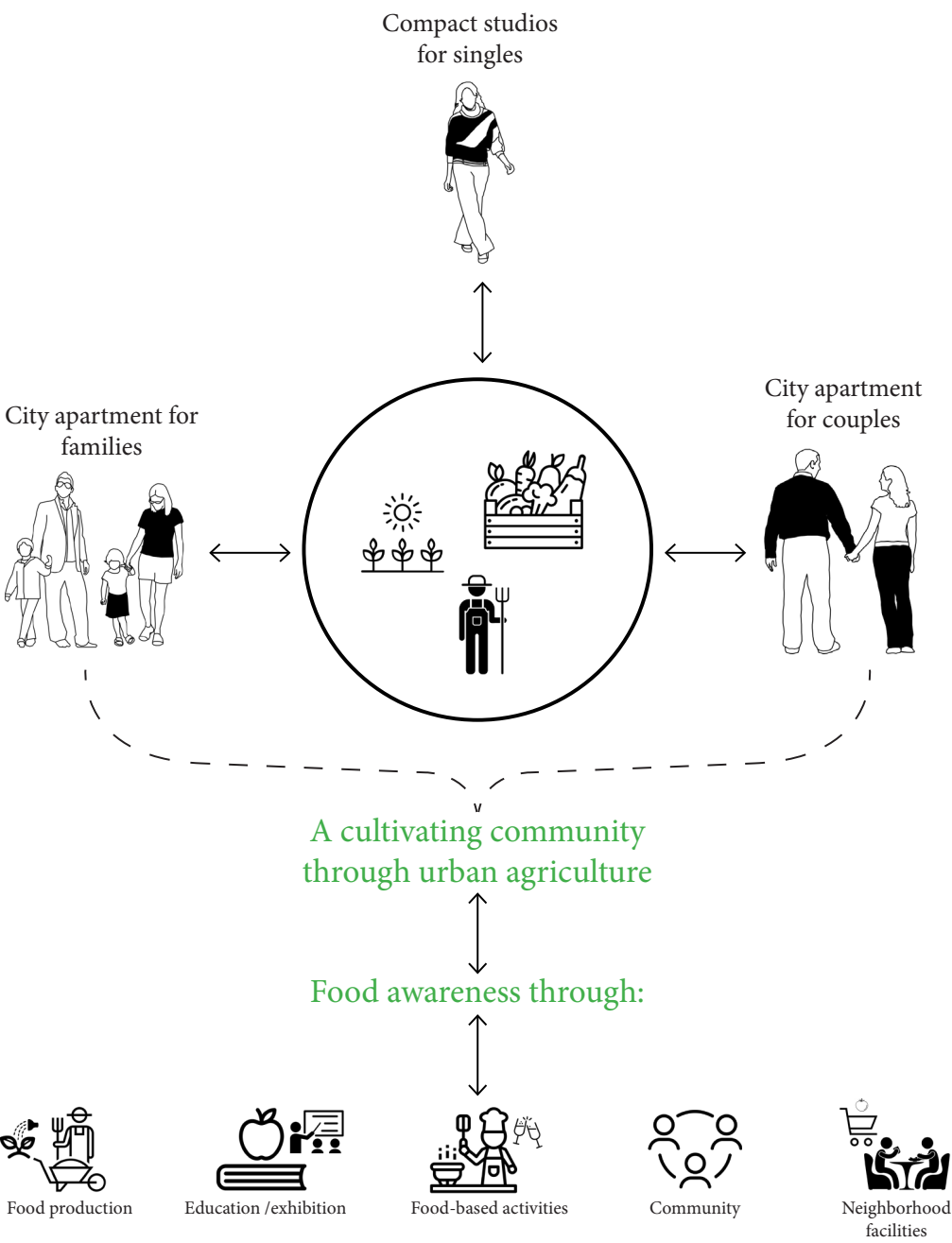
Project data and target groups

Project Data

	Aantal woningen	m² woning	m² groen	gem. bewoners
BG + 1e verdieping:	38 maisonnettes	85 m²	22,6 m² (11,3 per verd.)	1 tot 4 per woning
2e + 3e verdieping:	68 maisonnettes	77 m²	22,6 m² (11,3 per verd.)	gemiddeld 2,5p/w
4e verdieping:	68 studios	34 m² / 39m²	11,3 m² / 8,6 m²	
5e verdieping:	34 appartementen	75 m²	12,8 m²	
6e verdieping:	34 appartementen	75 m²	12,8 m²	
7e + 8e verdieping:	29 penthouses	117 m²	46 m² (23 per verd.)	
Totaal:	271 woningen	19185 m²	5277 m²	678 bewoners

Parkeerplaatsen:	Bergingen	m2 binnentuin	m2 kas
89	203 prive 4x gezamenlijk	3288	678 x 25m² = 16950m2 nodig Oppervlakte kas= 469 m2 Fertical Farming: 6m hoog, 5 lagen 5 x 469 = 2345 m² Wintertuin: 5277 m² Binnentuin: 3288 m² Balustrade: 474 m² Omgeving: 9025 m² 20409 m² beschikbaar voor voedselproductie

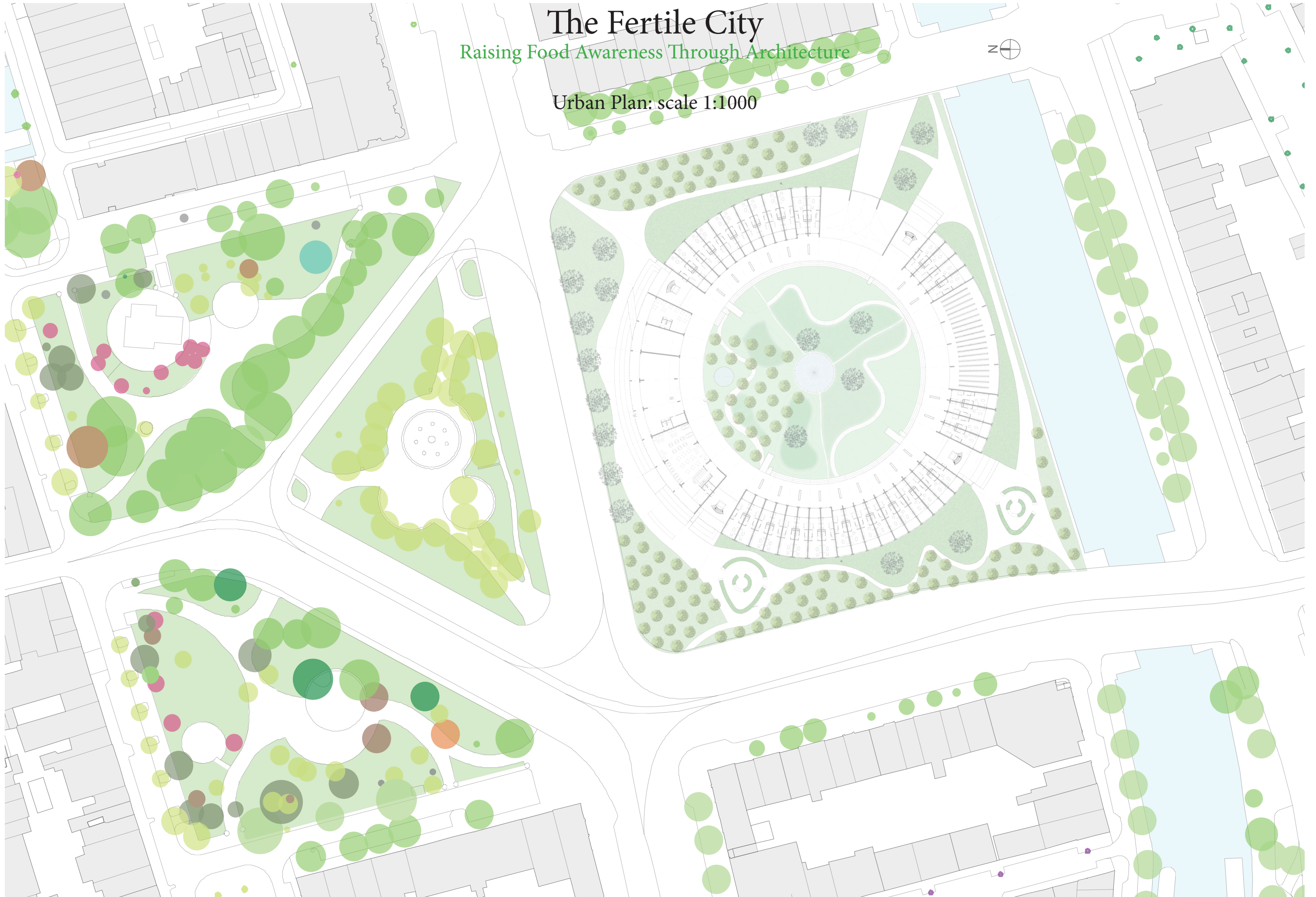
A residential building for everyone who wants to get involved in the food production through an active way.



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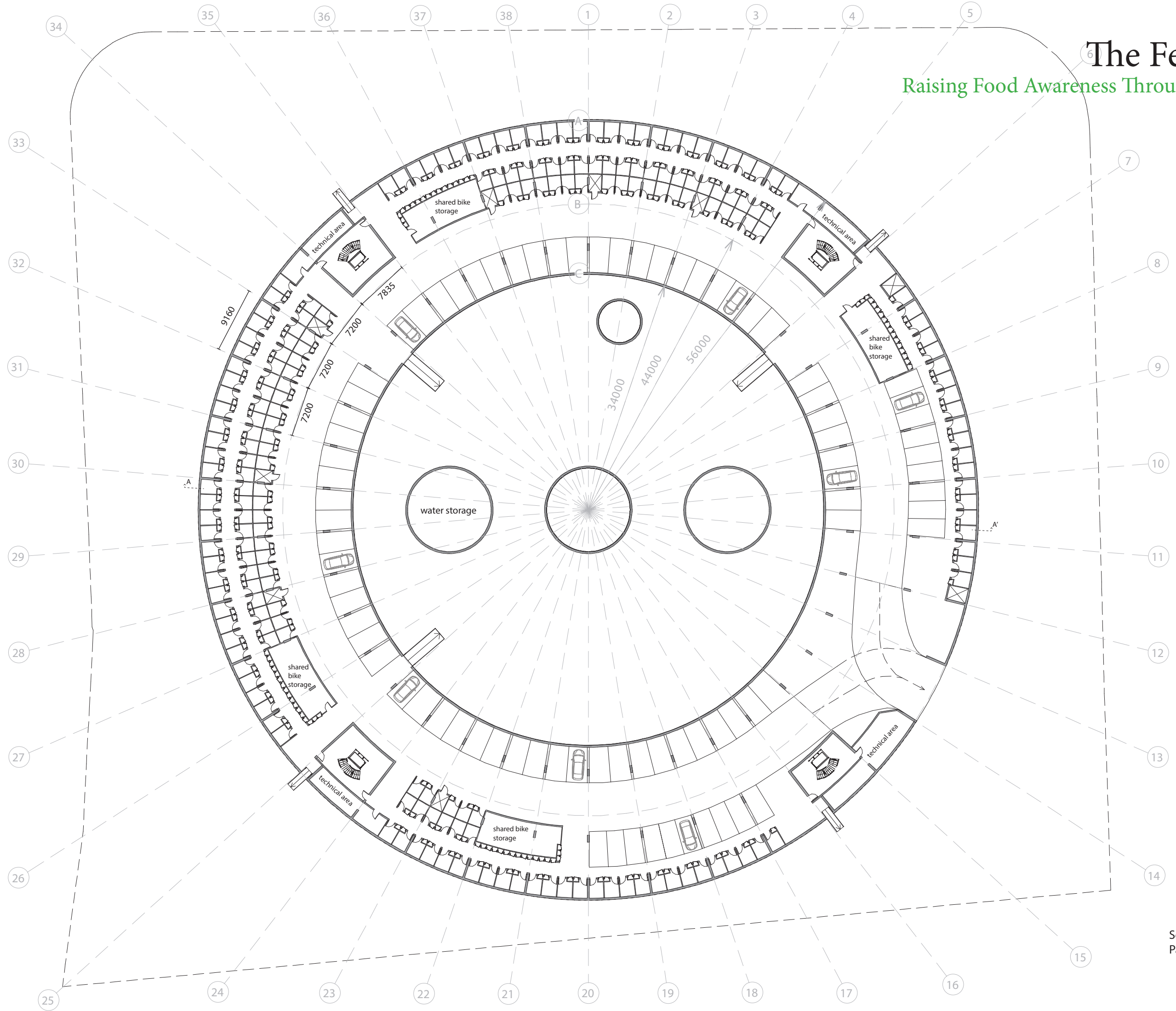
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Urban Plan: scale 1:1000



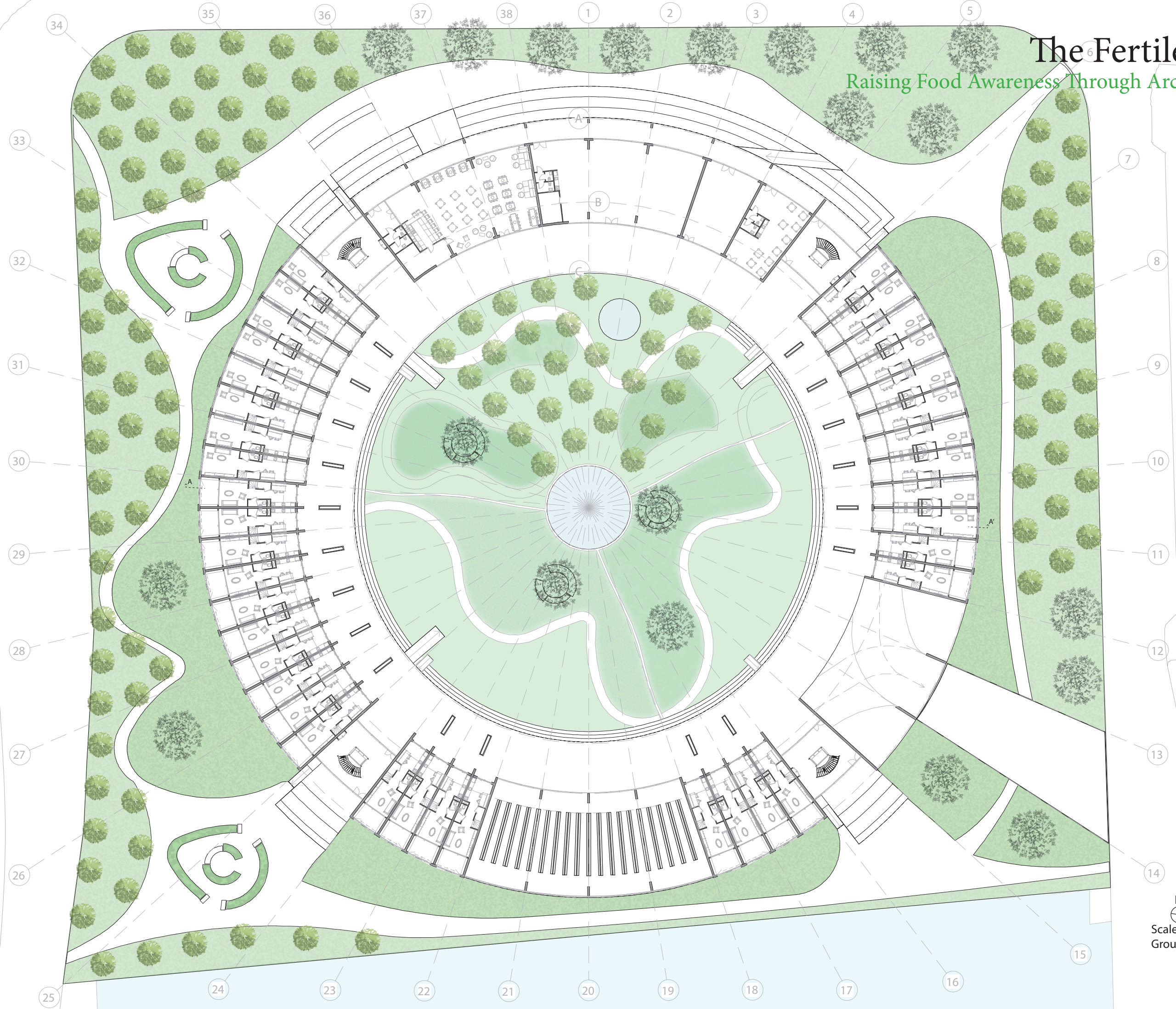
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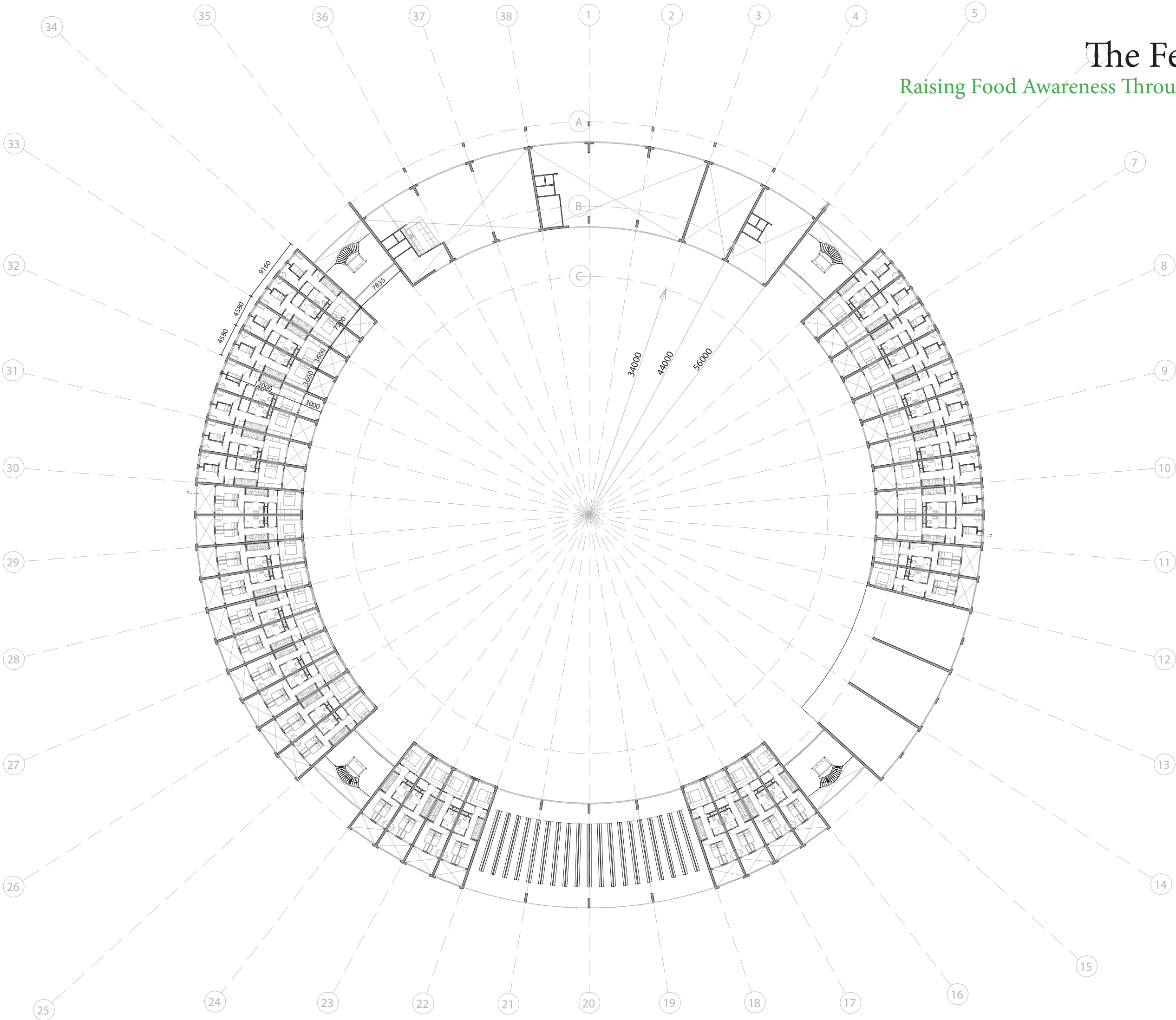
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N
Scale 1:500
Ground Floor

The Fertile City

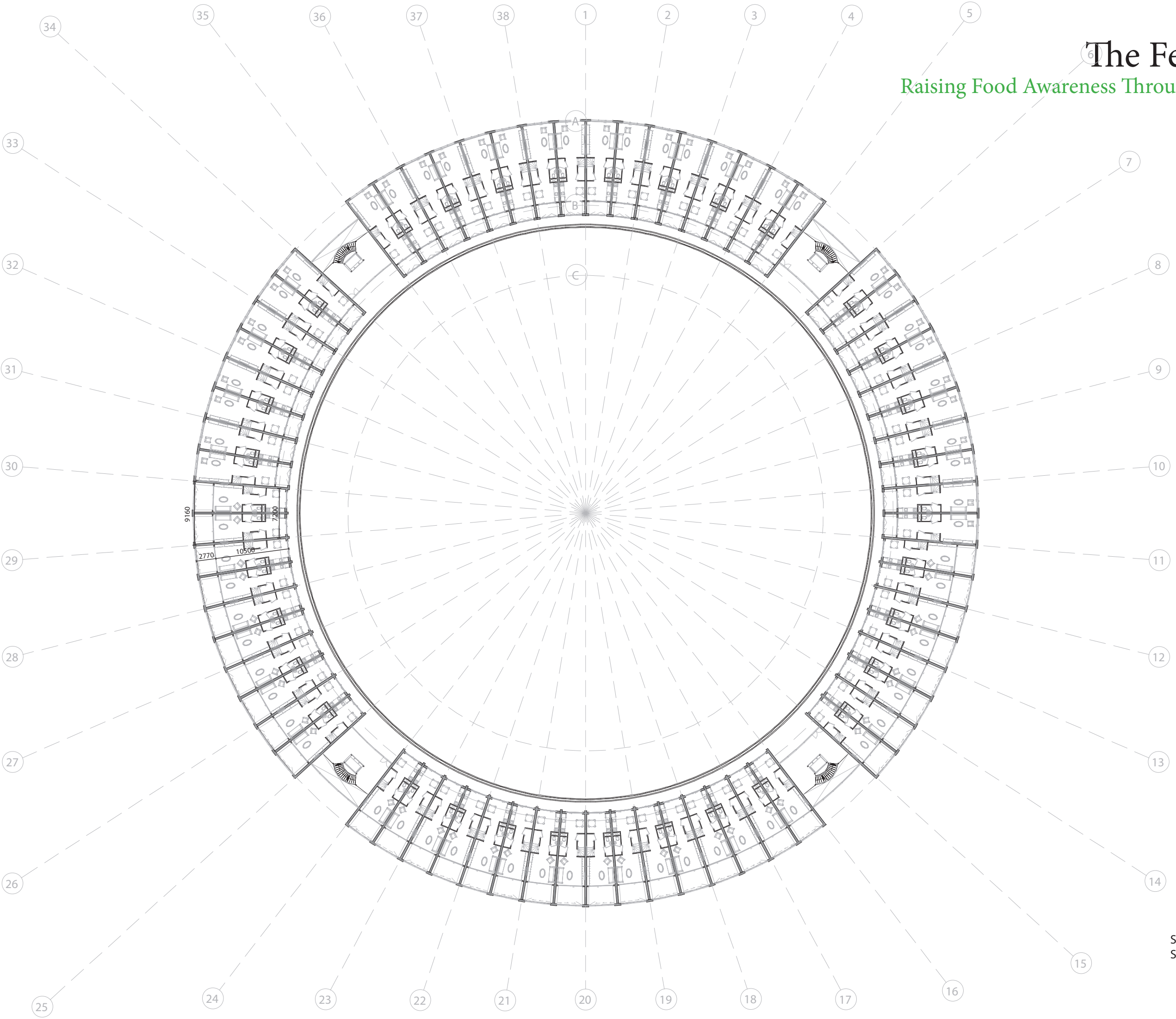
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N
Scale 1:500
First Floor

The Fertile City

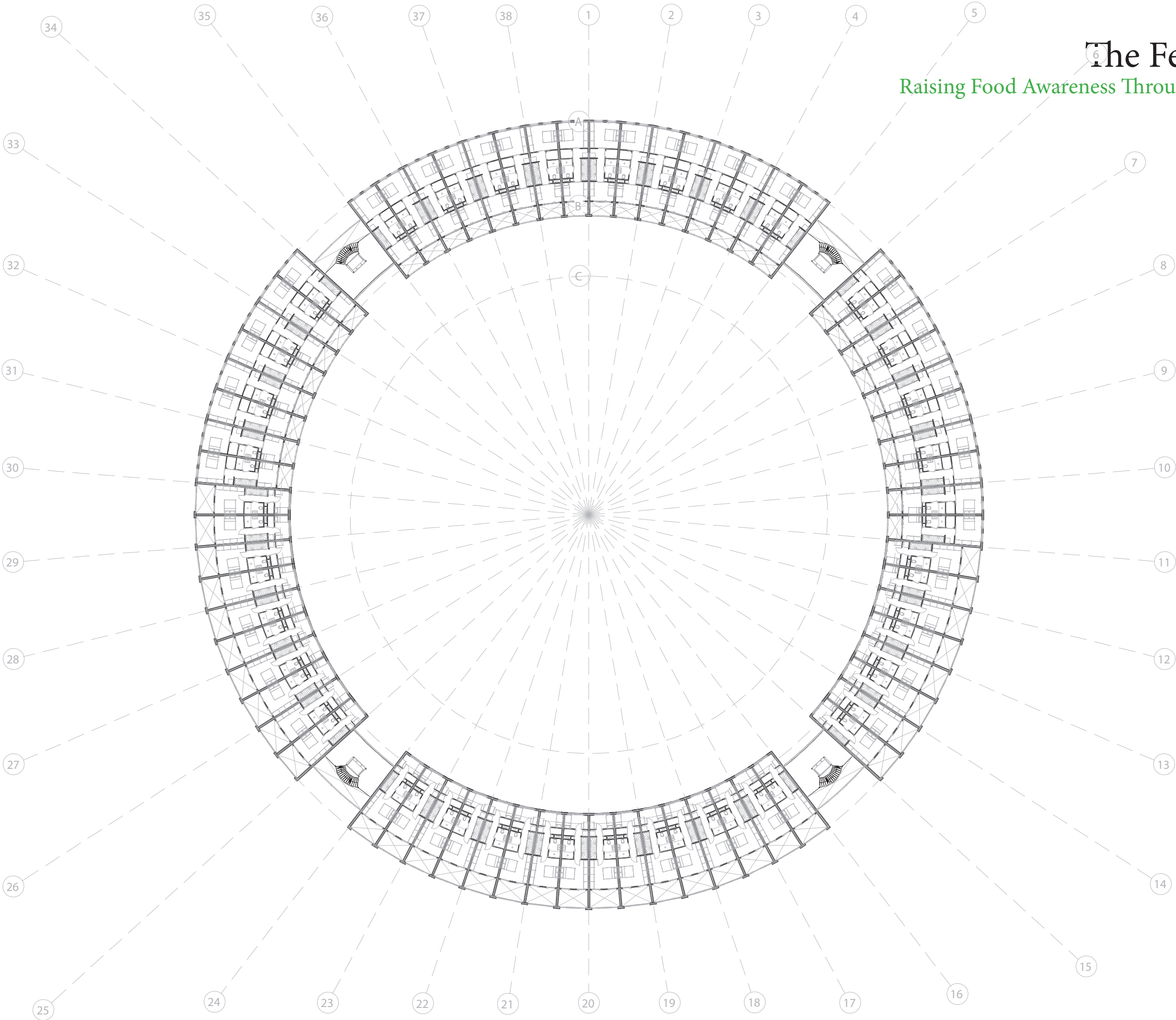
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N
Scale 1:500
Second Floor

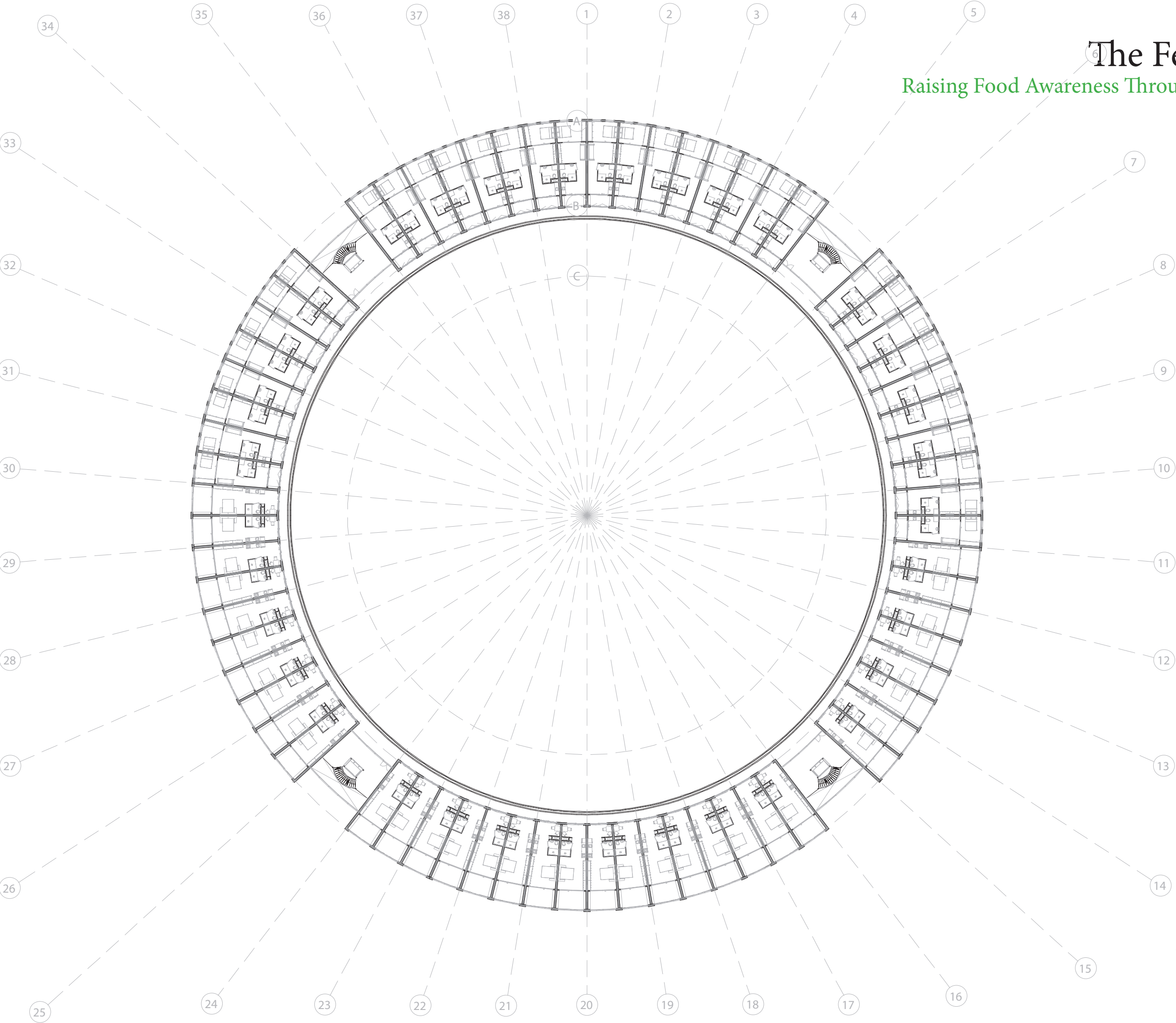
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N
Scale 1:500
Third Floor

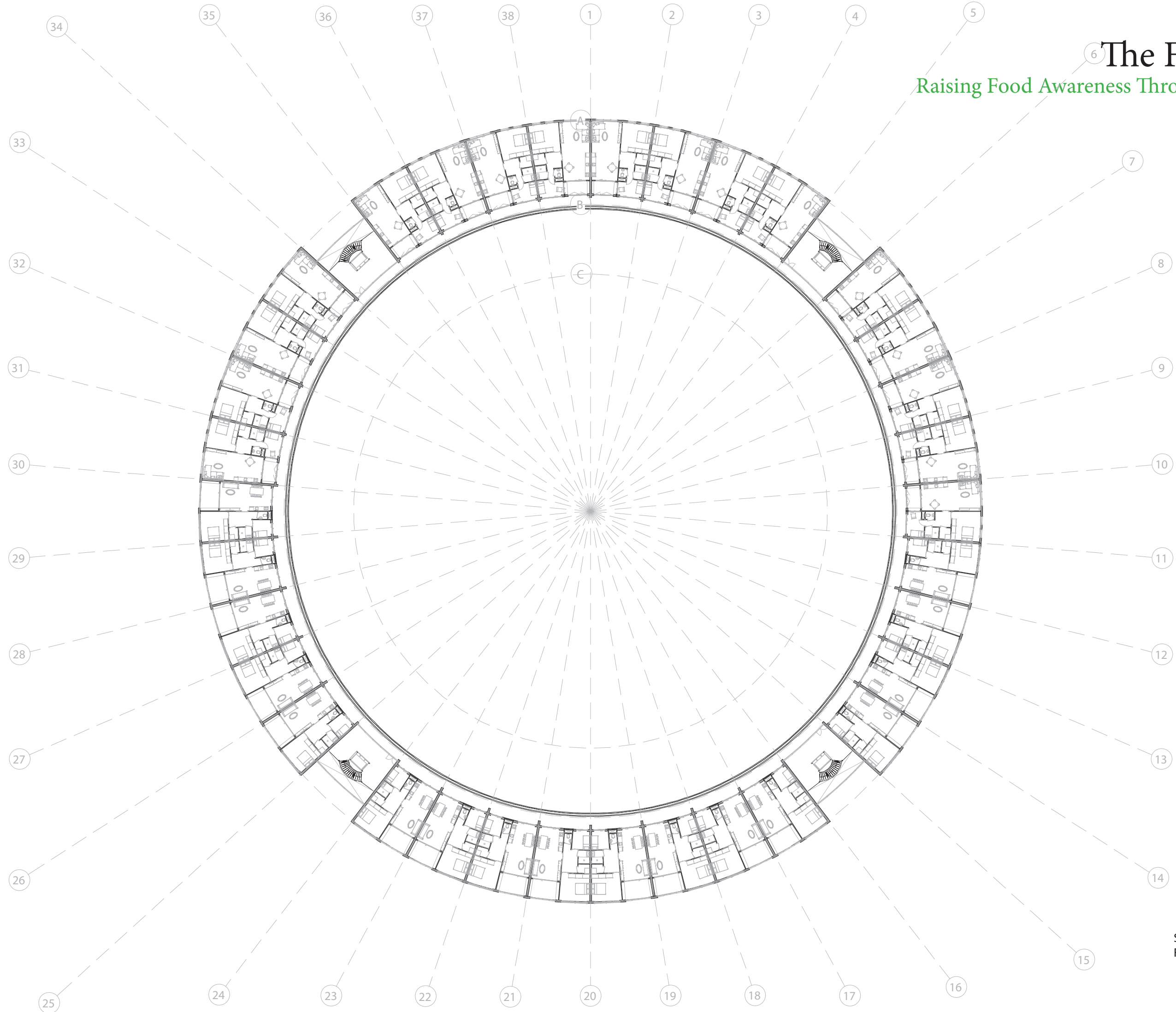
The Fertile City
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N
Scale 1:500
Fourth Floor

The Fertile City

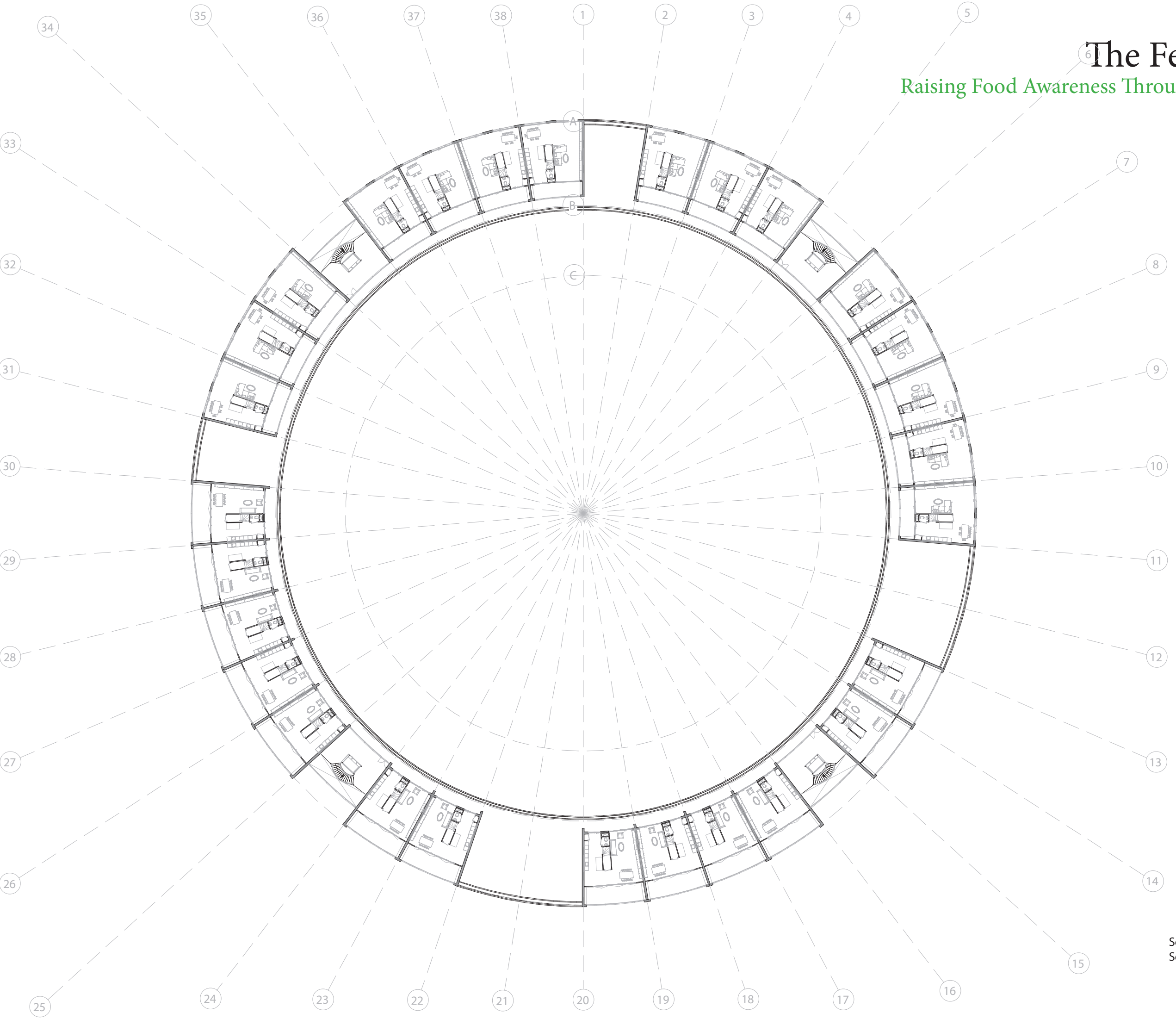
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N
Scale 1:500
Fifth & Sixth Floor

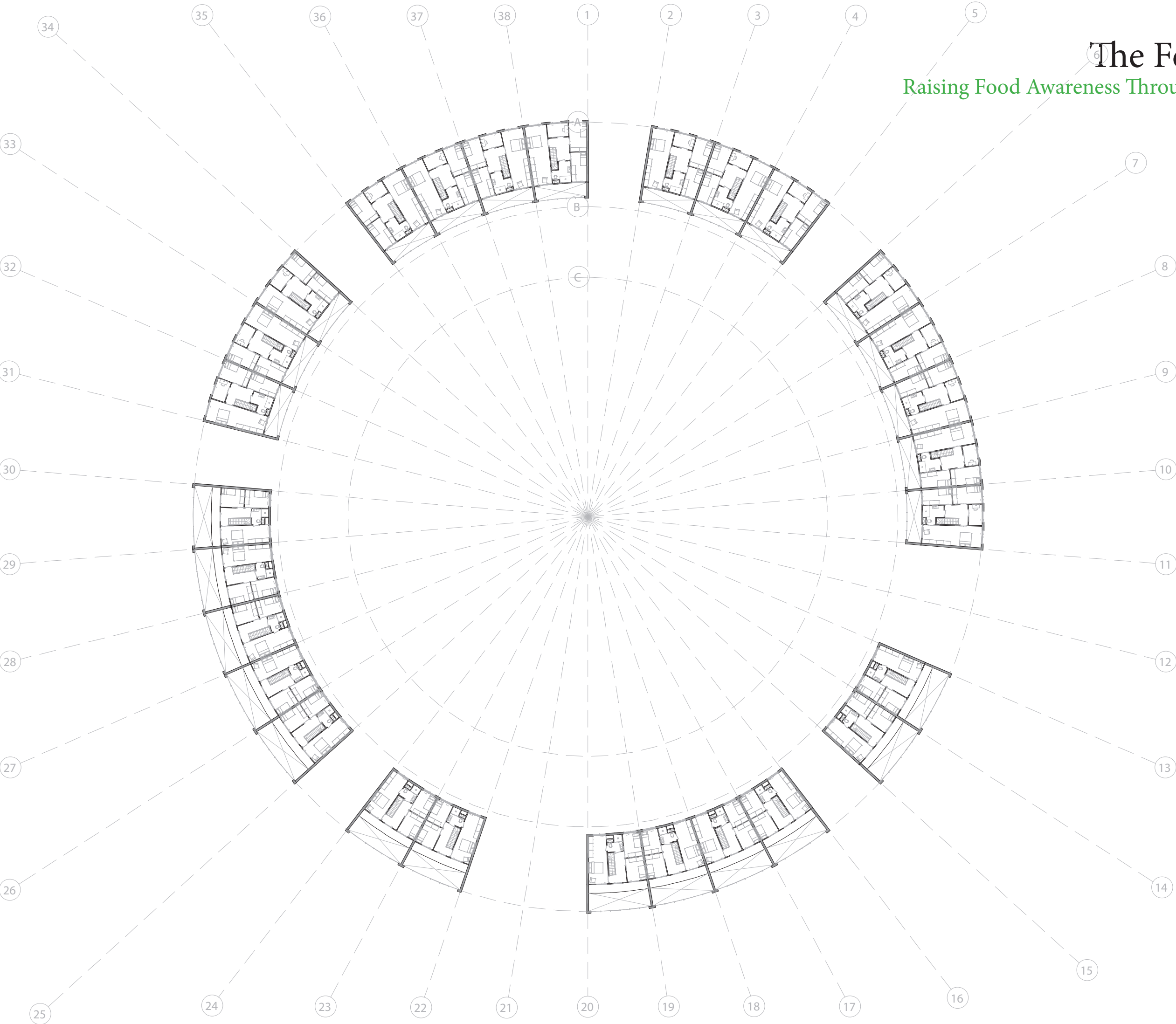
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N
Scale 1:500
Seventh Floor

The Fertile City
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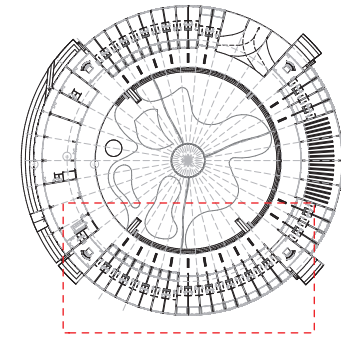


N
Scale 1:500
Eighth Floor

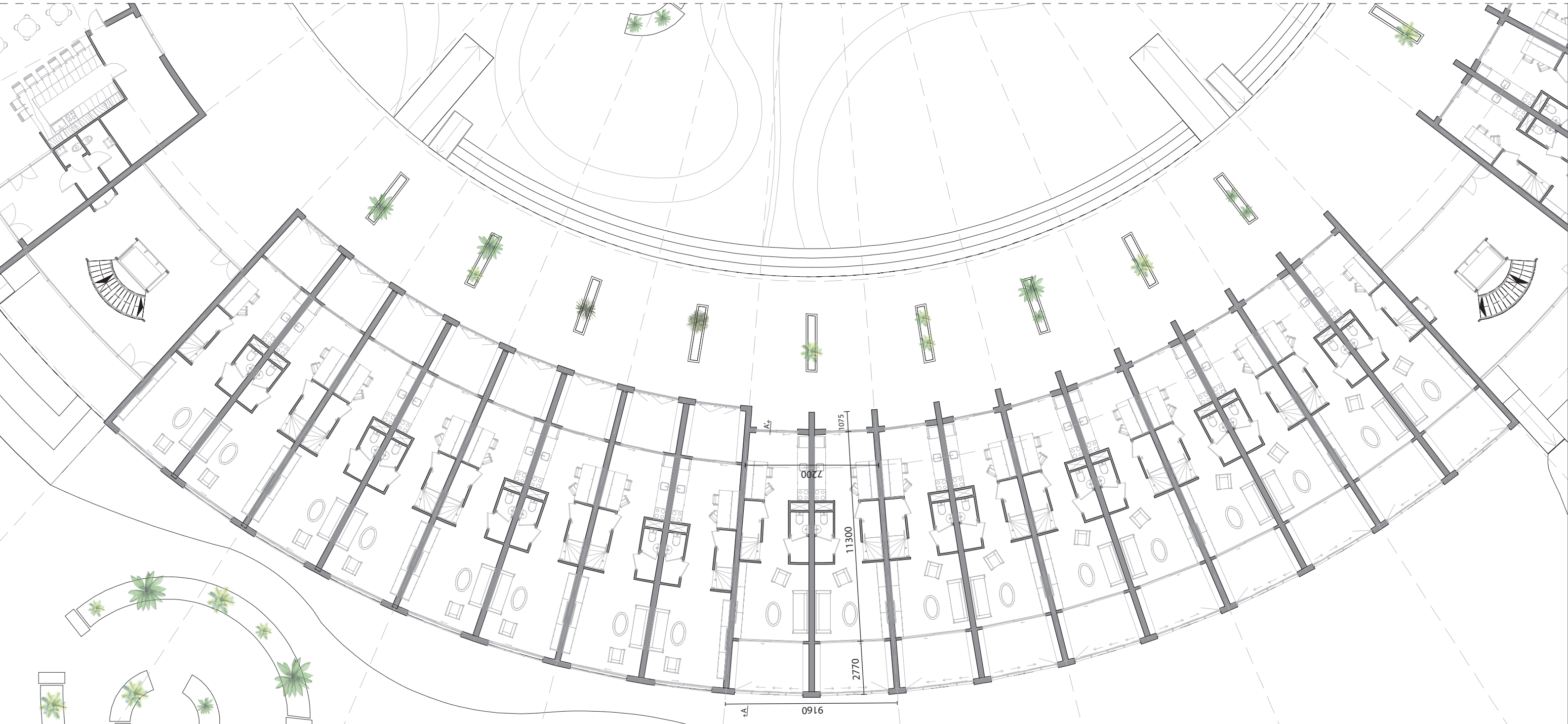
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Floor plan: +1200m Ground floor 1:200



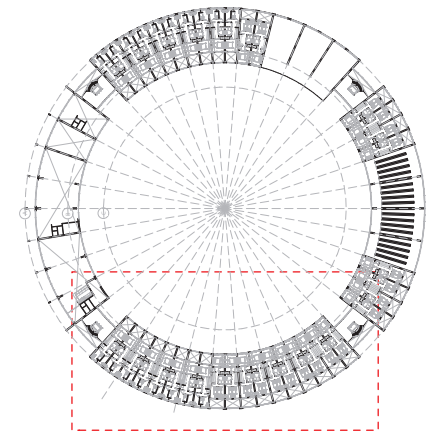
N
Scale 1:200
Ground Floor



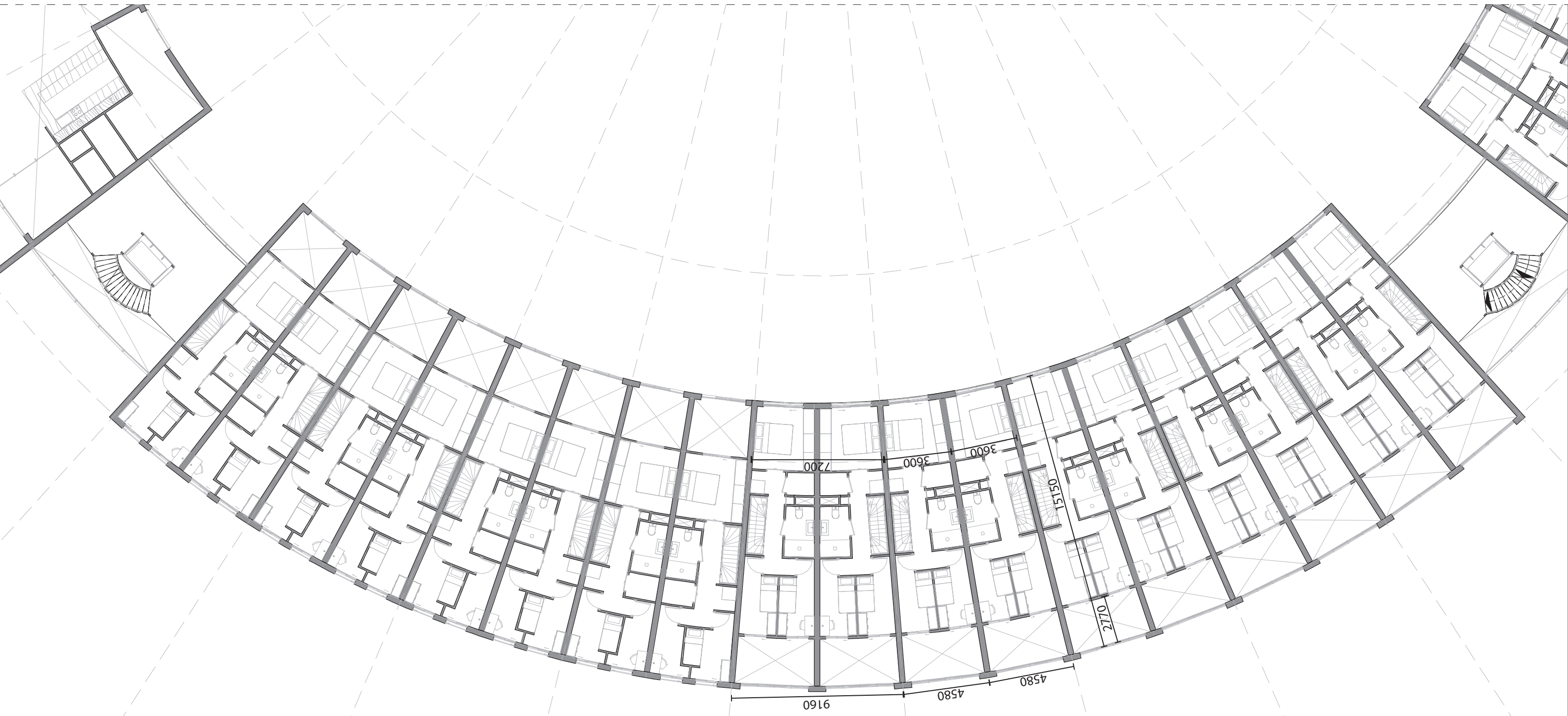
The Fertile City

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Floor plan: First floor 1:200



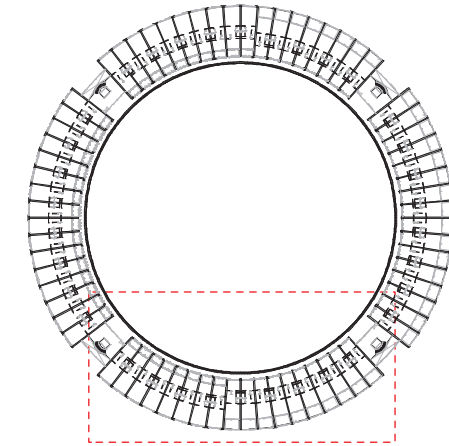
N
Scale 1:200
First Floor



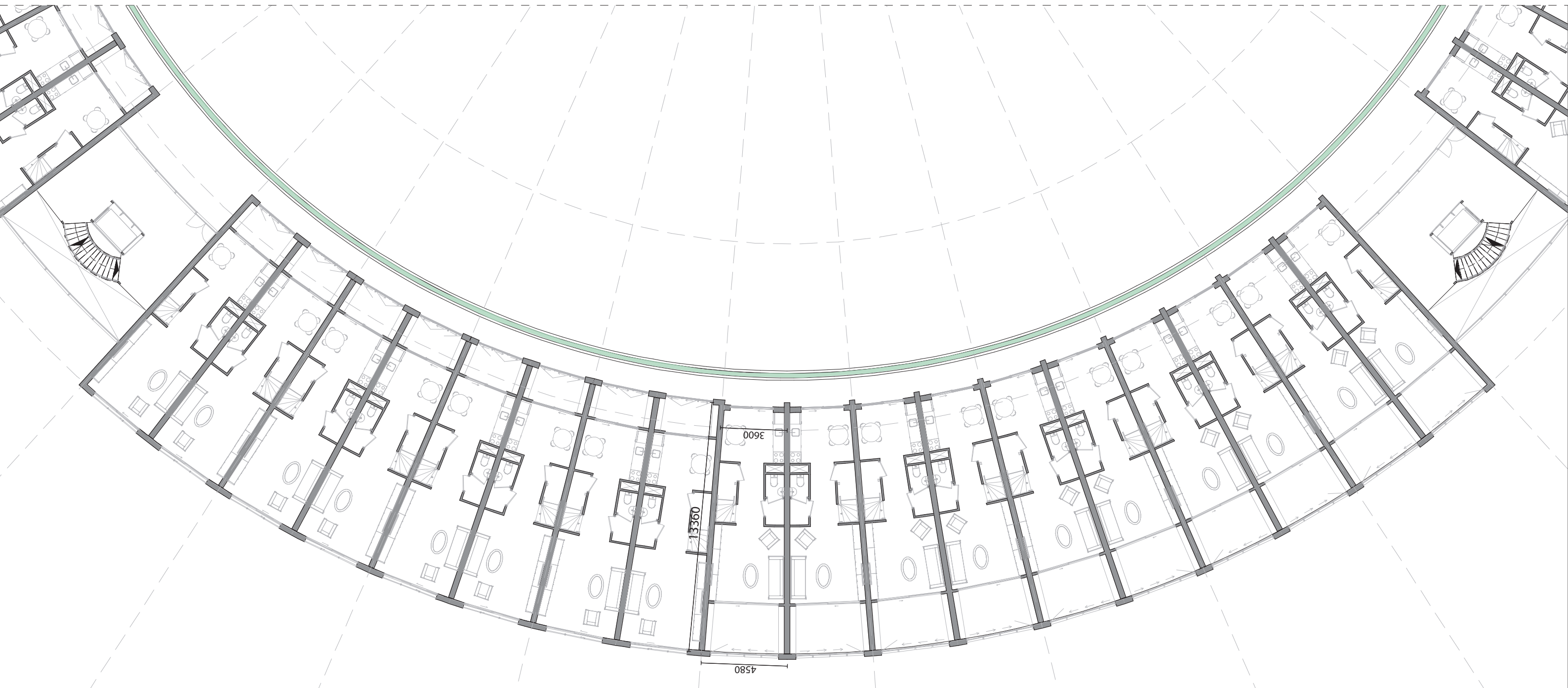
The Fertile City

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Floor plan: Second floor 1:200



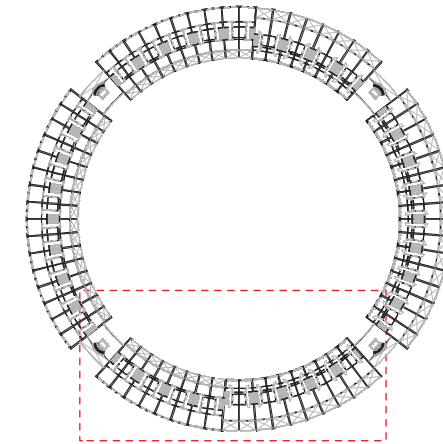
Scale 1:200
Second Floor
Maisonette



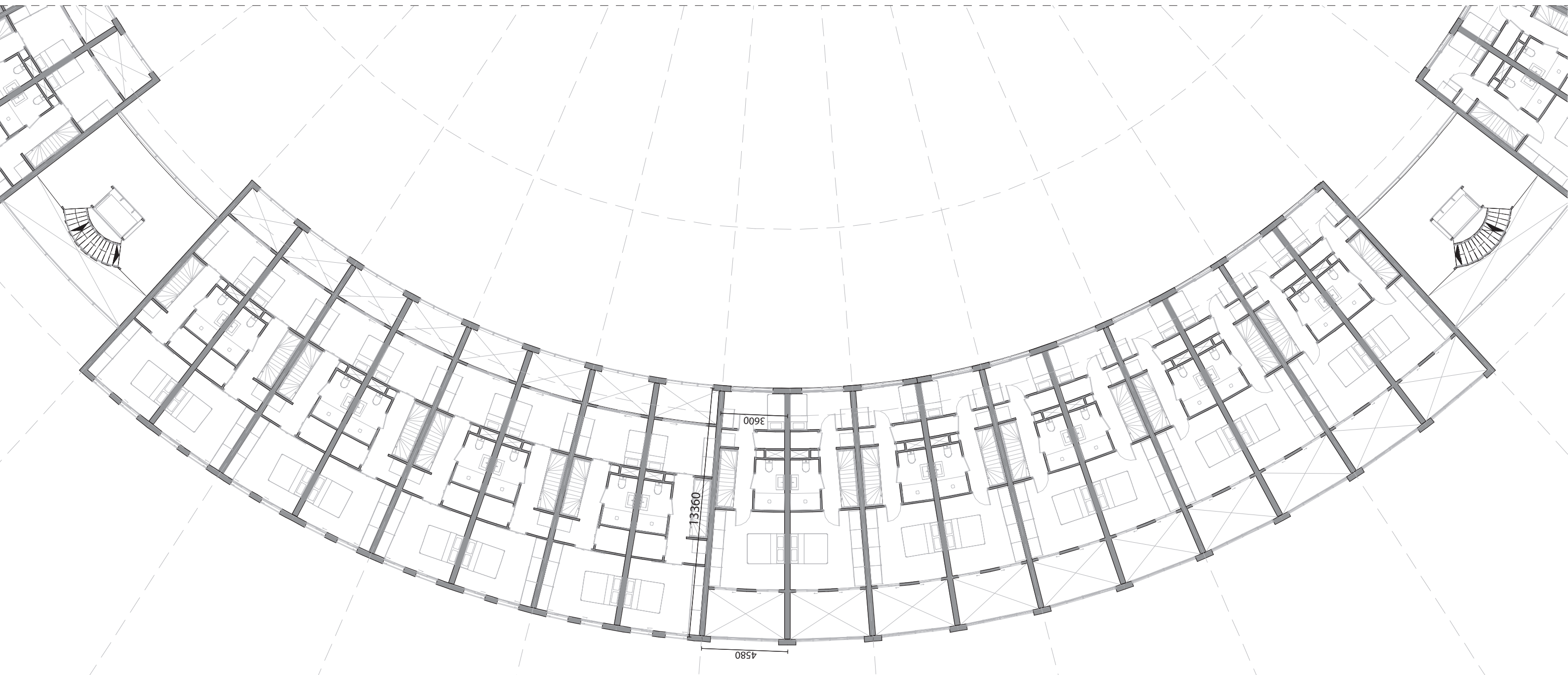
The Fertile City

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Floor plan: Third floor 1:200



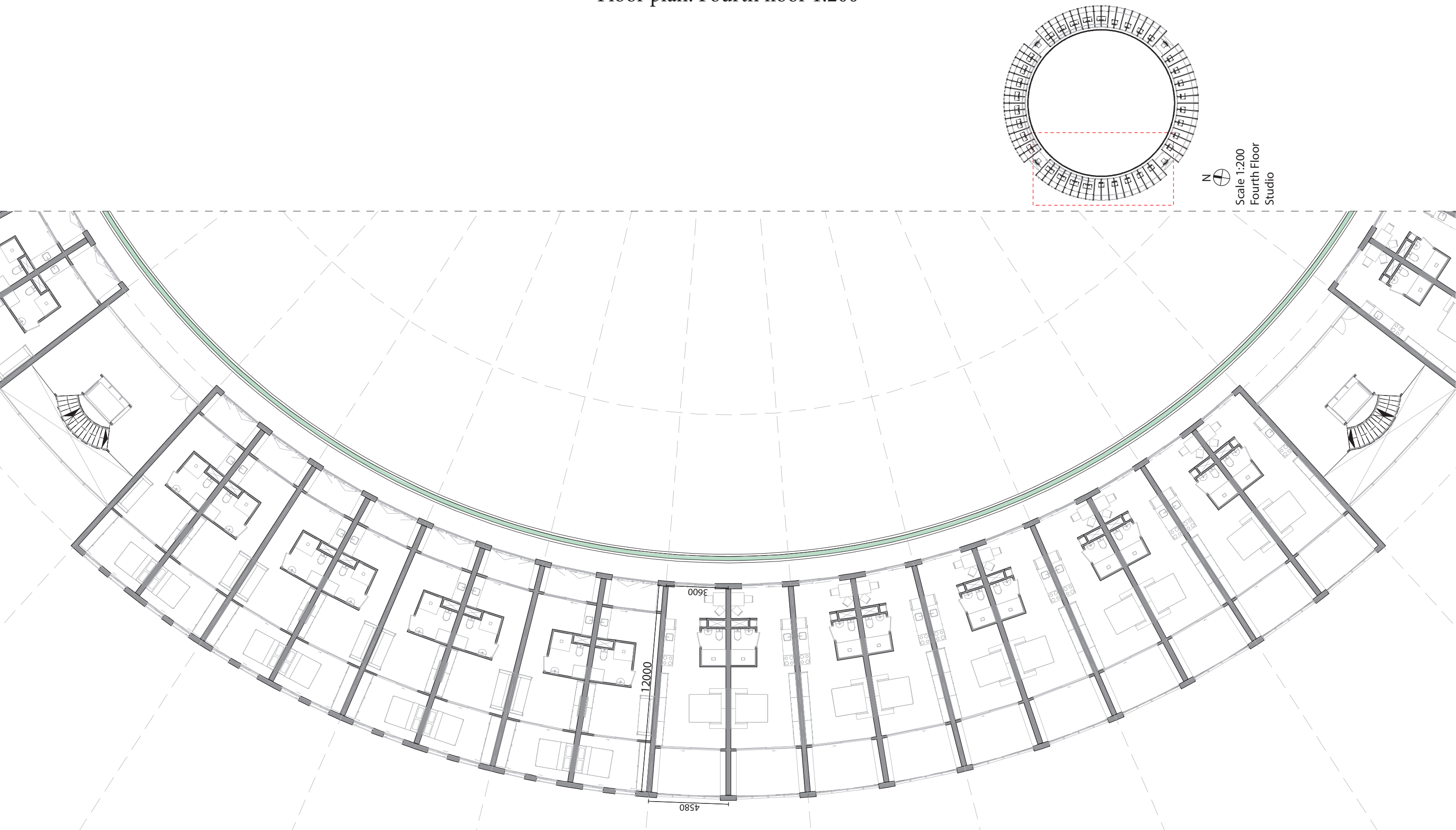
N
Scale 1:200
Third Floor
Maisonette



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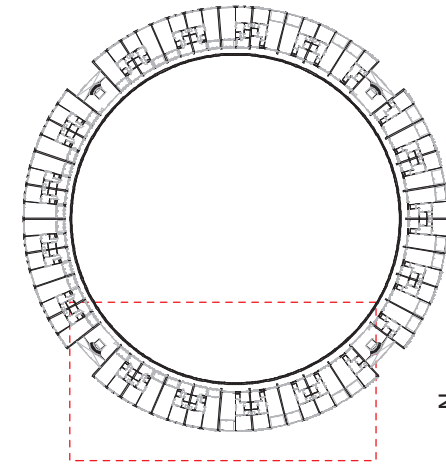
Floor plan: Fourth floor 1:200



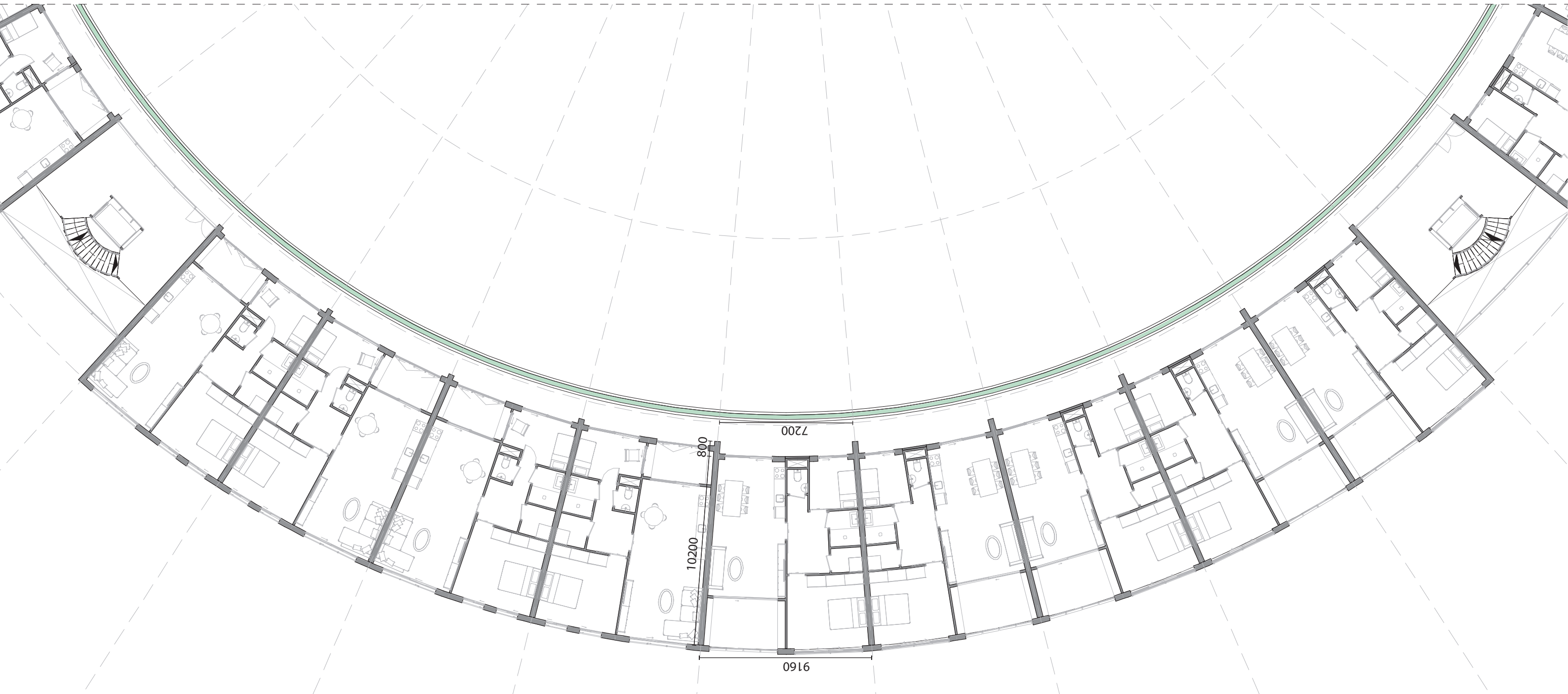
The Fertile City

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Floor plan: Fifth & sixth floor 1:200



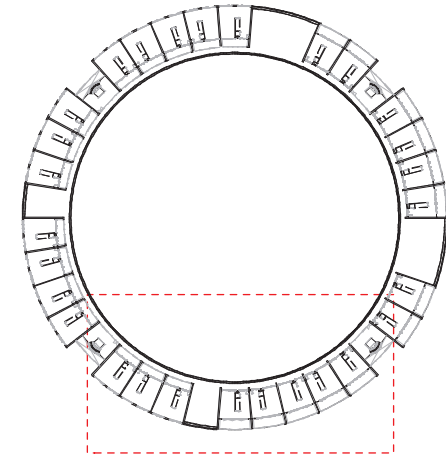
Scale 1:200
Fifth & Sixth Floor
one layer apartment



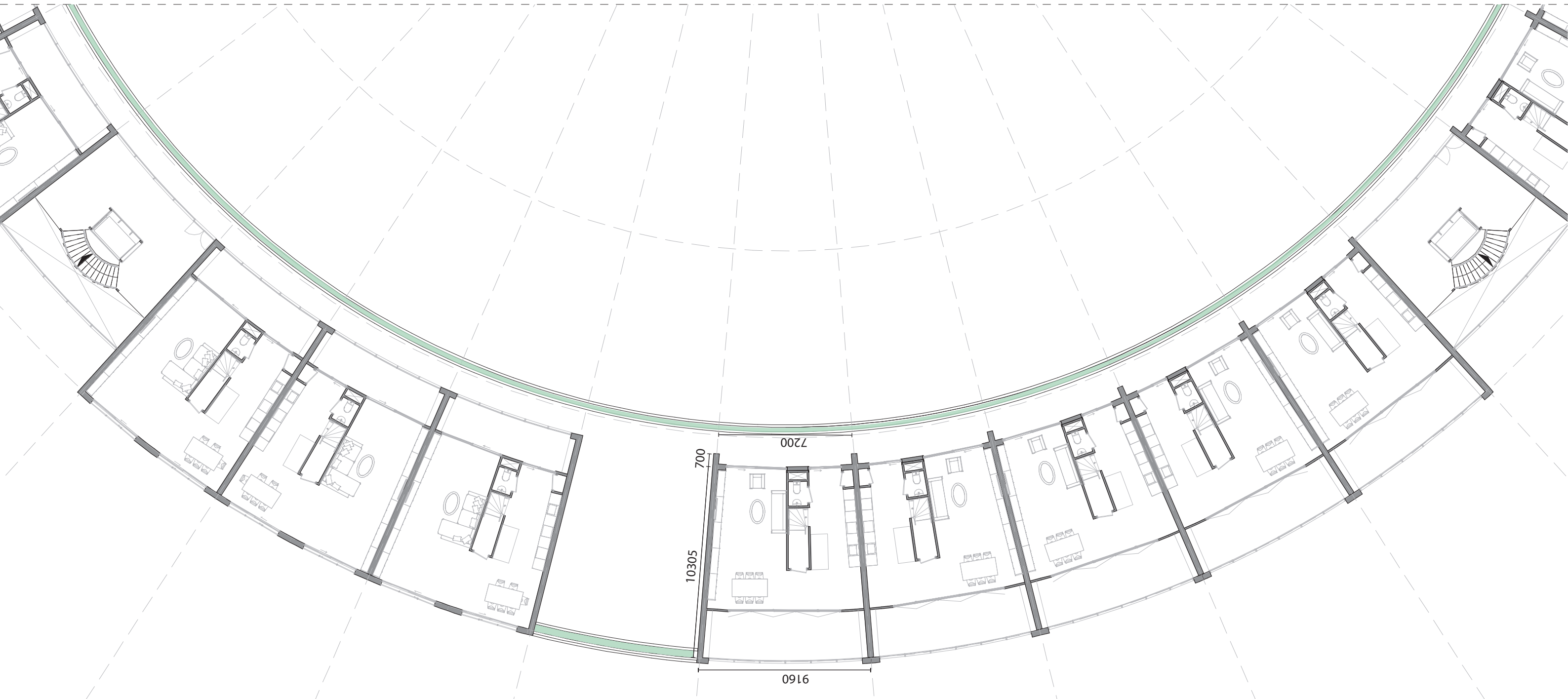
The Fertile City

Raising Food Awareness Through Architecture

Floor plan: Seventh floor 1:200



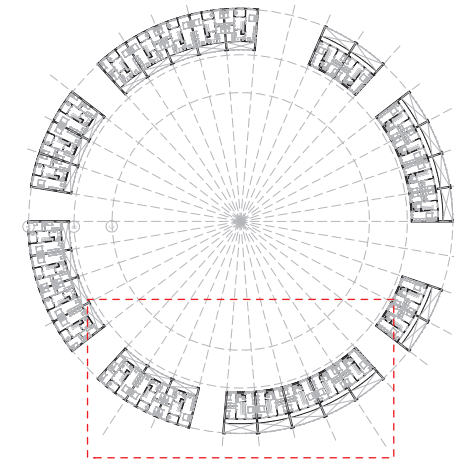
N
Scale 1:200
Seventh Floor
Penthouse



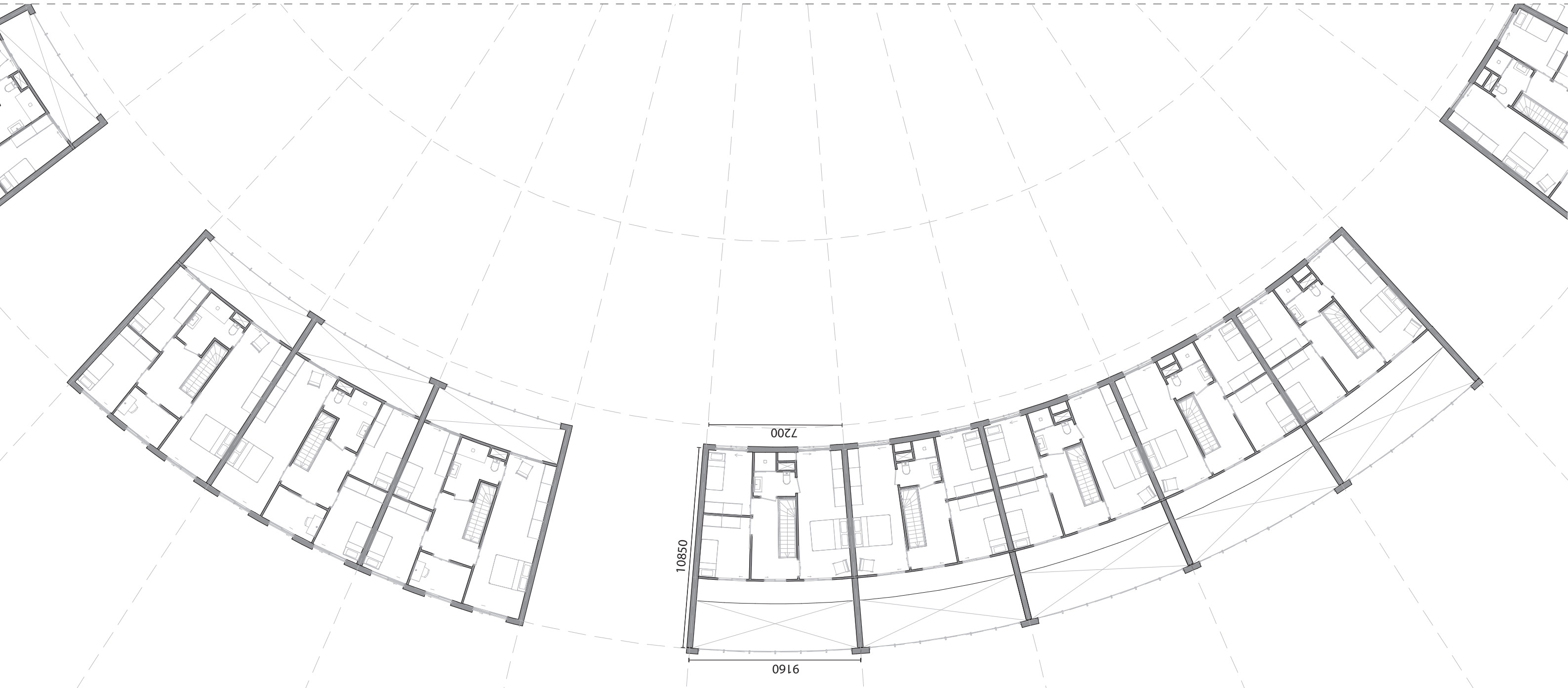
The Fertile City

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Floor plan: Eighth floor 1:200



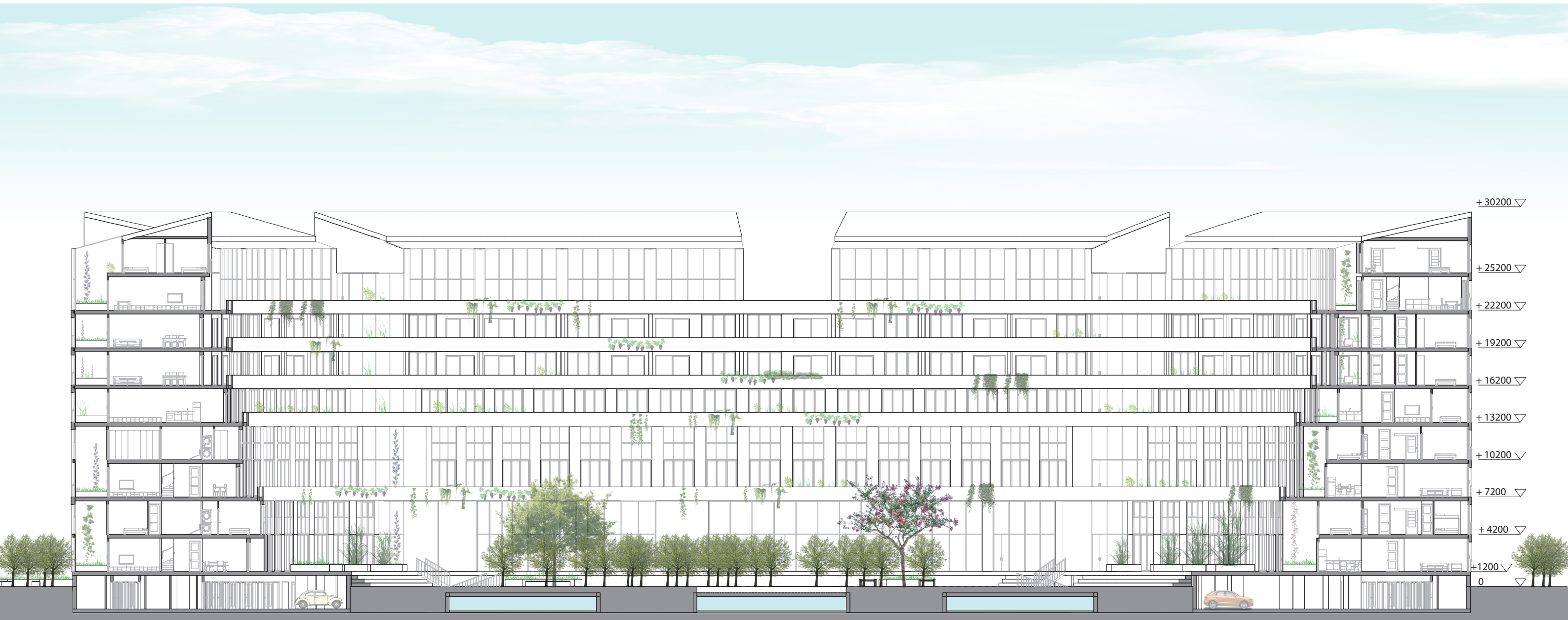
N
Scale 1:200
Eighth Floor
Penthouse



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Section A-A' 1:300

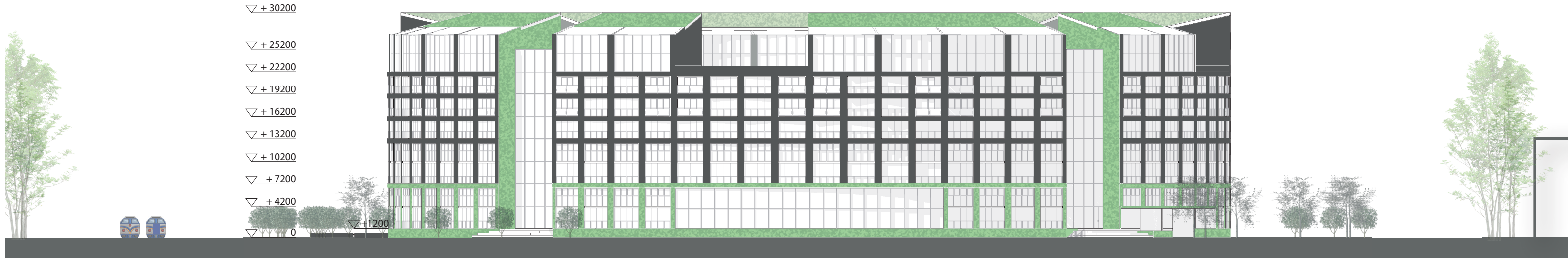


Section 1:300

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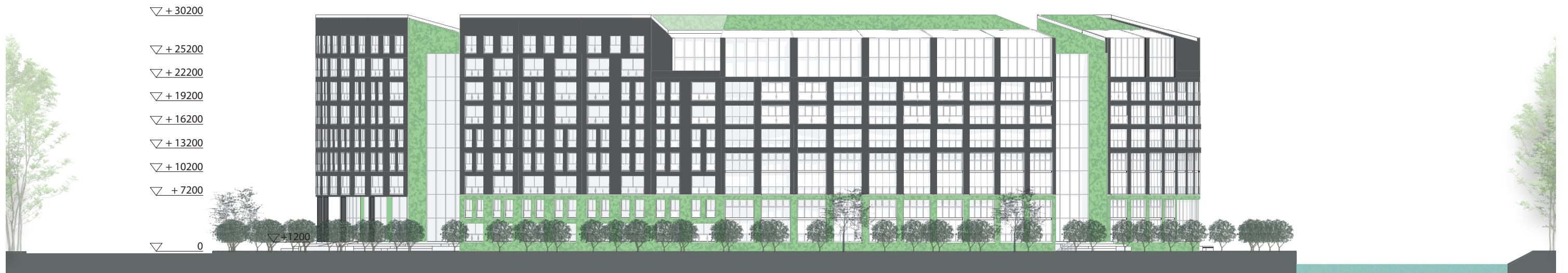
North (city&park) & South (Singelgracht) facade 1:500



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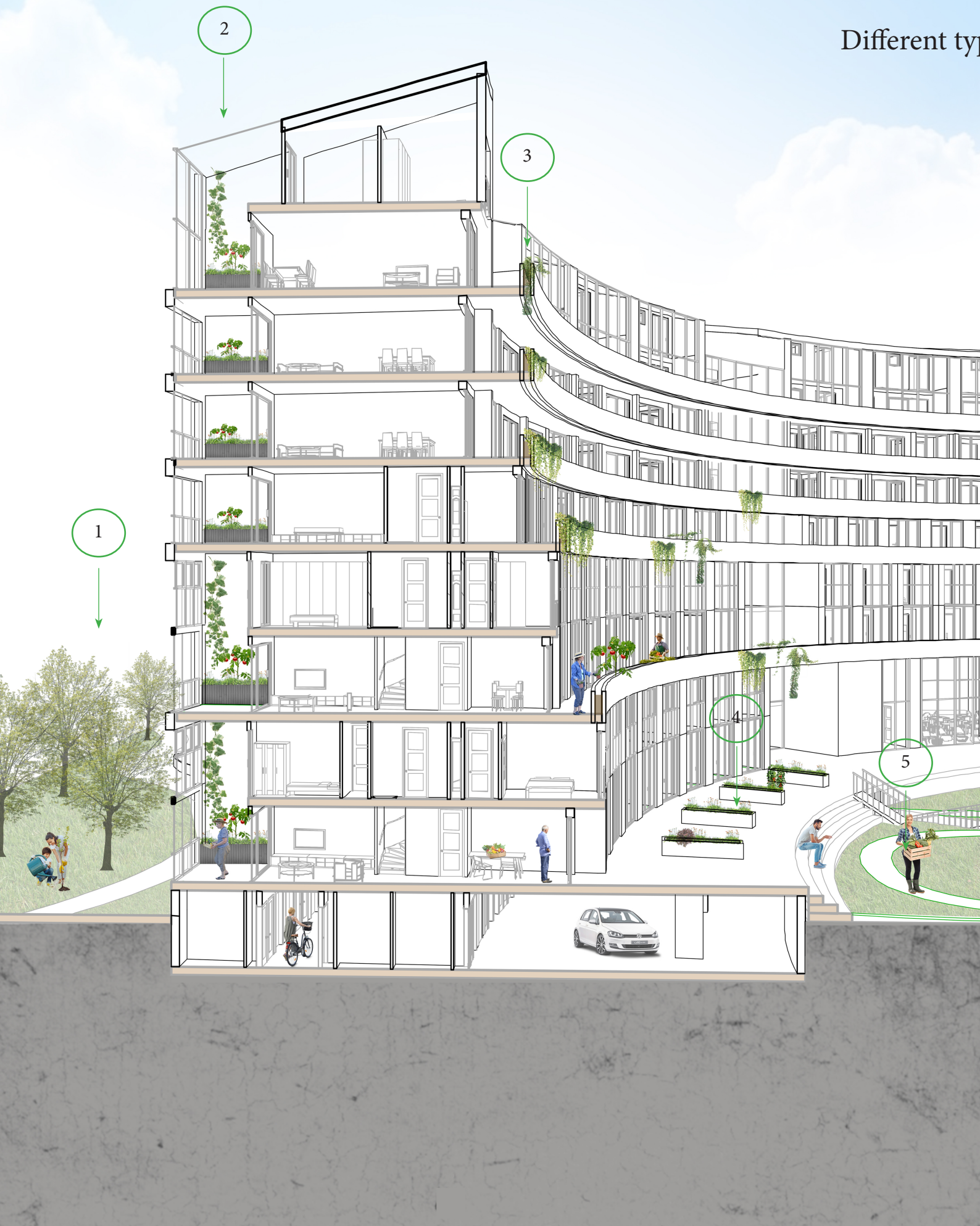
West and east facade 1:500



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Different types of green



1. Edible garden around the building: vegetable gardens around the building for local residents. According to the community rules belonging to the building people could share and maintain the allotment gardens

2. Wintergardens: each dwelling has it's own wintergarden to be able to grow food in all seasons.

3. Balustrades: balustrades as plant buckets to grow food

4. Planters: where there is place to grow food outside for ground floor dwellings

5. The courtyard: communal vegetable gardens for the inhabitants of the apartment block and pupils of the nearby primary school.

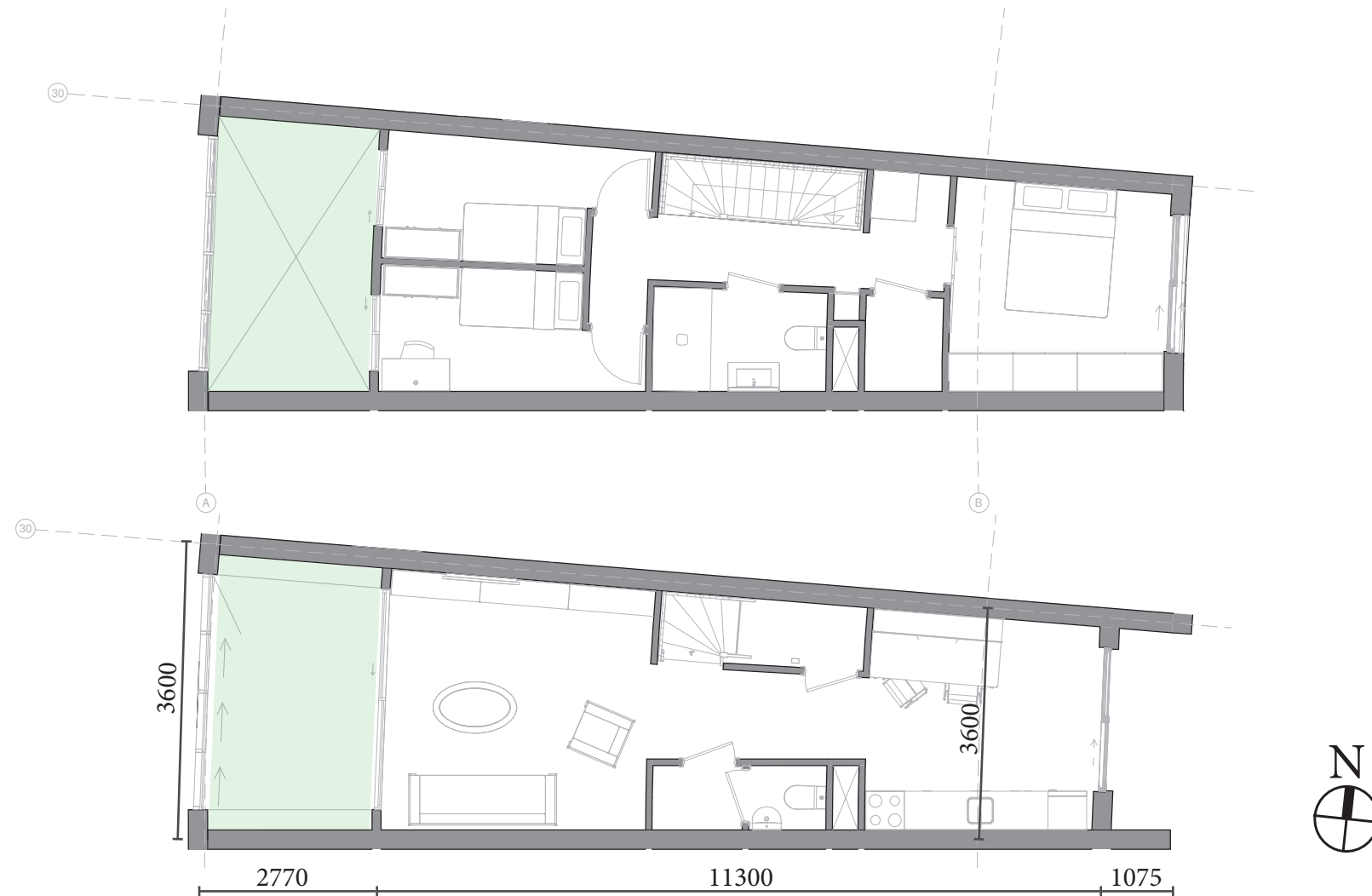


The Dwellings

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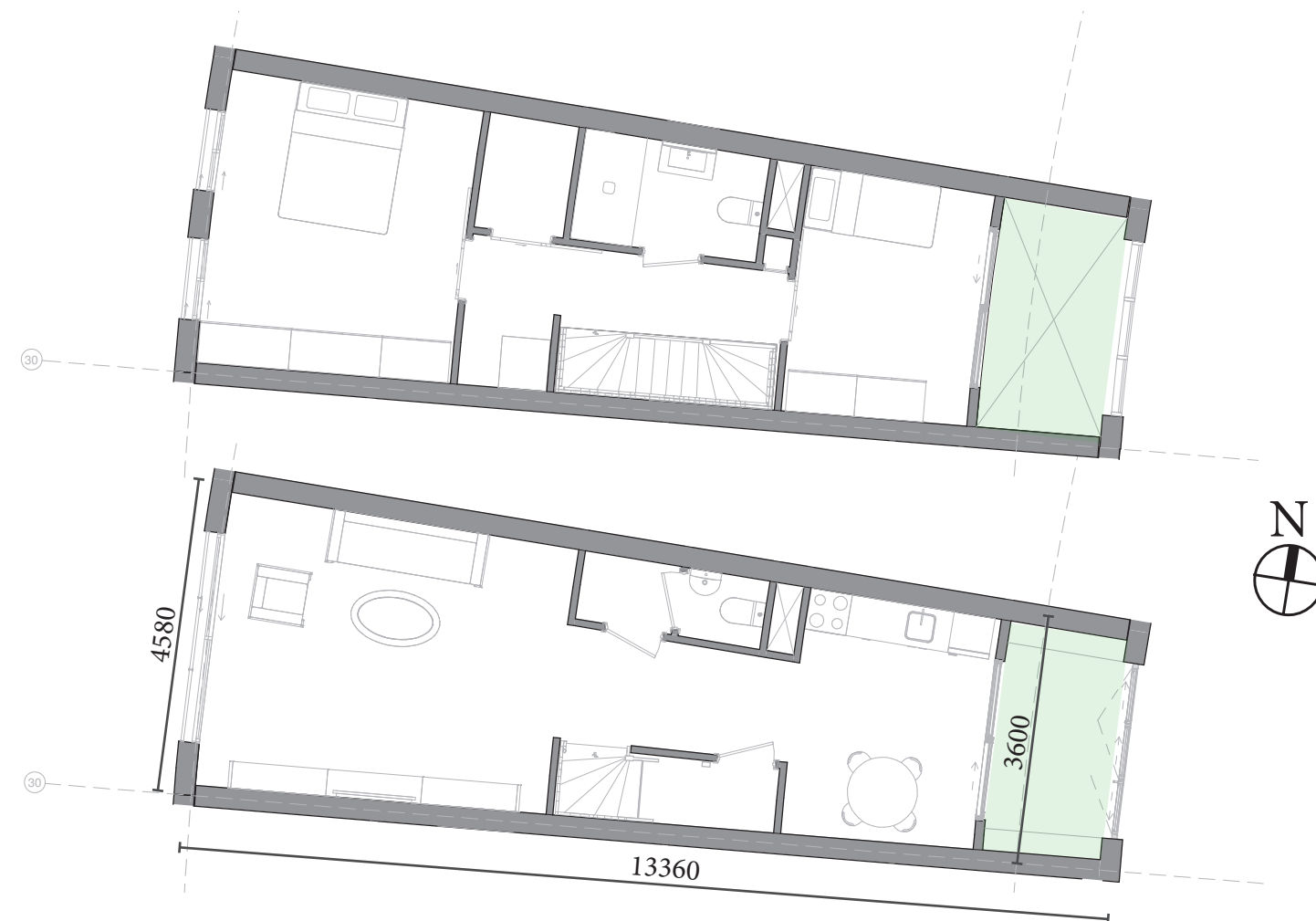
Floor plan 1:100
Ground & first floor maisonnette 85 m²



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Floor plan 1:100
Second & third floor maisonnette 77 m²



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Floor plan 1:100
Fourth floor studio 34 & 39 m²



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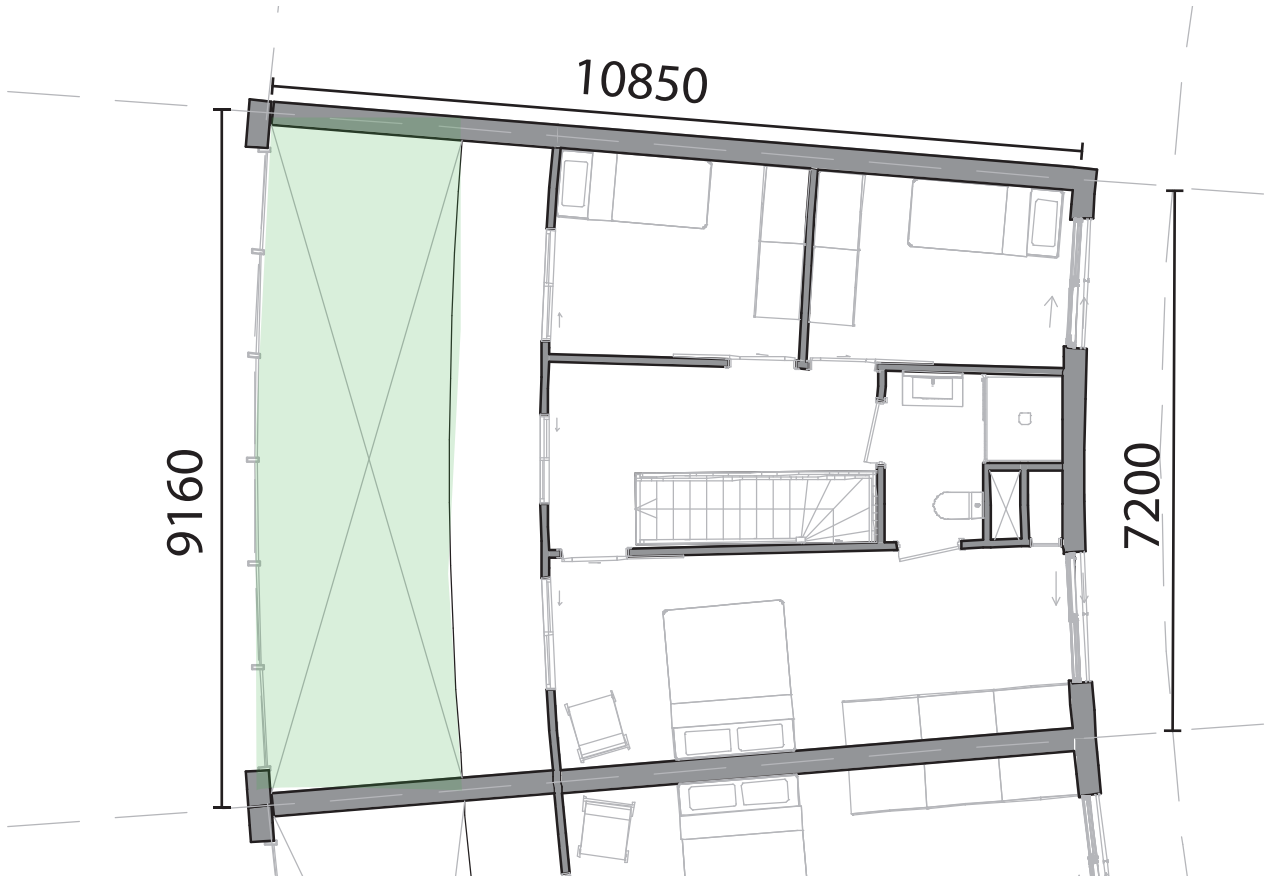
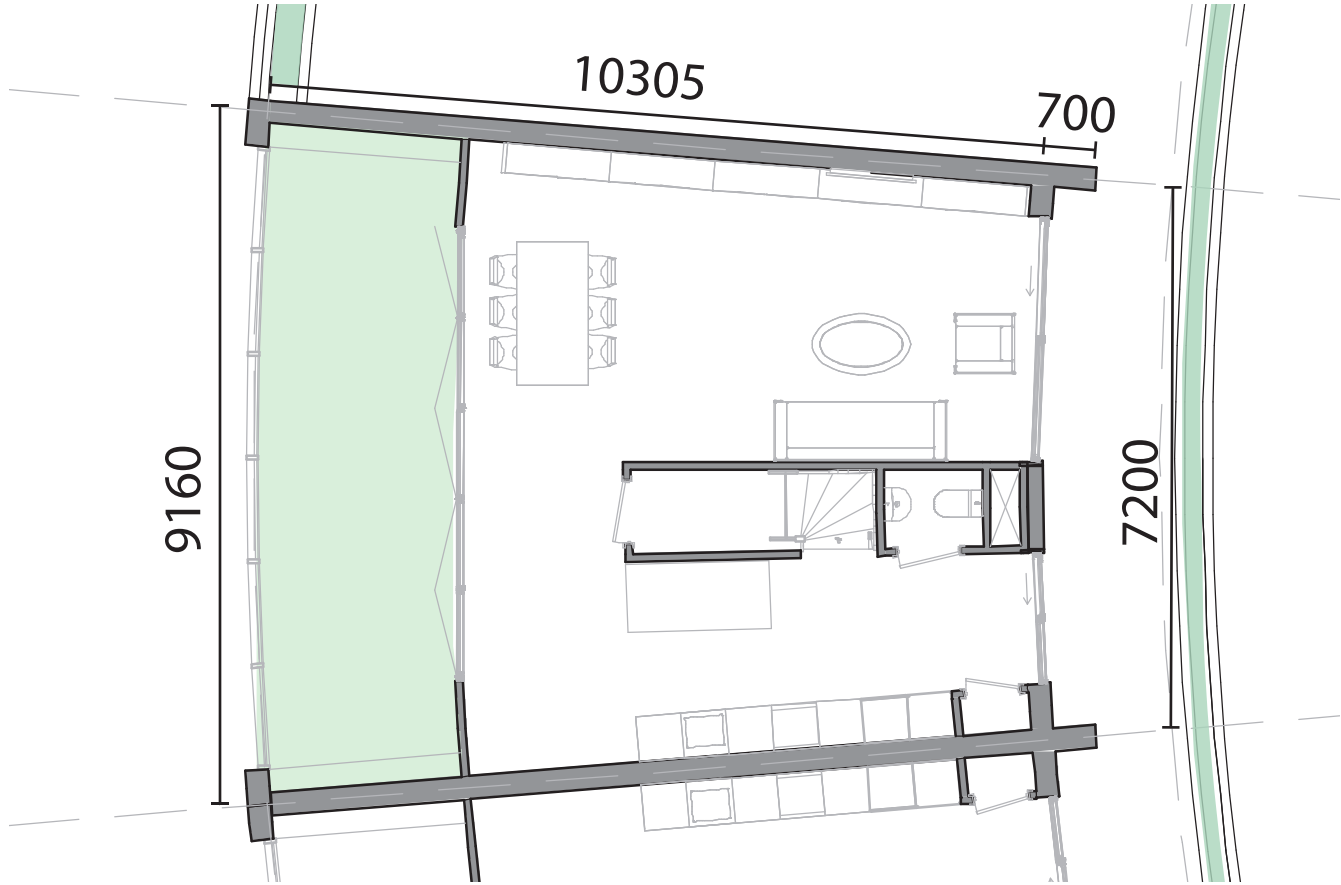
Floor plan 1:100
Fifth & Sixth floor apartment m²

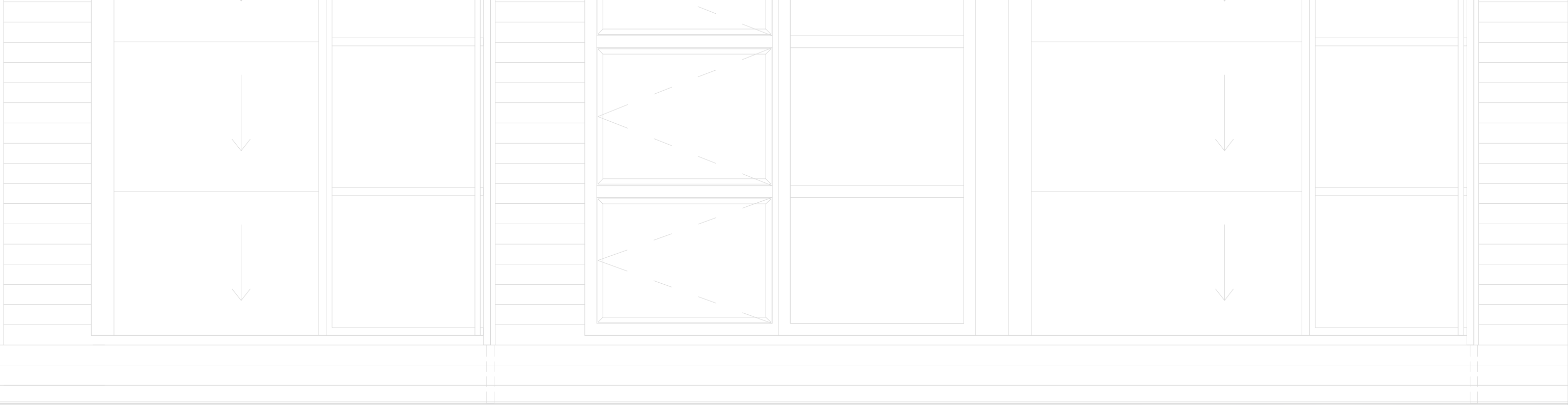


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Floor plan: Seventh & Eighth floor penthouses 117 m²





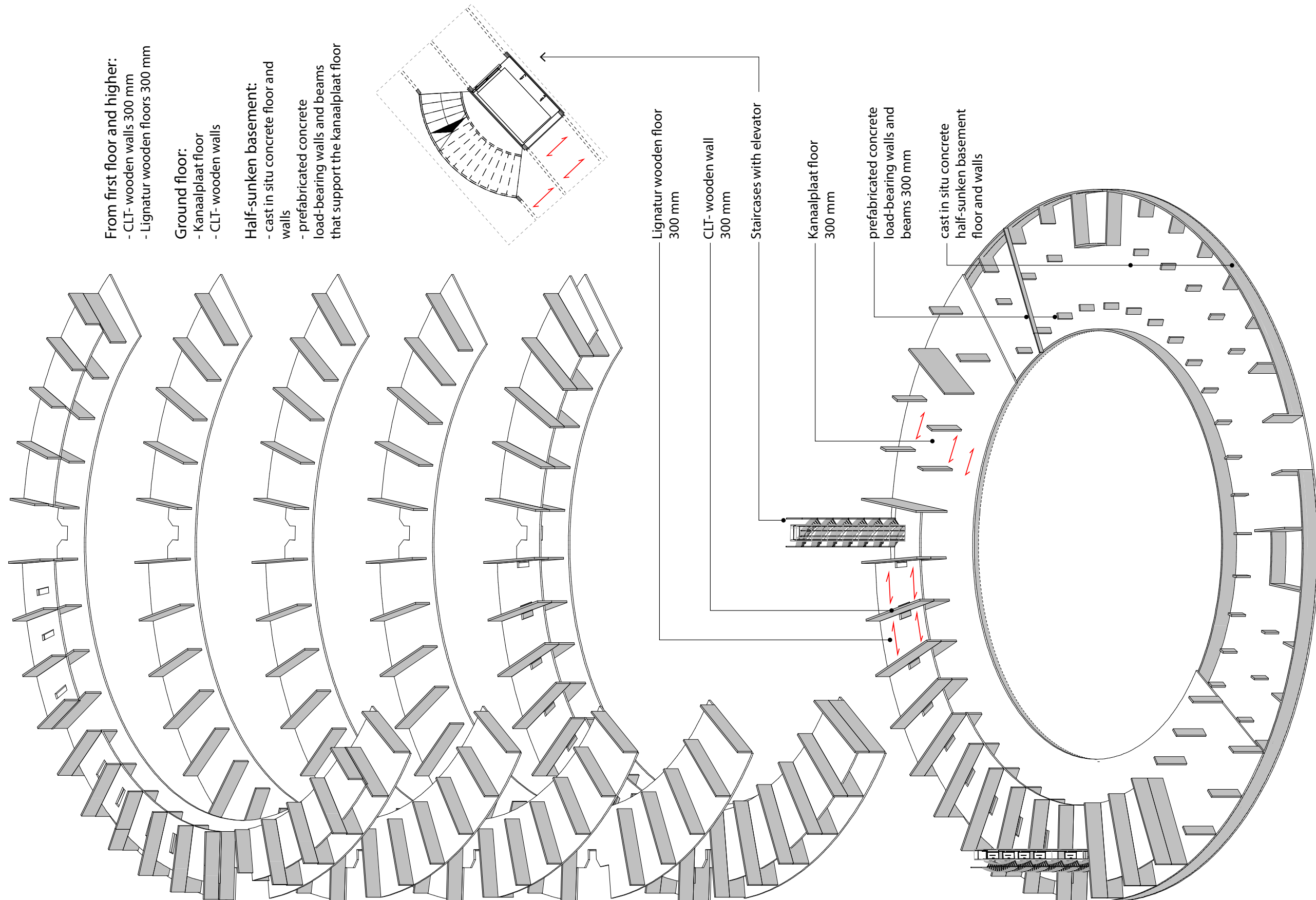
Building Technology



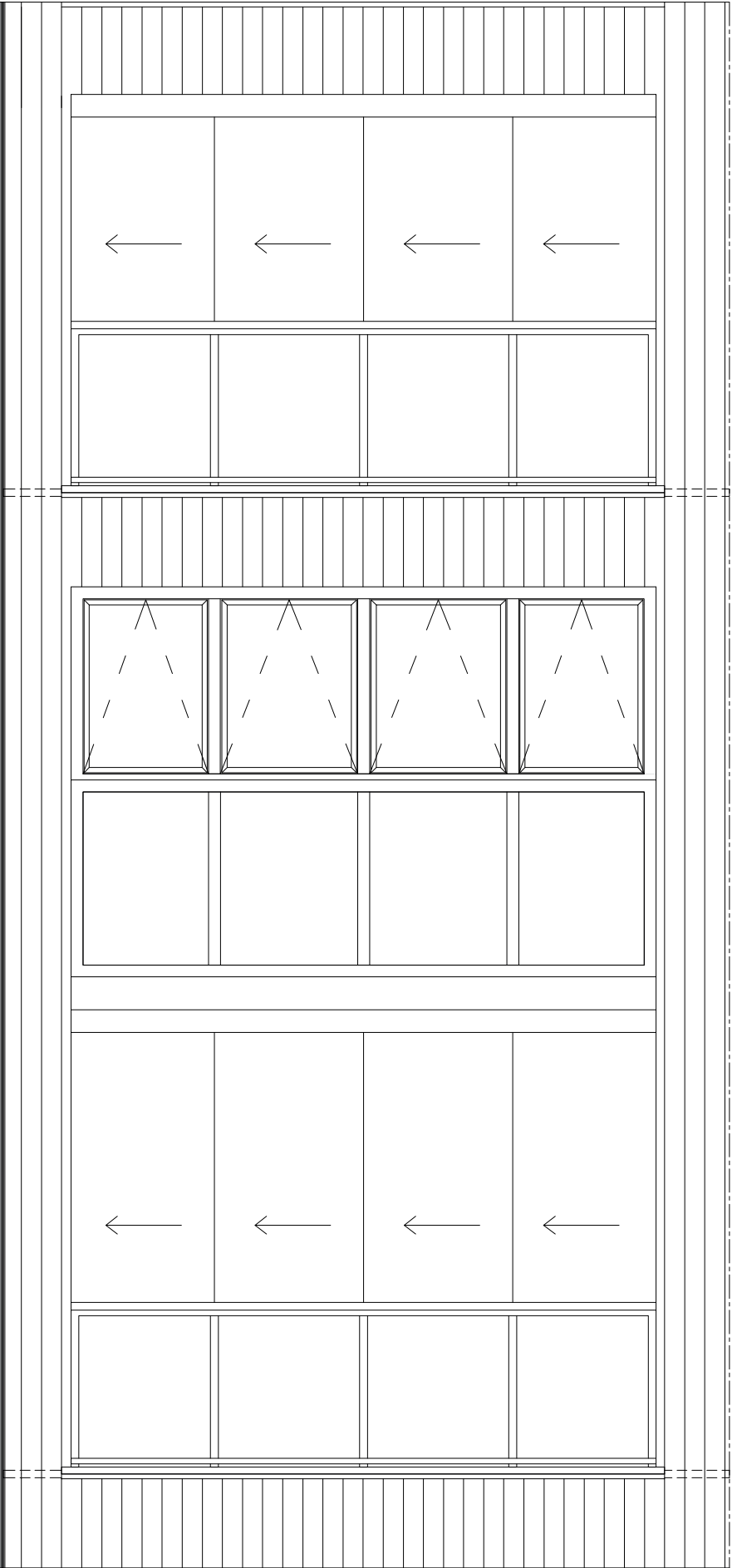
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Building Structure



Structure: Section & Facade fragment 1:20 (here 1:100)



b.k. vloer
+16825

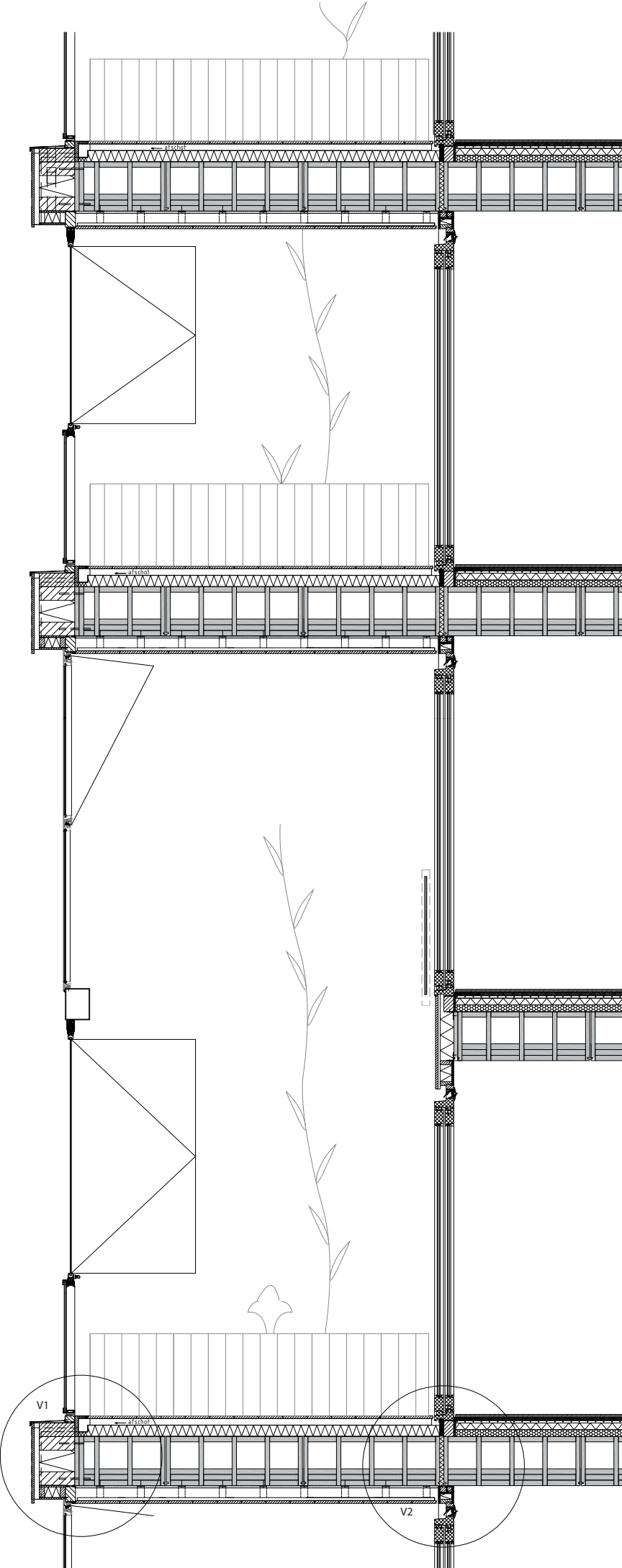
b.k. vloer
+14700

b.k. vloer
+13700

b.k. vloer
+10575

b.k. vloer
+8450

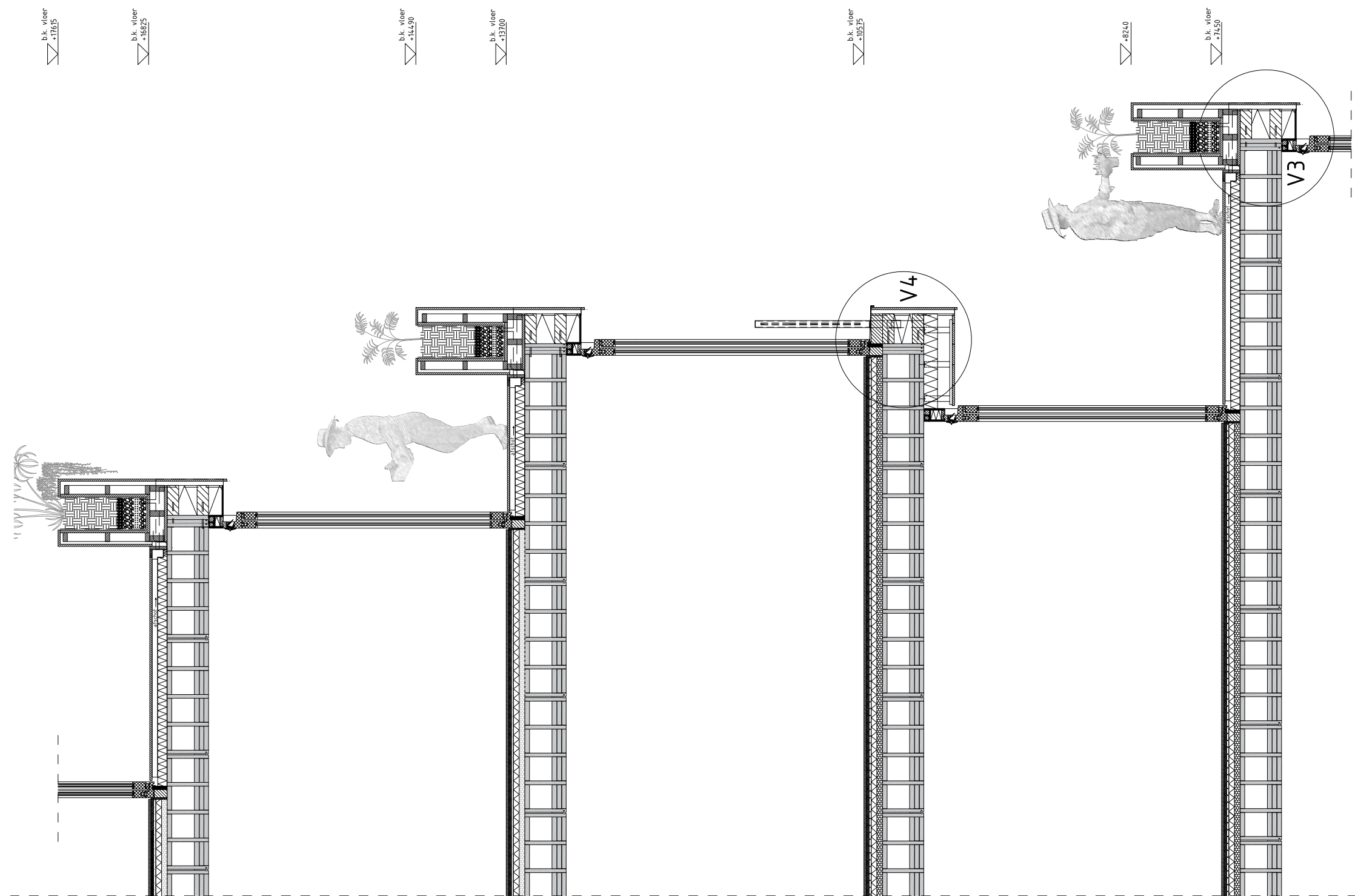
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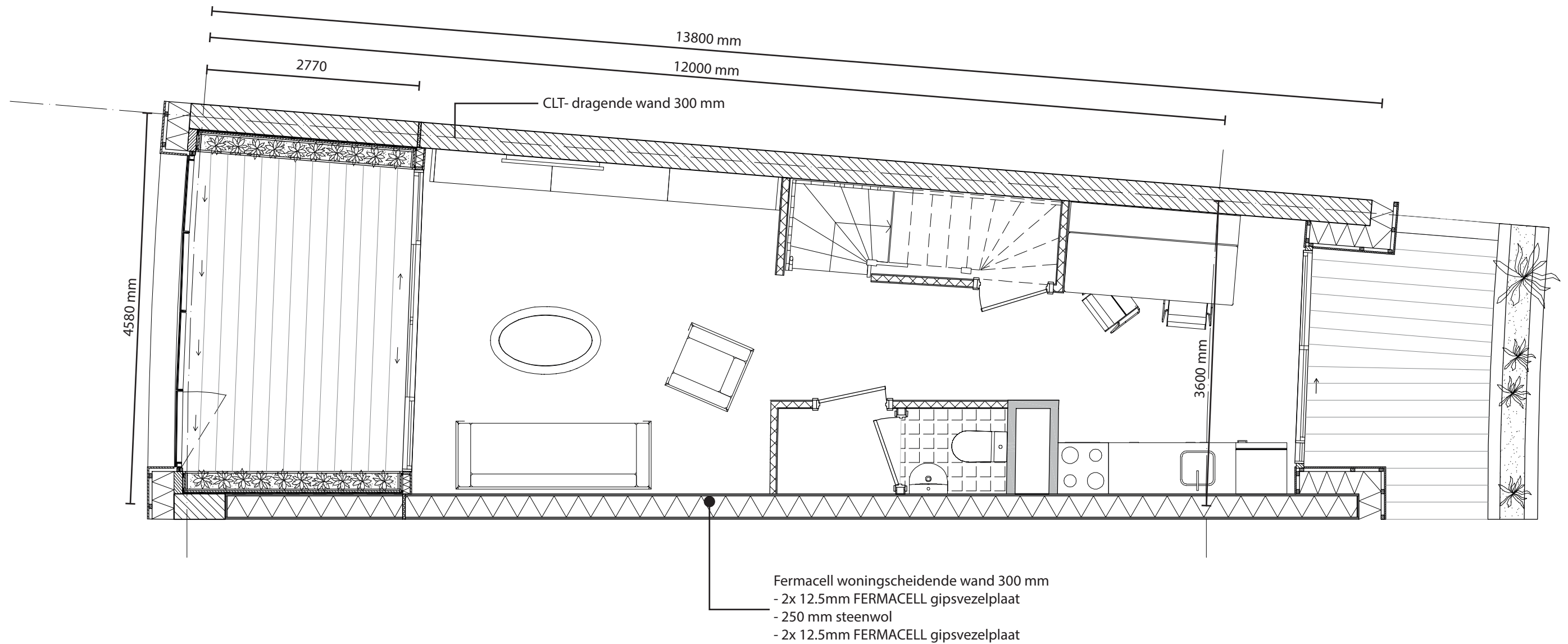
Structure: Section & Facade fragment 1:20 (here 1:100)



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Floor plan: fragment 1:50 second floor maisonnette

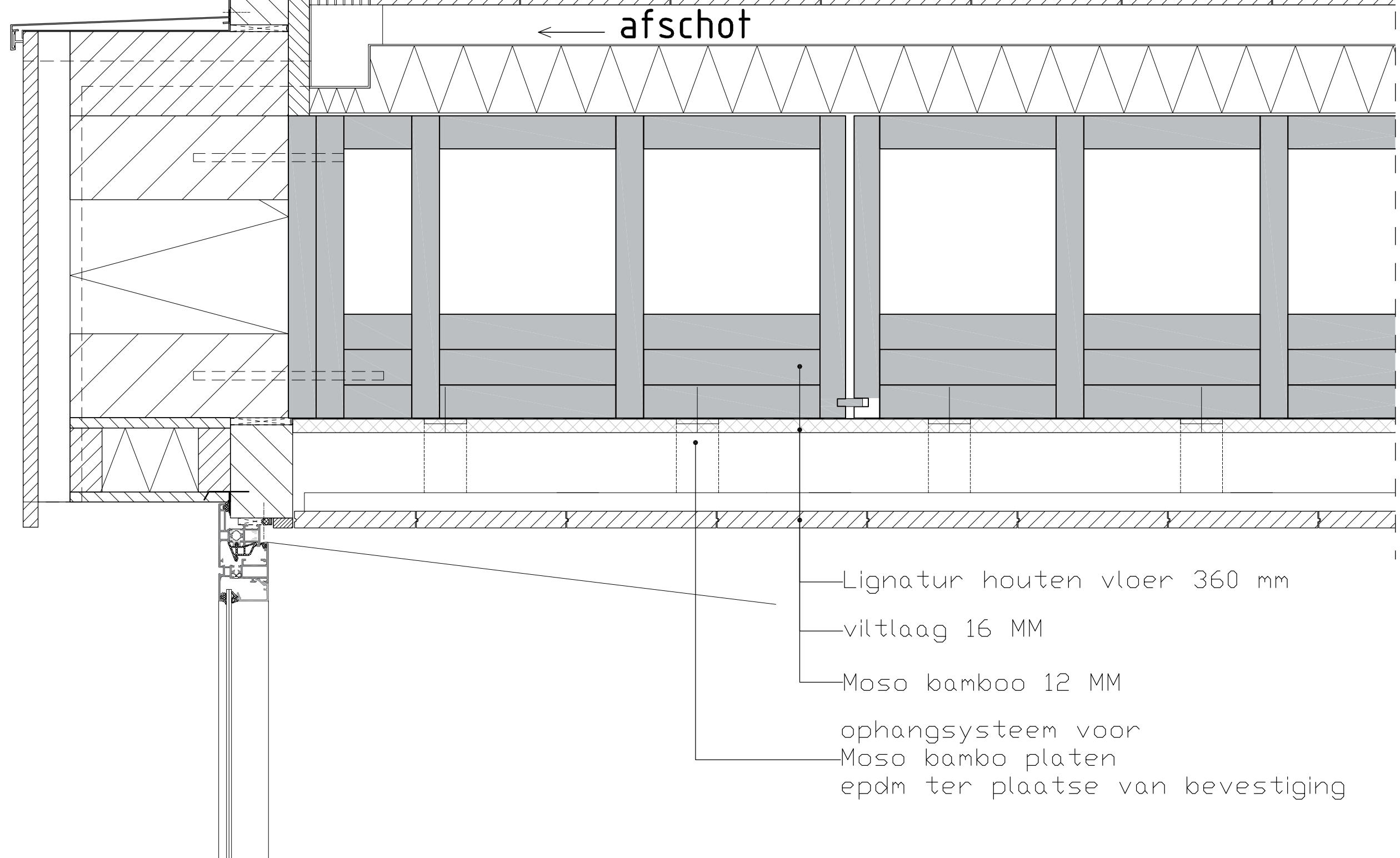


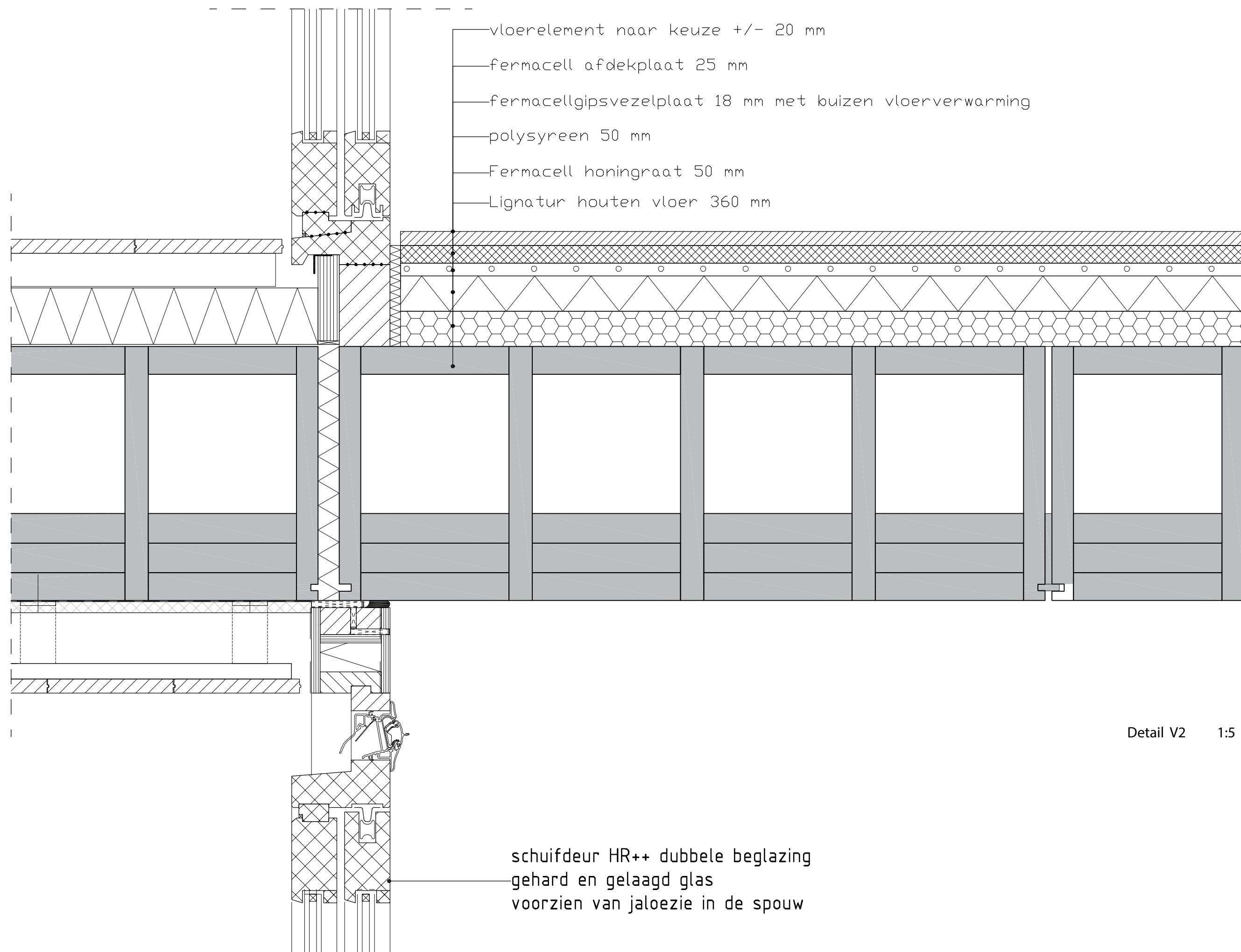
Fragment 1:50
second floor



Loggia beglazing voor plaatsing op een
borstwering, type MBR-1A, opgebouwd uit
een draaipaneel en schuifdraaipanelen

Detail V1 1:5

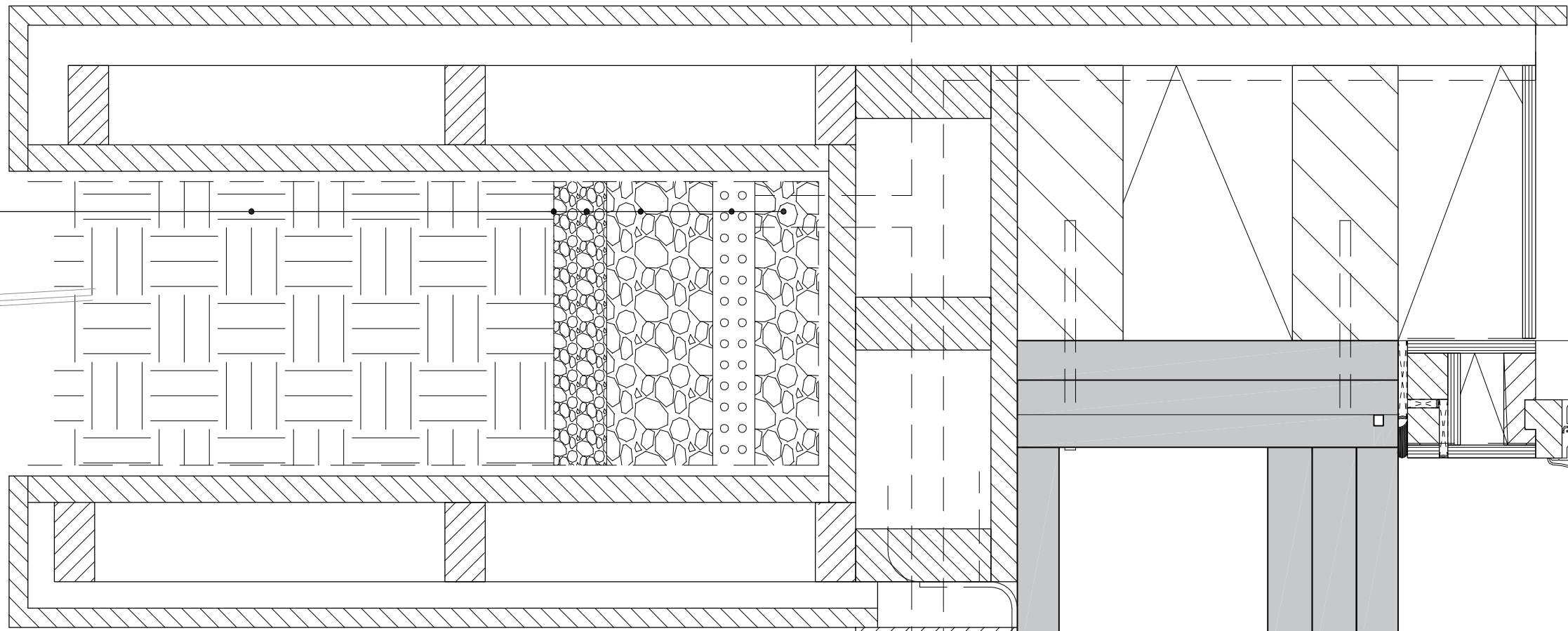






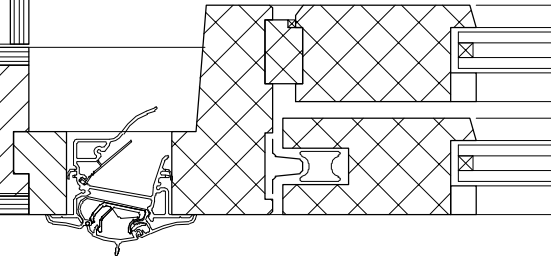
Plantenbak:

- aarde
- membraan
- fijngrind
- grofgrind
- drainage pijp
- afwatering naar het
- regenwateropslag



afschot →

Detail V3
1:5



schuifraam HR++ dubbele beglazing
gehard en gelaagd glas
voorzien van jaloezie in de spouw

gelaagd en gehard glas
doorvalbeveiliging

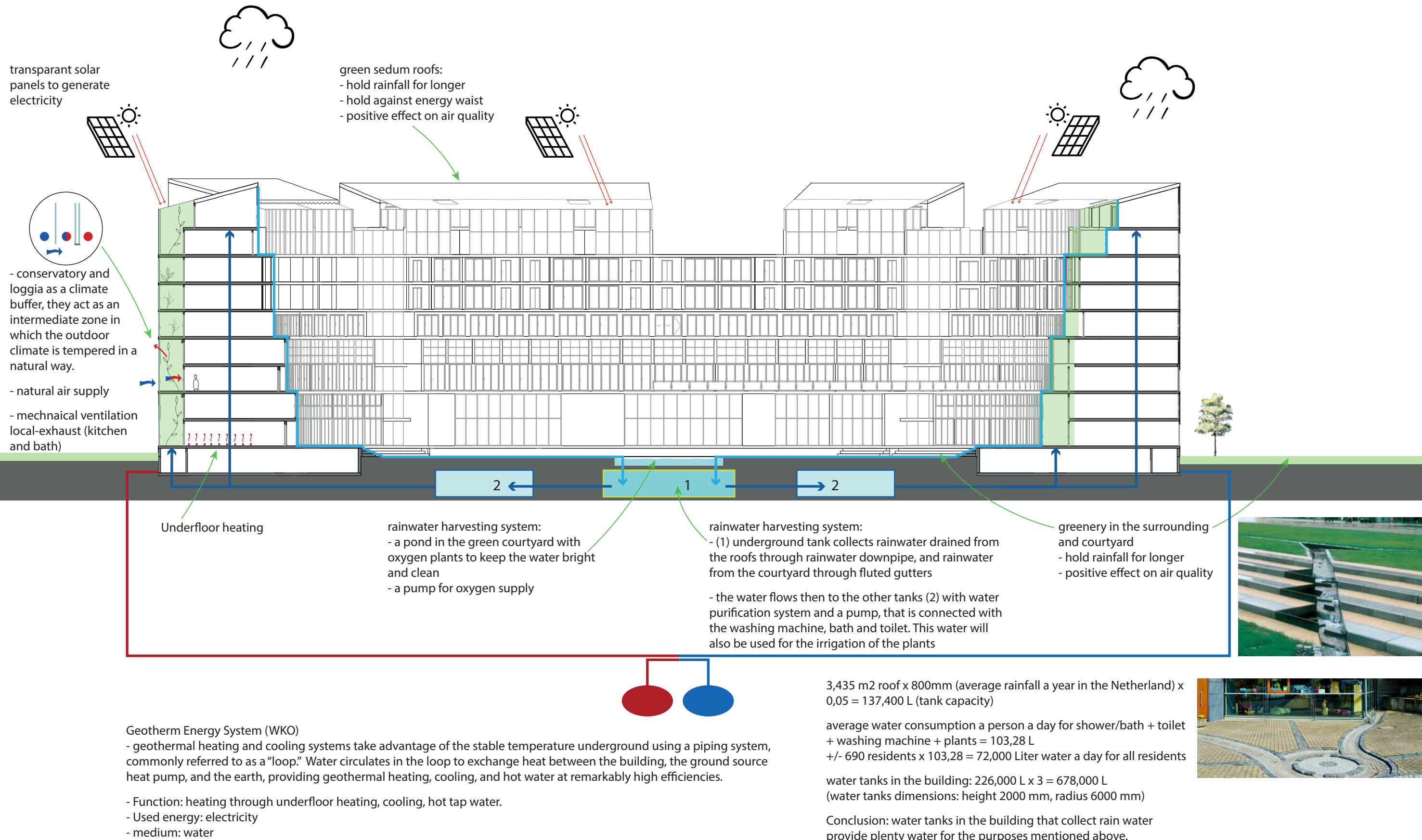
Moso bambo Extreme
gevelbekleding 18 mm

Detail V4 1:5

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Climate: overview

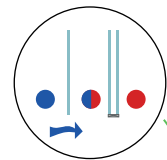
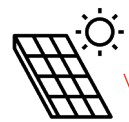
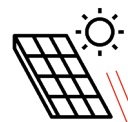


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Climate: energy, heating and ventilation

transparent solar panels to generate electricity



- conservatory and loggia as a climate buffer, they act as an intermediate zone in which the outdoor climate is tempered in a natural way.

- natural air supply
- mechanical ventilation local-exhaust (kitchen and bath)

Underfloor heating

Geotherm Energy System (WKO)

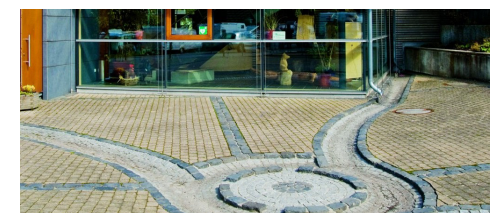
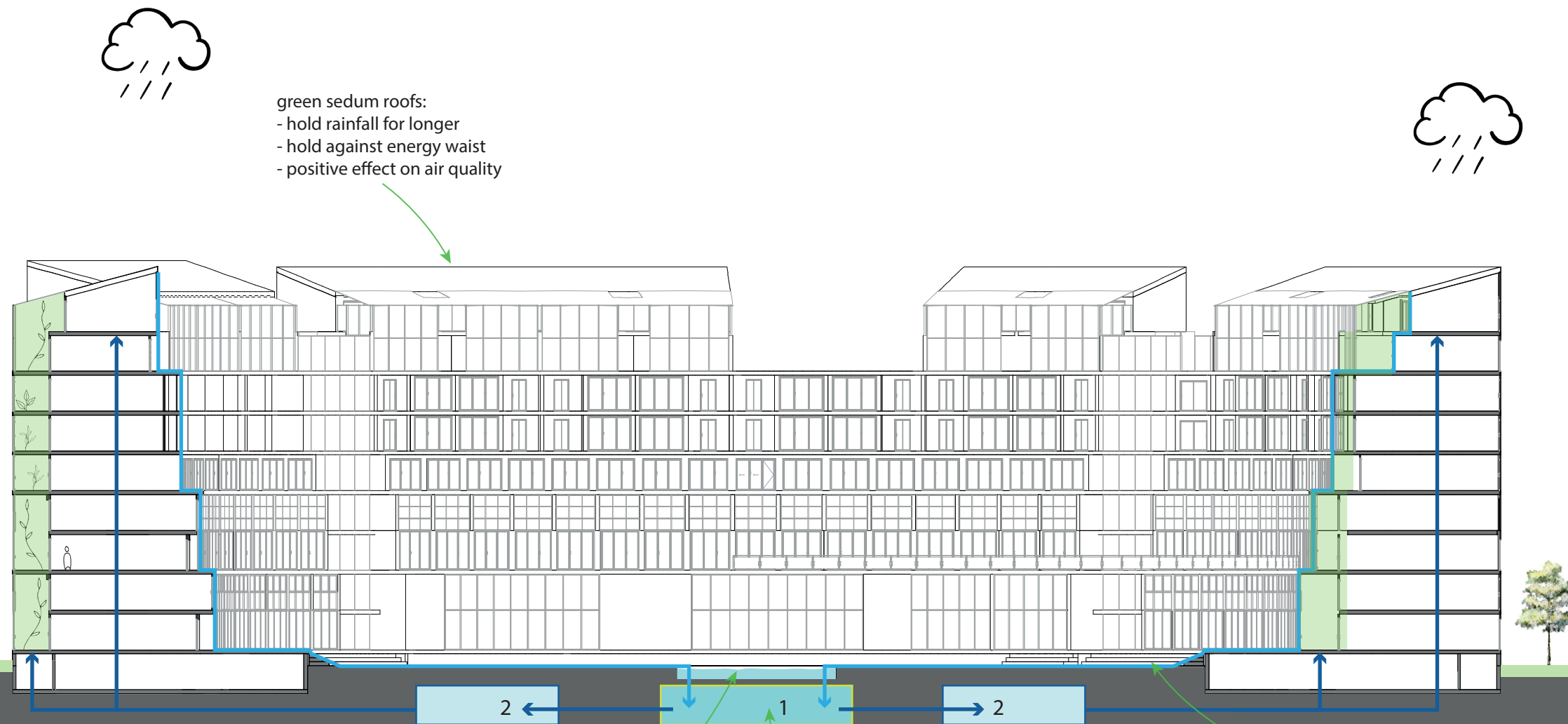
- geothermal heating and cooling systems take advantage of the stable temperature underground using a piping system, commonly referred to as a "loop." Water circulates in the loop to exchange heat between the building, the ground source heat pump, and the earth, providing geothermal heating, cooling, and hot water at remarkably high efficiencies.

- Function: heating through underfloor heating, cooling, hot tap water.
- Used energy: electricity
- medium: water

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Climate: water & green



$3,435 \text{ m}^2 \text{ roof} \times 800\text{mm (average rainfall a year in the Netherlands)} \times 0,05 = 137,400 \text{ L (tank capacity)}$

average water consumption a person a day for shower/bath + toilet + washing machine + plants = 103,28 L
 $\pm 690 \text{ residents} \times 103,28 = 72,000 \text{ Liter water a day for all residents}$

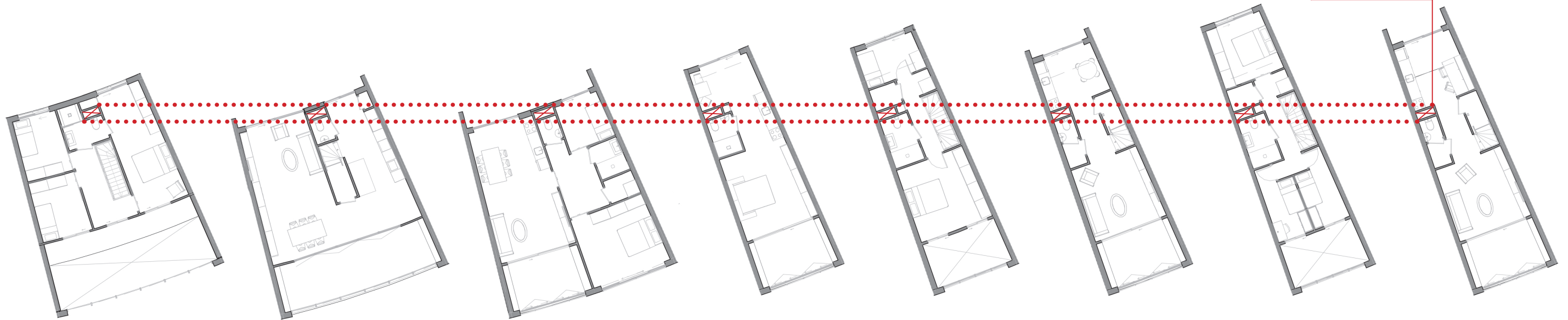
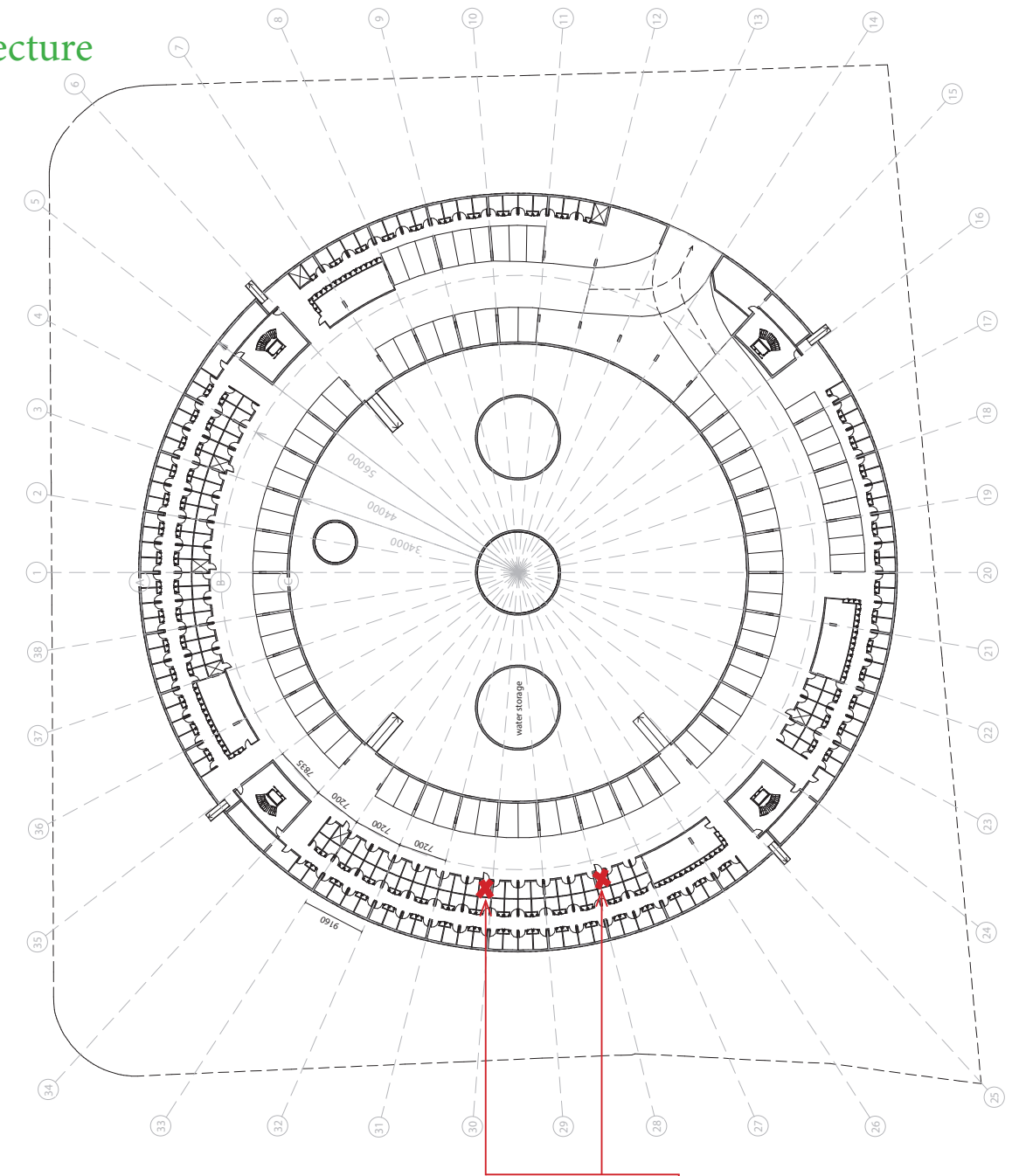
water tanks in the building: $226,000 \text{ L} \times 3 = 678,000 \text{ L}$
 (water tanks dimensions: height 2000 mm, radius 6000 mm)

Conclusion: water tanks in the building that collect rain water provide plenty water for the purposes mentioned above.

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Climate: shafts



Impressions









