Natural Encounters

"Reinvigorating a post-war neighbourhood for living in social and natural harmony"

B Versluijs
AR3AD100 Advanced Housing Design /
Main mentor: Mooij, H.A.F.

Van Dorst, 2005: A Sustainable Living Environment.
The relation between individuals and their social and natural environment.

Dutch Housing Crisis
Focus of the Advanced Housing Studio

Growing Population

- Aging
- Influx of Migration

Changing Lifestyles

Smaller Household Sizes

Disconnected Living

“People are ever more separated from nature in today’s world, especially in the modern city and built environment. This growing disconnect from nature is due to many factors. Fundamentally, it reflects the underlying assumptions of a technologically oriented, sedentary society that spends most of its time indoors [...] “
- Stephen R. Kellert

Shifting Perspective: Need for Living in Social & Natural Harmony

Climate Crisis

extensive air and water pollution

fragmented landscapes

loss of natural habitats

destruction of biological diversity

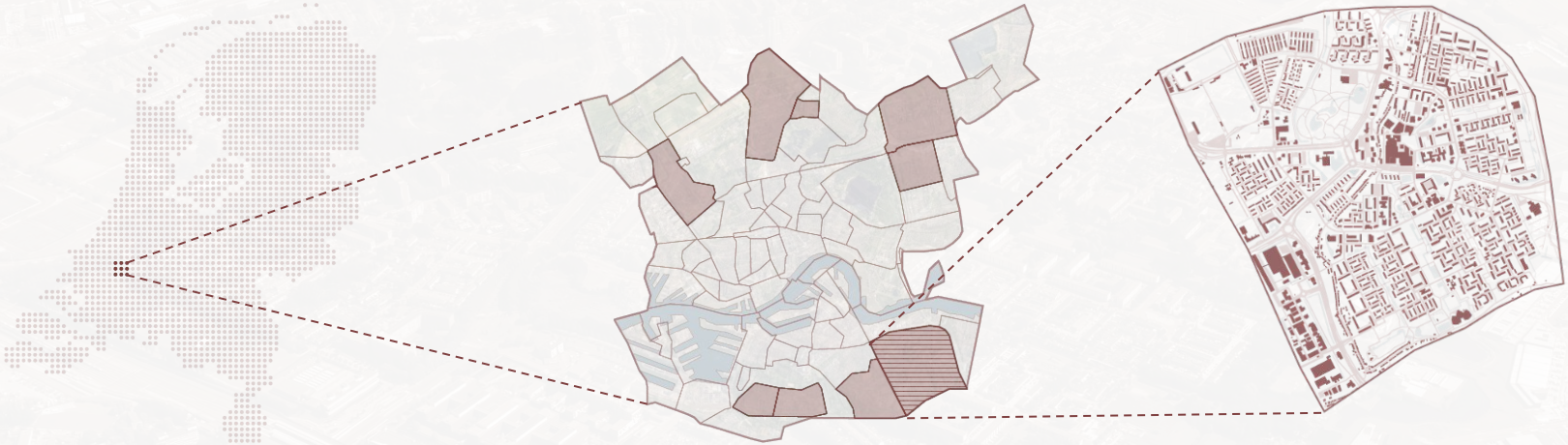
climate change

depletion of resources

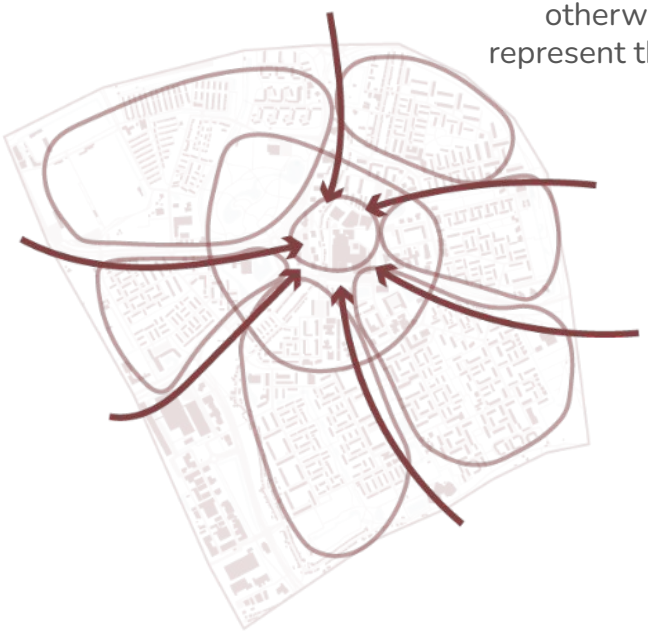
Preserve existing Nature

In order to preserve existing nature, solutions for the housing crisis are being sought within the boundaries of cities.

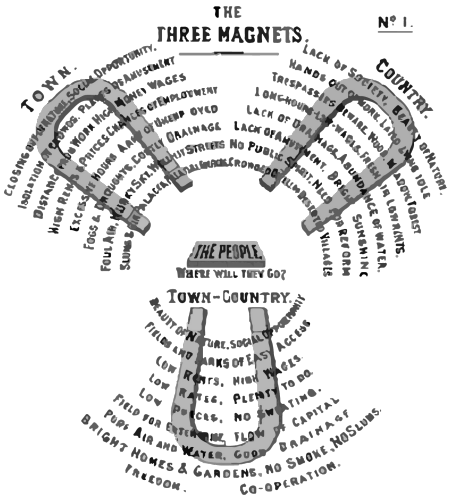
Groot-IJsselmonde as an Opportunity
a postwar neighbourhood



A Garden City



Human society and the beauty of nature should be enjoyed together, otherwise it would not ‘‘not represent the full plan and purpose of nature’’



“Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilisation.”

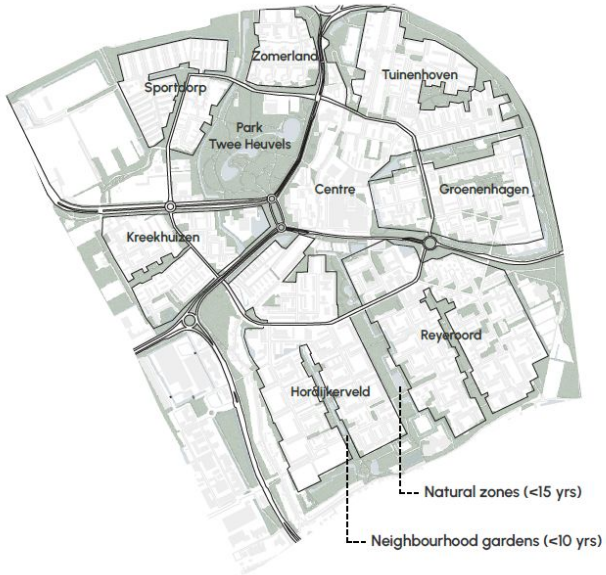
- Ebenezer Howard in Garden Cities of To-Morrow (1902, p. 18)

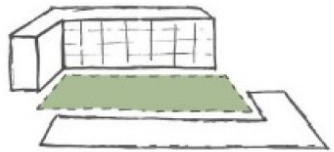
Influence of the Industrialisation & In Search for Equality

A Functional Landscape for Everyone

Personal belongings, wilderness or ‘free nature’ was seen as neglected and needed to be habitable.
The urban landscape had to be functional and not just serve as ‘viewing greenery’

Green Zones





Community courtyards (<6 yrs)

Private gardens

Repetitive Buildings

Large Monotonous Courtyards

Closed Plinths & Undefined / Neglected Spaces

Streetscape Dominated by Cars

Greenery as Infill or Softener

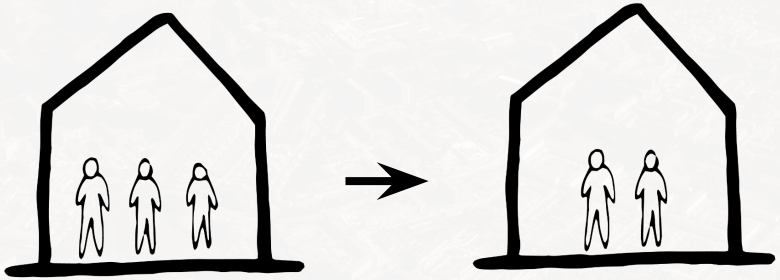
Changes in Society - Social Disconnect

2.9 p/household

local communities

working class

families



1970

TODAY

2 p/household

digital communities

social housing

mix of cultures
elderly
families

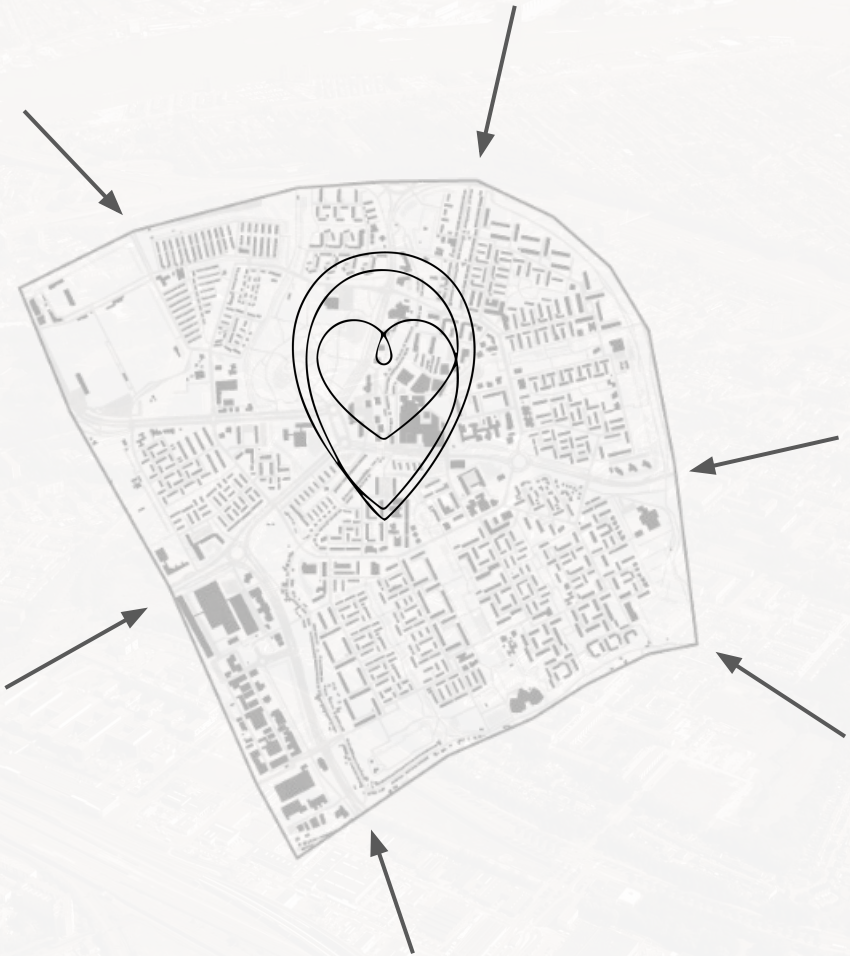
Qualities

What if?

Densification actually could bring more life to the area?

Increase the quality of life so people are more willing to come & to stay?

The in-between spaces could become a social and natural connector? As they were originally intended?

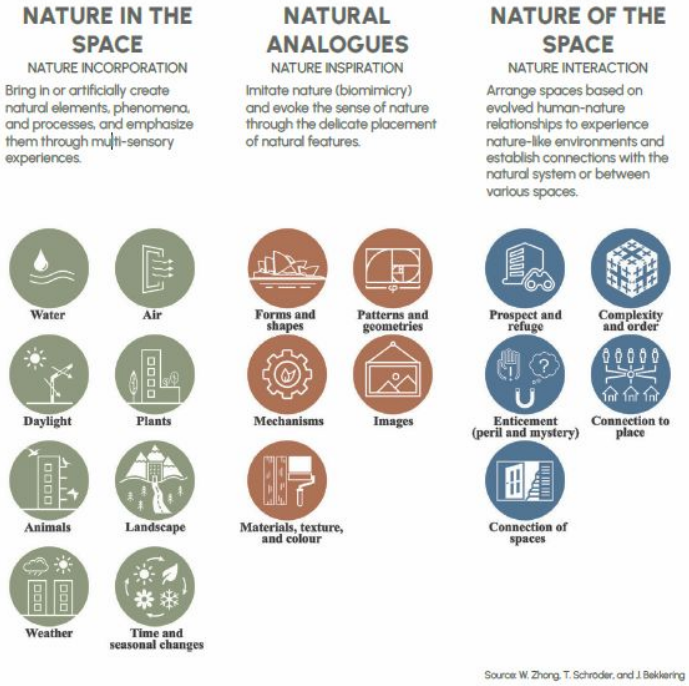


Biophilic Design

Restore the connection with nature by creating experiences of nature through buildings and spaces that are beneficial for people's health and well-being; considering people as part of nature

"Biophilia [...] is the innately emotional affiliation of human beings to other livings organisms."
- Edward O. Wilson (1984)

Biophilic Design



Source: W. Zhong, T. Schroder, and J. Bekkering

Study through Different Scales

Urban Design Strategies

walkability

improve nature accessibility

redefine urban boundaries (public-collective-private)

diversity of buildings

diversity of outdoor spaces

sensory spaces

soft boundaries/transitions

shared courtyards (stimulate participation)

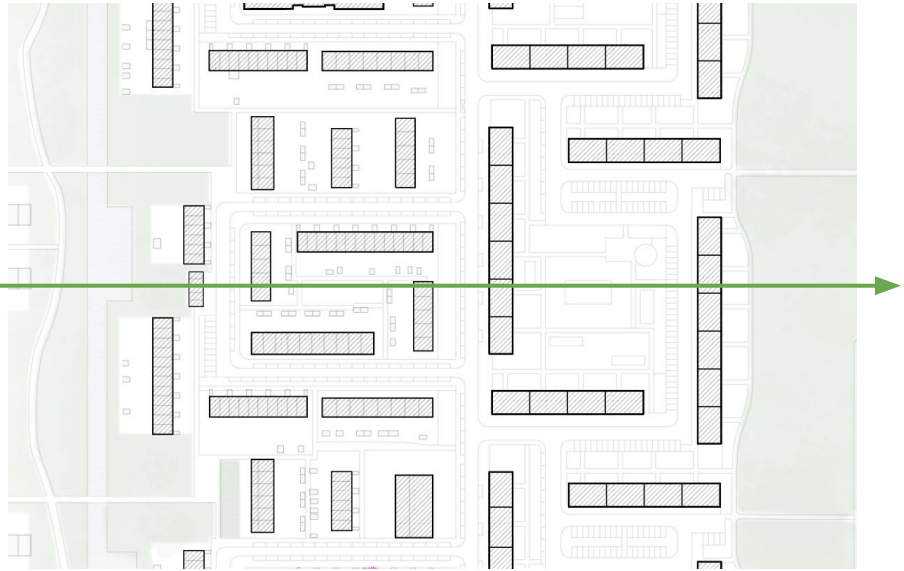
social mixture (income/generations)

Specific Location of Study

Hordijkerveld - Thamerdijk

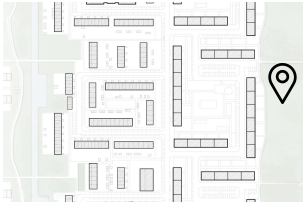
Why Thamerdijk?

neighbourhood
corridor
Hordijkerveld West



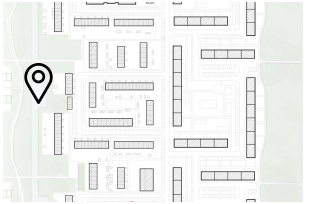
natural zone
corridor
Reyeroord

Natural Separator
<15 Years



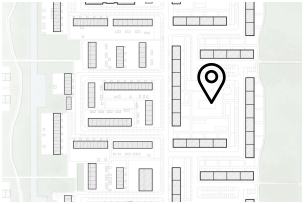
Neighbourhood Gardens

<10 years, elderly & disabled



Community Gardens

<6 years



MASTERPLAN

Active Movement & Improve Access to Natural Areas

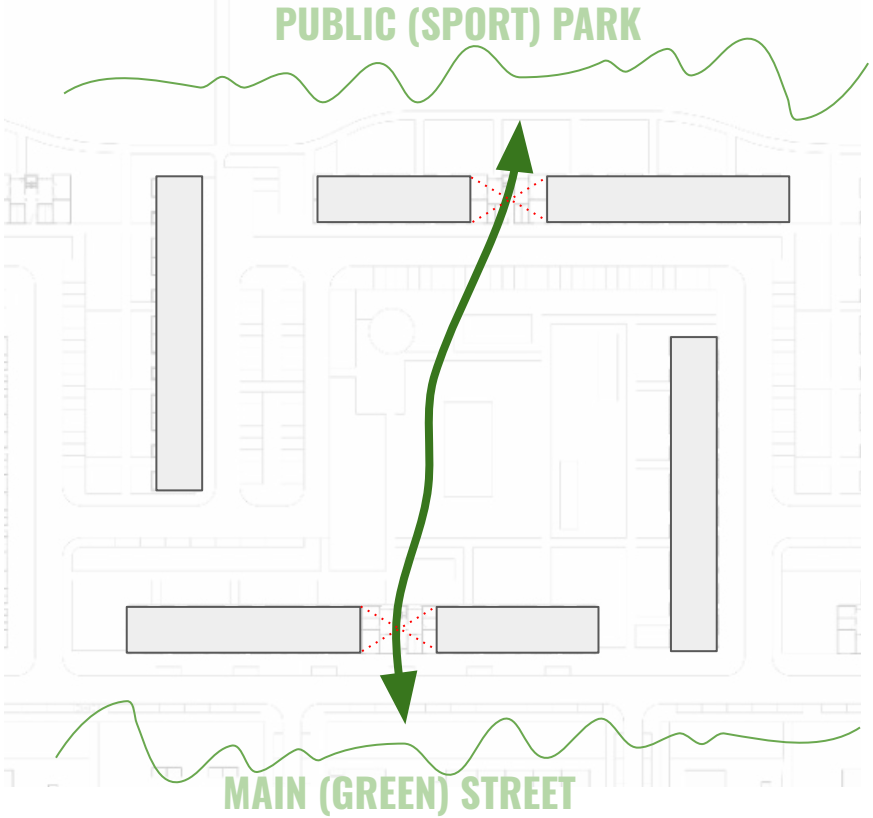
The immediate residential environment greatly impacts daily life, with **5 to 20 minutes of outdoor nature immersion boosting positive emotions and mental wellbeing**. Designing neighborhoods for **active movement and easy access to nature encourages daily outdoor time and social interactions** (Terrapin Bright Green, 2014; Sim, 2019).

Barriers

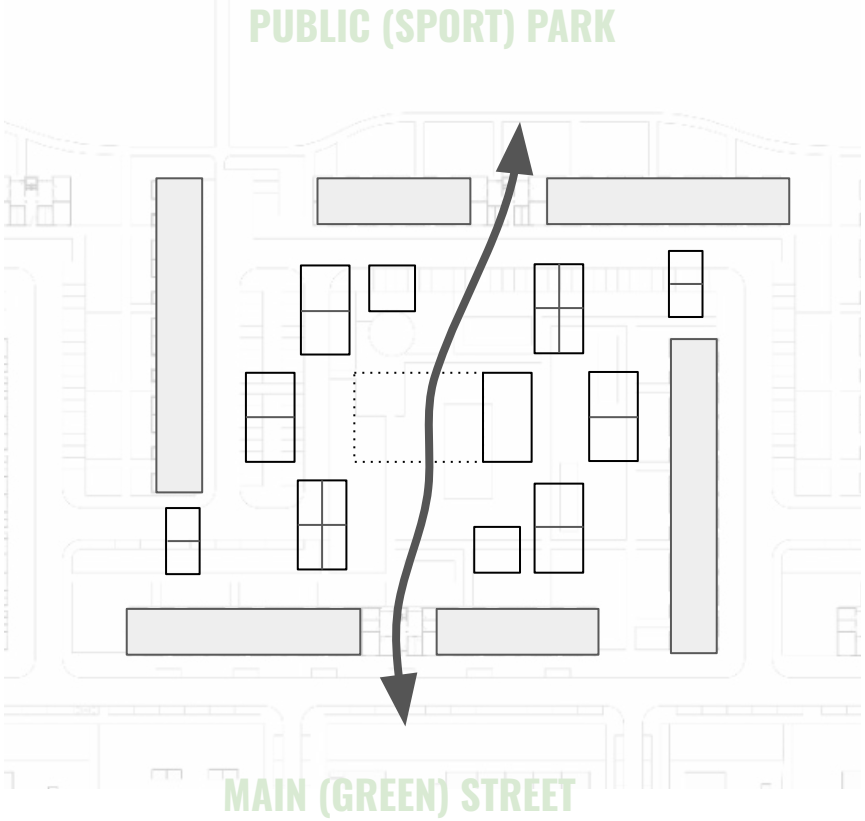
neighbourhood
corridor
Hordijkerveld West
natural zone
corridor
Reyeroord

Barriers

Improve Access to Natural Areas | Breaking Barriers

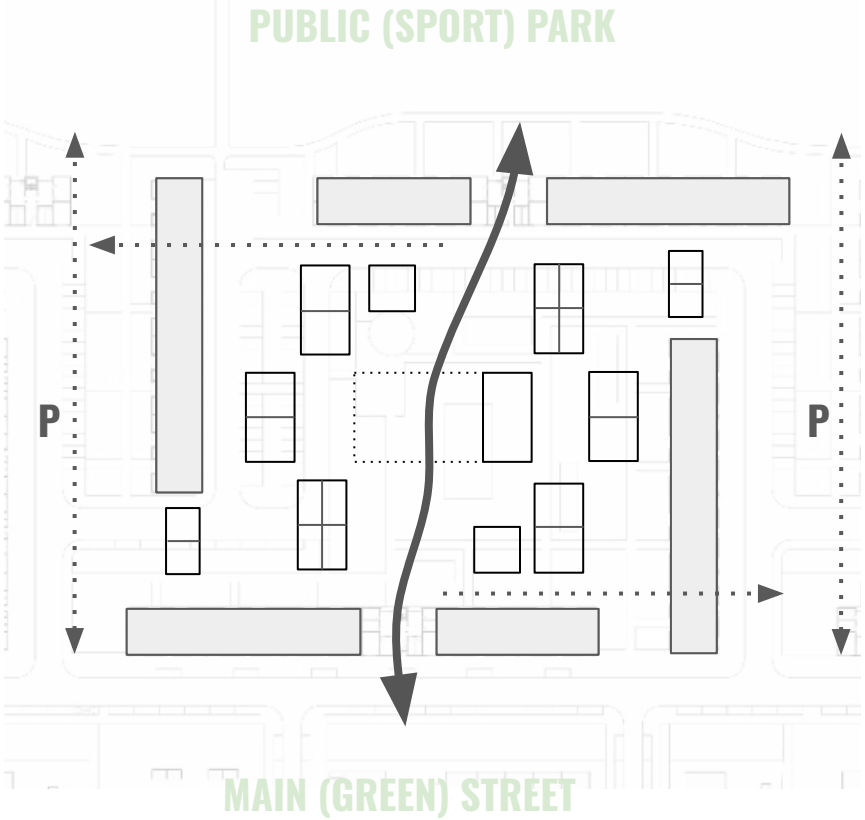


Redefine Boundaries - Courtyards & Streets



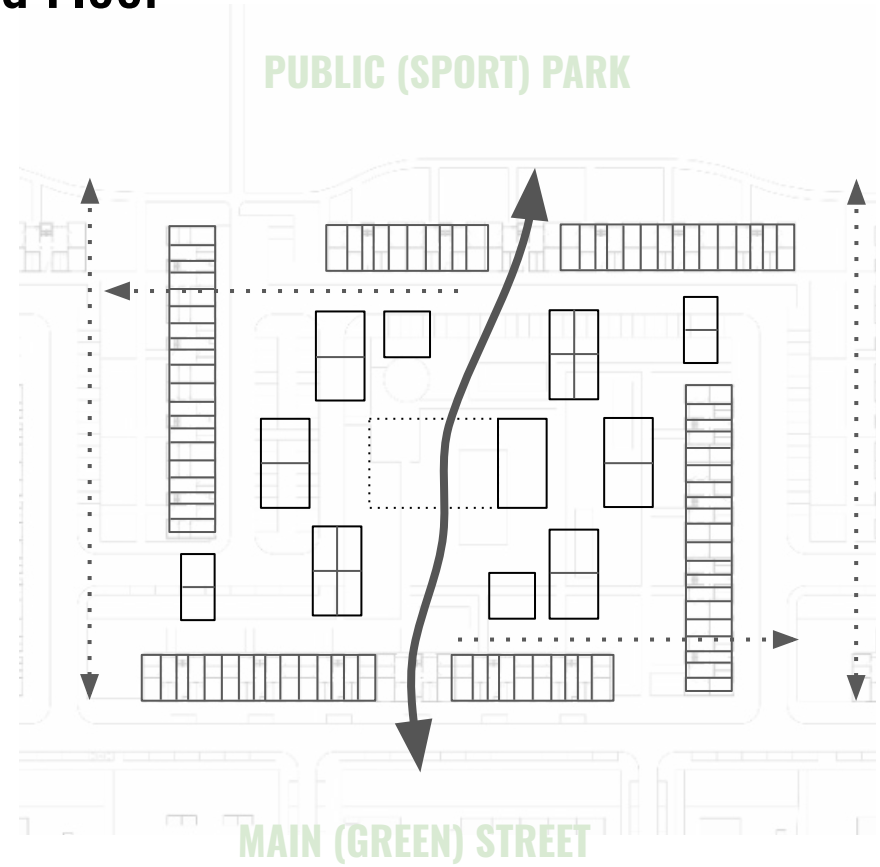
Transforming the existing buildings and densifying courtyards can enhance urban structure and **foster a stronger sense of ownership**. Creating **sightlines and interactions between these zones** can spark curiosity and exploration, **encouraging movement and boosting spontaneous social interactions** (Heath et al., 2021).

Redefine Boundaries - Courtyards & Streets



Centralizing parking in neighborhoods away from homes increases street activity, promotes outdoor movement, and encourages spontaneous interactions with both neighbours and visitors (Gehl, 2011)

Activate Ground Floor

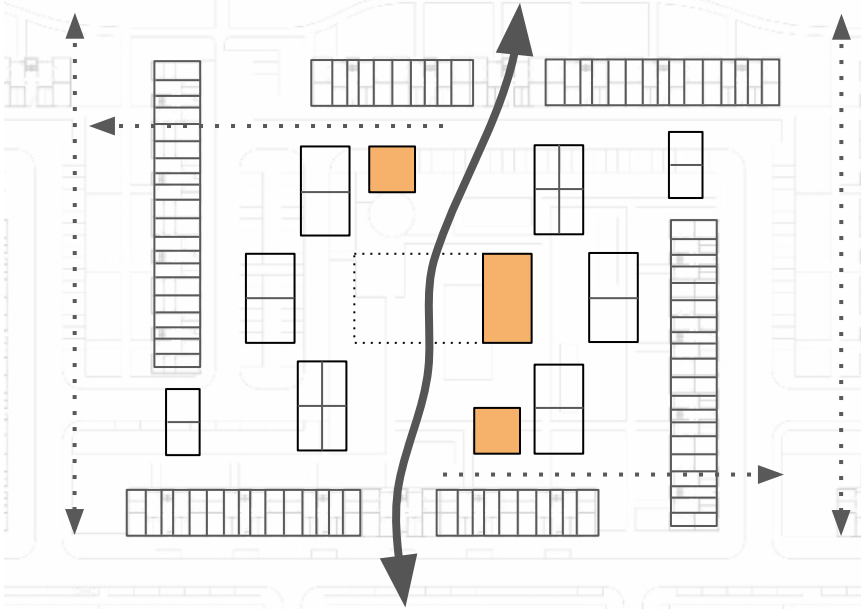


A diverse mix of residents, workplaces, businesses, and services enhances community cohesion and neighborhood safety. This variety ensures continuous presence and activity throughout the day, which is crucial for preventing crime (Sim, 2019).

Redefine Boundaries | Levels of Vibrancy

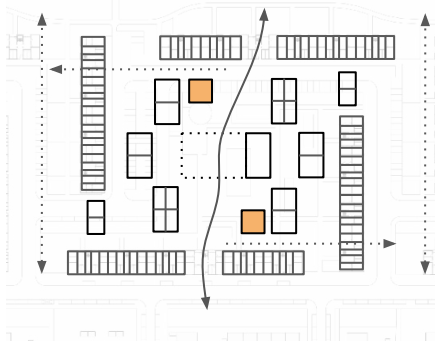
PUBLIC (SPORT) PARK

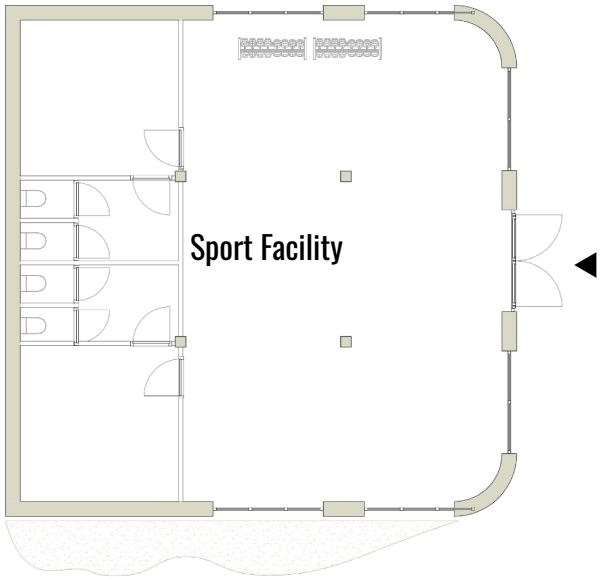
PUBLIC

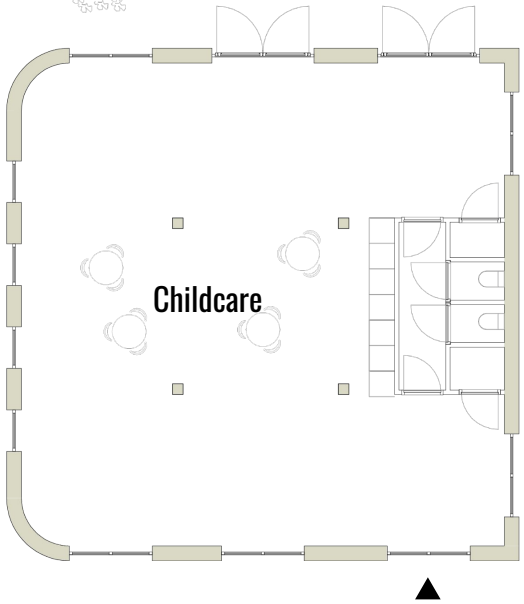


MAIN (GREEN) STREET

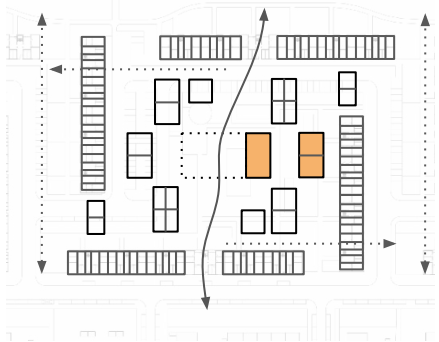
Childcare & Sport Facility

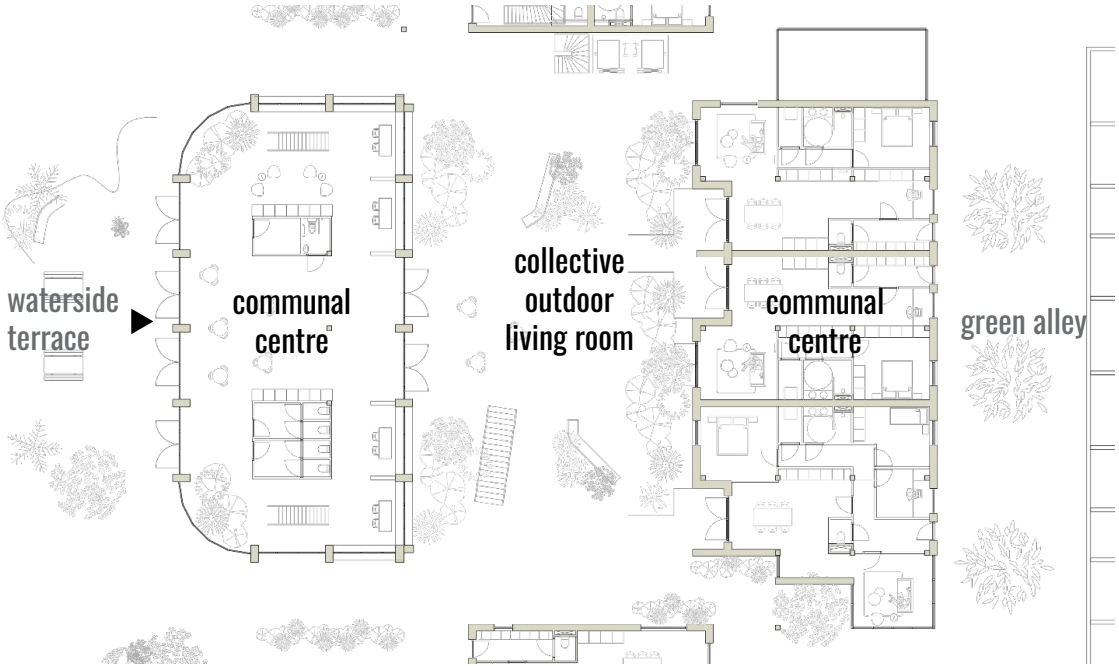






Communal Centre



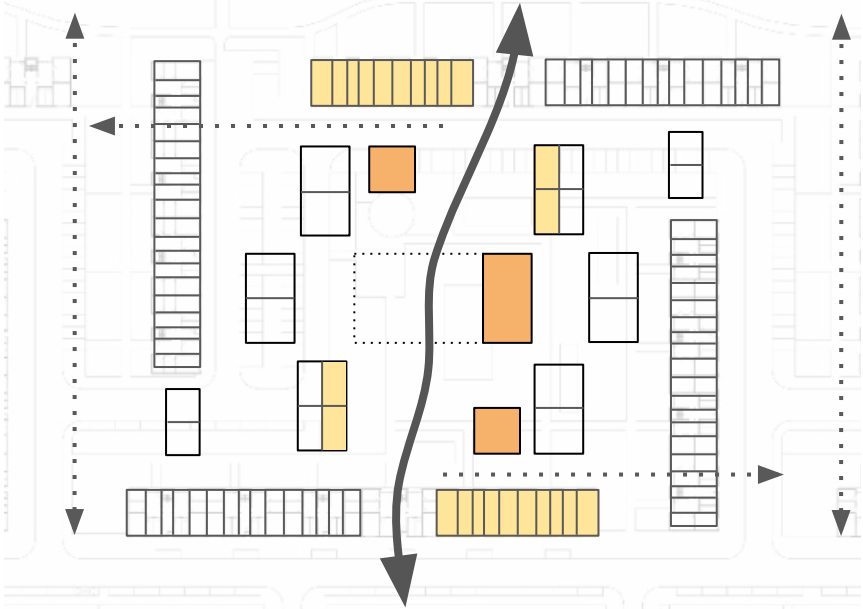


Redefine Boundaries | Levels of Vibrancy

PUBLIC (SPORT) PARK

PUBLIC

WORK/LIVE UNITS



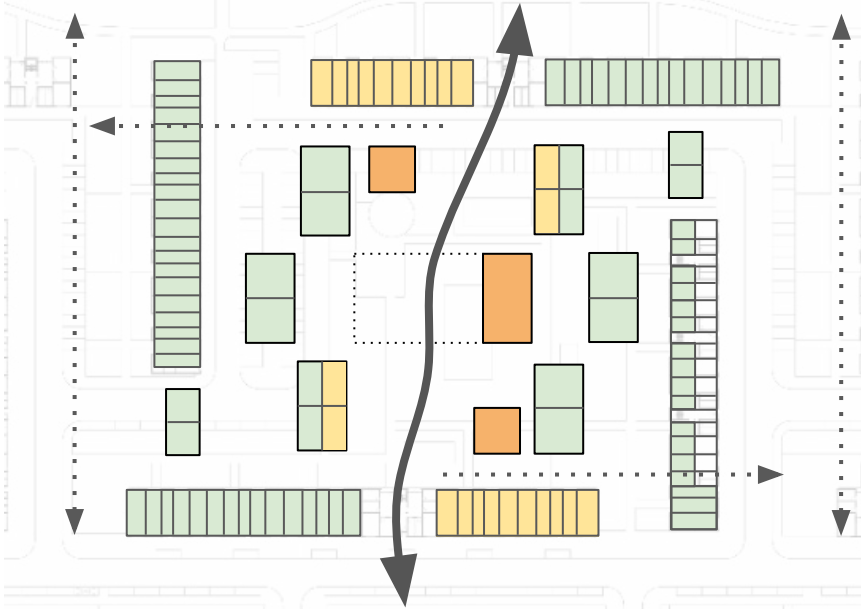
MAIN (GREEN) STREET

Redefine Boundaries | Levels of Vibrancy

PUBLIC

WORK/LIVE UNITS

MIXED HOUSING



Redefine Boundaries | Levels of Vibrancy

PUBLIC

WORK/LIVE UNITS

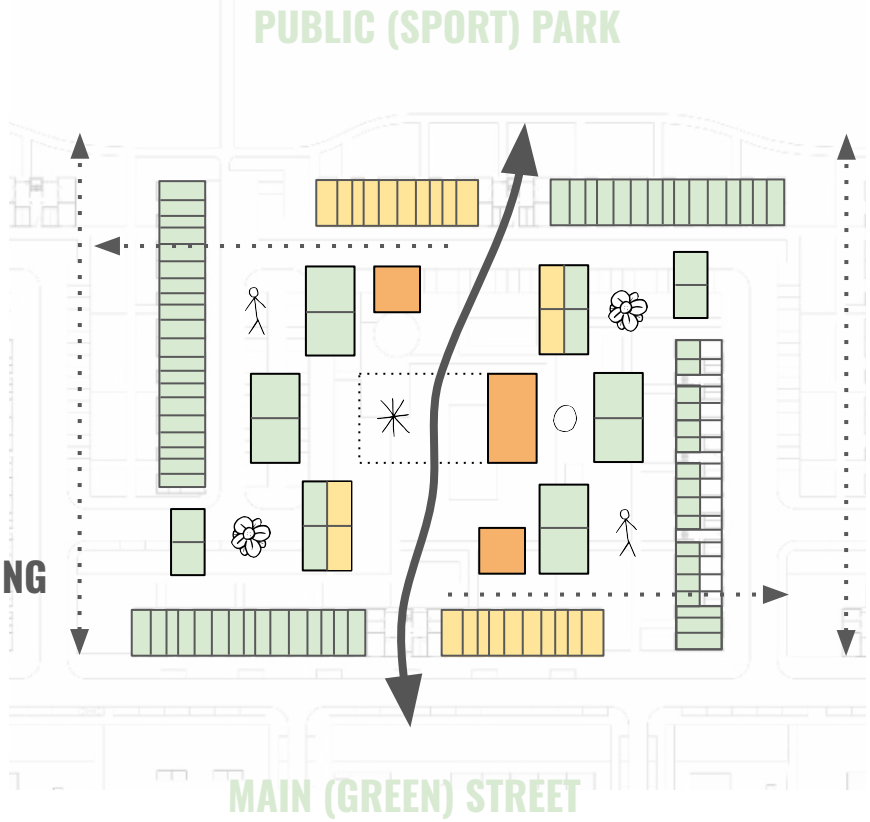
MIXED HOUSING

ACTIVE

RETREAT

PUBLIC GATHERING

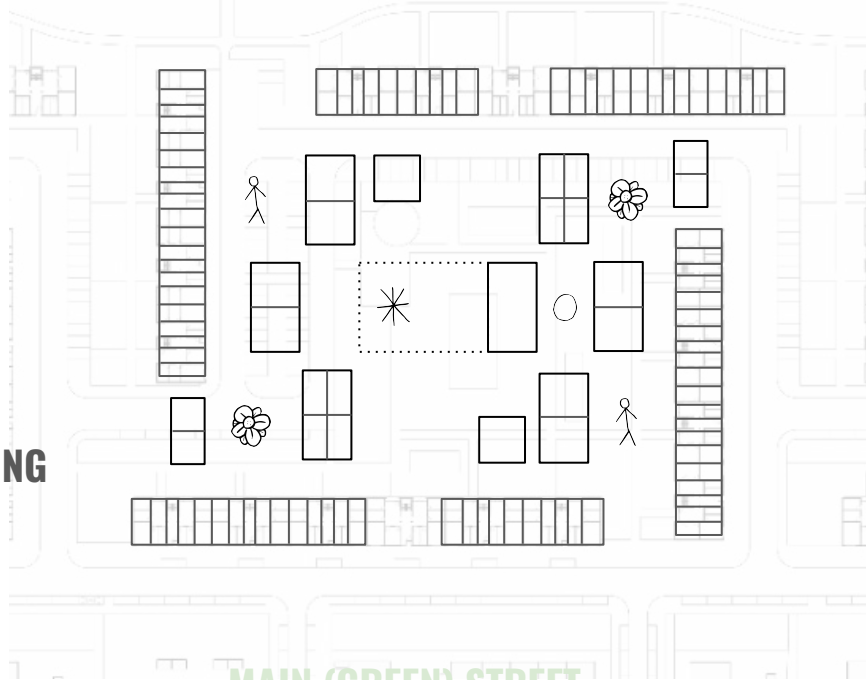
COLLECTIVE GATHERING



Residents' ability to regulate privacy is crucial for social interactions (Altman, 1975). Insufficient privacy regulation can lead to missed social opportunities, loneliness, crowding-related stress, and anonymity. Designing environments with clearly defined zones for different social interactions is essential for fostering meaningful connections (Van Dorst, 2005).

Multi-Sensory | A Diversity of Restorative Outdoor Spaces

- ACTIVE
- RETREAT
- PUBLIC GATHERING
- COLLECTIVE GATHERING



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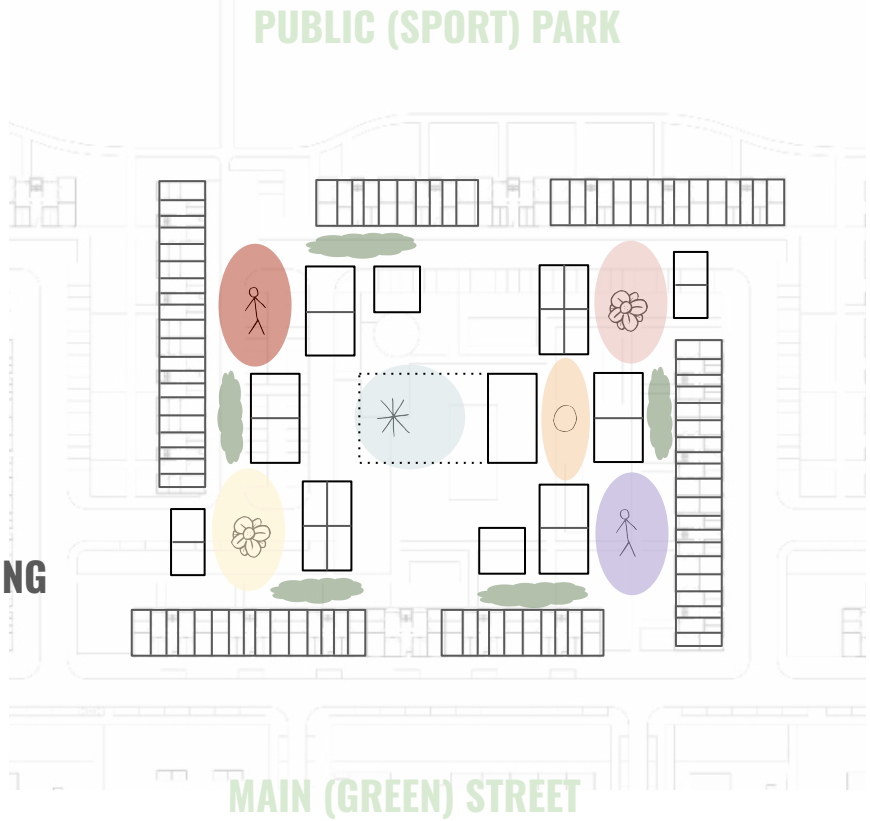
ACTIVE

RETREAT

PUBLIC GATHERING

COLLECTIVE GATHERING



WATERPARK

OUTDOOR LIVING ROOM

NATURAL SPORT

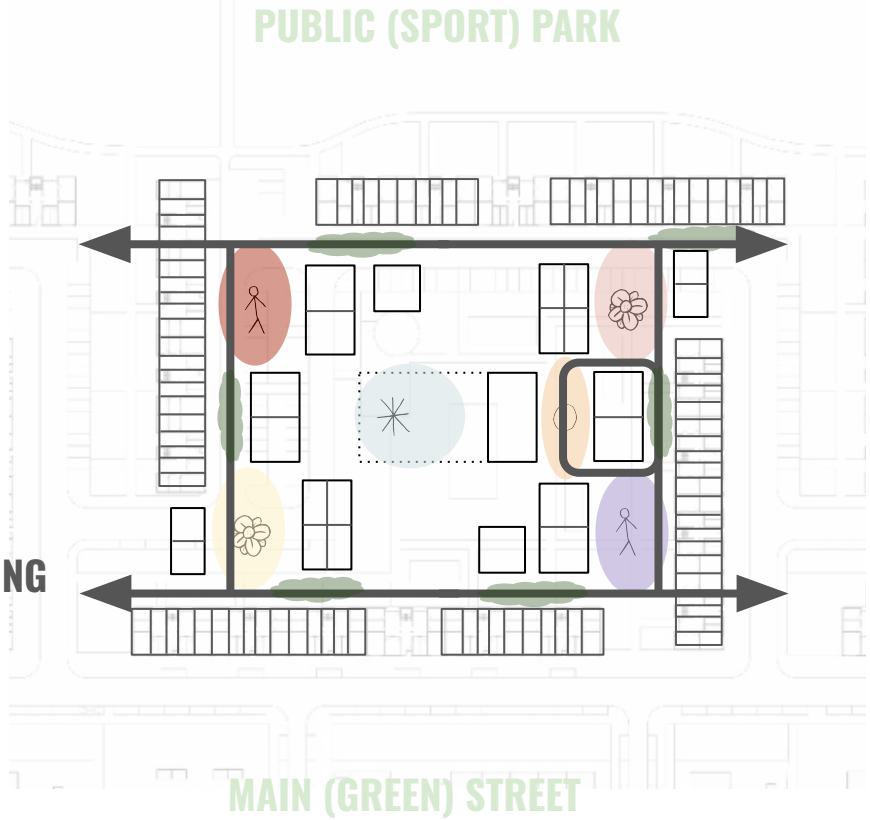
HERB GARDEN

FOOD FOREST

NATURAL PLAYGROUND

CONNECTING GREEN ALLEYS

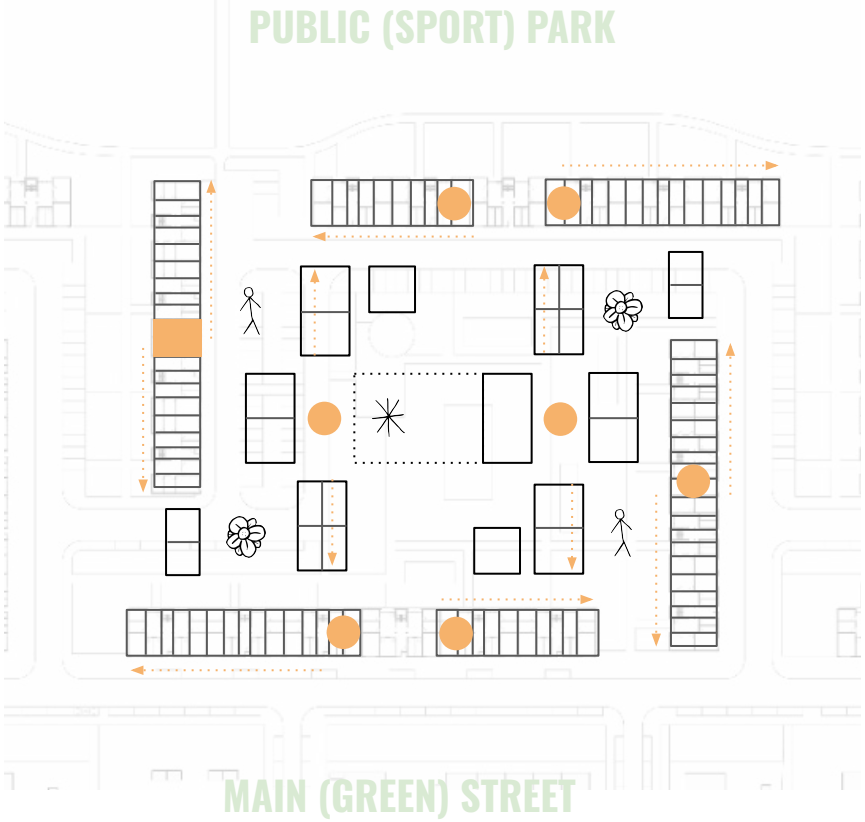
Walkability & Multi-Sensory Route | Community Loop



- ACTIVE
- RETREAT
- PUBLIC GATHERING
- COLLECTIVE GATHERING

- WATERPARK
- OUTDOOR LIVING ROOM
- NATURAL SPORT
- HERB GARDEN
- FOOD FOREST
- NATURAL PLAYGROUND
- CONNECTING GREEN ALLEYS

A Network of Residential Clusters



SHARED LOBBIES

CONNECTING GALLERIES TO PRIVATE ZONES

Building Design Strategies

natural/local building materials

natural daylight

natural ventilation

dynamic shading

private hybrid zone

sensory spaces

user adaptability

shared spaces

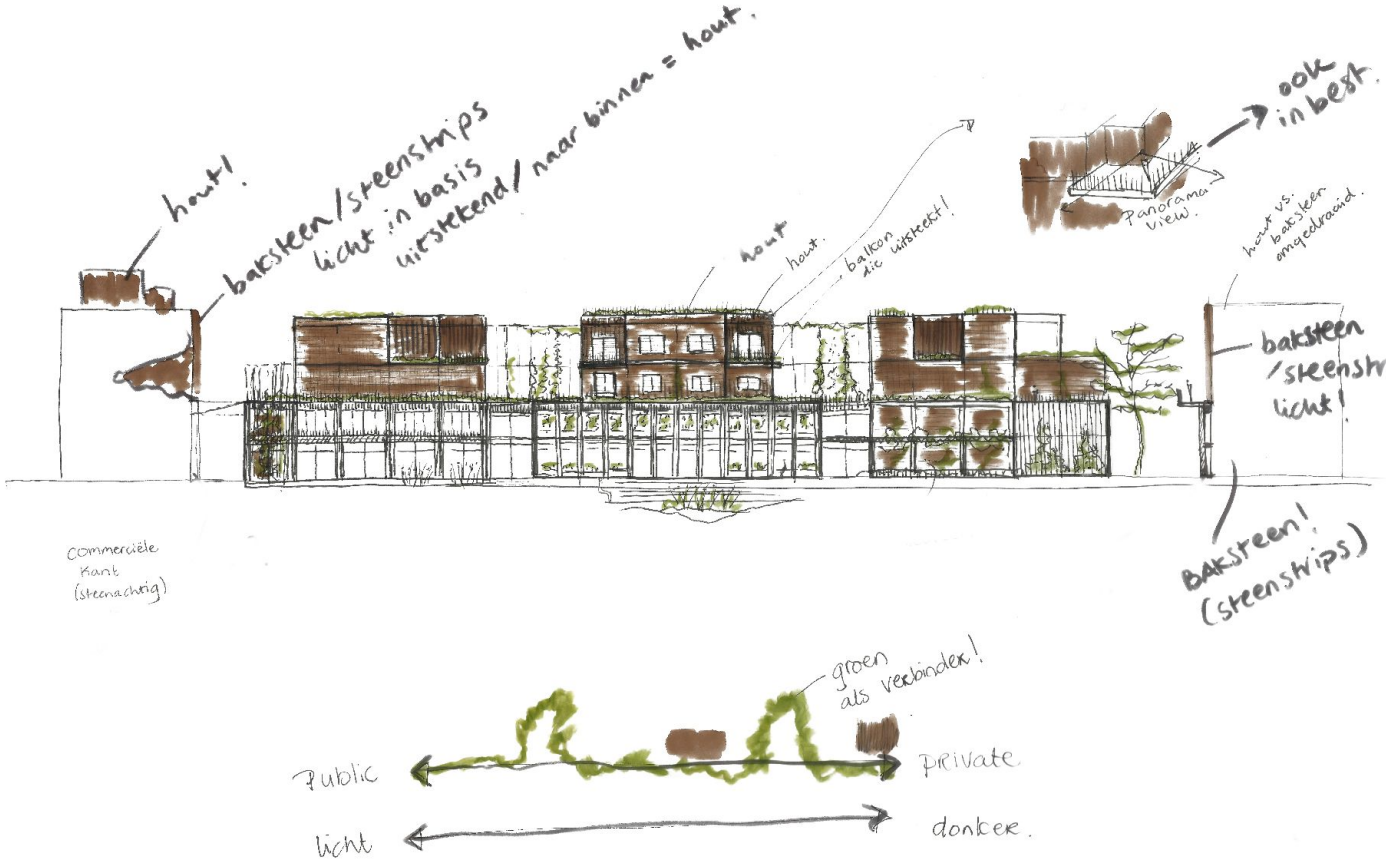
direct views to nature

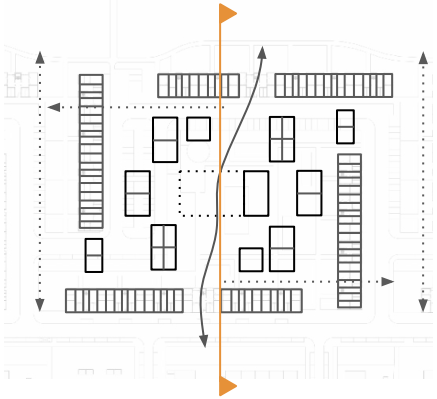
direct access to nature

bring outdoor in

bring indoor out

Diversification Buildings - Materialisation Concept





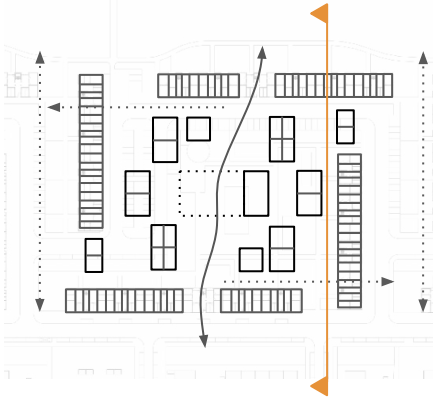
unity within diversity (to match the initial concept)
using different patterns to make the different buildings recognisable

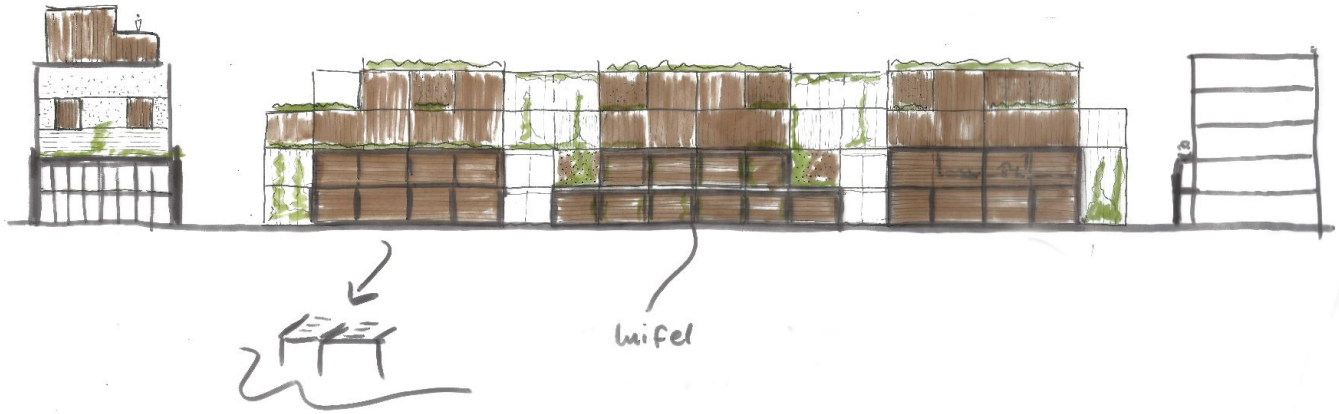
bright/more active colours and harder materials along public route & portals

warmer, darker & soft materials for more private zones

greenery as a connector or separator

Diversification Buildings - Materialisation Concept





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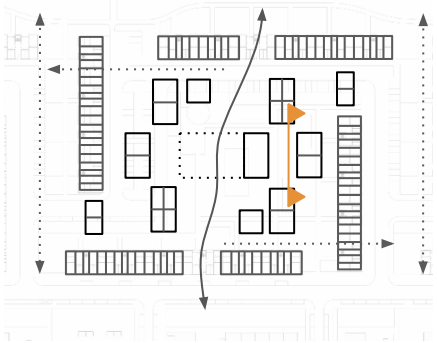
Diversification Buildings - Materialisation Concept

doorsnede / aanzicht
gedeeld cluster.



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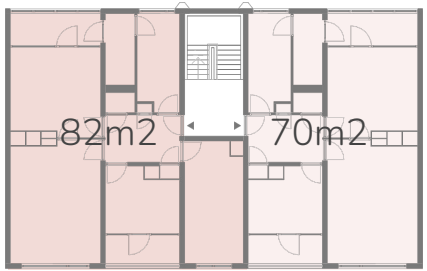
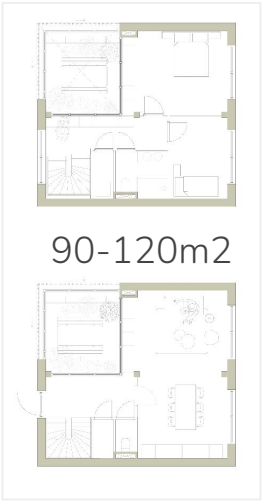
Dwelling Typologies

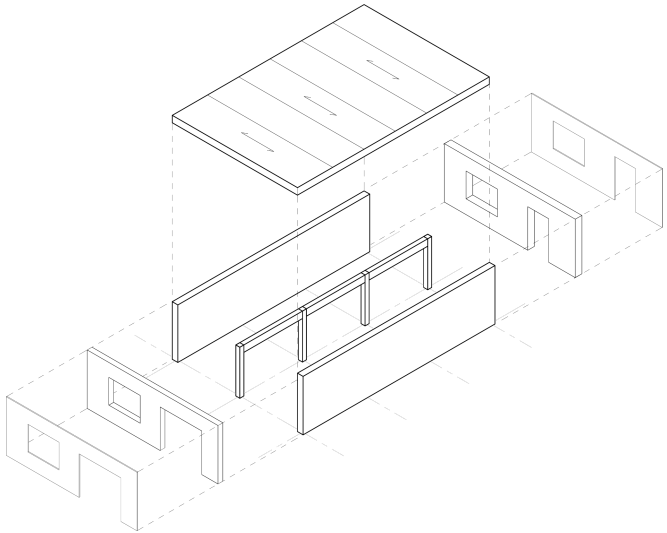
current situation



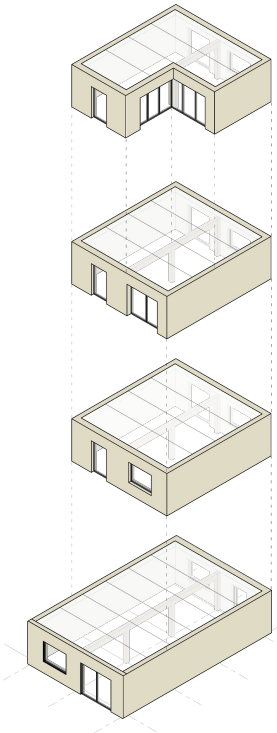
new situation

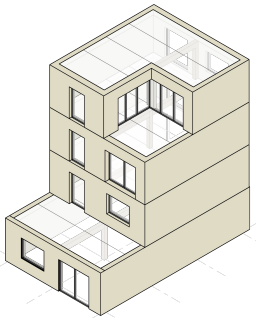


Building Methodology

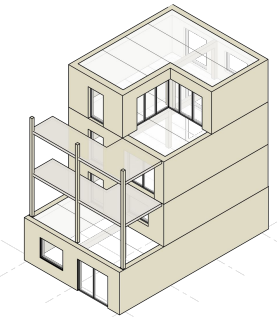


soft boundaries (wooden columns as soft separator & material choice contribute to a feeling of comfort)



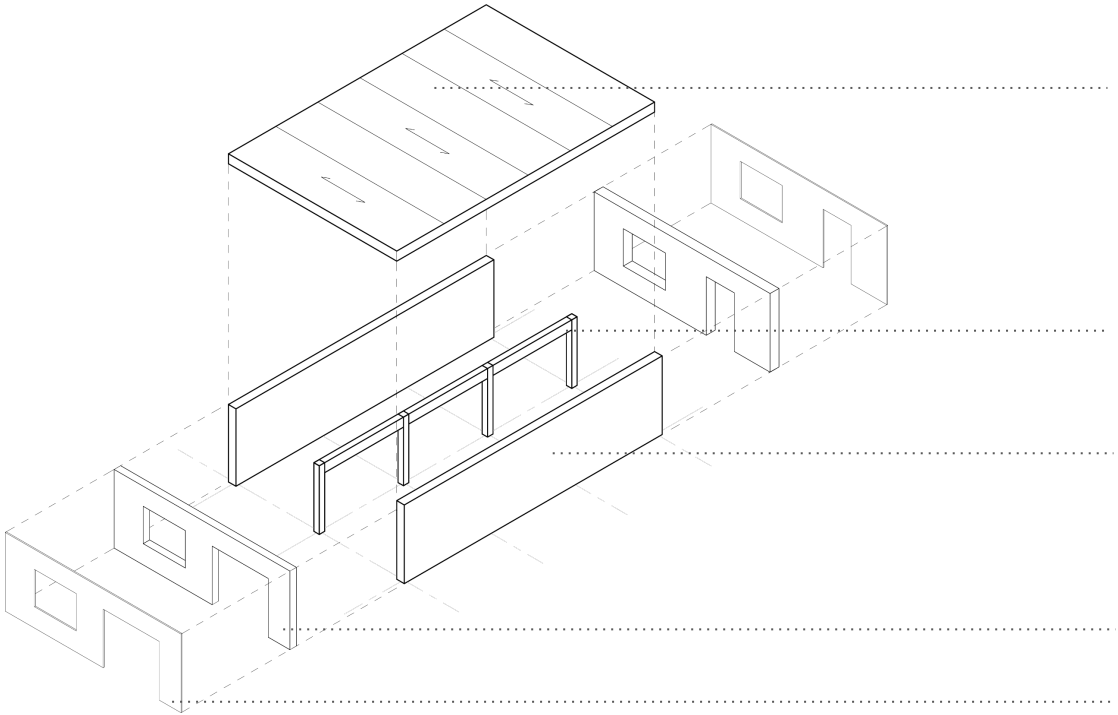


stacked dwellings



connecting galleries

Building Methodology



CLT flooring

glulam frame

CLT load bearing
separation walls

timber framework

facade system

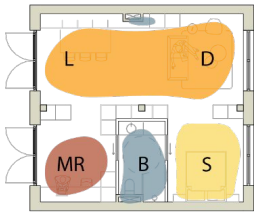
Dwelling Typologies

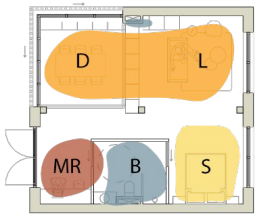
“In an environment which has a living structure each of us tends, more easily, to become alive”

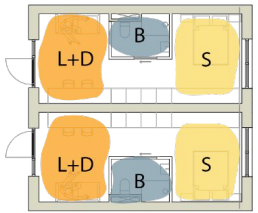
- Christopher Alexander

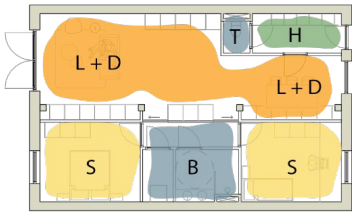
2002, p. 372

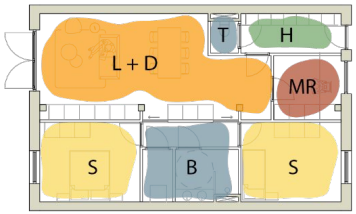
Dwelling Typologies - adaptability/flexibility

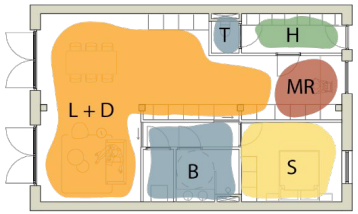






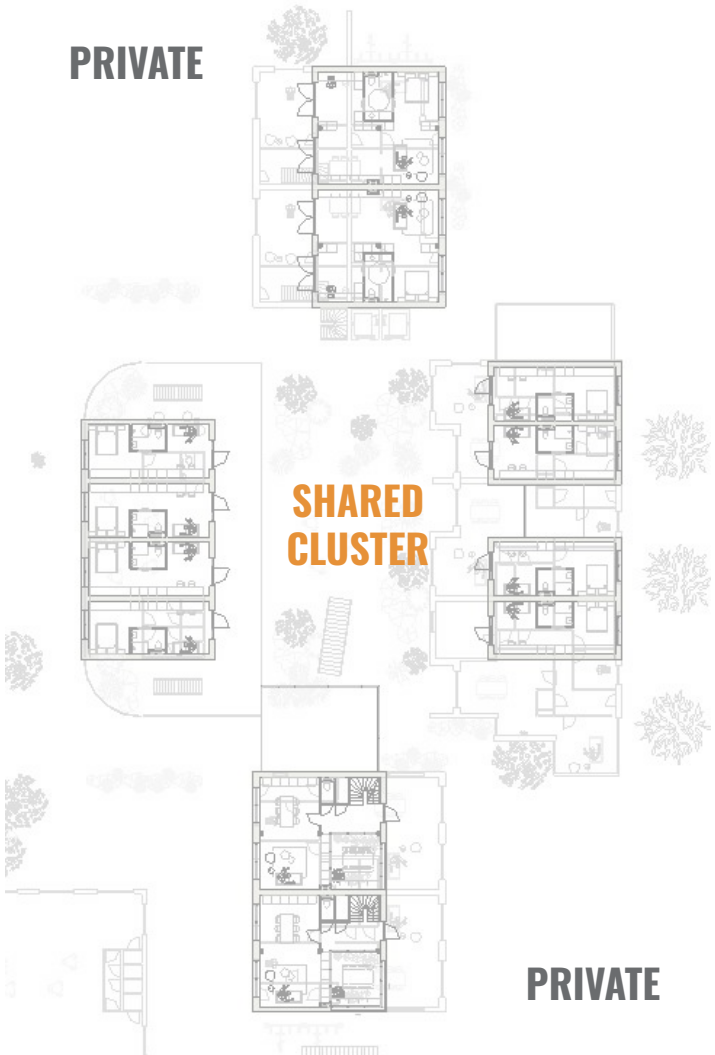


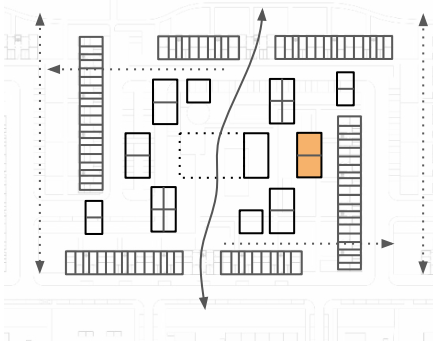




LIVING BEDROOMS HALL BATHROOM MULTI-PURPOSE

Residential Clusters





The Outdoor Living Room

a space for spontaneous encounter and reflection

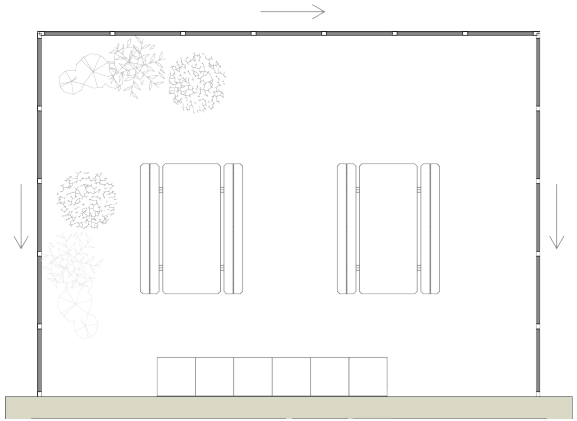
soft threshold between public and private

seasonal plantings

a changing painting of colours and movement

Residential Clusters

Hybrid Shared Spaces - Social Activities



characteristics:

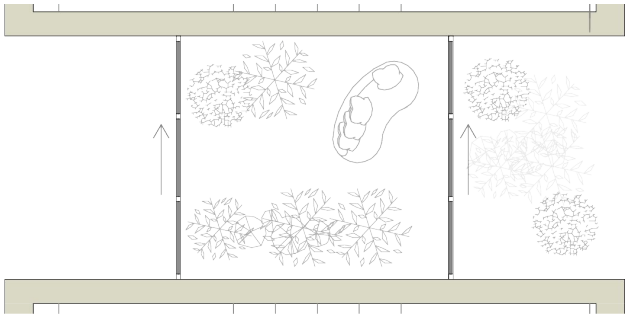
- larger spaces
- brighter colours
- sounds of social activity
- semi-outdoor (become part of the outdoor space in summer)
- oriented towards active outdoor spaces (connected to vertical lobby)

add source

adaptable:

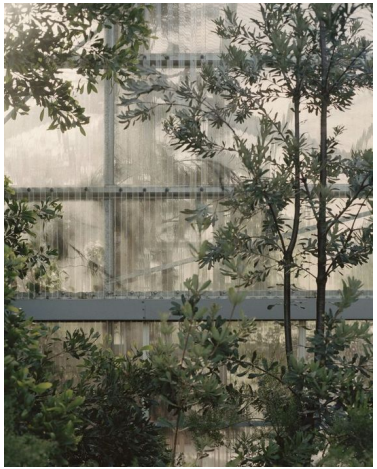
- sport/play
- study
- gardening
- kitchen
- living room
- terraces/roof gardens

Hybrid Shared Spaces - Retreat



characteristics:

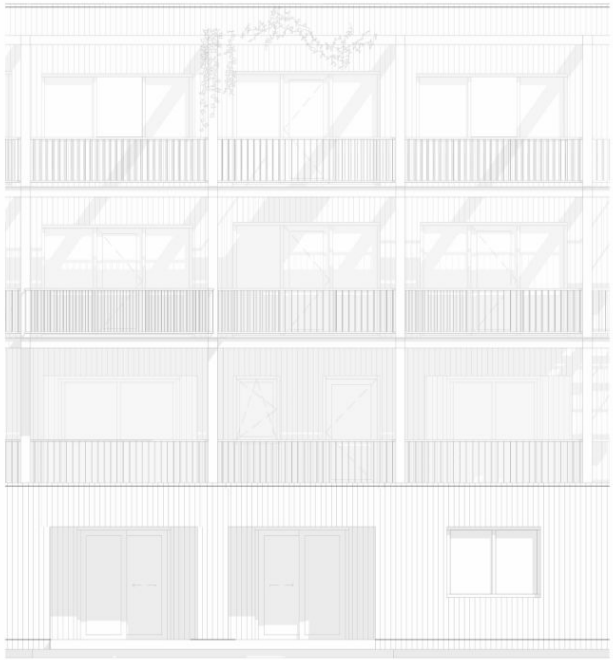
- nooks (secluded space)
- darker/softer colours
- sound absorbing materials
- plants & flowers with a light scent that stimulates relaxation
- white noise (animals / wind/leaves)
- touch of nature
- semi-outdoor (become part of the outdoor space in summer)
- privacy screen (semi-open)
- oriented towards retreat outdoor spaces

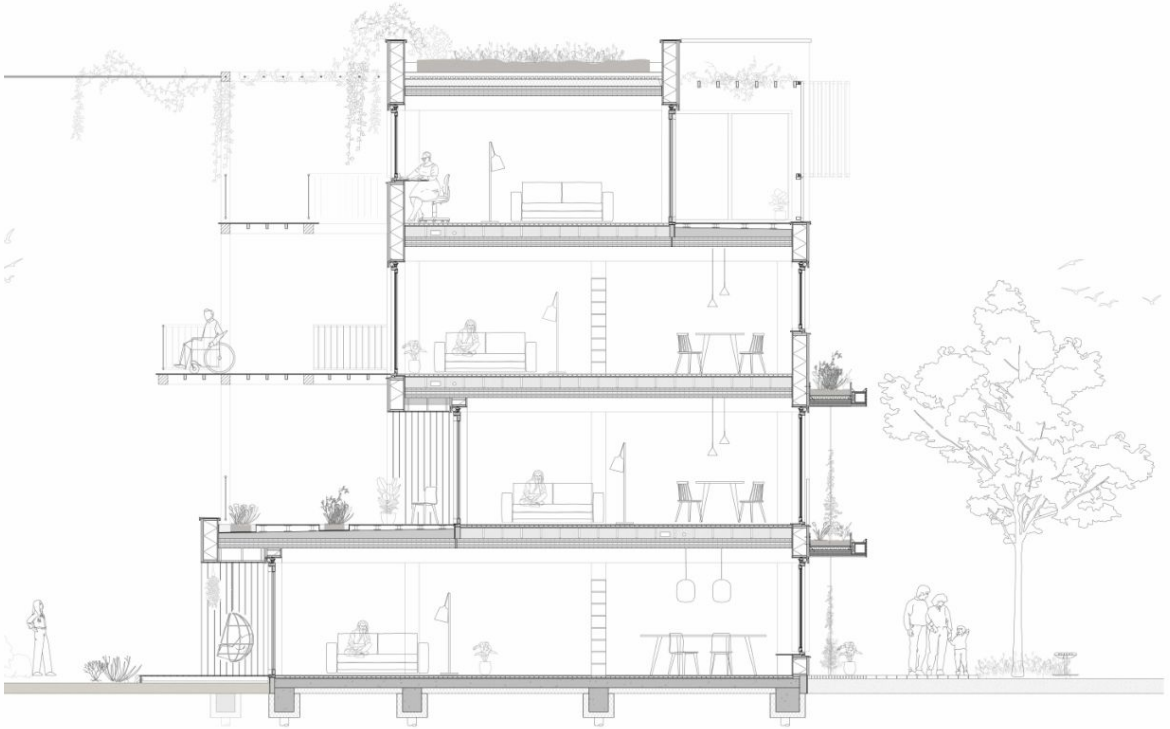


add source

office/study
yoga
relax

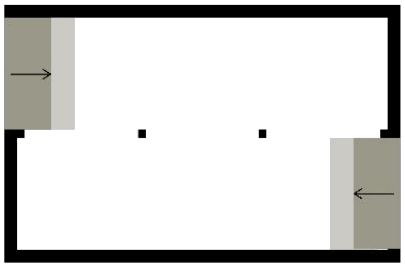
Soft Transitions between public, collective & private



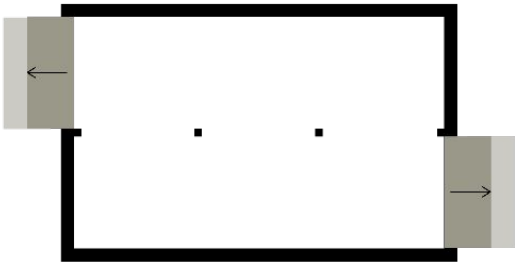


Dwelling Typologies - Hybrid Private Zone

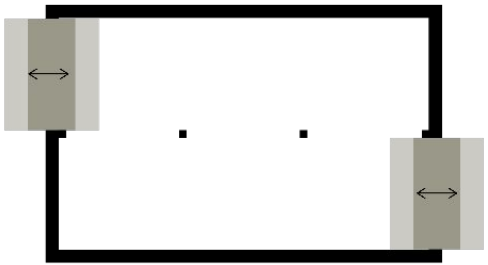
retreat



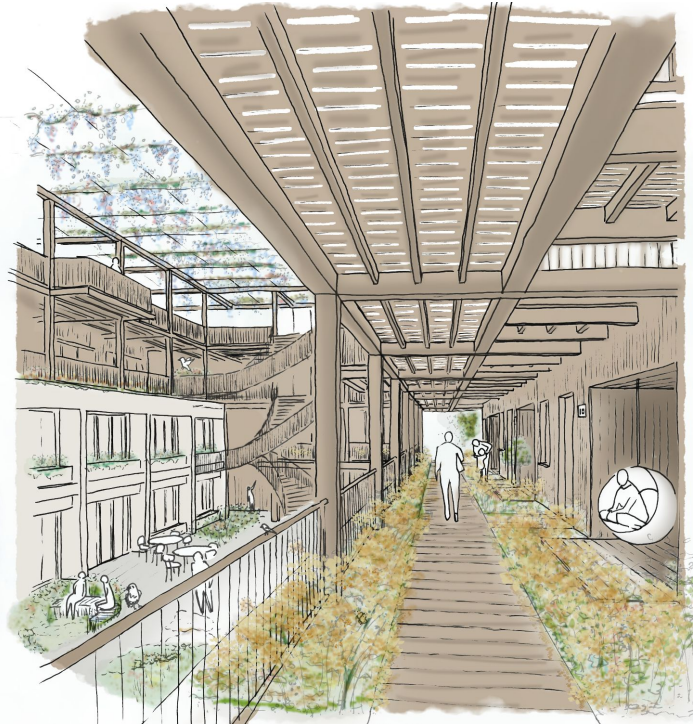
social

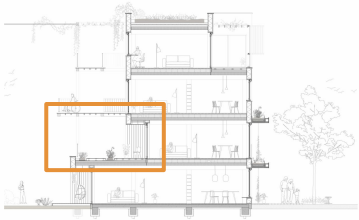


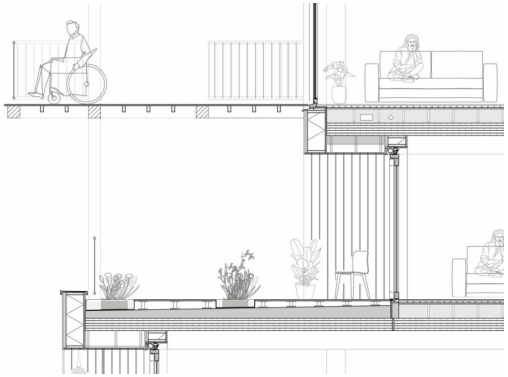
intermediate



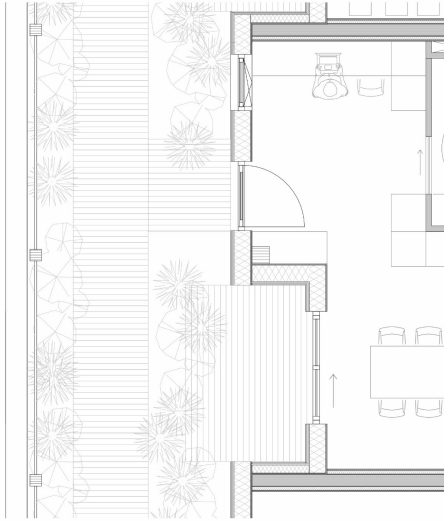
Intermediate Zone
Connecting Walkways



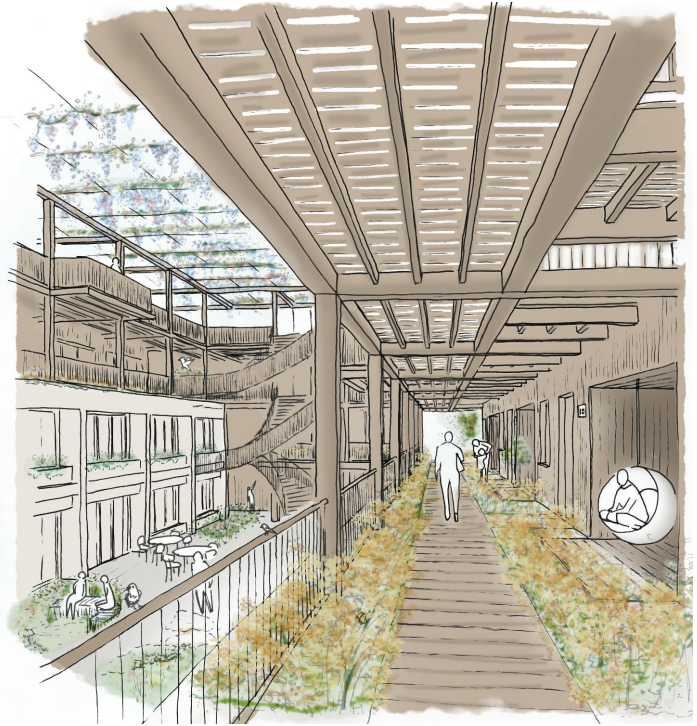


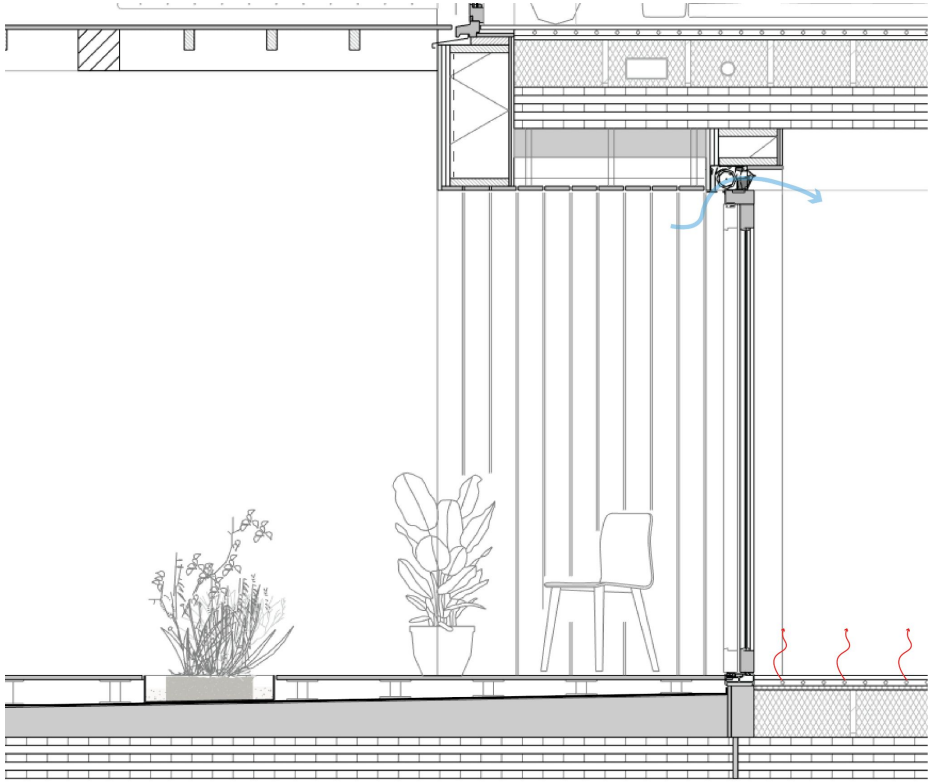


- 2m wide connecting wooden walkway, adds to feeling of home & warmth
- higher plants & flowers improve sense of privacy
- open construction allows daylight & improved experience of weather
- private outdoor space in niches and darker tone of wood

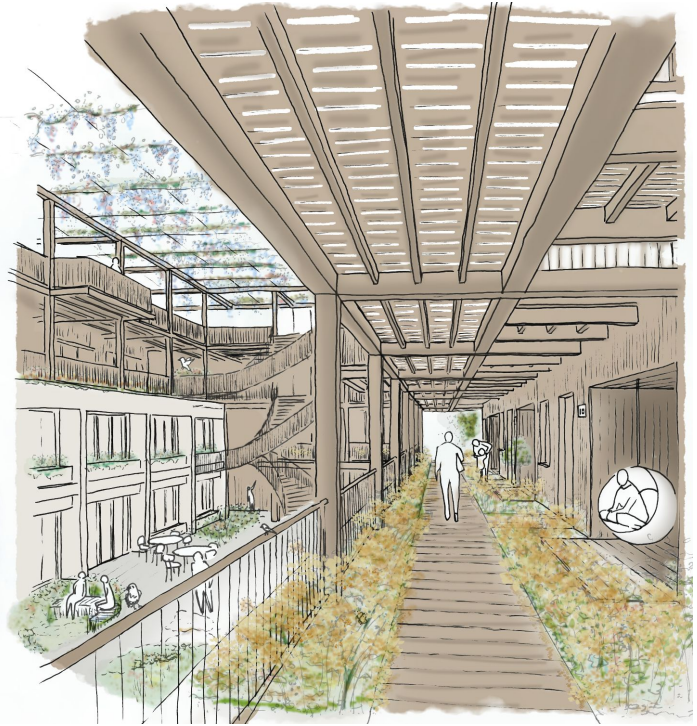


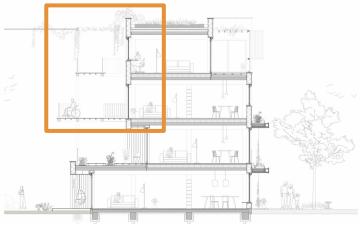
Intermediate Zone
Connecting Walkways

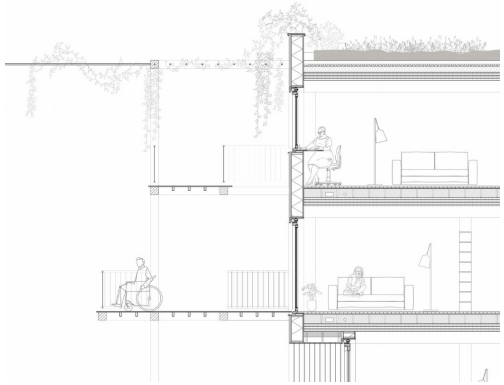




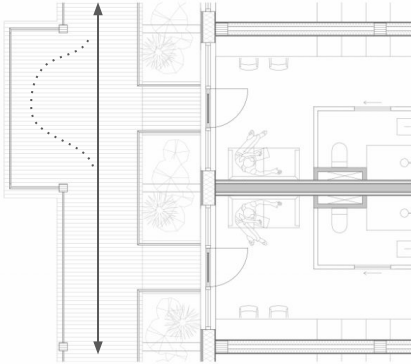
Intermediate Zone
Connecting Walkways



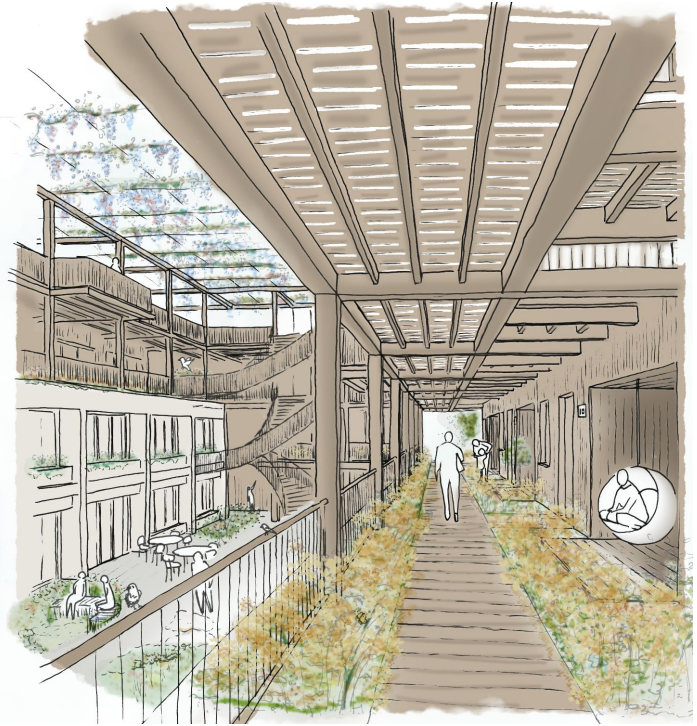


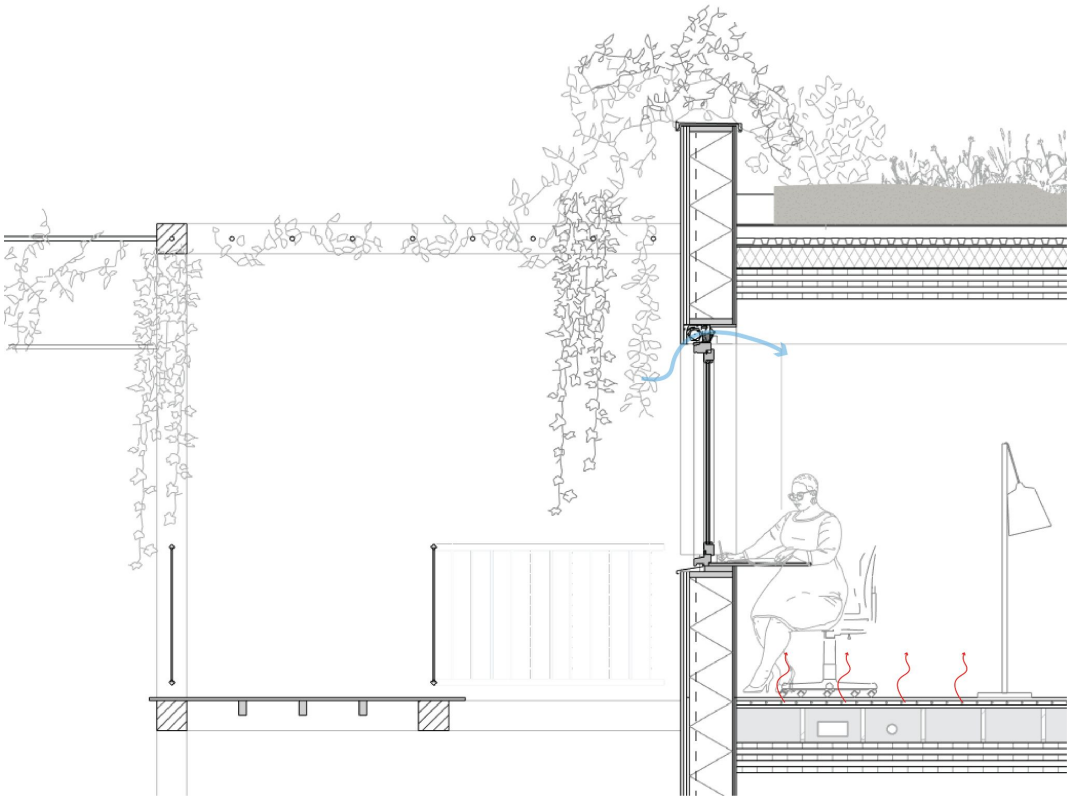


- 2m wide connecting wooden walkway, adds to feeling of home & warmth
- higher plants & flowers improve sense of privacy
- open construction allows daylight & improved experience of weather
- observation platforms for a view into the courtyard and gives more room for side stepping on the walkway

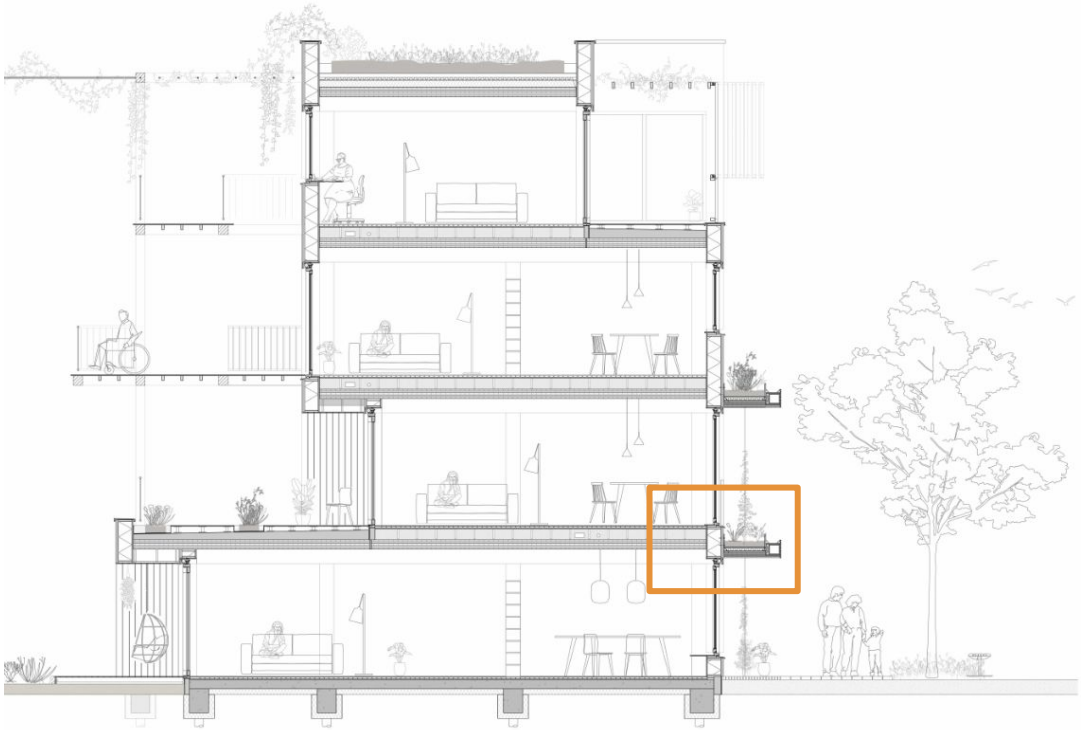


Intermediate Zone
Connecting Walkways

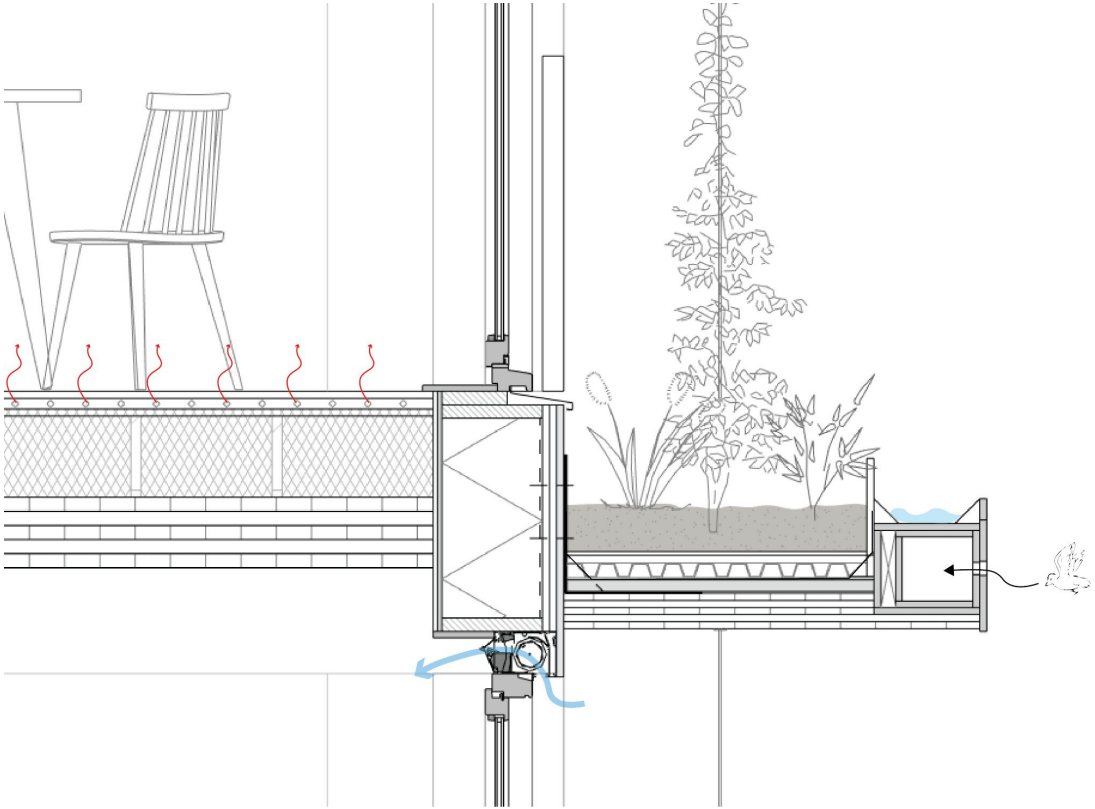




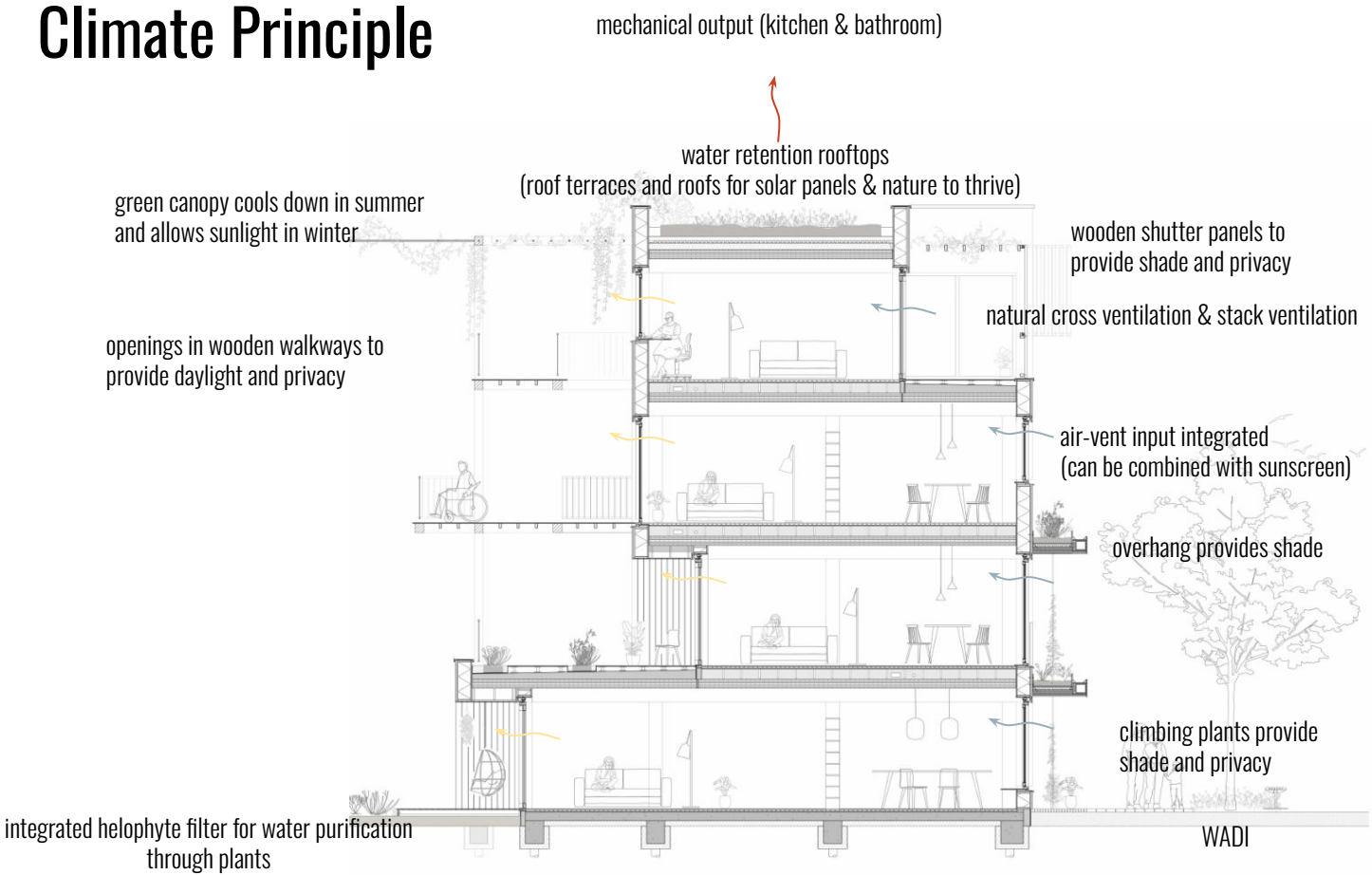
Soft Transitions between public, collective & private / indoor & outdoor

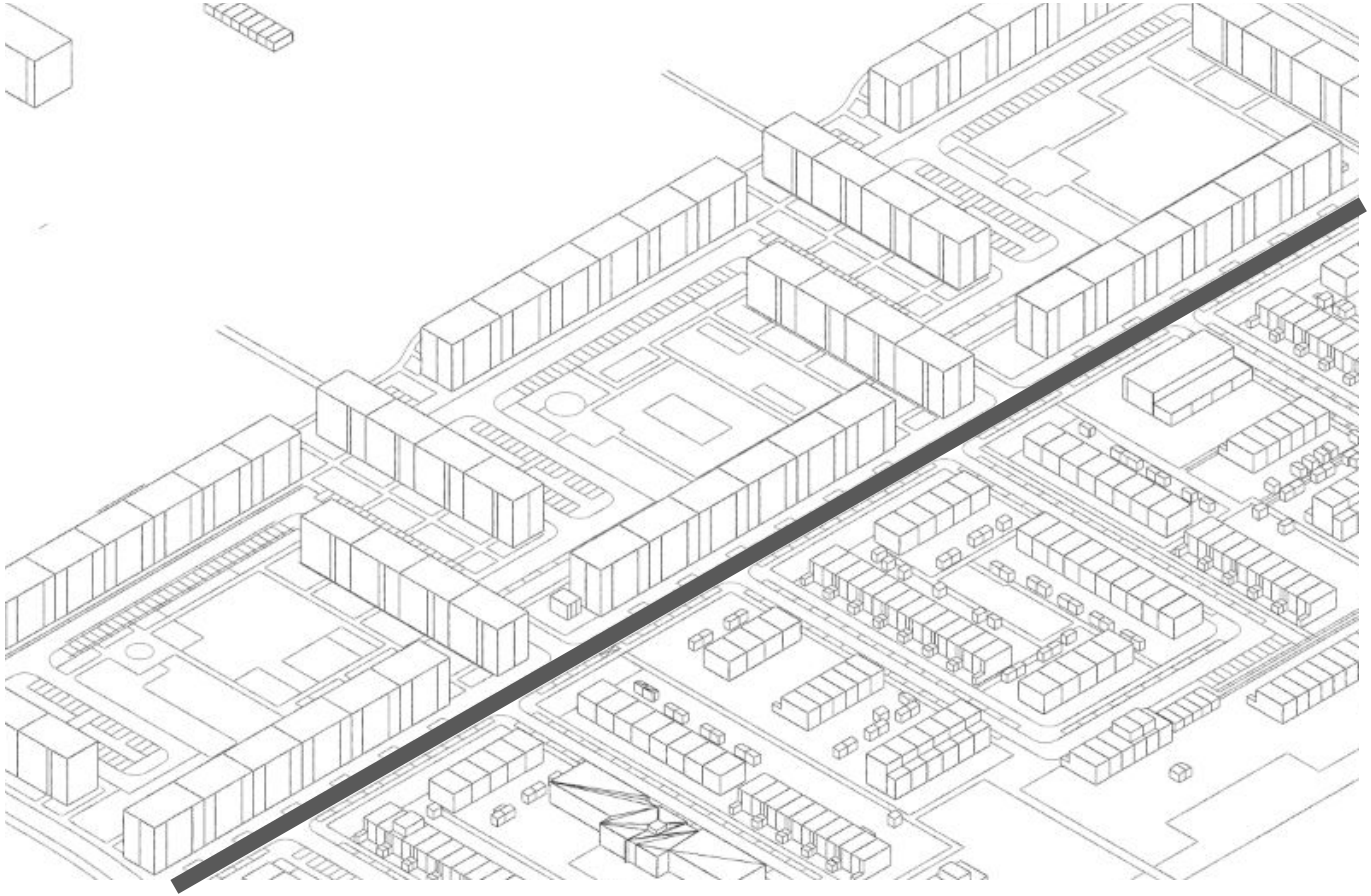
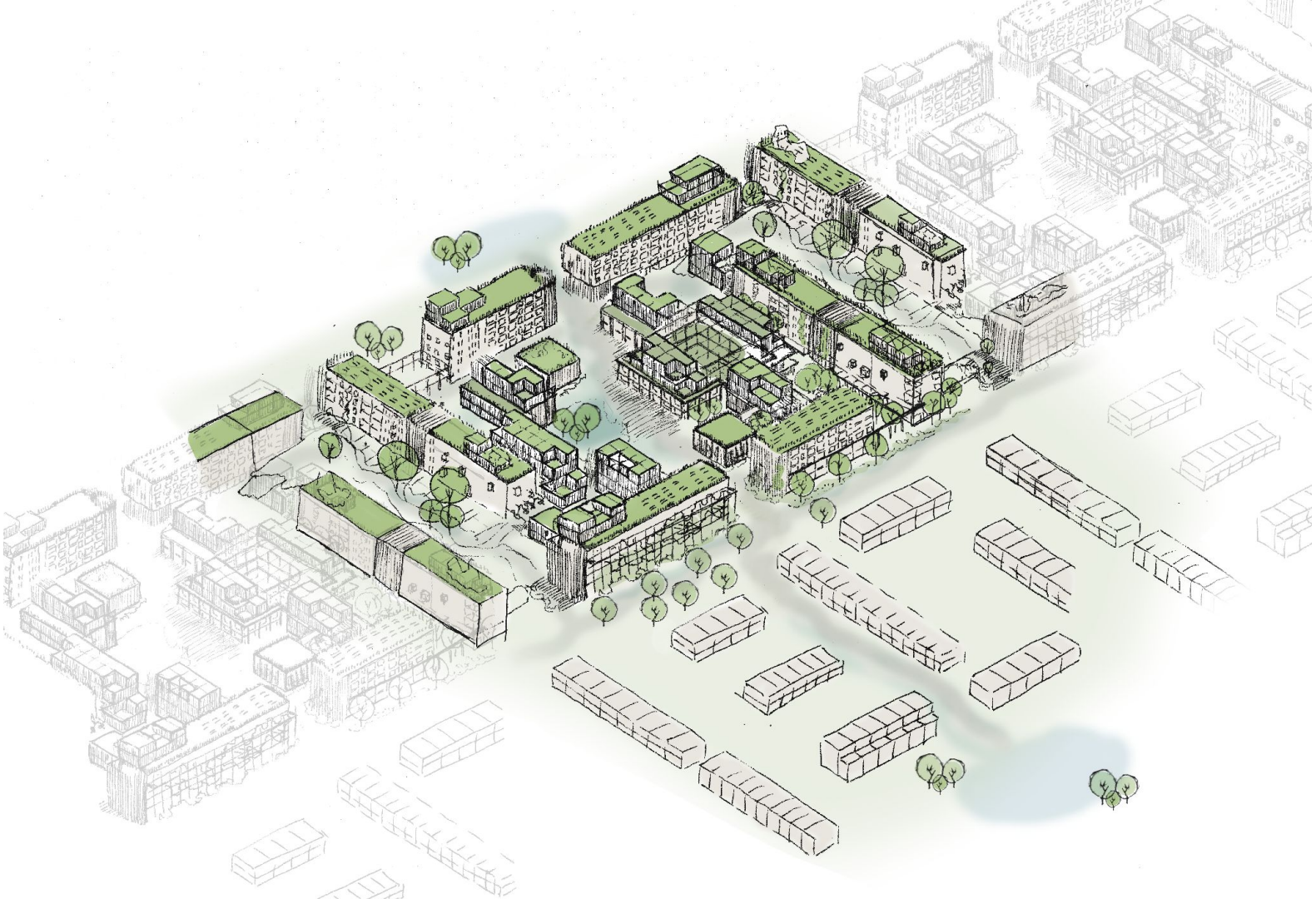
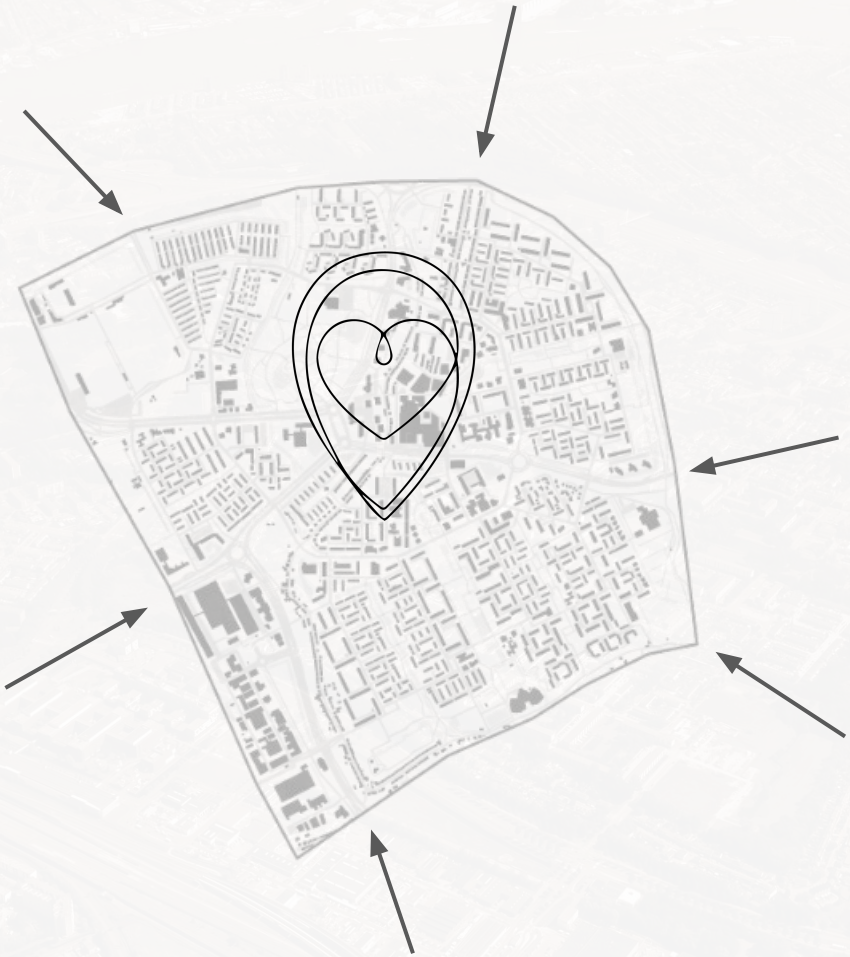


Soft Transitions between public, collective & private / indoor & outdoor



Climate Principle



“Eventually everything connects —
people, ideas, objects...the quality of the
connections is the key to quality per se’’

- Charles Eames