

Masters's thesis at the Lucerne School of Engineering and Architecture

Title	Building in the Built. Sustainable approach towards the densification of the Kirchenfeld-Brunnadern Neighborhood
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Master's degree program	Master of Arts in Architecture
Semester	spring semester 21
Lecturer	Wettstein, Felix; Molo, Ludovica
External examiner	Lütjens, Olivier

Abstract German

Das Thema der Masterarbeit befasst sich mit der Entwicklung des Quartiers Kirchenfeld-Brunnadern in Bern. Die Siedlung wurde in den 1950er Jahren erbaut und besteht aus neun Mehrfamilienhäusern. Diese weisen einen eher kleinen Maßstab auf. Ihr nüchternes Erscheinungsbild und ihre privilegierte Lage in der aktuellen Erweiterungszone von Bern machten sie zu idealen Kandidaten für einen Abriss zugunsten einer Verdichtung. Man kommt nicht umhin, sich zu fragen, warum der Mangel an ansprechenden Merkmalen solche konventionellen Gebäude zu Wegwerf Objekten macht. Diese Studie beschäftigt sich mit dem Thema der Transformation von verdichteten Siedlungen, mit einer Haltung der Toleranz gegenüber dem Bestehenden. Als Ausgangspunkt werden ökologische, kulturelle und soziale Aspekte erforscht, um eine solide Argumentation zu schaffen. Das führt, zur Definition von vier architektonischen Strategien: Erhaltung, Umnutzung, Erweiterung und Ergänzung, als Alternativen zum Abriss. Die Strategien werden in drei Fallbeispielen dargestellt: Sanierung Weissensteingut, Grünerbaum, SIA Areal, Sanierung & Erweiterung Tscharnergut und Hofüberbauung Riehenring. Alle wurden im Schweizer Kontext während des letzten Jahrzehnts entwickelt. Schließlich wurden die gewonnenen Erkenntnisse auf das Dissertationsprojekt angewendet. Im Ergebnis kann das Projekt als Materialisierung einer Haltung gesehen werden, die sich für Transformation statt Abriss einsetzt.

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Abstract English

This semester's thesis topic focuses on the development of the Kirchenfeld-Brunnadern neighborhood in Bern. Built in the 1950's the settlement has nine multifamily buildings. Which present a rather small scale. Their austere appearance and its privileged location on the current expansion zone of Bern, made them ideal candidates for demolition in favor of densification. One cannot help but wonder why the lack of appealing features turn such conventional buildings into disposable objects. This study explores the topic of transformation of consolidated settlements, with an attitude of tolerance towards the existing. As a starting point ecological, cultural and social aspects are explored in order to create a solid argument. Which leads to defined four architectural strategies: Conservation, Conversion, Extension and Addition, as alternatives to demolition. The strategies are portrayed in three case studies: Renovation of Weissensteingut, Grünerbaum, SIA Areal, Redevelopment & Expansion of Tscharnergut and Courtyard Development Riehenring. All of them were developed in the Swiss context during the last decade. Finally, the gained knowledge was applied to the thesis project. As a result, the project can be seen as a materialization of an attitude that advocates for transformation rather than demolition.

Place, date

Luzern, 25 June 2021

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BUILDING IN THE BUILT

*Sustainable approach towards the densification of the
Kirchenfeld-Brunnadern Neighborhood*

Belén Culcay C. | Final Discussion | Master Thesis | 29.06.2021

SITE



SITE
City Plan



 Kirchenfeld-Brunnadern Neighborhood  High-Rise

SITE
Atmosphere



TOPIC



Why demolish when it can be transformed?



- 1 Introduction**
 - 1.1 Project Scenario
 - 1.1 Topic & Thesis
 - 1.2 Procedure & Method

- 2 Old Conventional Buildings Matter**
 - 2.1 Ecological Perspective
 - 2.2 Cultural Perspective
 - 2.3 Social Perspective

- 3 Architectural strategies to deal with existing building stock**
 - 3.1 Conservation
 - 3.2 Conversion
 - 3.3 Extension
 - 3.4 Addition

- 4 Case Studies**
 - 4.1 Renovation of Weissensteingut
 - 4.3 Redevelopment & Expansion Tscharnergut
 - 4.4 Courtyard Development Riehenring

- 5 Application to the Project**



Renovation of Weissensteingut



Redevelopment & Expansion Tscharnergut

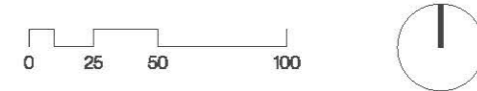


Courtyard Development Riehenring

PROJECT
Uses



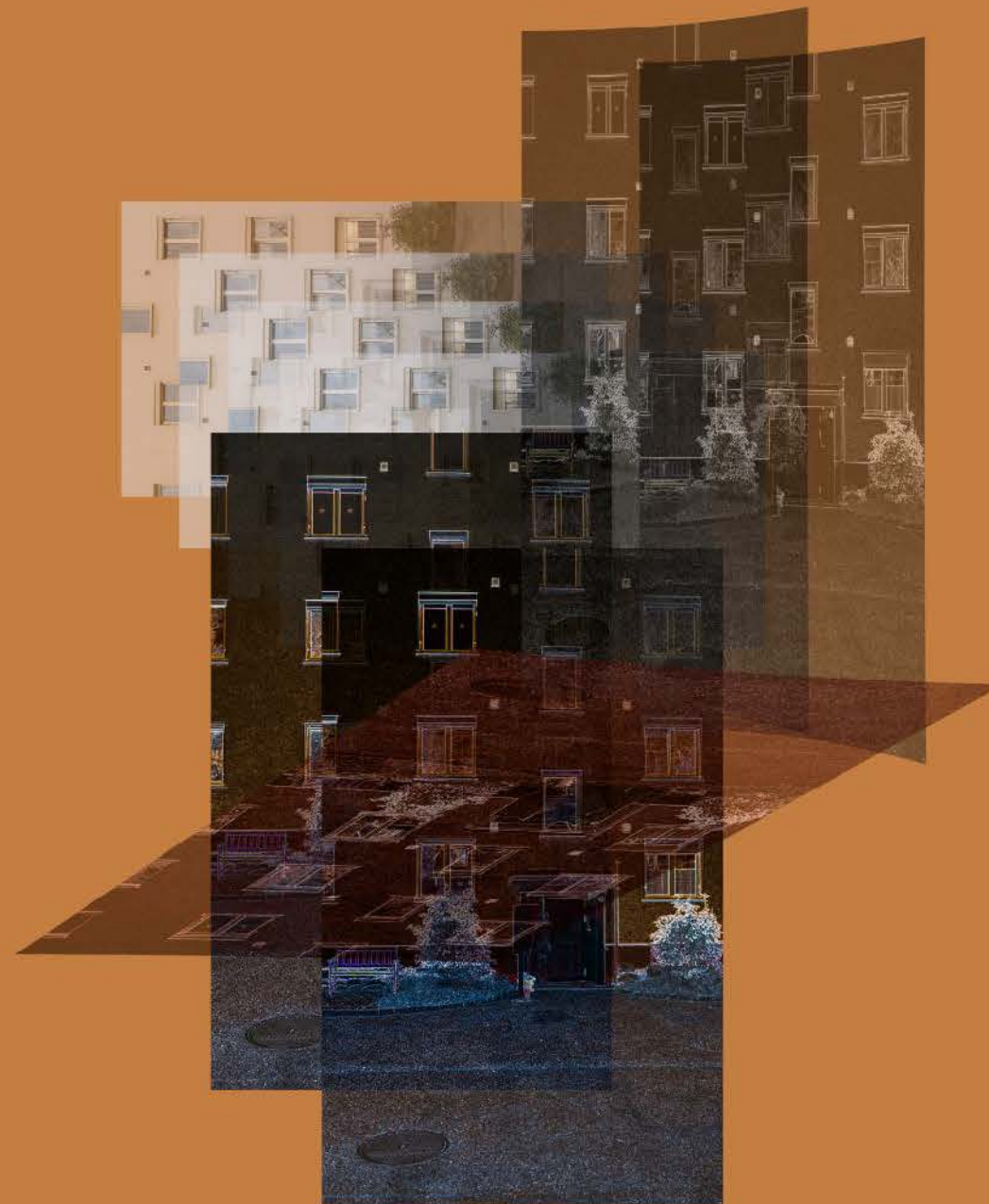
- Office
- Public / Semi Public Use
- Apartments
- Shared Roof Terrace



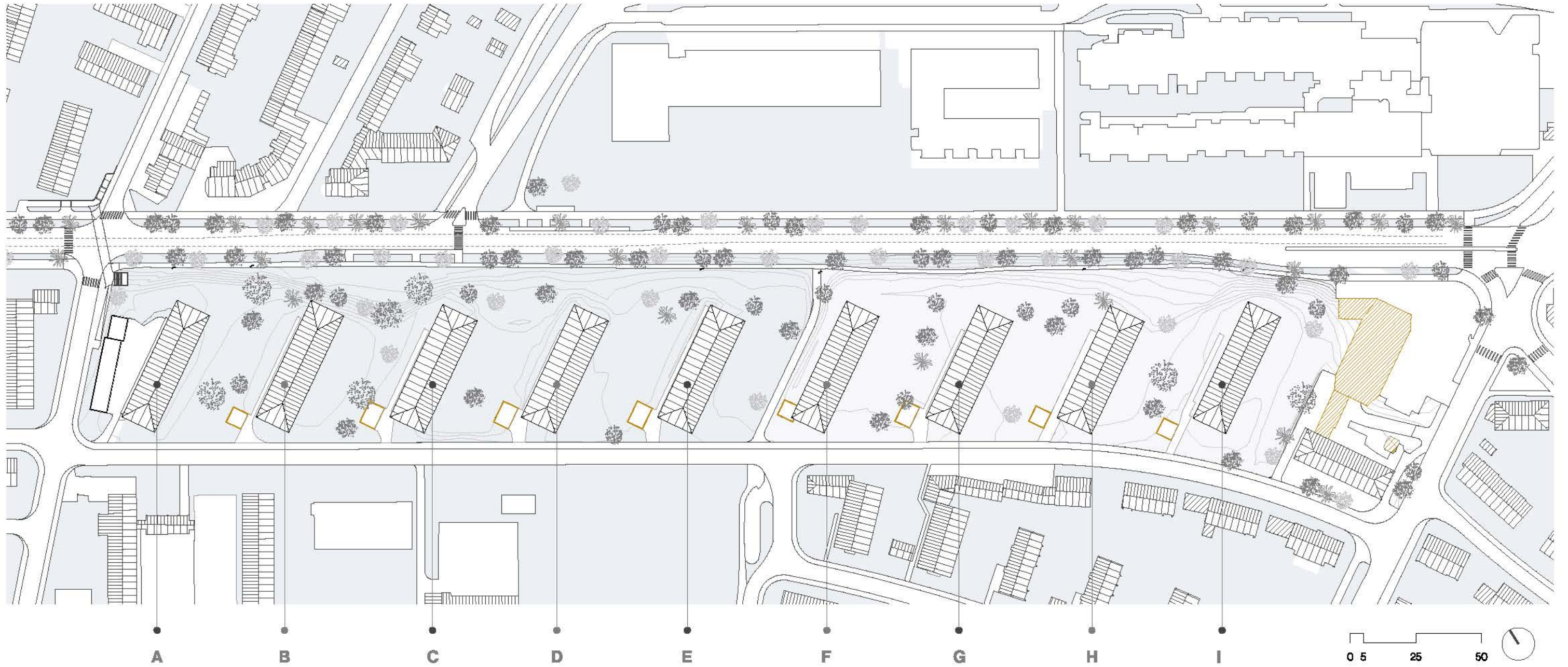
PROJECT
Conservation



Conversion

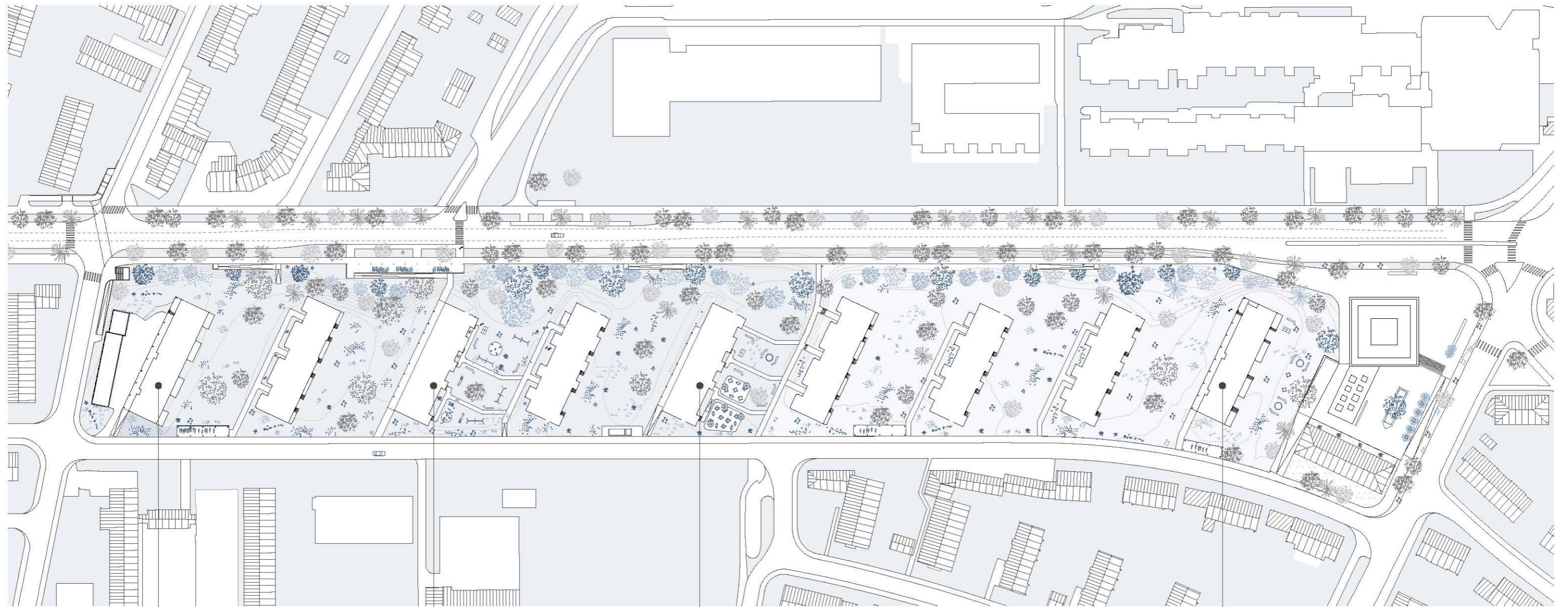


Original Situation



 Discharged Buildings

New Situation



A

Youth Club / Music Room
Atelier / Co-working

C

Crib / Office
Atelier / Co-working

E

Restaurant / Cafe
Florist / Atelier / Co-working

I

Quarter Library / Gym
Store / Event Hall

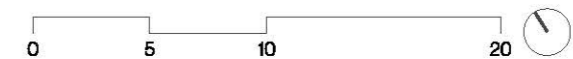
0 5 25 50





Block D

Ground Floor: Crib | Office | Atelier | Co-working







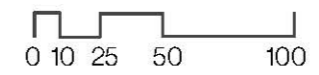
Extension



Extension Scheme



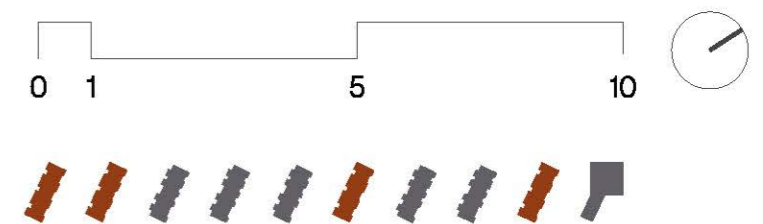
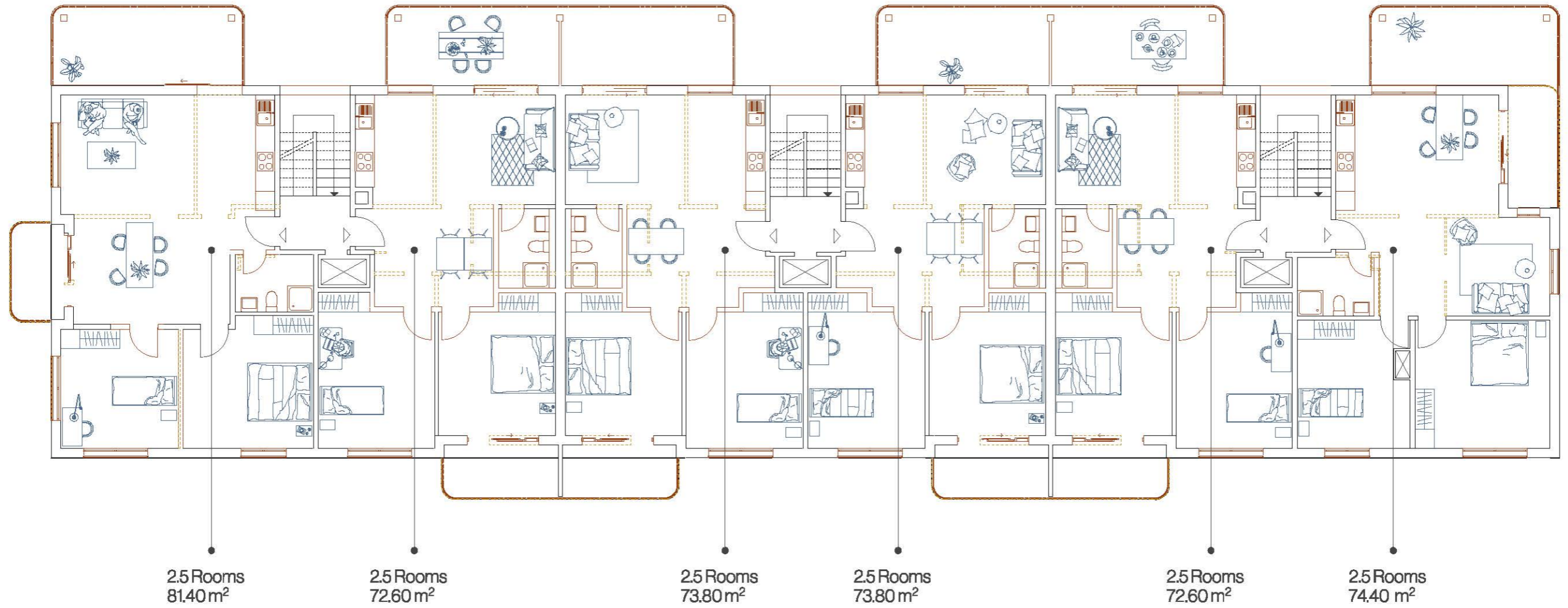
 New Layer of Balconies in the West Facade





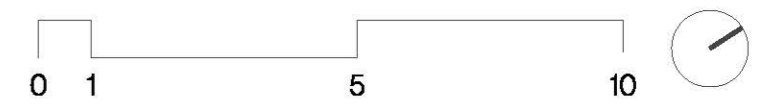
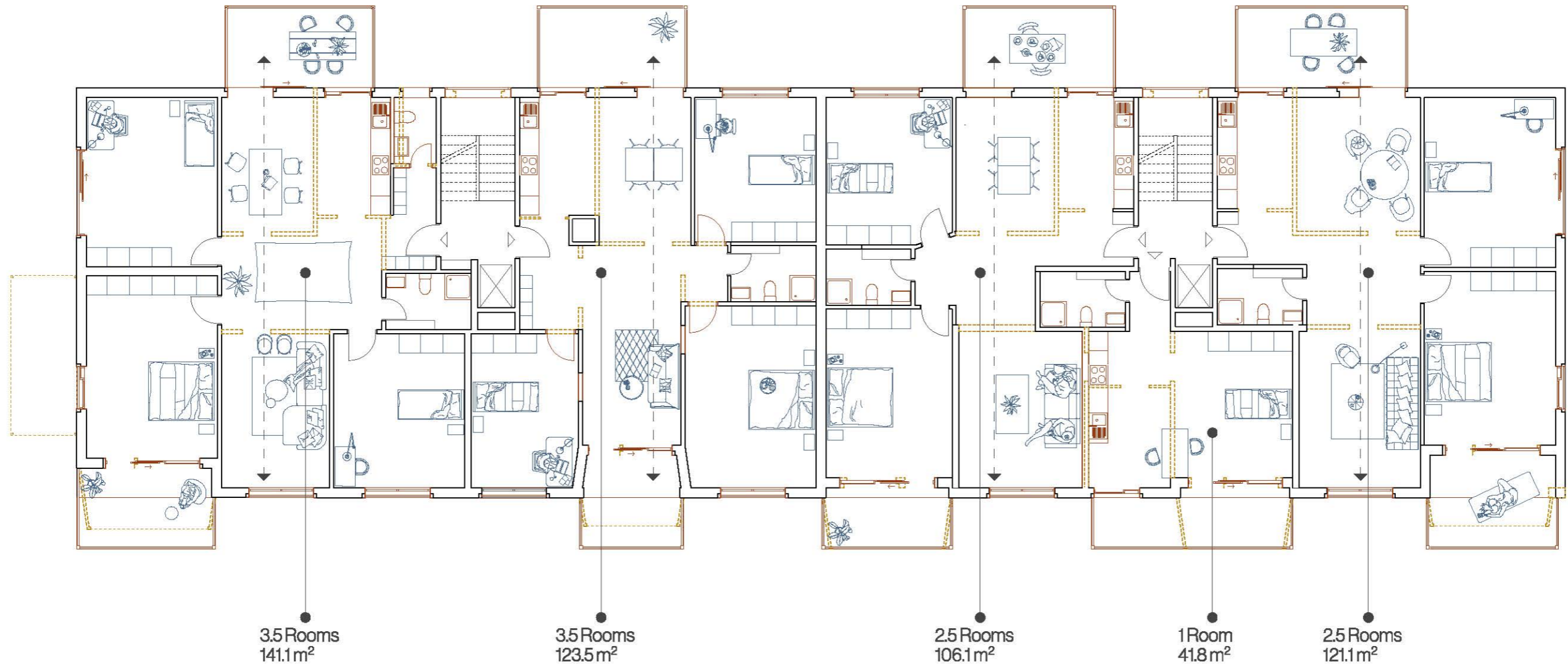
Block A, B, F, I

1st - 2nd - 3rd - 4th Floor

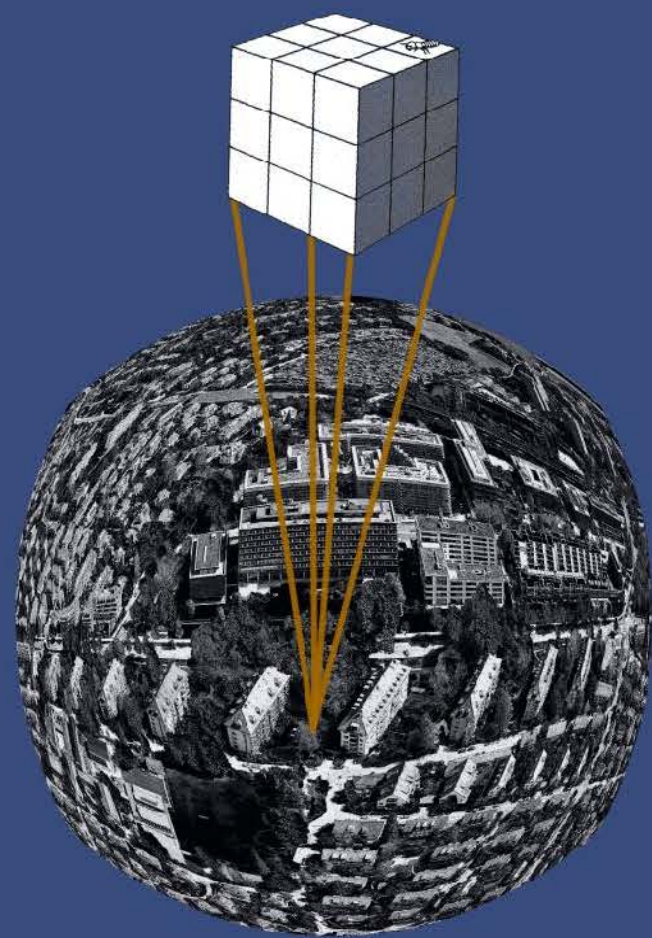


Block C, D, E, G, H

1st - 2nd - 3rd - 4th Floor




Addition



Addition
Existing Buildings



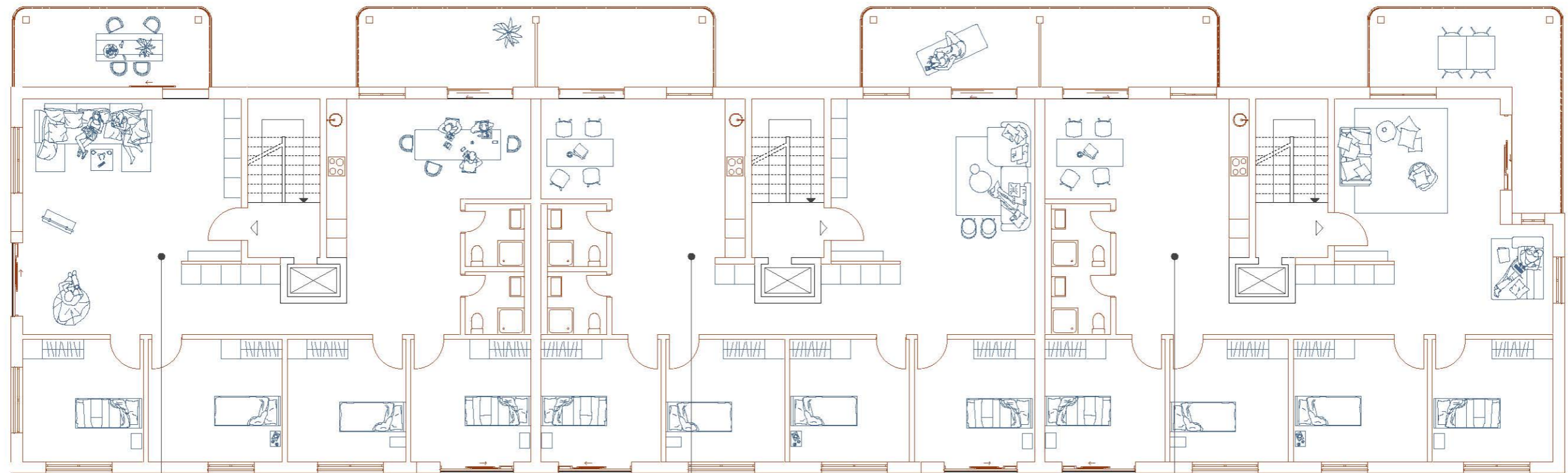
 Roof Terrace with Winter Garden

 New Cluster Apartments Floor

0 25 50 100



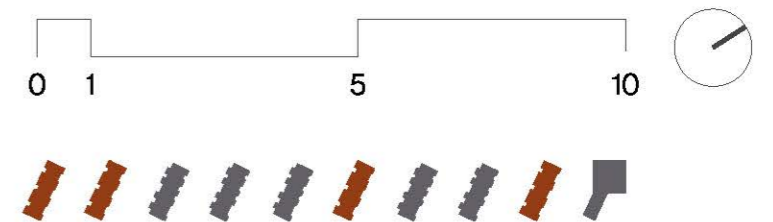
Block A, B, F, I
Attic Floor



Cluster
4 Students
158.1m²

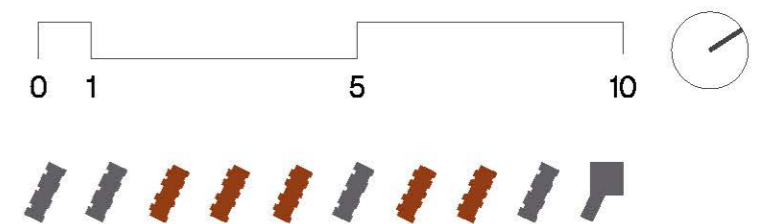
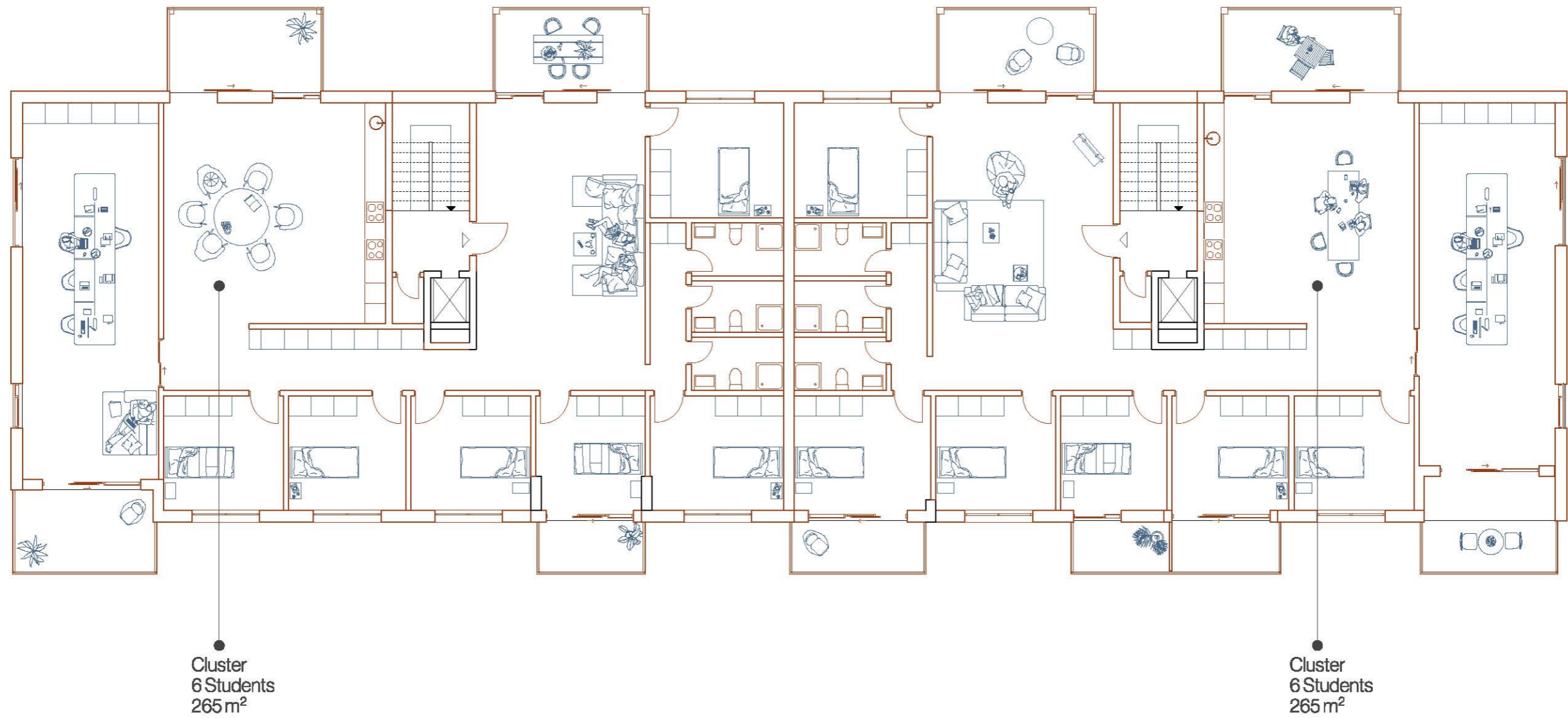
Cluster
4 Students
149.4m²

Cluster
4 Students
149.5m²



Block C, D, E, G, H

Attic Floor



Block C, D, E, G, H

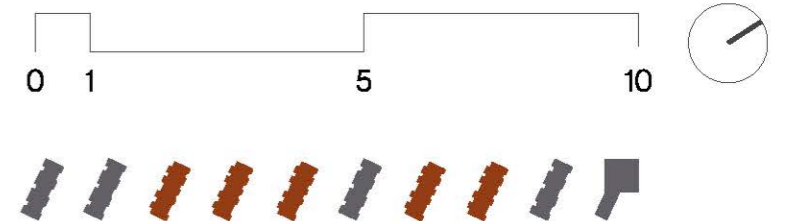
Roof Terrace



Green House

Roof Garden

Drying Area



Block C, D, E, G, H
Elevation



0 1 5 10



Block C, D, E, G, H
Cross Section



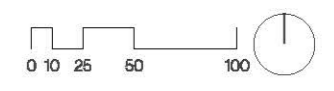
0 1 5 10



Addition
New Building

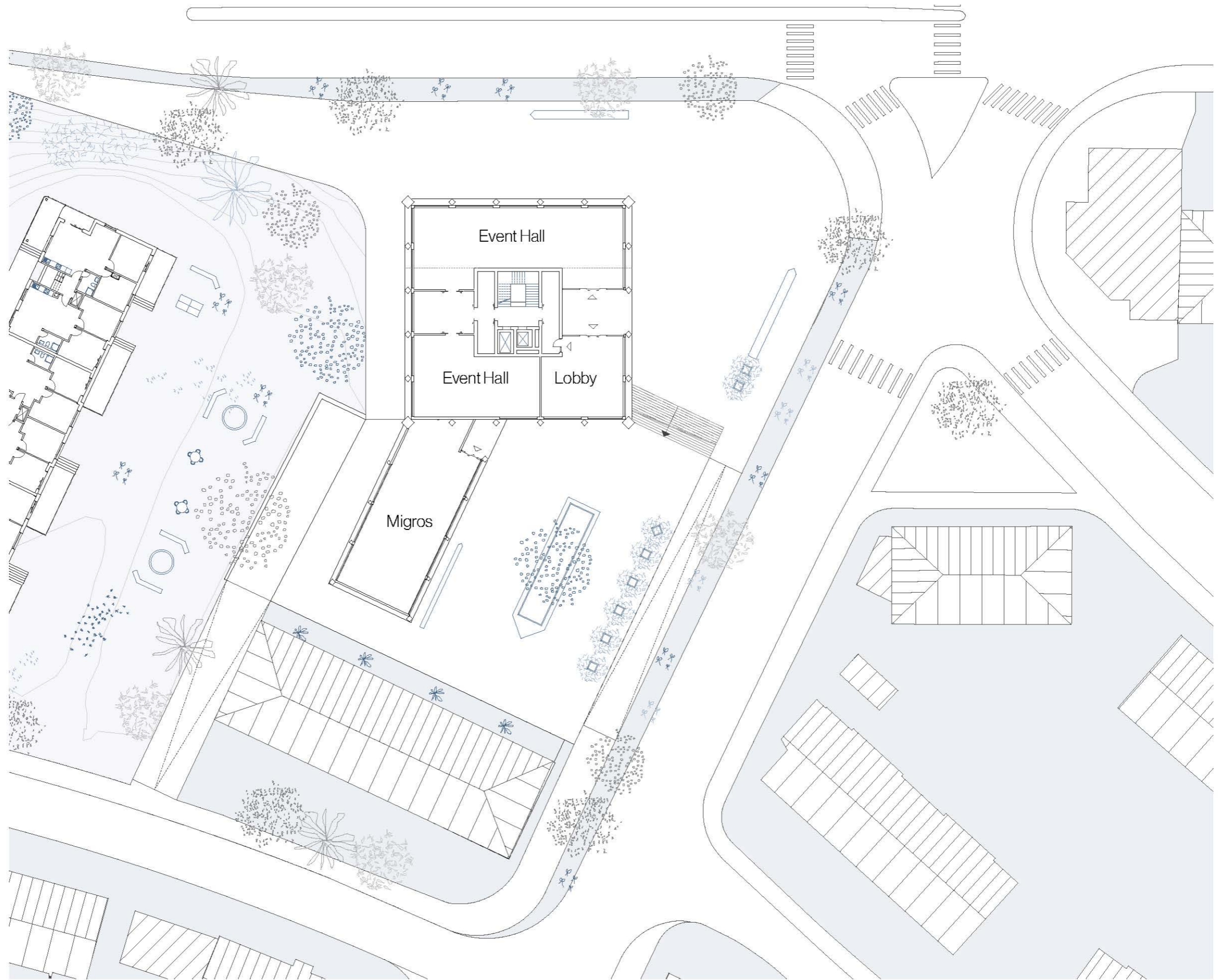


 New Migros Building  New Residential High-Rise  Jupiterstrasse Residential Complex





New Building
Ground Floor

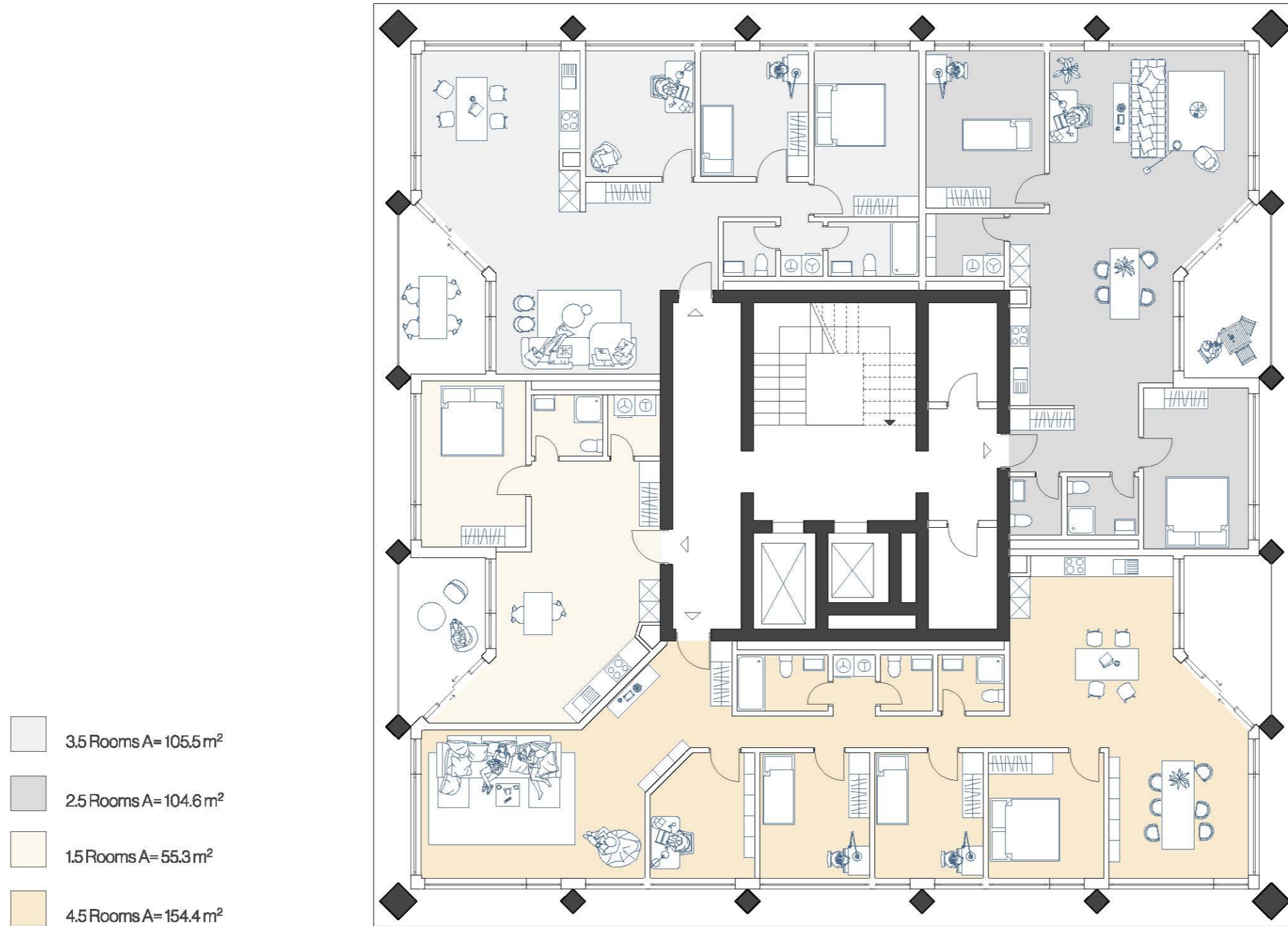


0 5 10 20





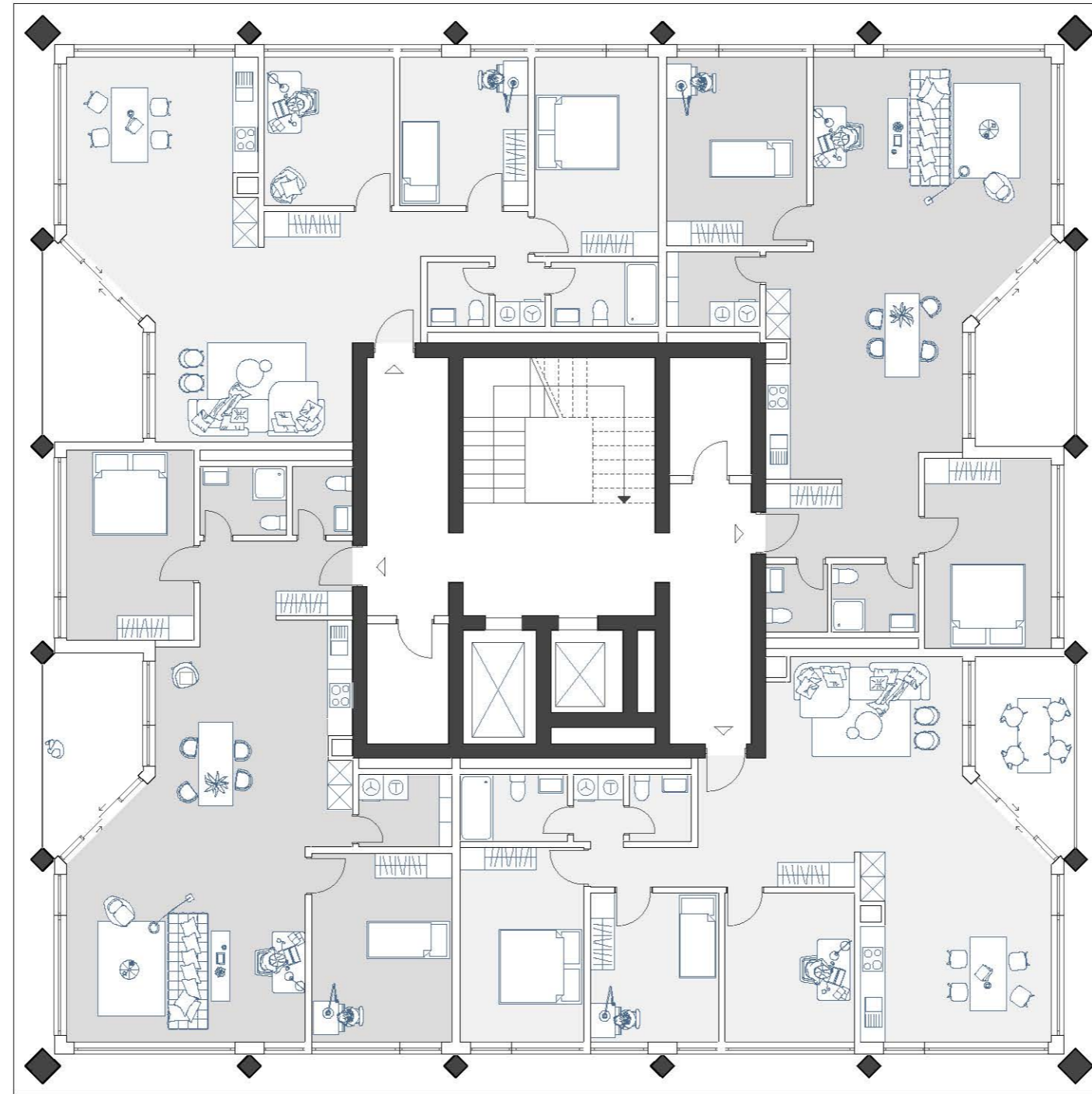
New Building
3th, 4th, 5th, 6th Floor



New Building

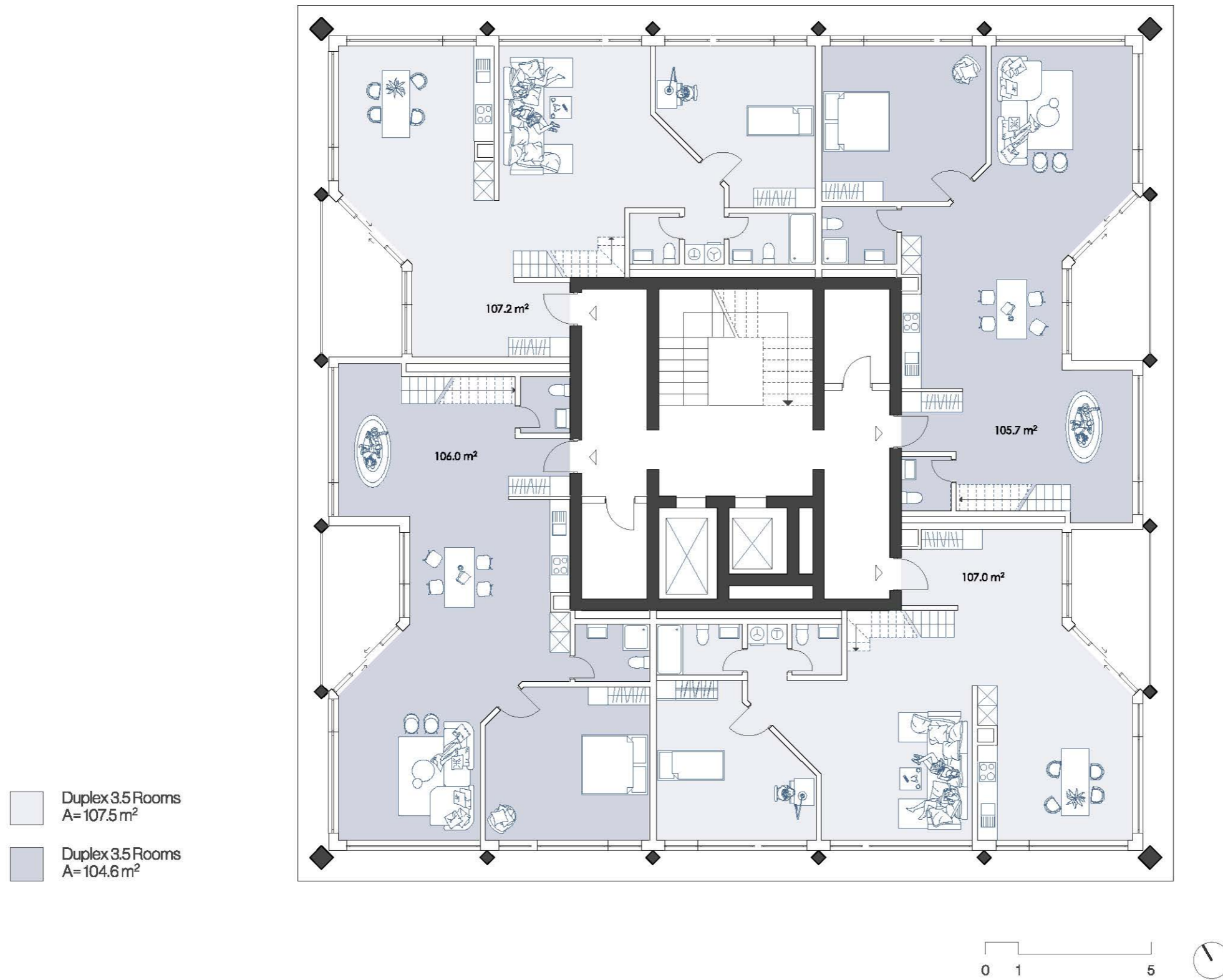
7th, 8th, 9th, 10th, 11th Floor

- 3.5 Rooms A= 105.5m²
- 2.5 Rooms A= 104.6m²



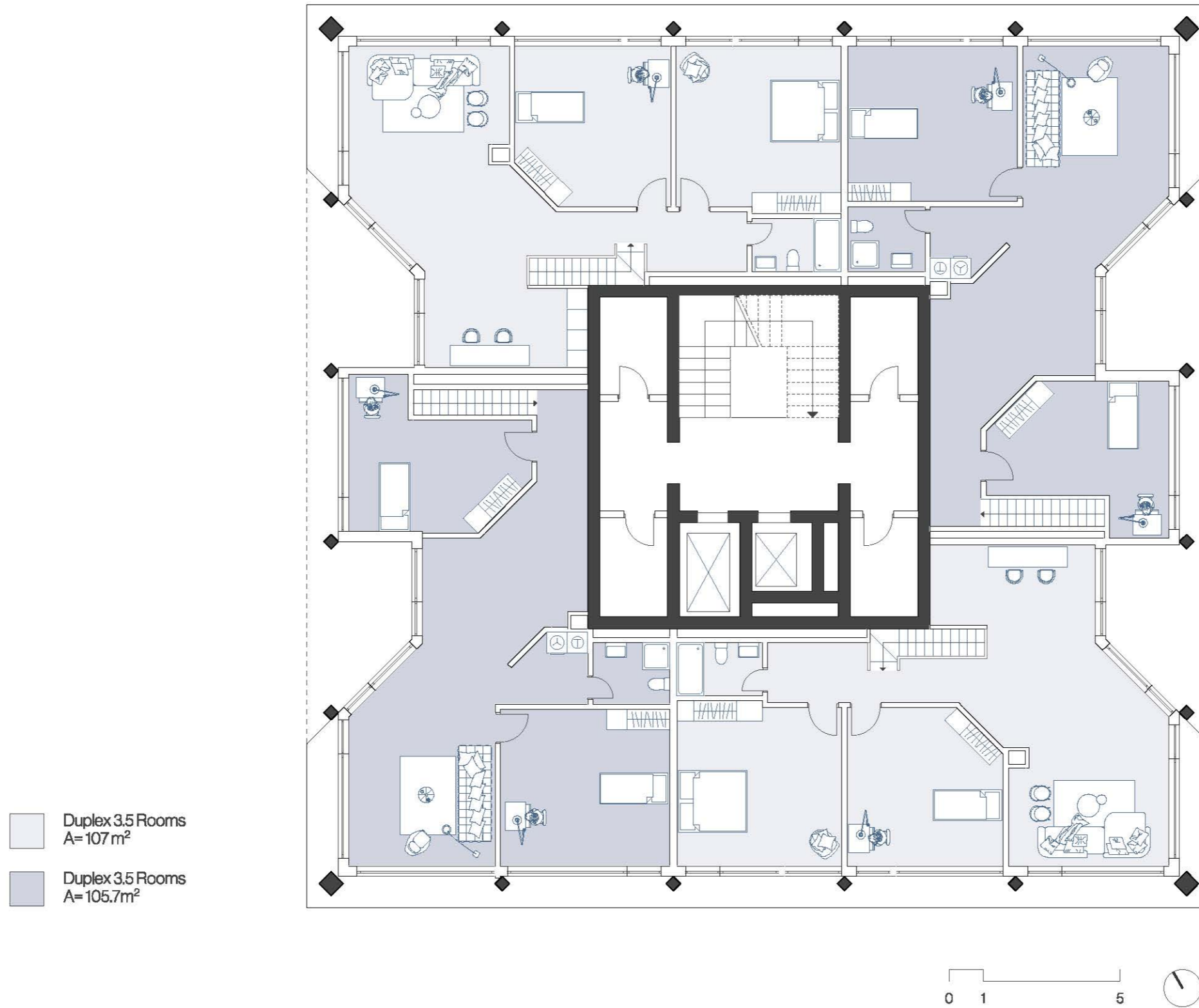
New Building

12th,14th, 17th Duplex 1st Floor



New Building

13th,15th, 18th Duplex 2nd Floor





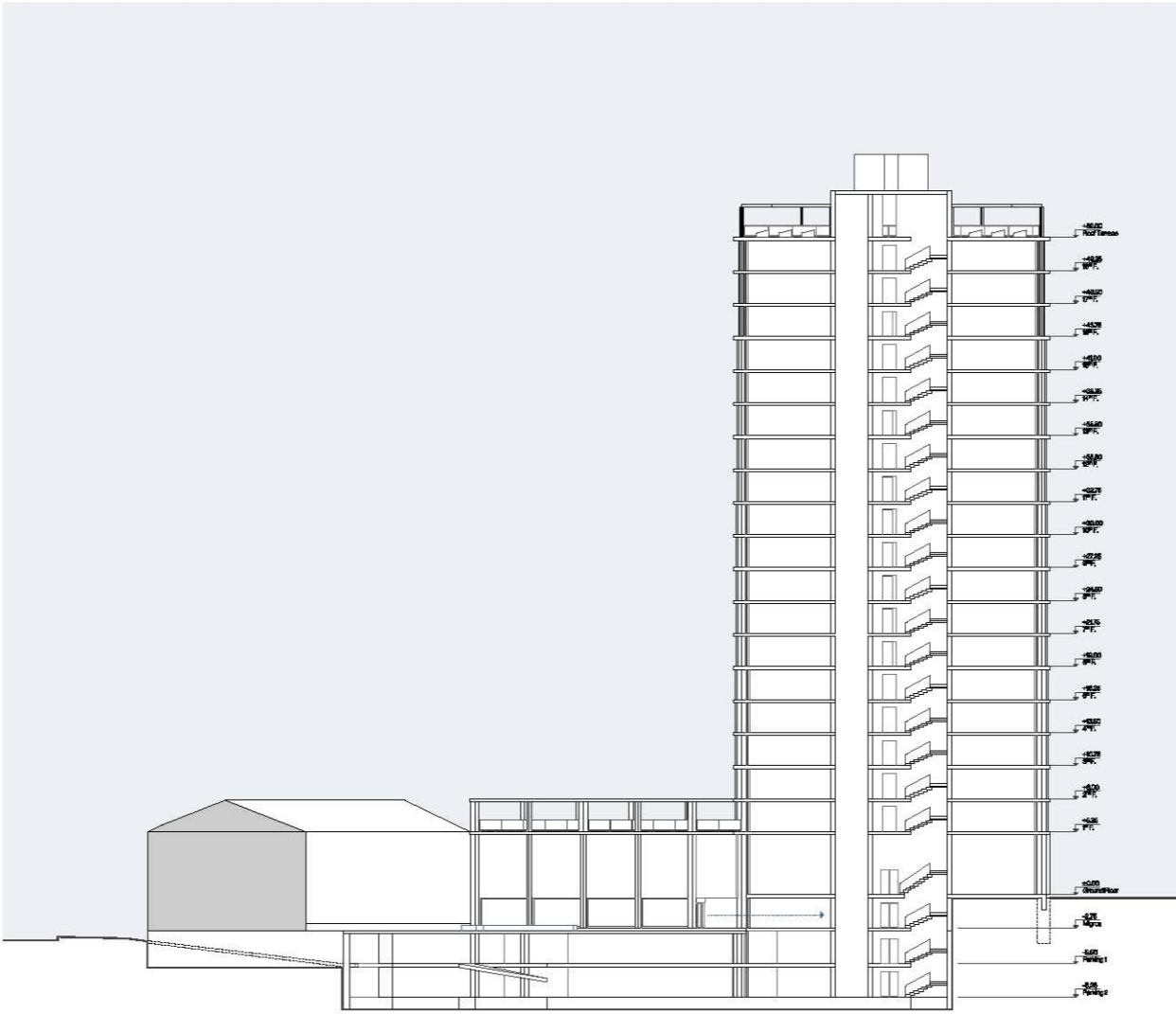
New Building
Elevation



0 5 10 20



New Building
Section



0 5 10 20



