



HUMANATURE

P5 booklet of drawings  
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06/07/20

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*This booklet is based on an A3-format*

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WHAT WOULD THE WORLD LOOK LIKE WHEN WE, AS PEOPLE, LIVE MORE IN HARMONY WITH OUR DIRECT NATURAL ENVIRONMENT? Living more connected to nature can be beneficial for people as well as the earth itself. The question the is where are we now and how far can we go? De neighbourhood of De Werven, located in Almere-Haven, offers great potential for this vision. This 80's neighbourhood, inspired by the garden city principle, is one of many in the Netherlands. It offers space, standardization and quality which translates to the appreciation of the residents.

The HumaNature concept focusses on supporting values and not harming them. It is inevitable that sustainability will play a bigger role in our society and this should be embraced in the form of a balance between existing and new values. Since nature needs time to grow, the neighbourhood should grow with it. The design will support a transformation into a neighbourhood with harmony between people and nature. This harmony is designed in all layers and is carried by the densification question the Netherlands has to cope with.

"Geen verplichting, wel belang" is the ambition for the project, where we have to consider the current residents. Giving people the feeling that when participating in this vision, an enrichment of the daily life can be reached. This will create the feasibility of the project. The HumaNature concept will make the neighbourhood future resilient with the preservation of the character and the ideals of the existing.

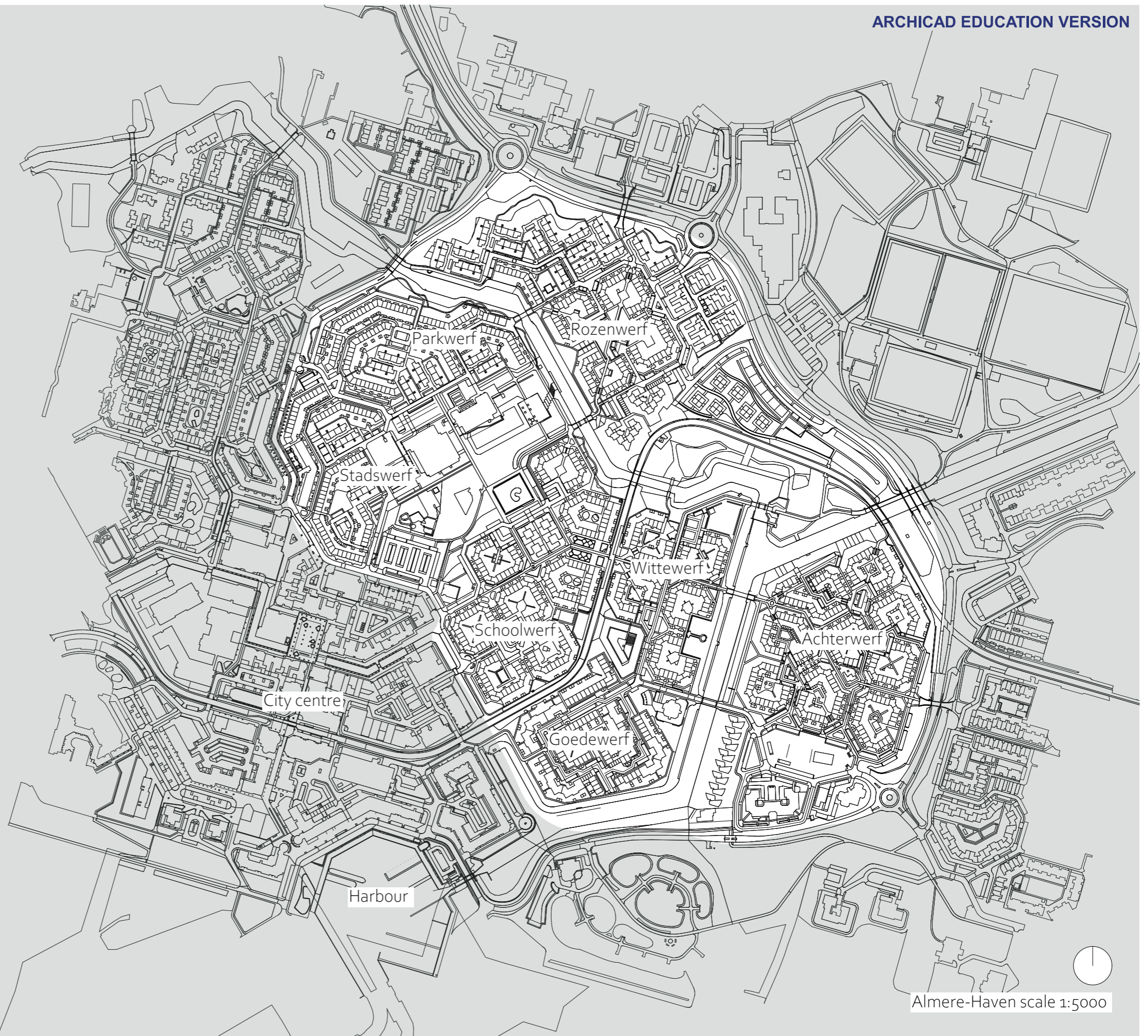
## Location

De Werven is a neighbourhood in Almere Haven, Netherlands. It is a pioneering housing area in Almere built between 1974 and 1977. The architect is Joop van Stigt who is known as being a structuralist during this time.

The neighbourhood is set up as a 'woonerf' which means that there are a lot of car-free streets which are safe for children to play.

The housing blocks surround courtyards that contain different functions. The houses offers some variety ranging from two floor houses up till small apartments. The majority of the houses exist out of family houses.

This project is focused on one of the areas in De Werven: De Wittewerf.



## Problem statement

The typical Dutch residential typology, called Woonerf, is struggling with a bad reputation. In specific cauliflower neighbourhoods, most of which were built in the 70's. The buildings offer little diversity in housing, which creates an undesirable unanimity of the living environments.

The inspiration for the cauliflower districts, on the other hand, came from the garden city typology which aimed to create a harmony between people and the natural environment. An important theme of this concept, invented by Ebenezer Howard, involves offering a lot of public green space to the residents. So, the problem around the cauliflower neighbourhoods is more of a missed opportunity that could be taken up.

Many of the starting points of wide-ranging visions of these neighbourhoods have been reduced to a poor result by cut backs.

This led to the reputation of civilianity and mediocrity, which cauliflower districts still have to cope with to this day. The only greenery that residents come into contact with is the very well delineated and structured grass beds.

Whereas the architect van Stigt had extensive visions of the community, for example by designing courtyards, nowadays this is no longer clearly visible. People have started to isolate themselves by placing fences and attaching little value to their immediate surroundings. As a result, the courtyard, like van Stigt intended it to be, is no longer used as such. Instead pavement and fences have come to play the main role in the neighbourhood, limiting people and the courtyard from a variety of natural components.

## Relevance

The Netherlands, like the rest of the world, is struggling with a decline in biodiversity. This is partly due to changes in land use, environmental pressure and the fragmentation of existing ecosystems.

The built environment has the potential to improve biodiversity. This is largely due to the wide variety of living areas. By consciously dealing with the buildings, they can serve to enhance biodiversity. Buildings can create opportunities for sunny and shady areas, different temperatures and humidity that can form microclimates. In addition, buildings can also offer different densities and heights; streets, rows or groups of trees, parks, vegetable gardens, backyards, ponds, ditches and rivers are all elements that offer variation to enhance biodiversity. Applying different biotopes provides gradation and diversity.



## Strategy

In this project the hierarchy between people and nature is reconsidered. Where normally people are given priority over nature, it is interesting what it will bring when this division of roles is reversed.

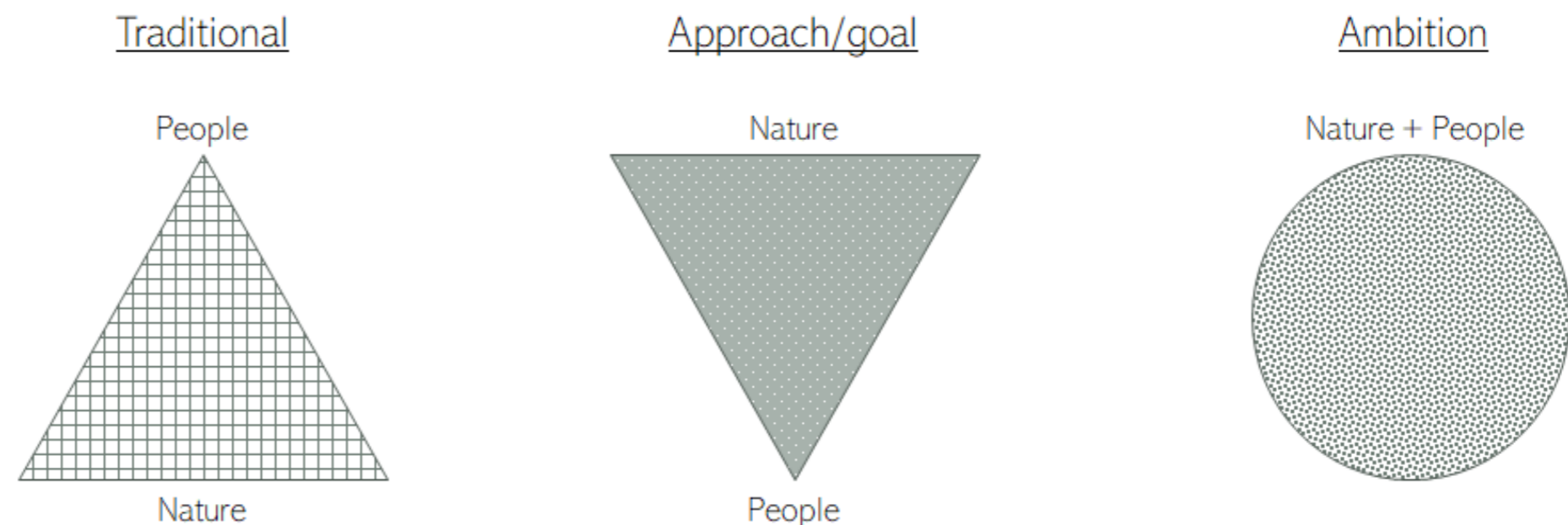
Since it is generally known that the environment is in a bad state and we have to adapt to this situation, this might even be an approach that will be necessary in the future.

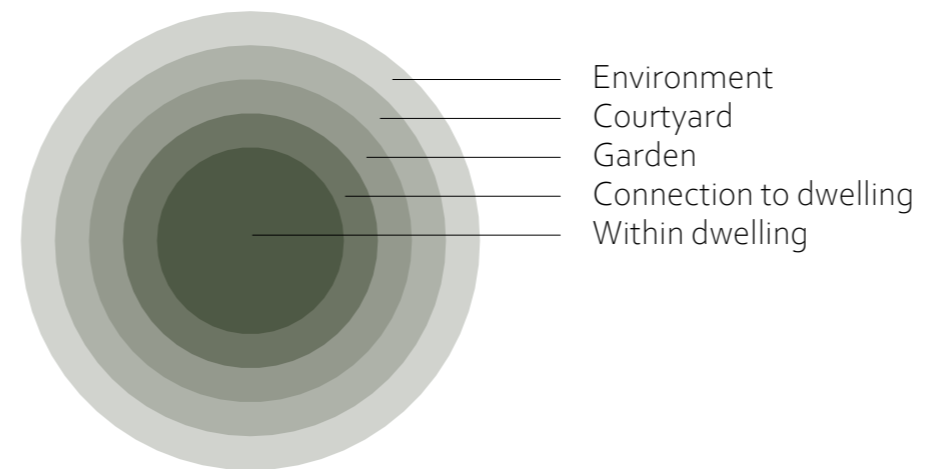
The ambition with this goal is to achieve a new relationship between people and nature. Preferably one where people and nature both experience the benefits from living in harmony with each other.

This resulted in some opportunities of existing values that will therefore play a role in this project, with as input the garden city concept that is used for the design, the preservation of the atmosphere of the neighbourhood and the modular elements that form the characteristics of the houses. How these attributes can be found in the project will be elaborated in the drawings.

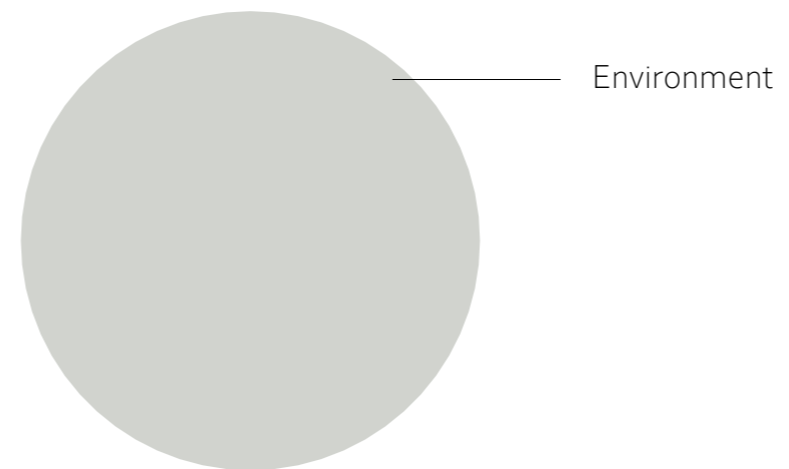
The project aimed for a change of the natural environment of the neighbourhood. Therefore this project started with a large scale, namely the one of the environment. Choices made on this scale have a direct influence on the following scales and so five different ones can be distinguished (see next page).

Besides the fact that this was the method on which the project was tackled, this also forms the structure of this booklet. Starting everytime with a comparison between the existing and the new situation.

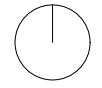






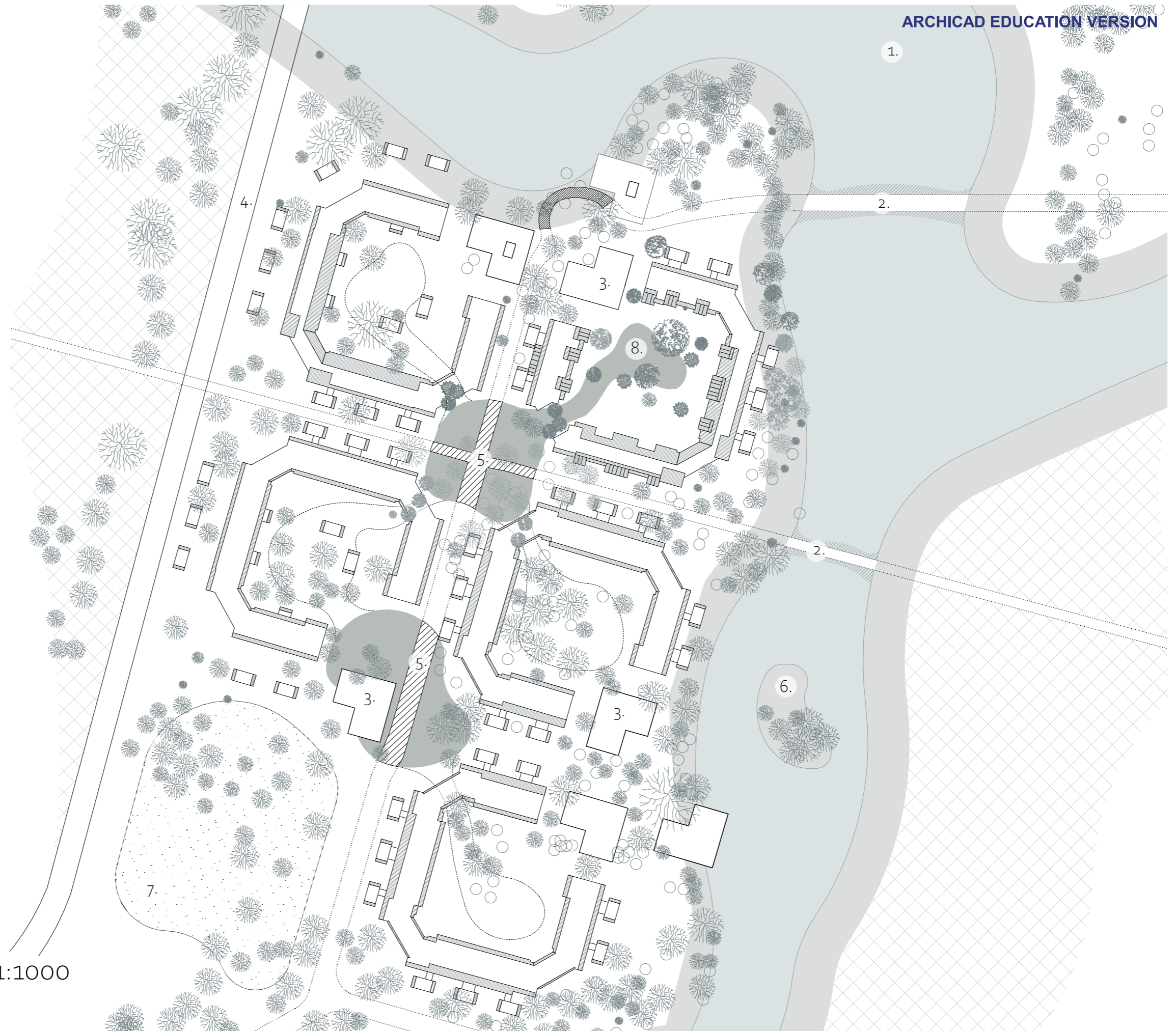


Environment



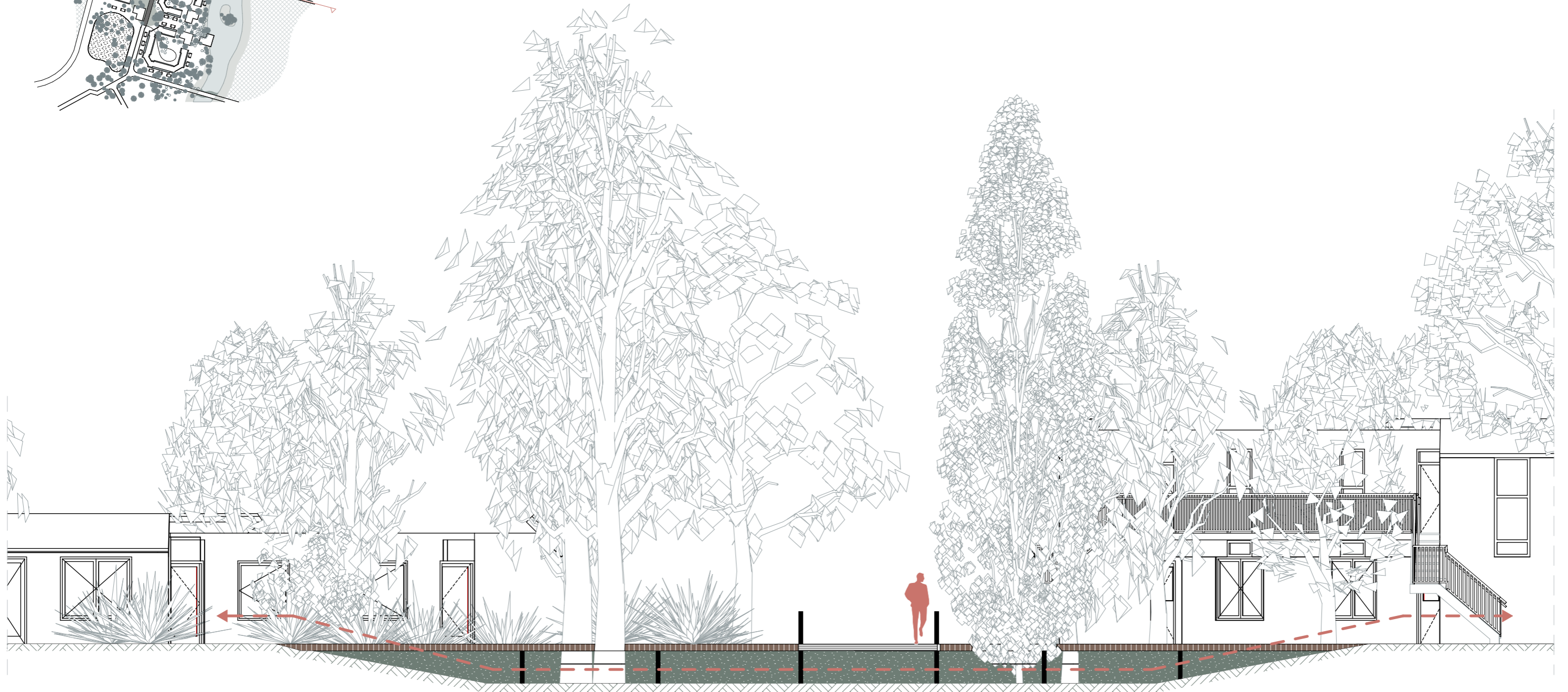
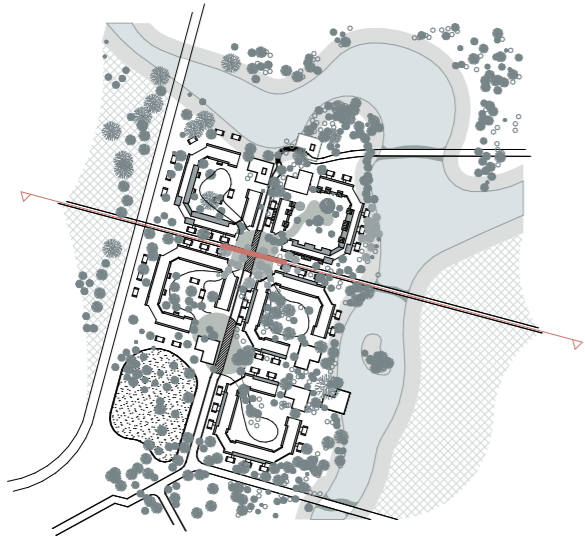
- 1. Green zone: grass
- 2. Parking lots
- 3. Canal leading to harbour
- 4. Buslane
- 5. Biking route
- 6. Car route
- 7. Green zone: allotments
- 8. Green zone: forestry

Environment - scale 1:1000  
Current situation



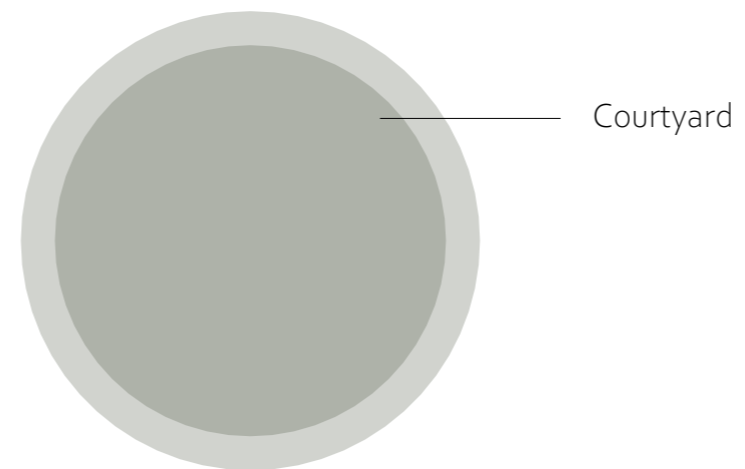
- 1. New water design with transitional zones
- 2. Water cross-over
- 3. New construction - densification
- 4. Existing buslane
- 5. Green cross-over
- 6. Birdisland
- 7. Reserved space for parking
- 8. Green connection into courtyards

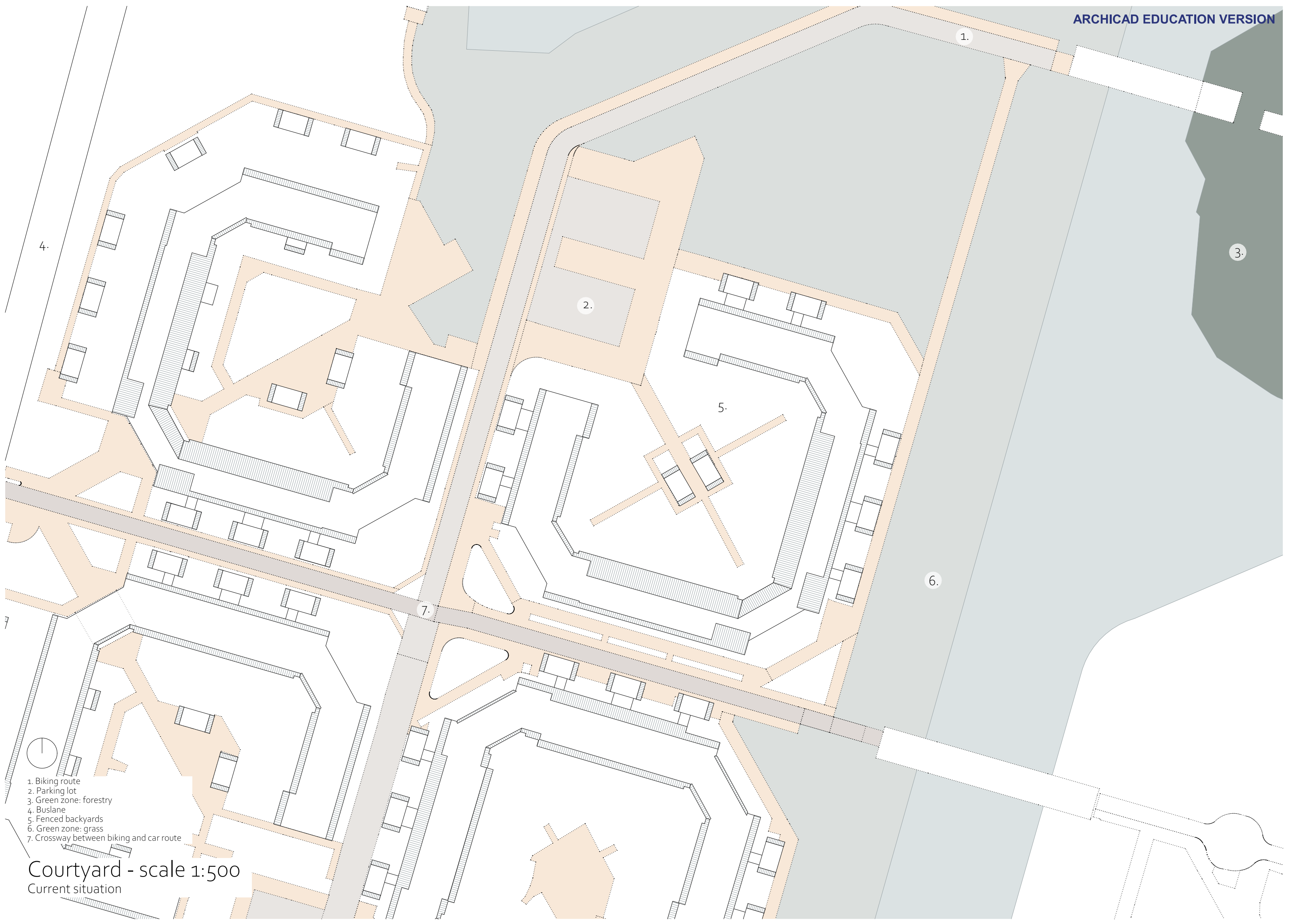
Landscape design - scale 1:1000  
New situation



Lowered level functioning as connection for nature and animals

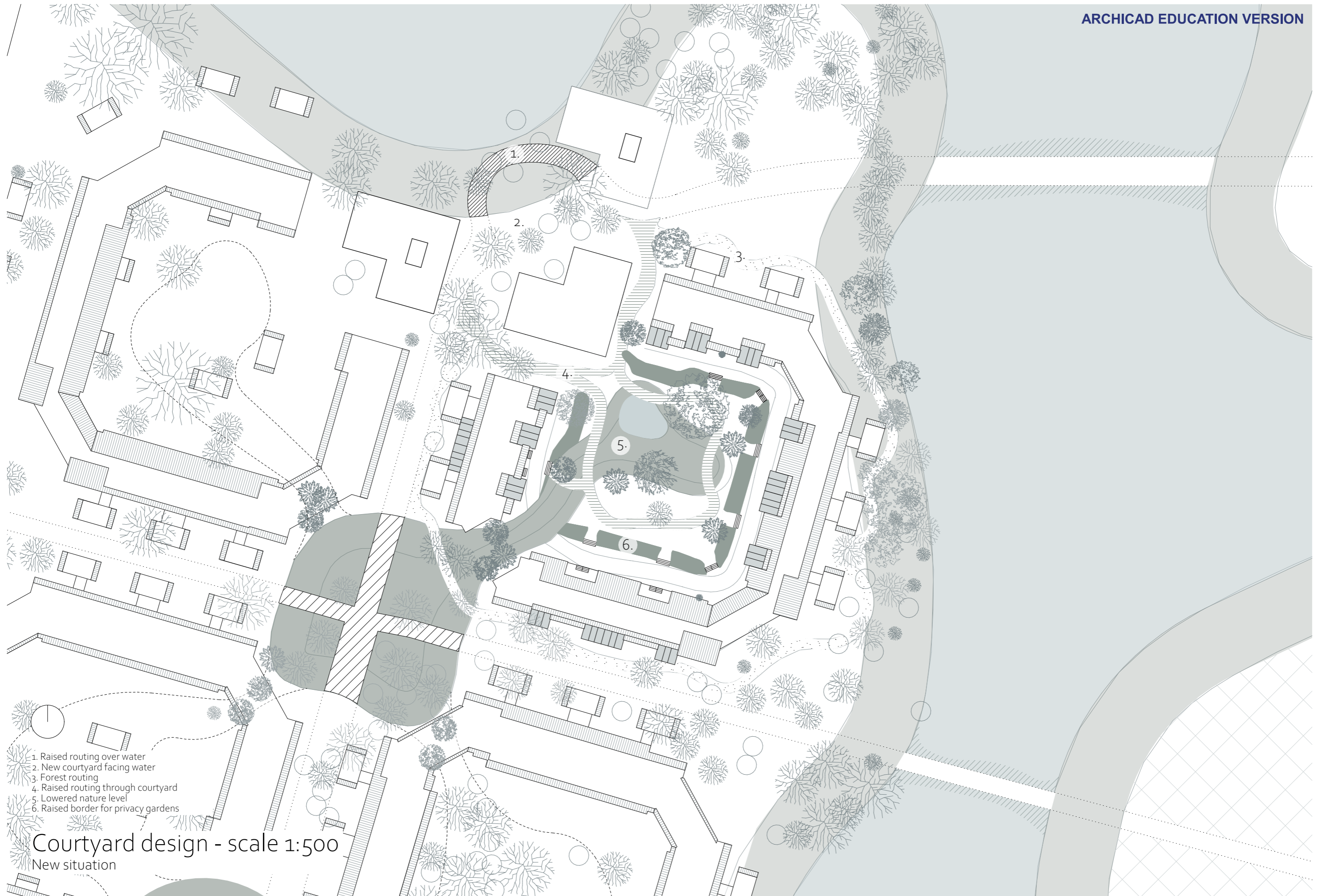
Landscape section - scale 1:100  
New situation





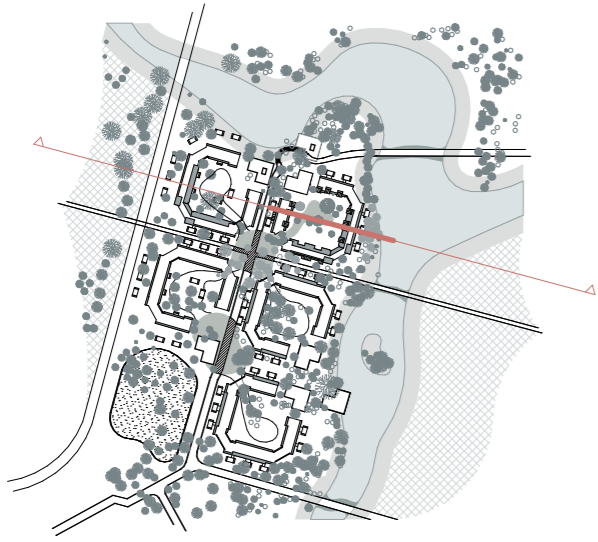
- 1. Biking route
- 2. Parking lot
- 3. Green zone: forestry
- 4. Buslane
- 5. Fenced backyards
- 6. Green zone: grass
- 7. Crossway between biking and car route

Courtyard - scale 1:500  
Current situation



- 1. Raised routing over water
- 2. New courtyard facing water
- 3. Forest routing
- 4. Raised routing through courtyard
- 5. Lowered nature level
- 6. Raised border for privacy gardens

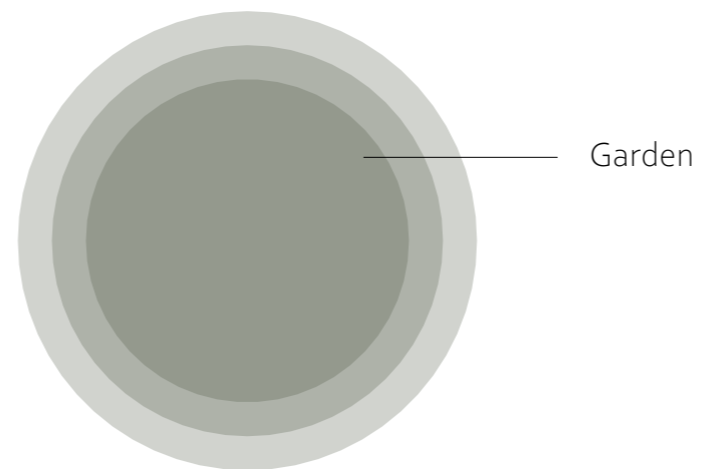
Courtyard design - scale 1:500  
New situation



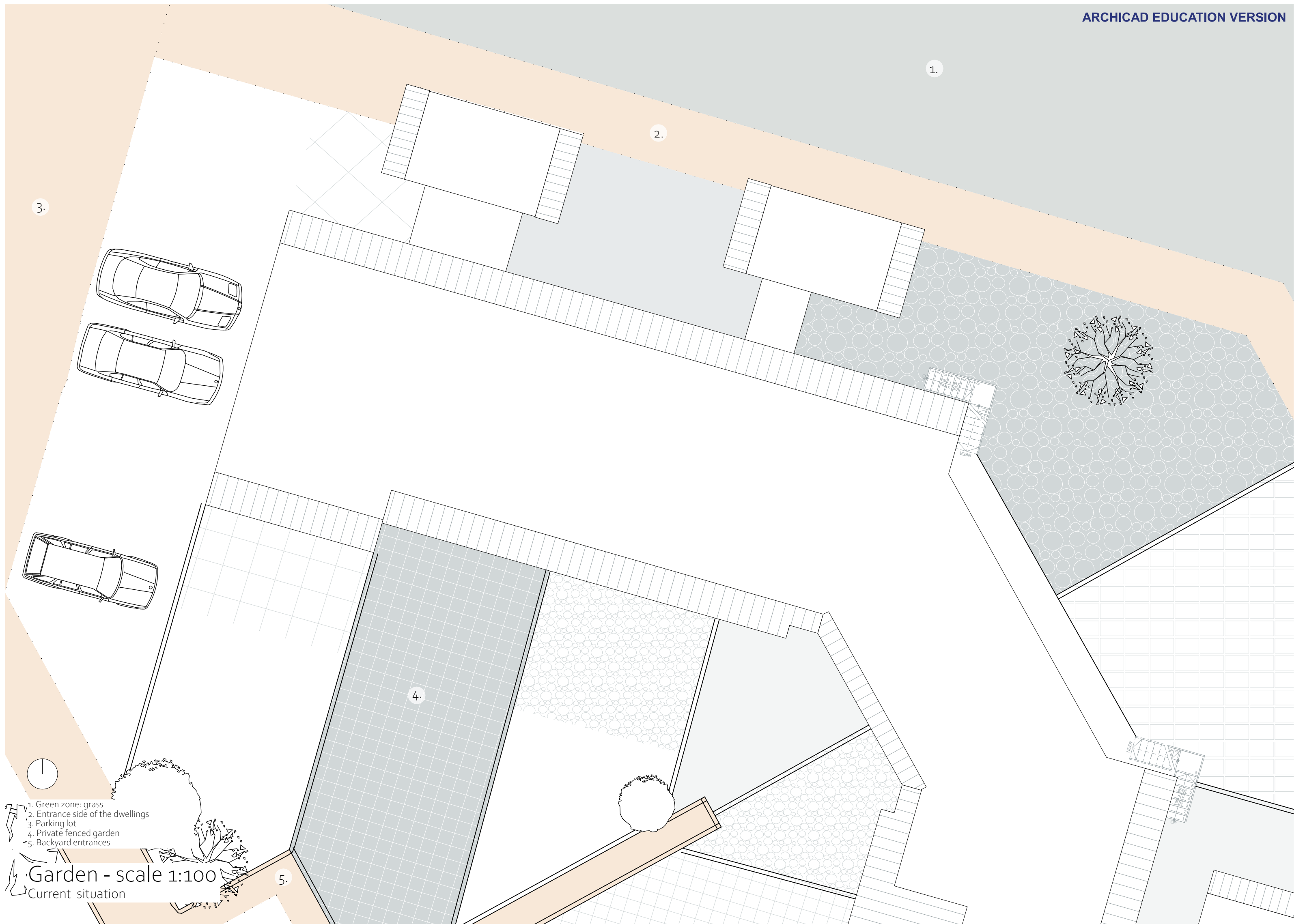
1. New building blocks
2. Raised border for privacy gardens
3. New waterbody in courtyard acts as a buffer for rainfall and forms a biodiverse atmosphere
4. Green roofs
5. Altered body of water forms a buffer and creates transitional zones from water to land for animal/insect life

Courtyard section - scale 1:200  
New situation





Garden



- 1. Green zone: grass
- 2. Entrance side of the dwellings
- 3. Parking lot
- 4. Private fenced garden
- 5. Backyard entrances

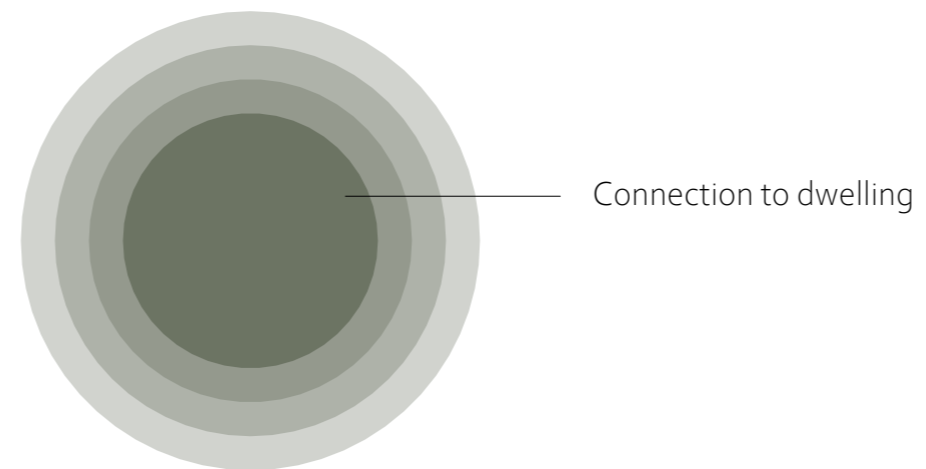
Garden - scale 1:100  
Current situation

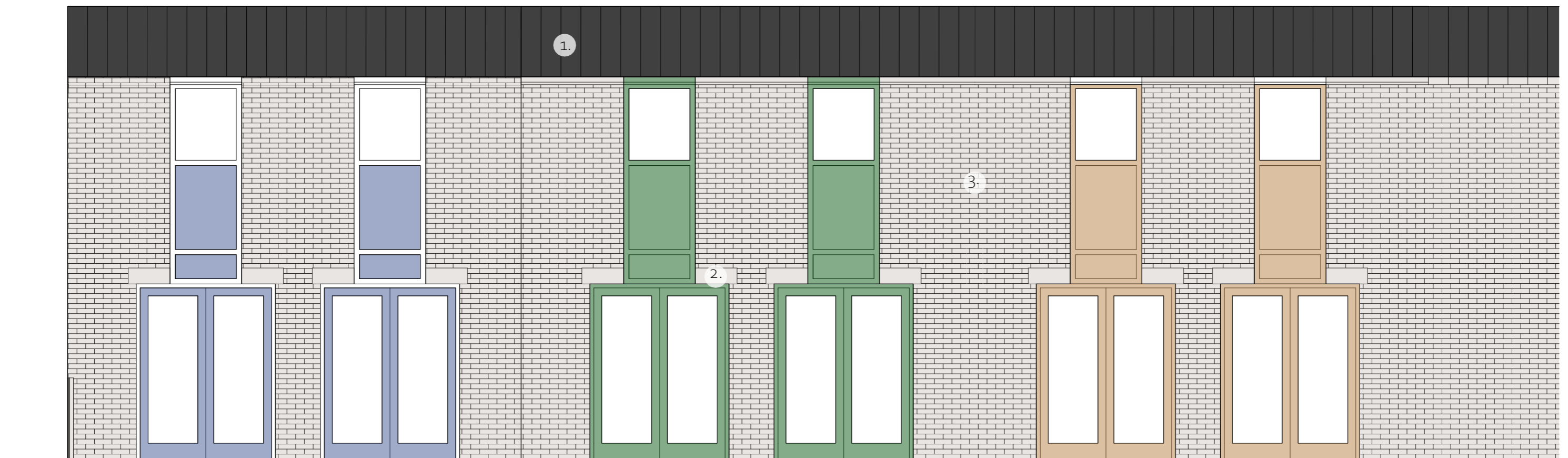


- 1. Forest walking route
- 2. Raised route for access of courtyard
- 3. Green roofs for biodiversity
- 4. Added sunrooms
- 5. Private gardens
- 6. Raised border for privacy gardens
- 7. Access to gardens
- 8. Lowered body of water in the courtyard

Garden design - scale 1:100  
New situation







- 1. Black rooftiles border
- 2. Concrete lintels
- 3. Prefab elements cladded with masonry

Elevation courtyard - scale 1:50  
Housing type A - Current situation



- 1. New masonry
- 2. Existing masonry
- 3. Added sunrooms
- 4. Raised border for privacy gardens

Elevation courtyard - scale 1:50  
Housing type A - New situation

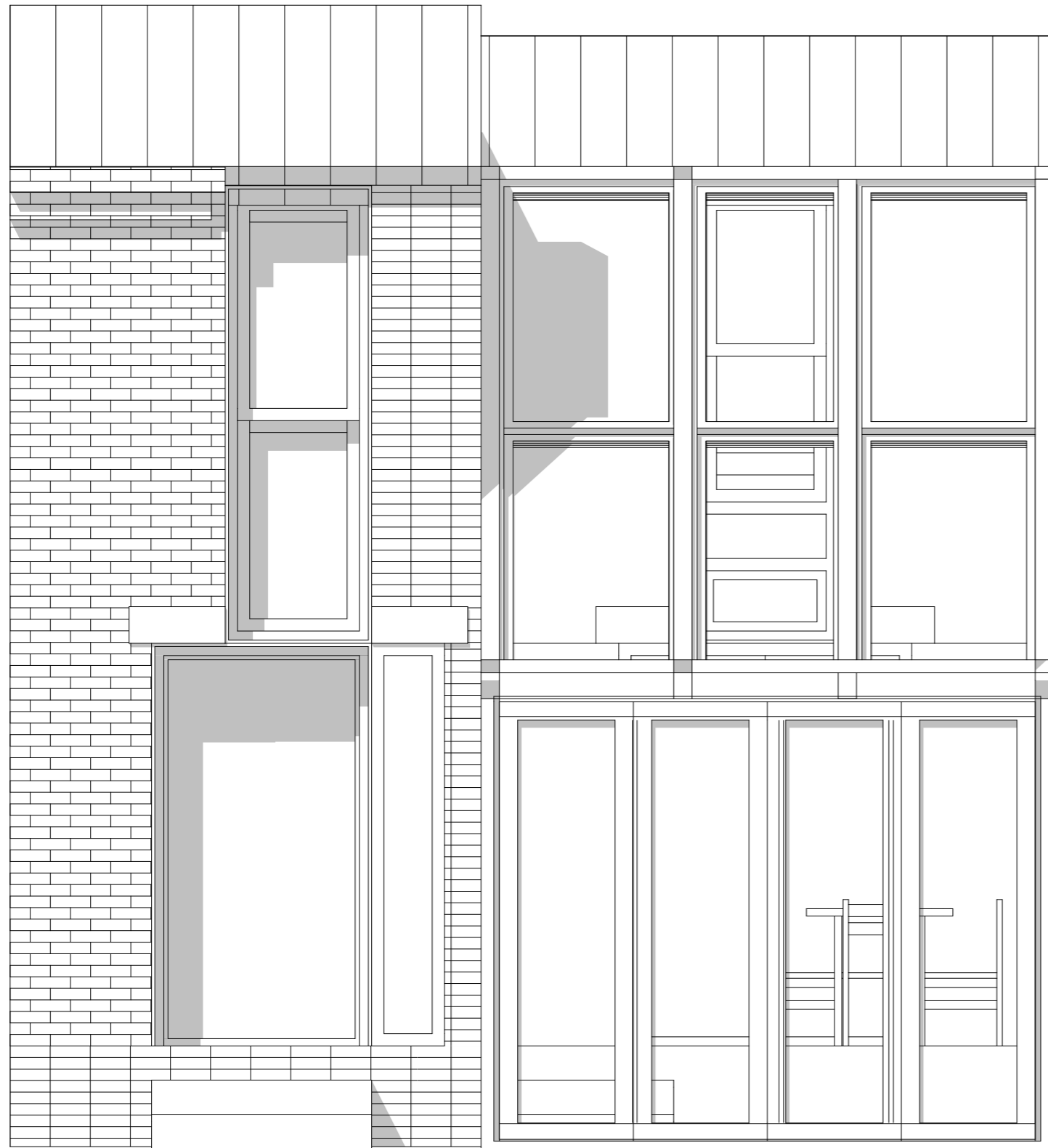


Elevation courtyard - scale 1:50  
Housing type B - New situation

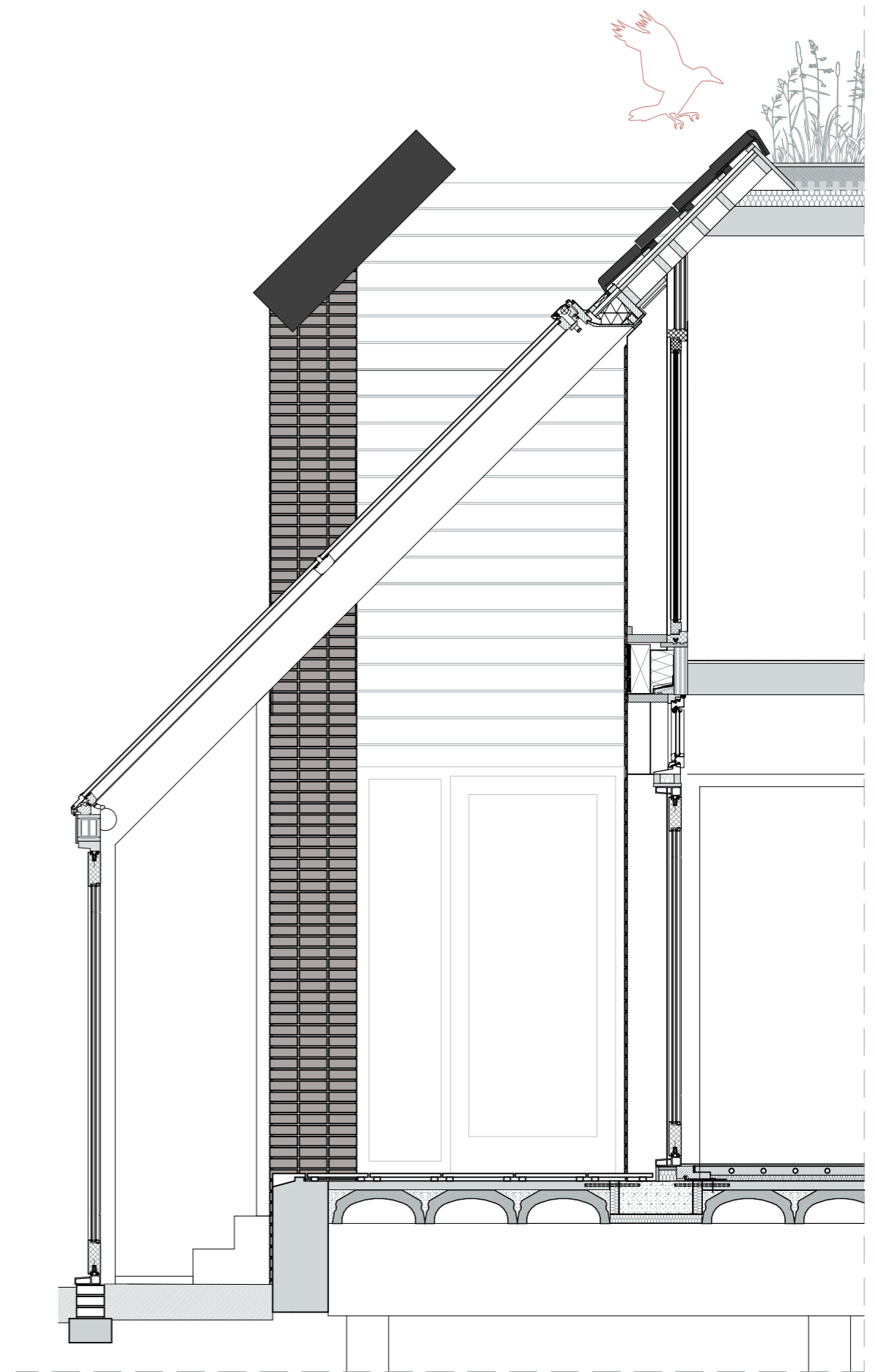


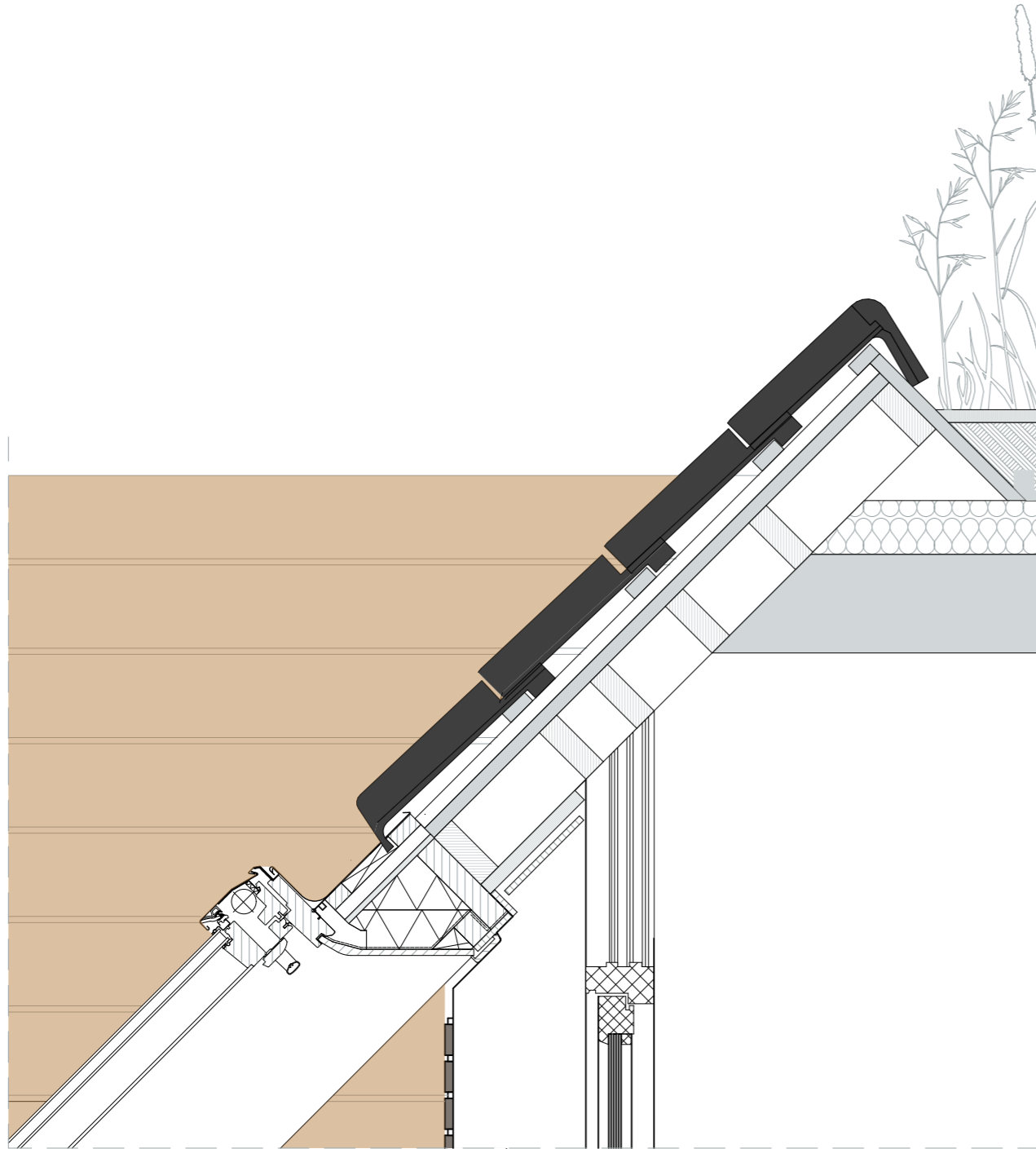


Elevation courtyard - scale 1:50  
Housing type C - New situation

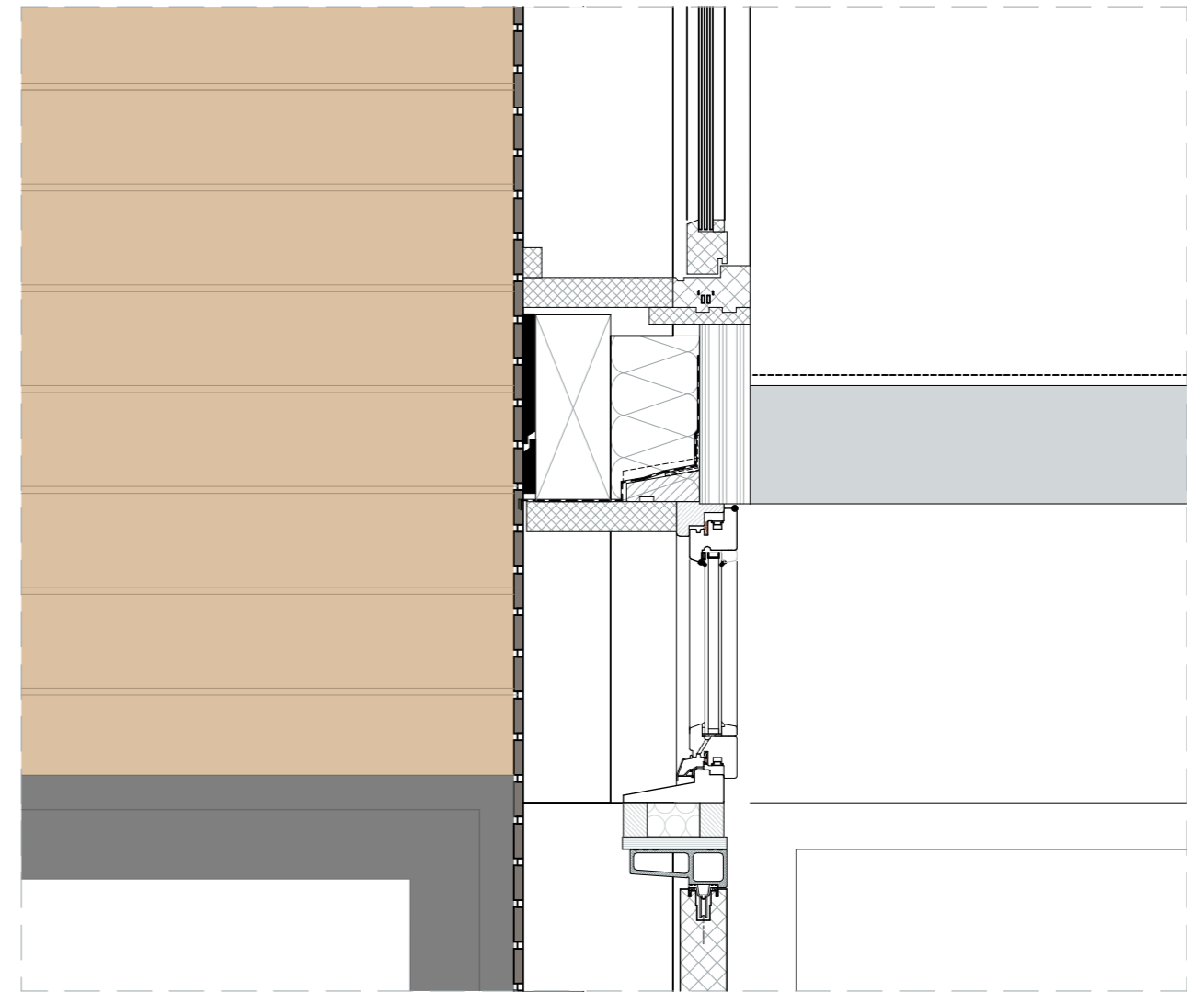


Elevation and fragment courtyard side - Scale 1:20

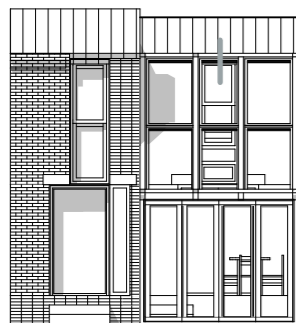


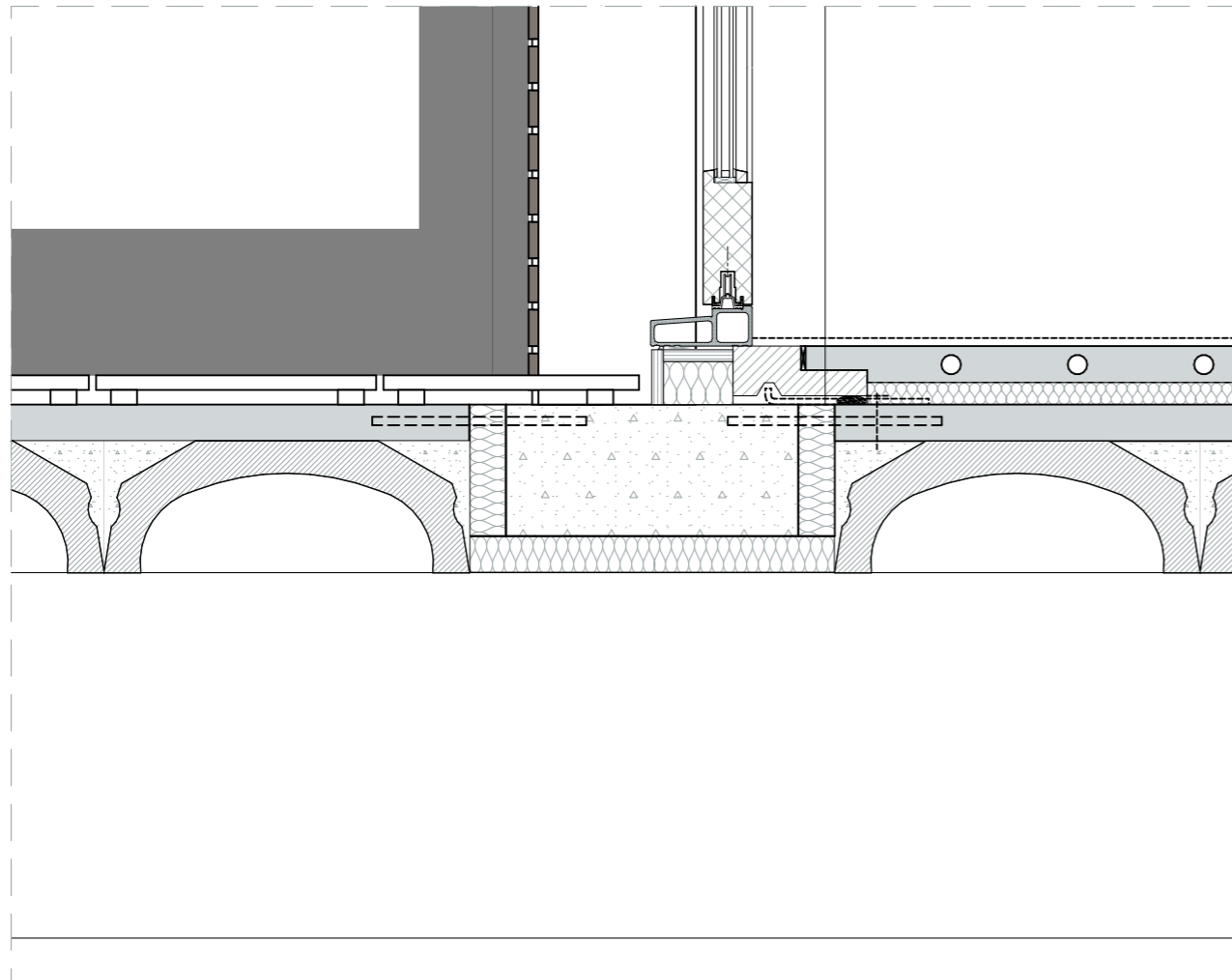


Detail roof connection to sunroom - Scale 1:10

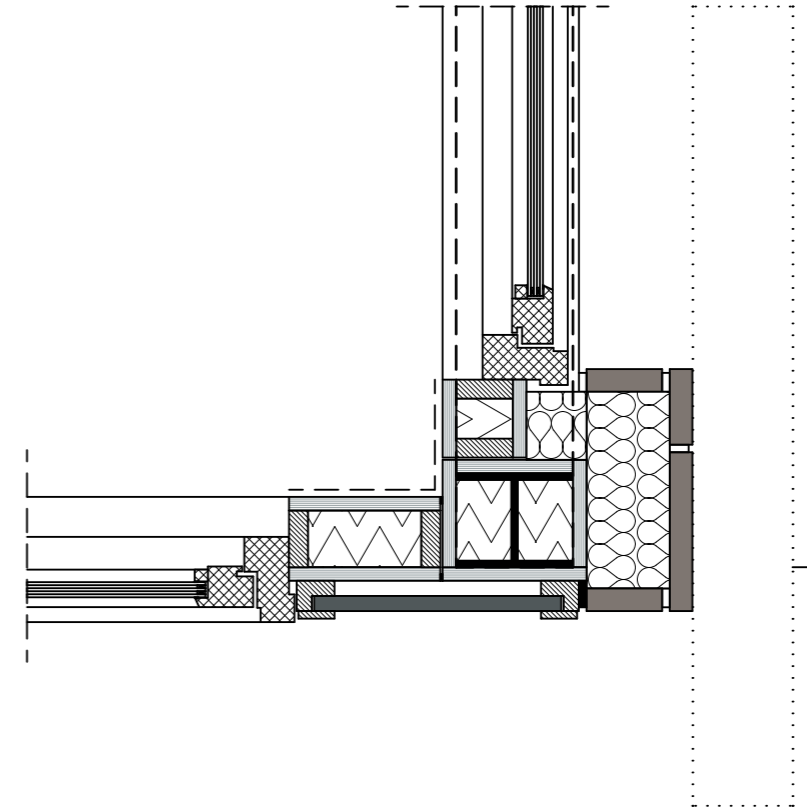


Detail first floor and windows - Scale 1:10



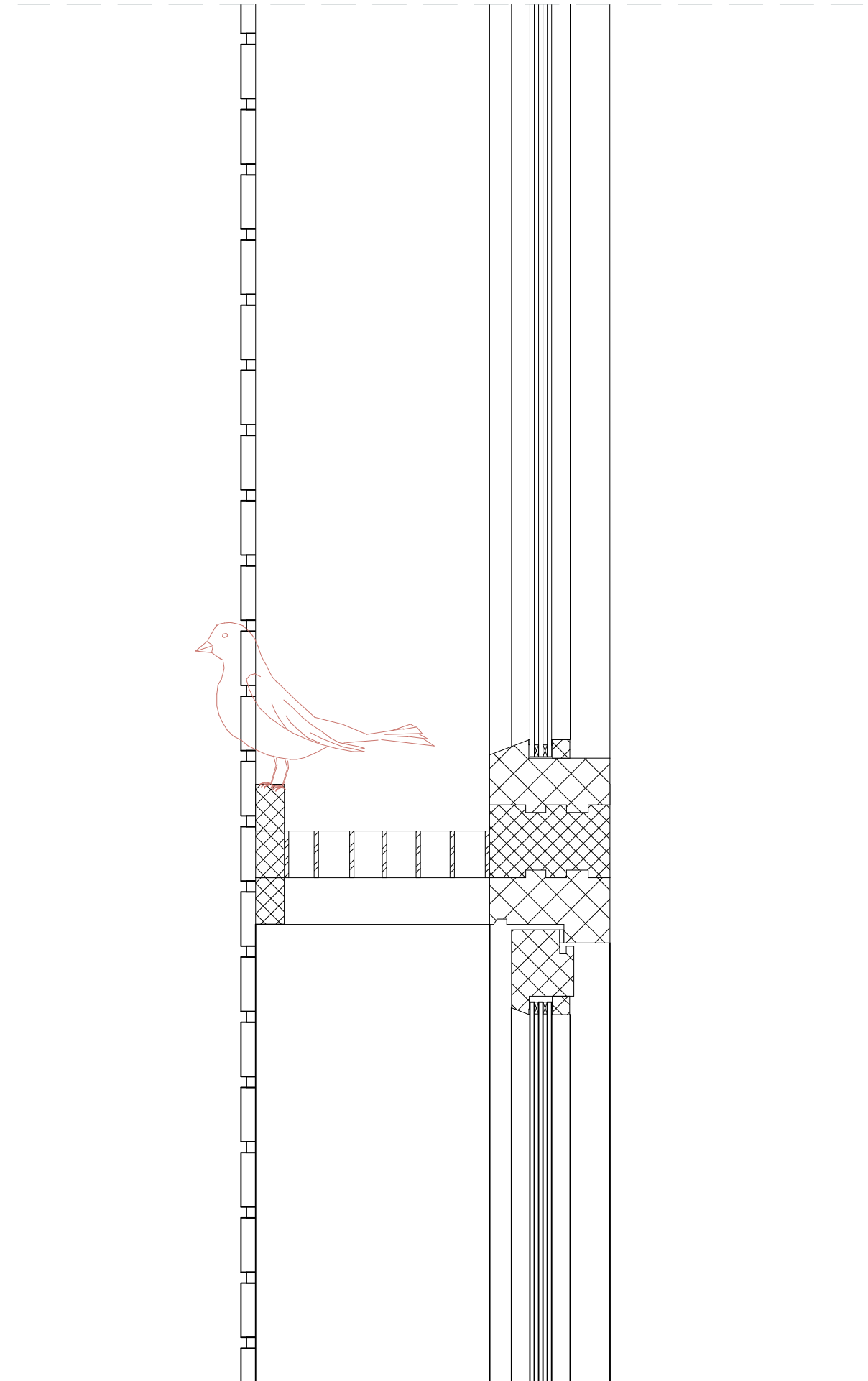
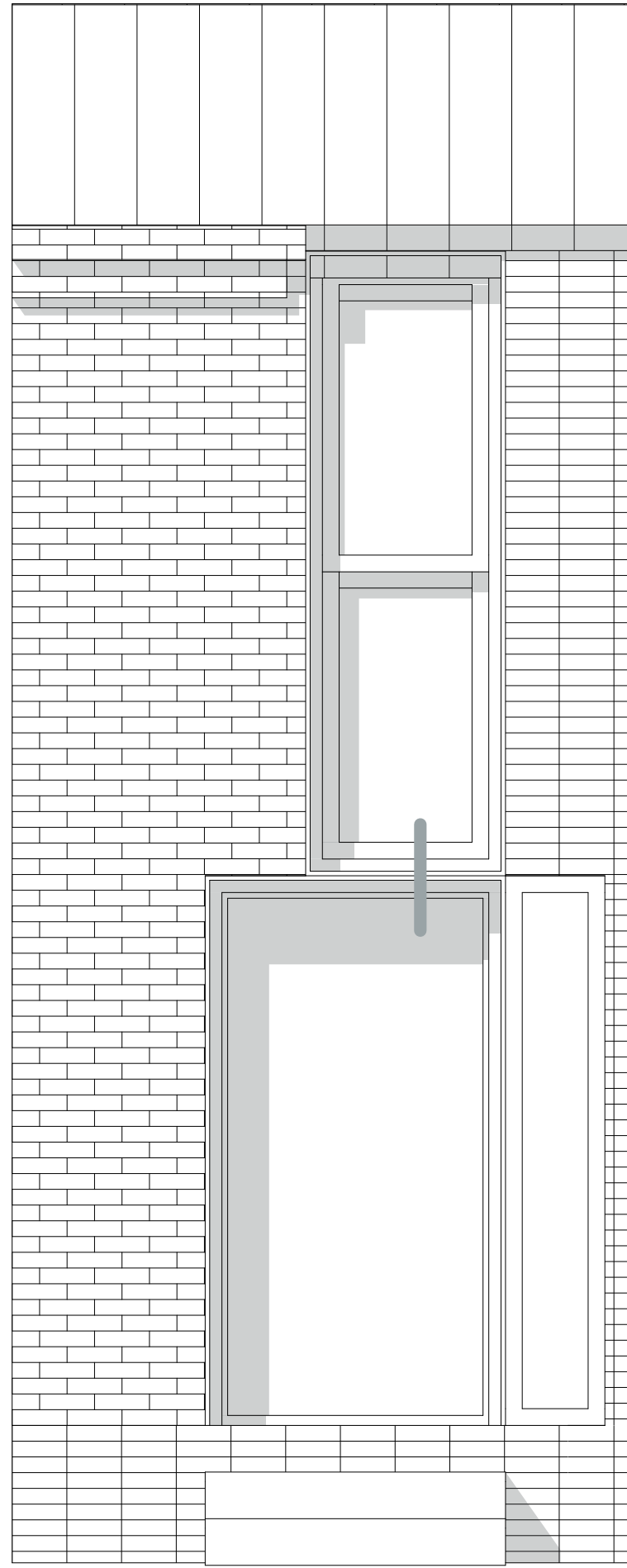


Detail floor connection with moved facade - Scale 1:10

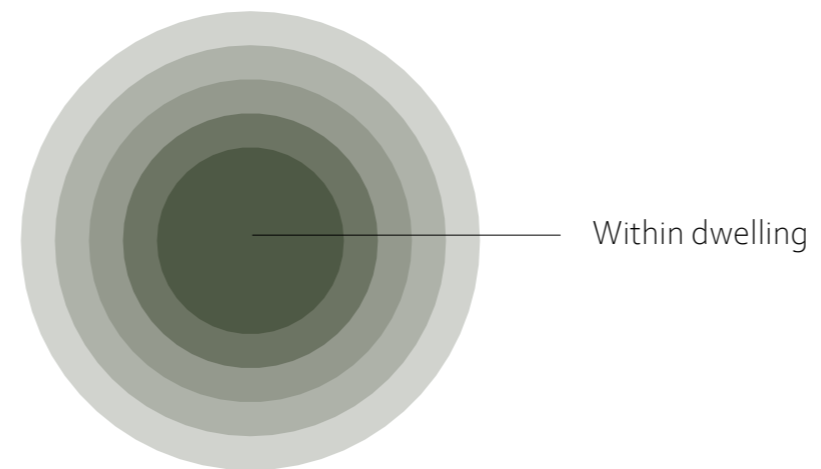


Horizontal detail corner - Scale 1:10



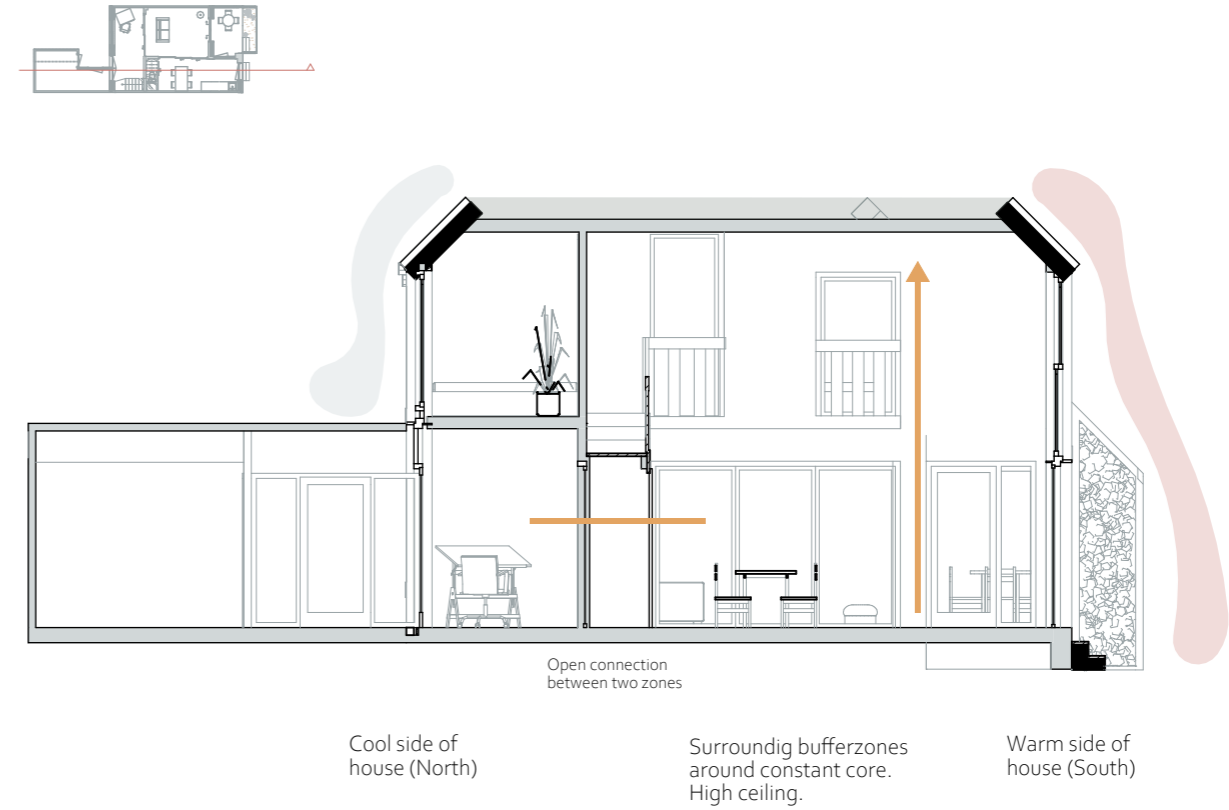
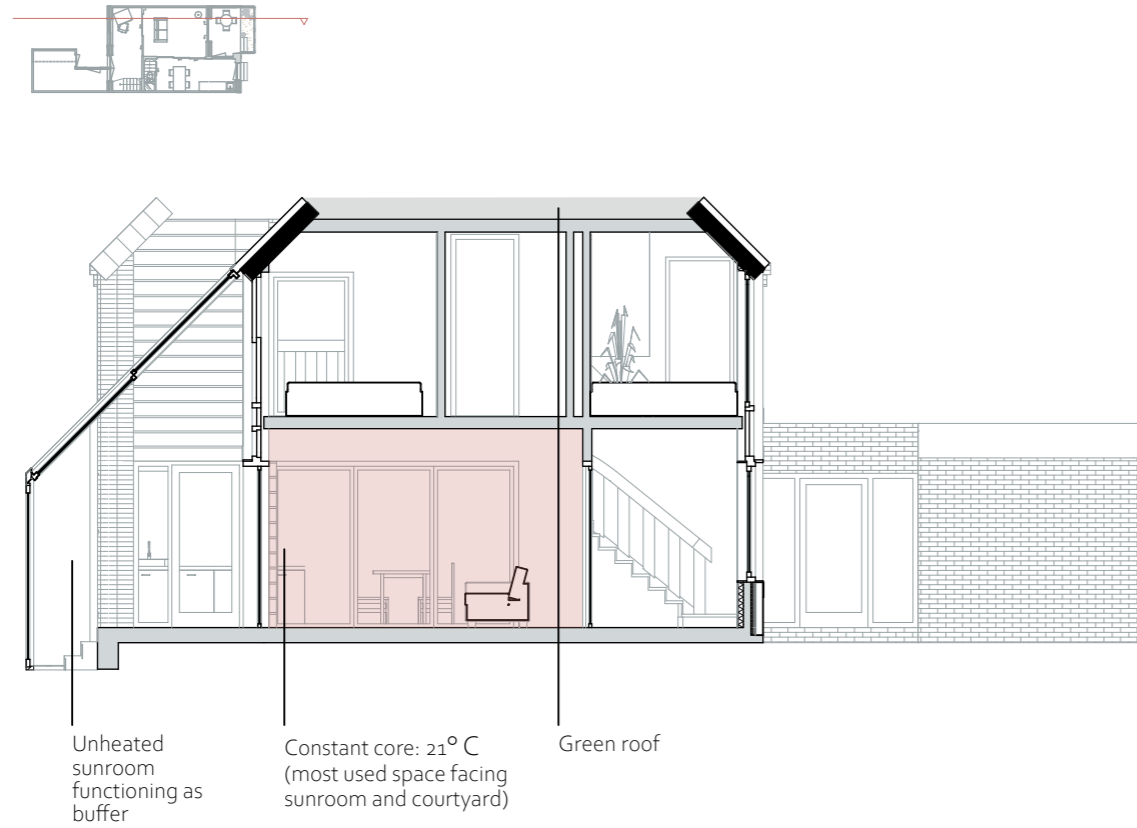


Detail window frame - Scale 1:5



Within dwelling

# Climate concept



Thermal line: post-insulation from inside RC = ± 7.0, and replacement of window frames to low U-value (1.2)

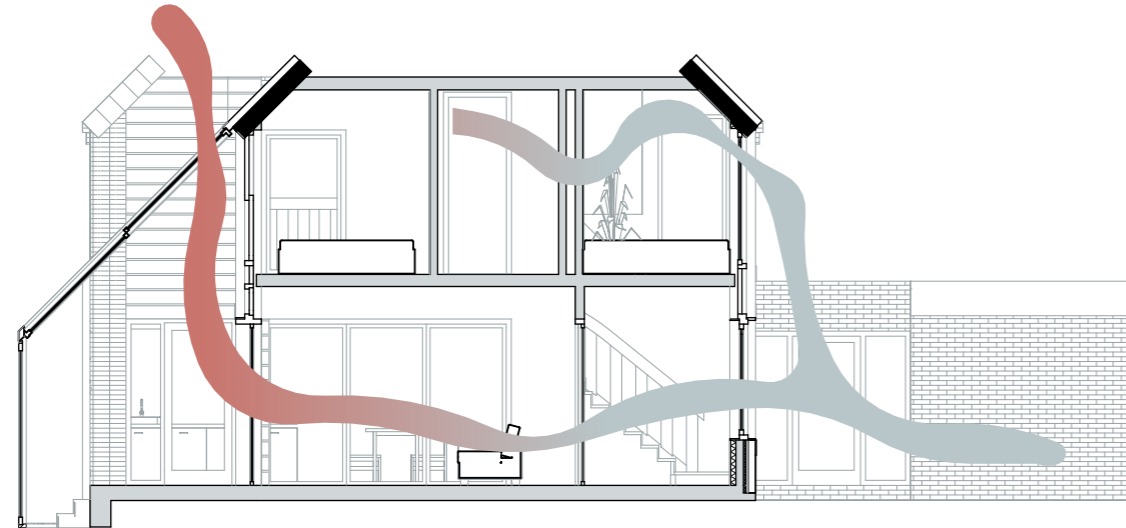
## Zoning

- There are three types of zones:
1. The constant core zone
  2. Protected buffer zone
  3. Unheated outdoor space

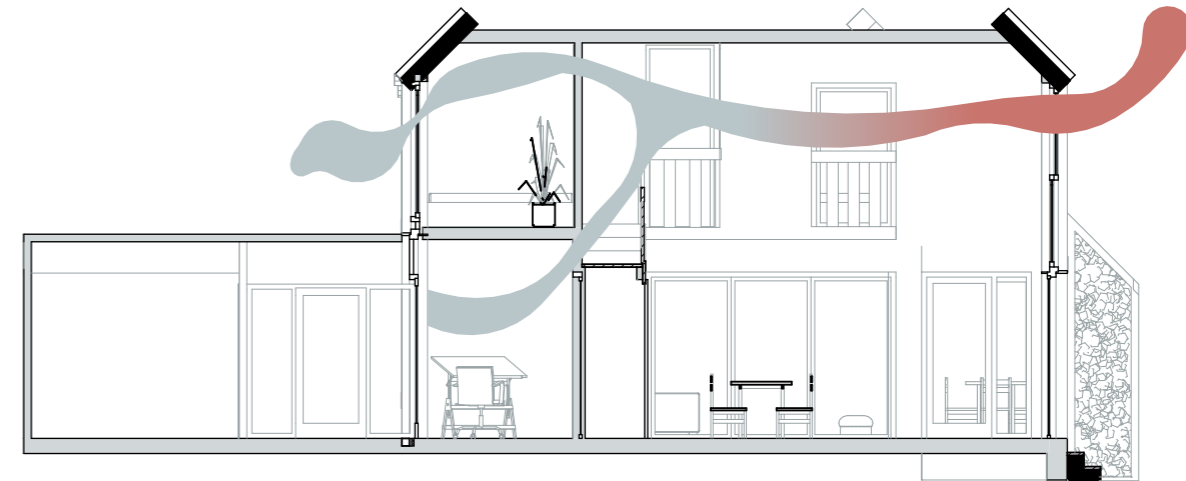


## Summer situation

Cooling of the house by natural airflow



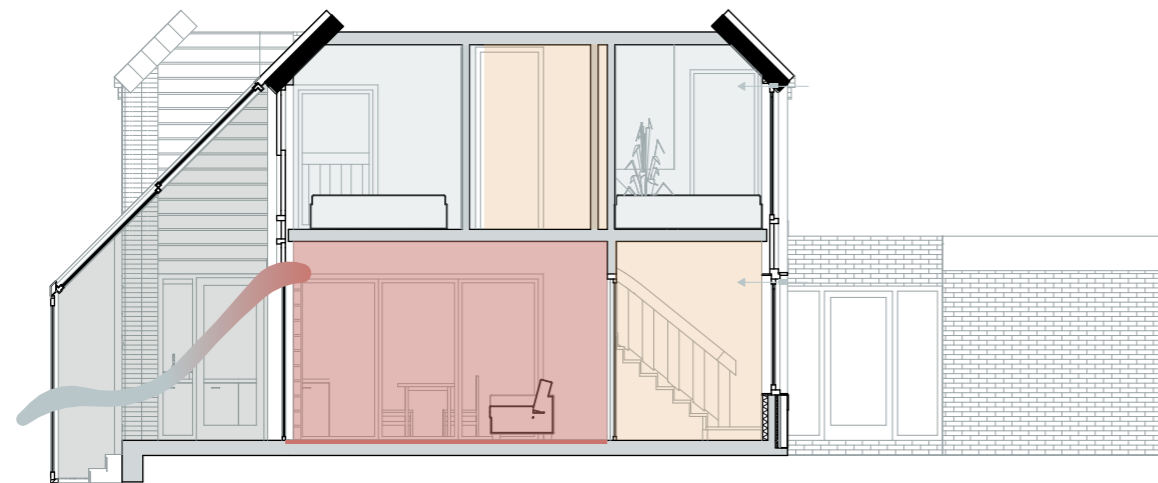
Cool air from the north side of the house goes into the house by openable windows. A flow is created by the heated sunroom, which then allows the warm air to escape at the top. Extra shade from trees in the courtyard keeps the sunroom cooler.



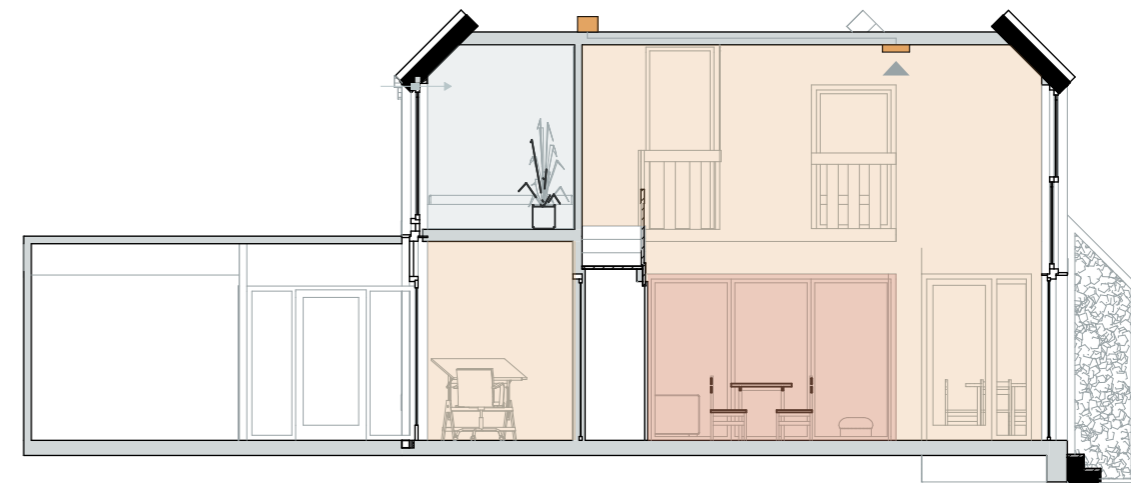
On the other side of the house the warm air can escape through a window that can be opened at the top of the high space above the kitchen.

## Winter situation

Warmth efficiency - working with zones - natural air inflow



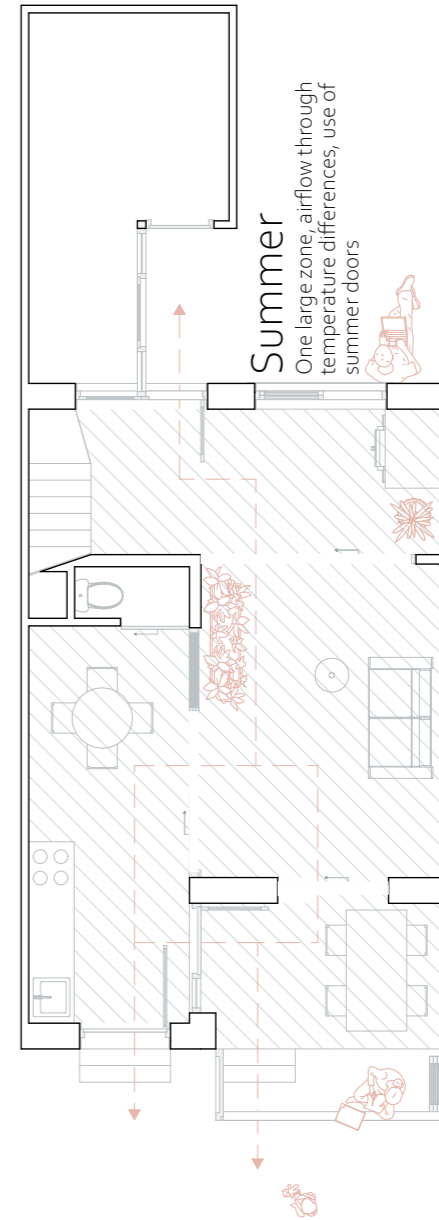
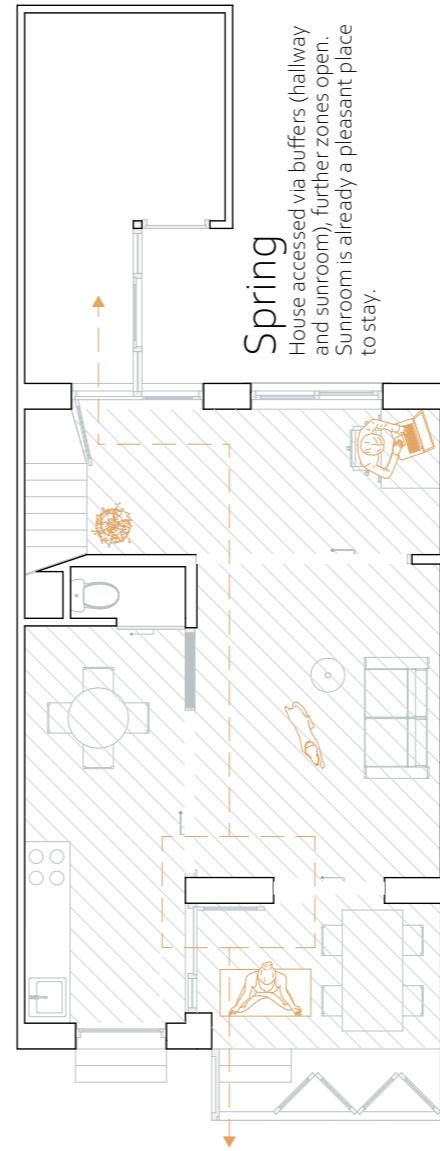
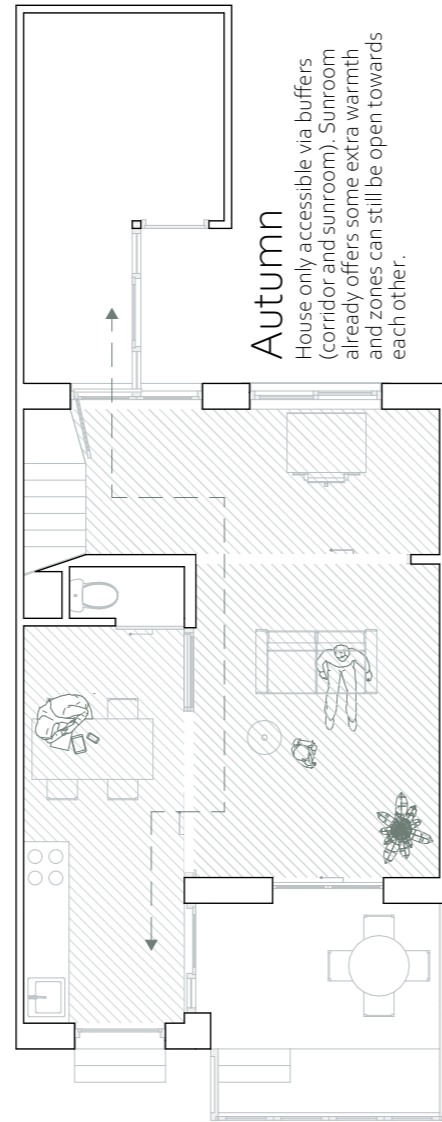
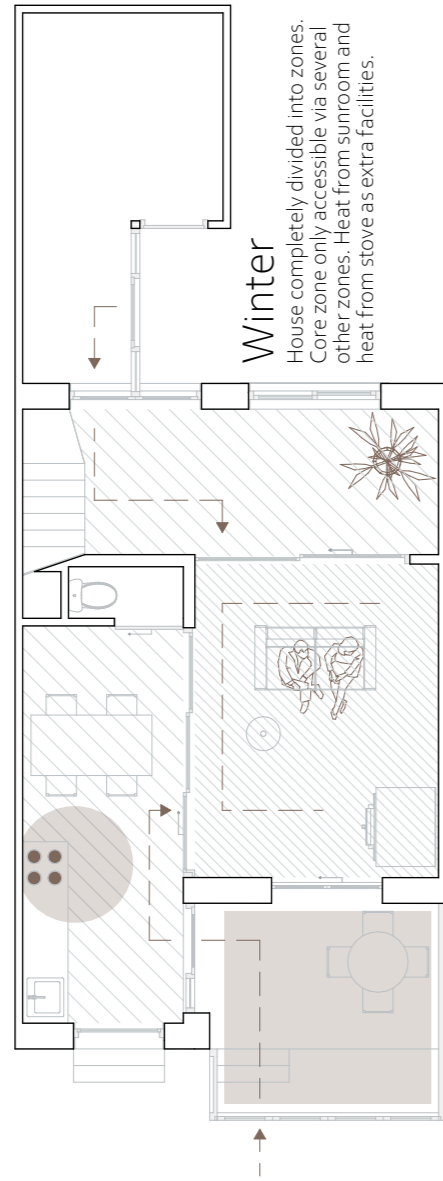
Constant zone (living room) is heated by floor heating and is closed off from other zones in the house by sliding walls. Cold outside air is preheated in the sunroom before it is released inside. Other areas such as bedrooms have a colder temperature in winter and benefit from passive or indirect heating. Ventilation vents on the north side of the house allows fresh air to come inside.

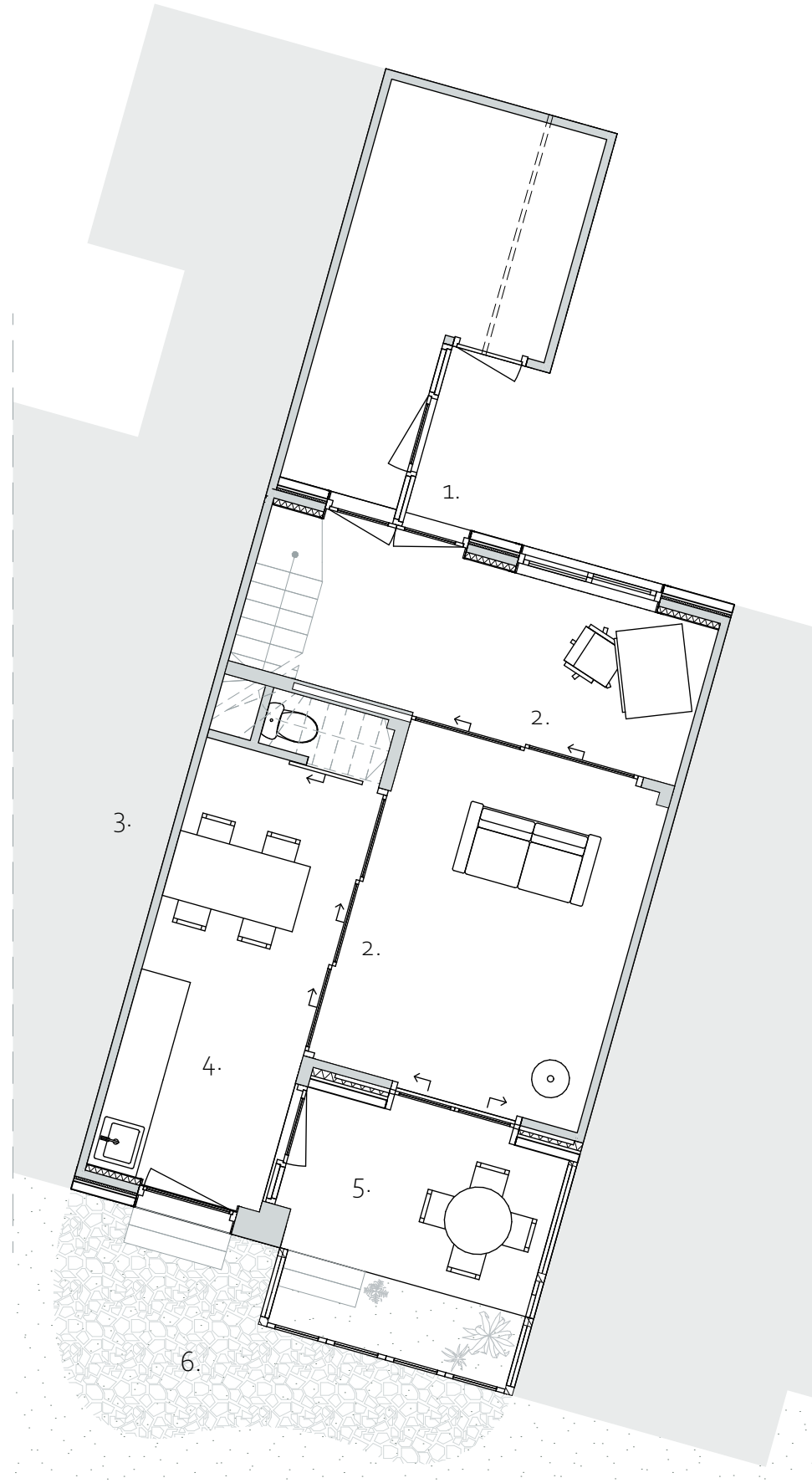


In the kitchen and bathroom air is mechanically extracted, which creates underpressure which as a result draws fresh air in through the ventilation grilles. The buffer zones (yellow) benefit from the constant warm zone and are therefore also a little warmer themselves. People are mainly in the warmer core of the house.



# Floorplans of use through the seasons

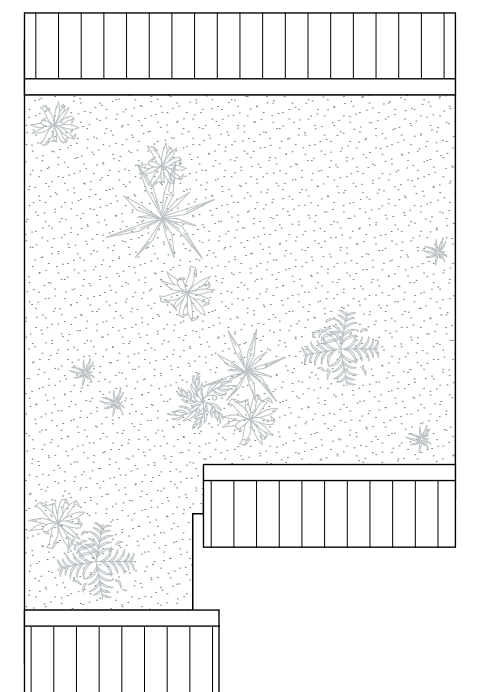
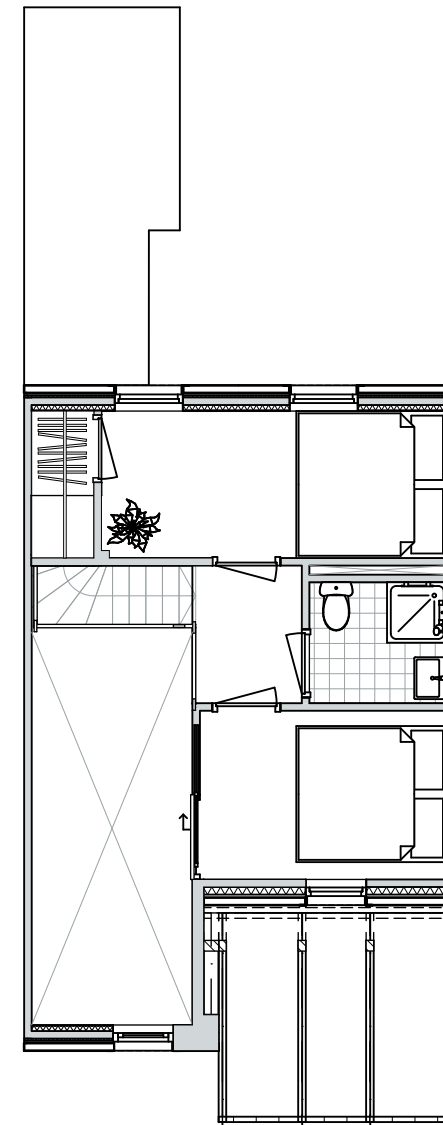
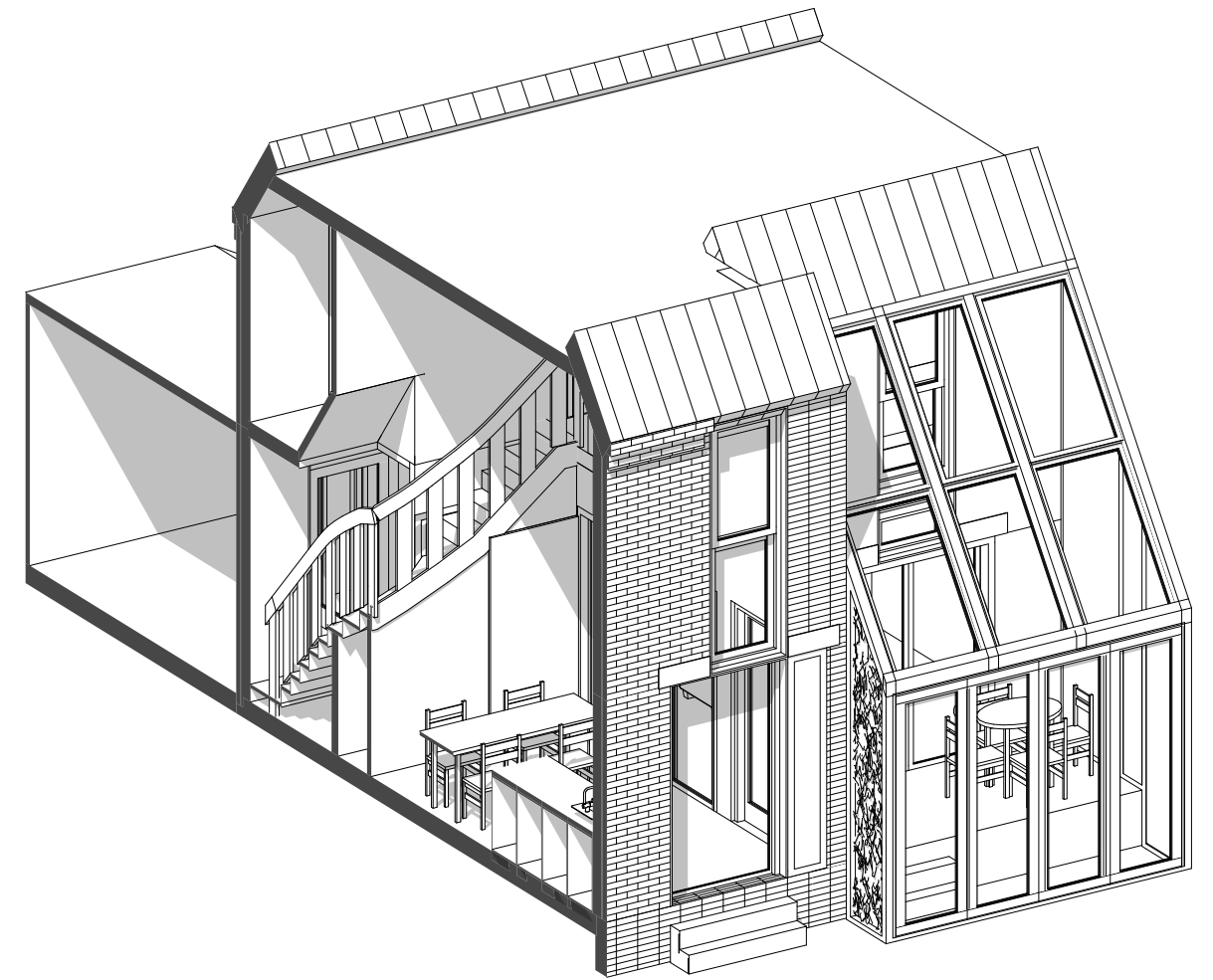
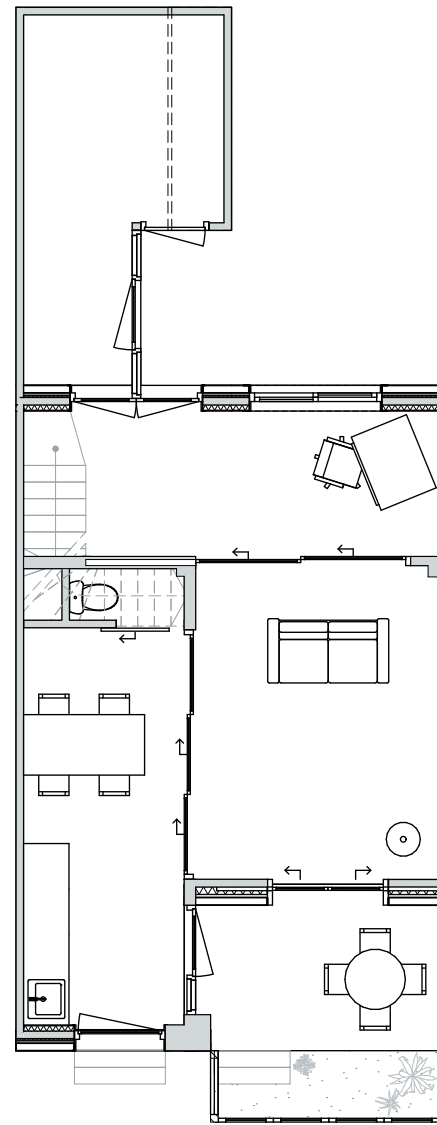
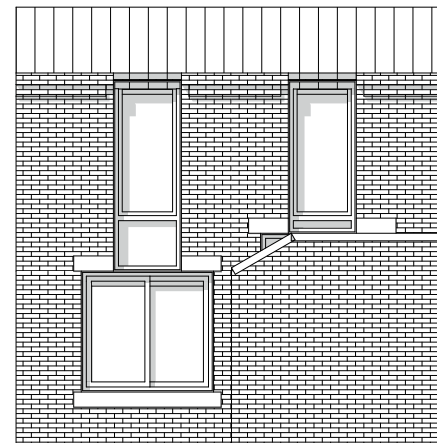
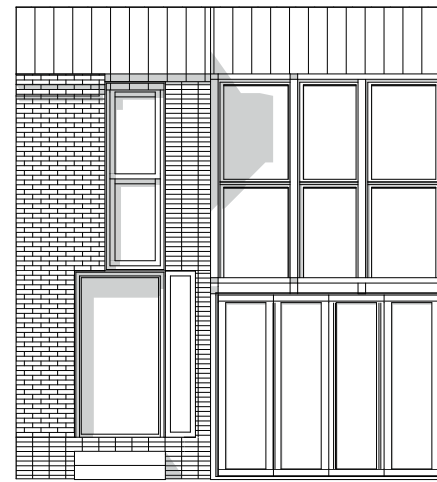


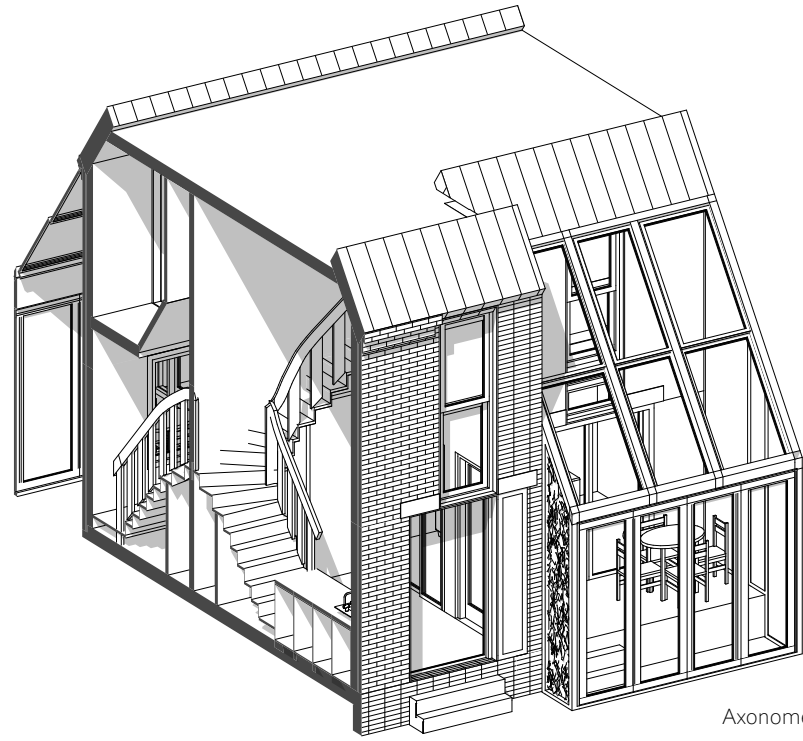


- 1. Entrance (existing)
- 2. Sliding doors for seasonal zoning of the house
- 3. Adjoining houses
- 4. New raised ceiling in kitchen
- 5. Added unheated sunroom
- 6. Private garden area in courtyard separated by height differences

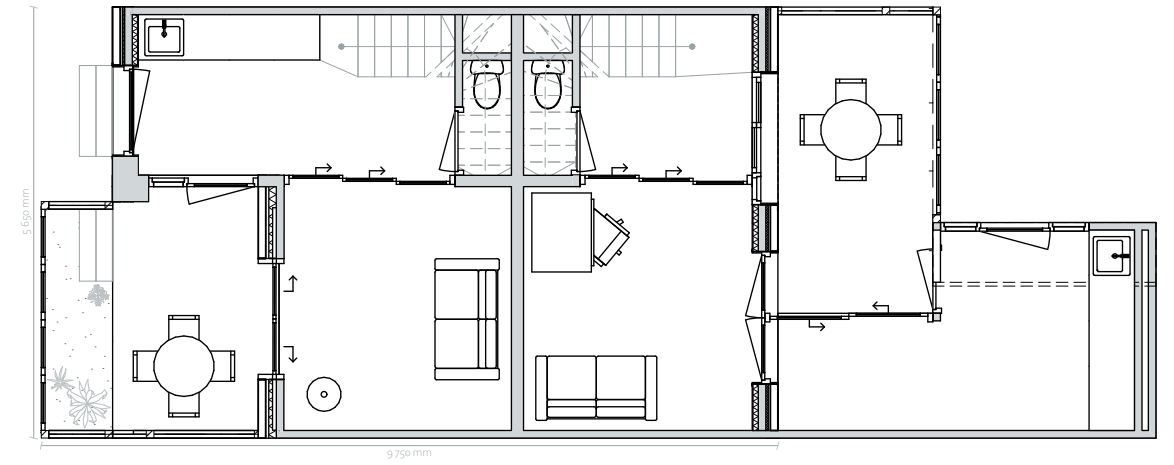
## Housing type A

New situation

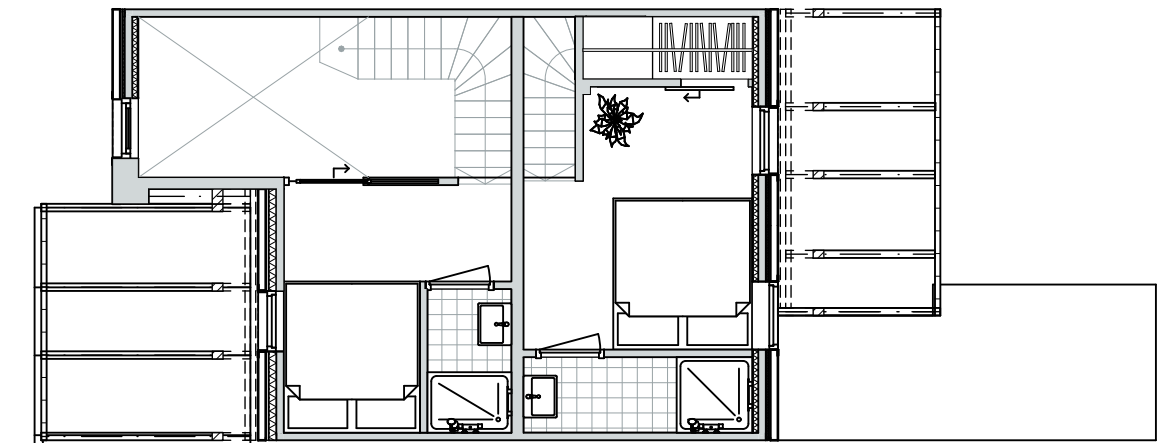




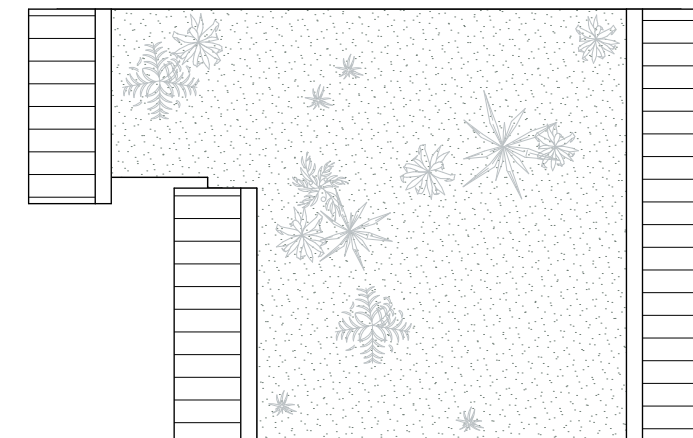
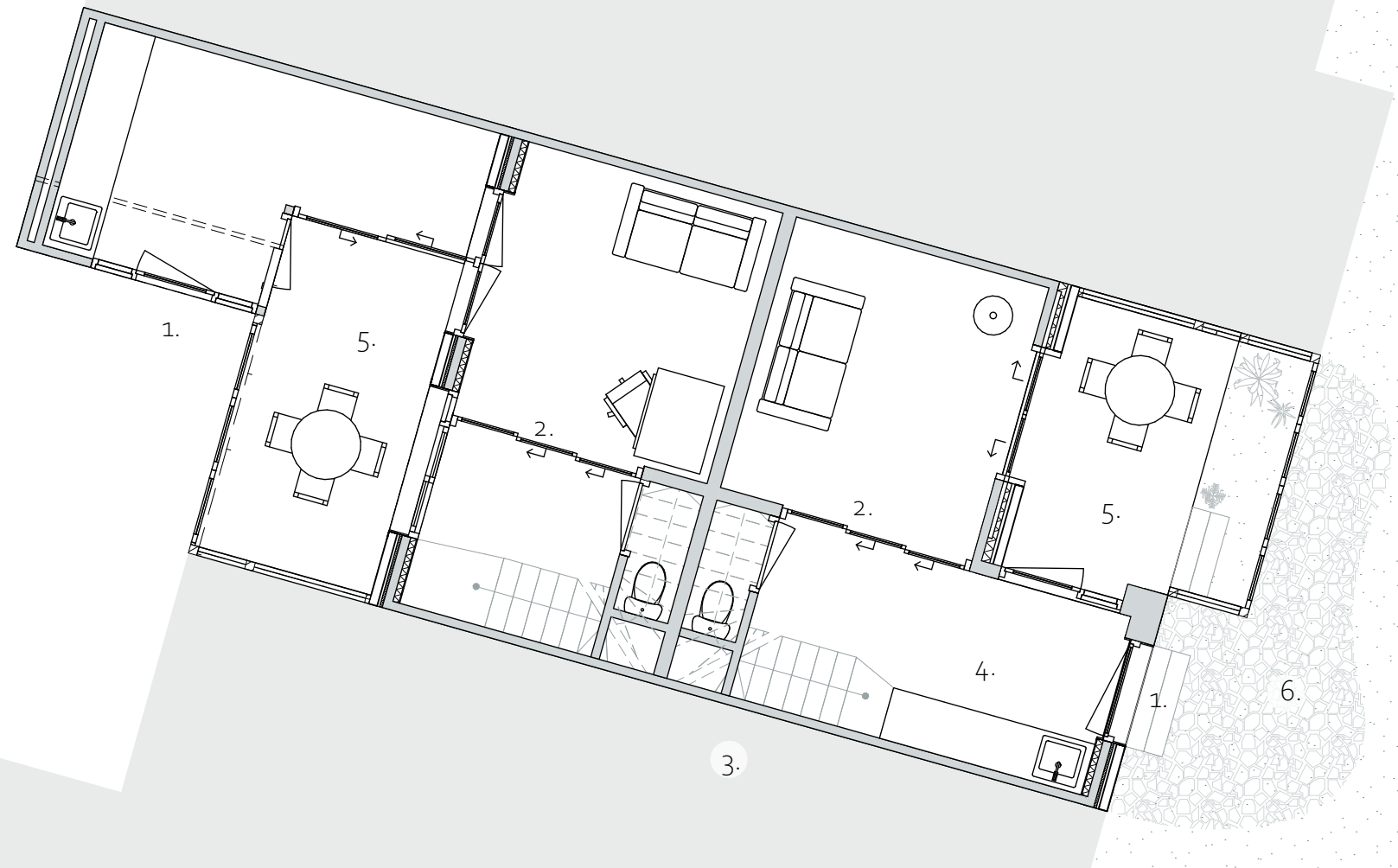
Axonometric view/section



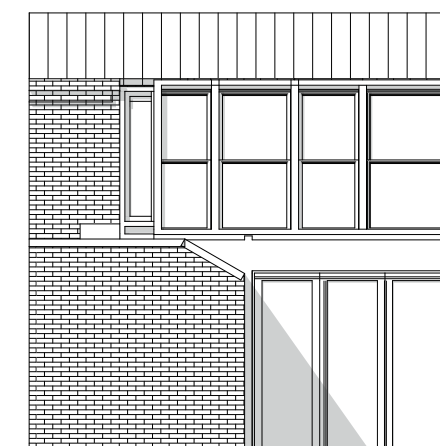
Floorplan ground floor - Scale 1:100



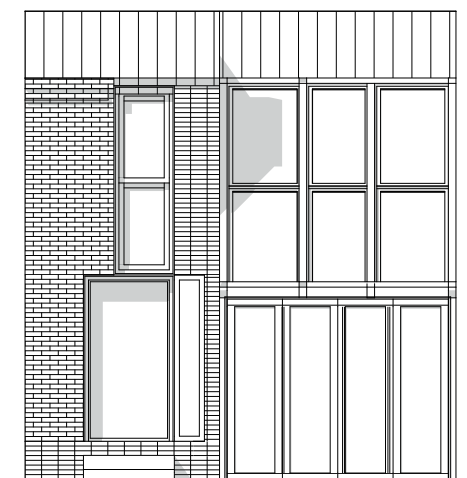
Floorplan first floor - Scale 1:100



Green roof - Scale 1:100



Elevation street side (front) - Scale 1:100

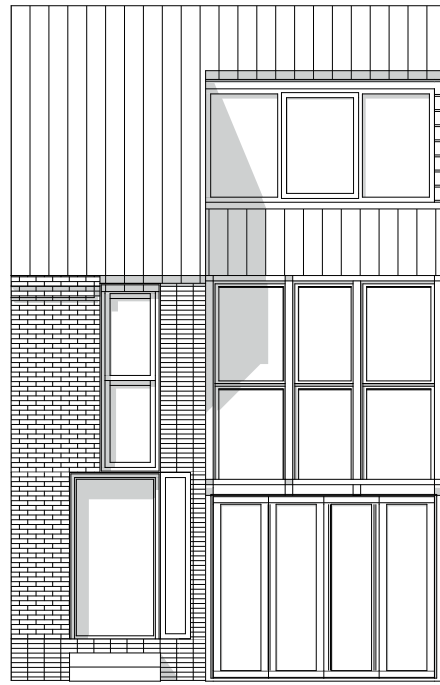


Elevation courtyard side (back) - Scale 1:100

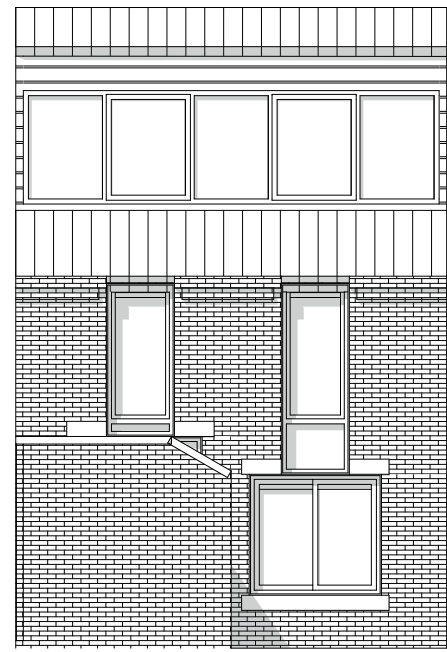


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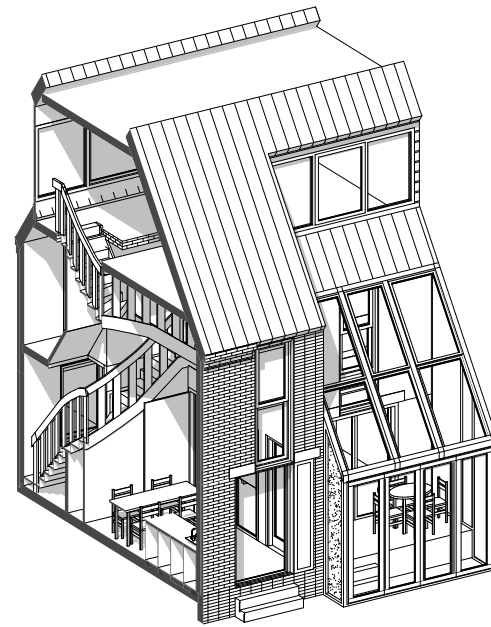
Housing type A - Splitted version  
New situation



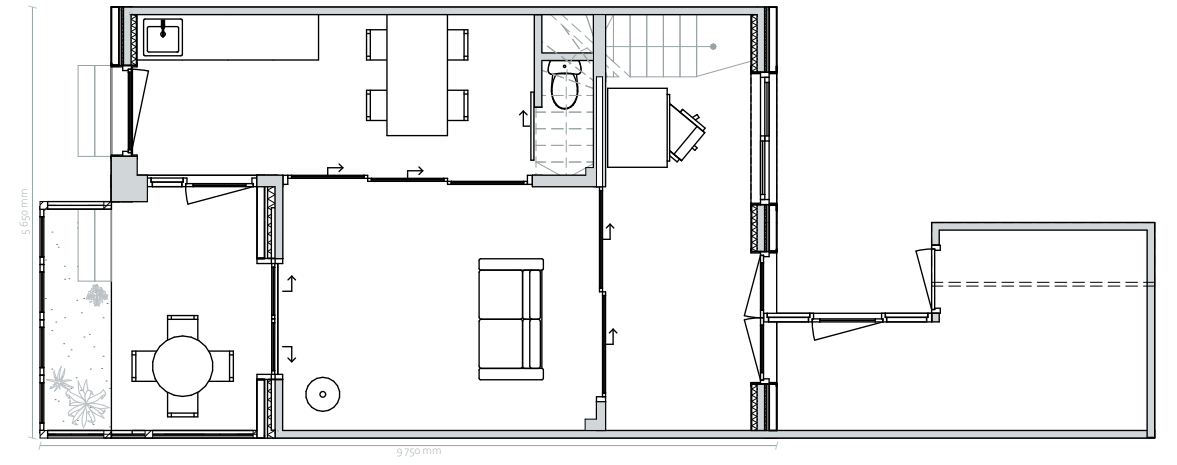
Elevation courtyard side (back) - Scale 1:100



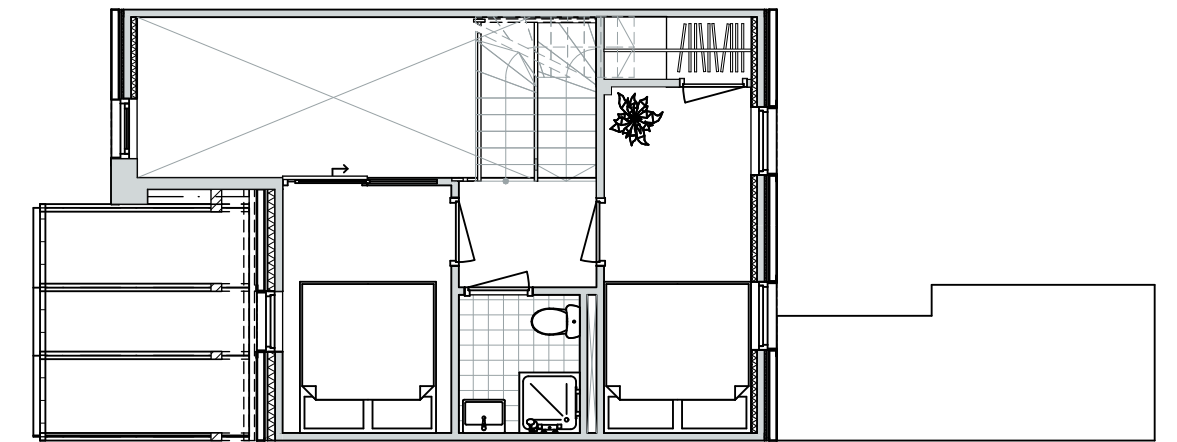
Elevation street side (front) - Scale 1:100



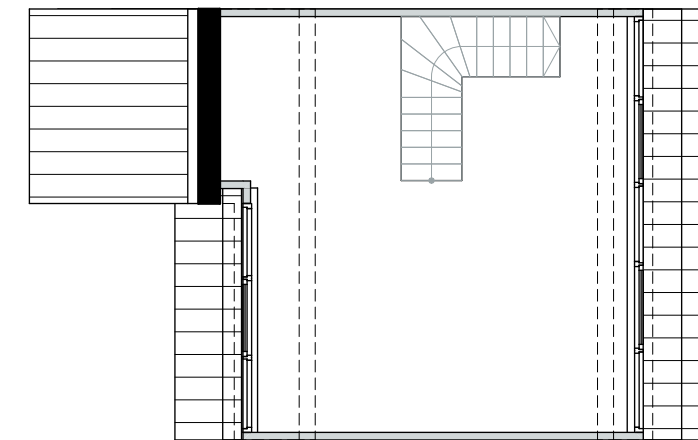
Axonometric view/section



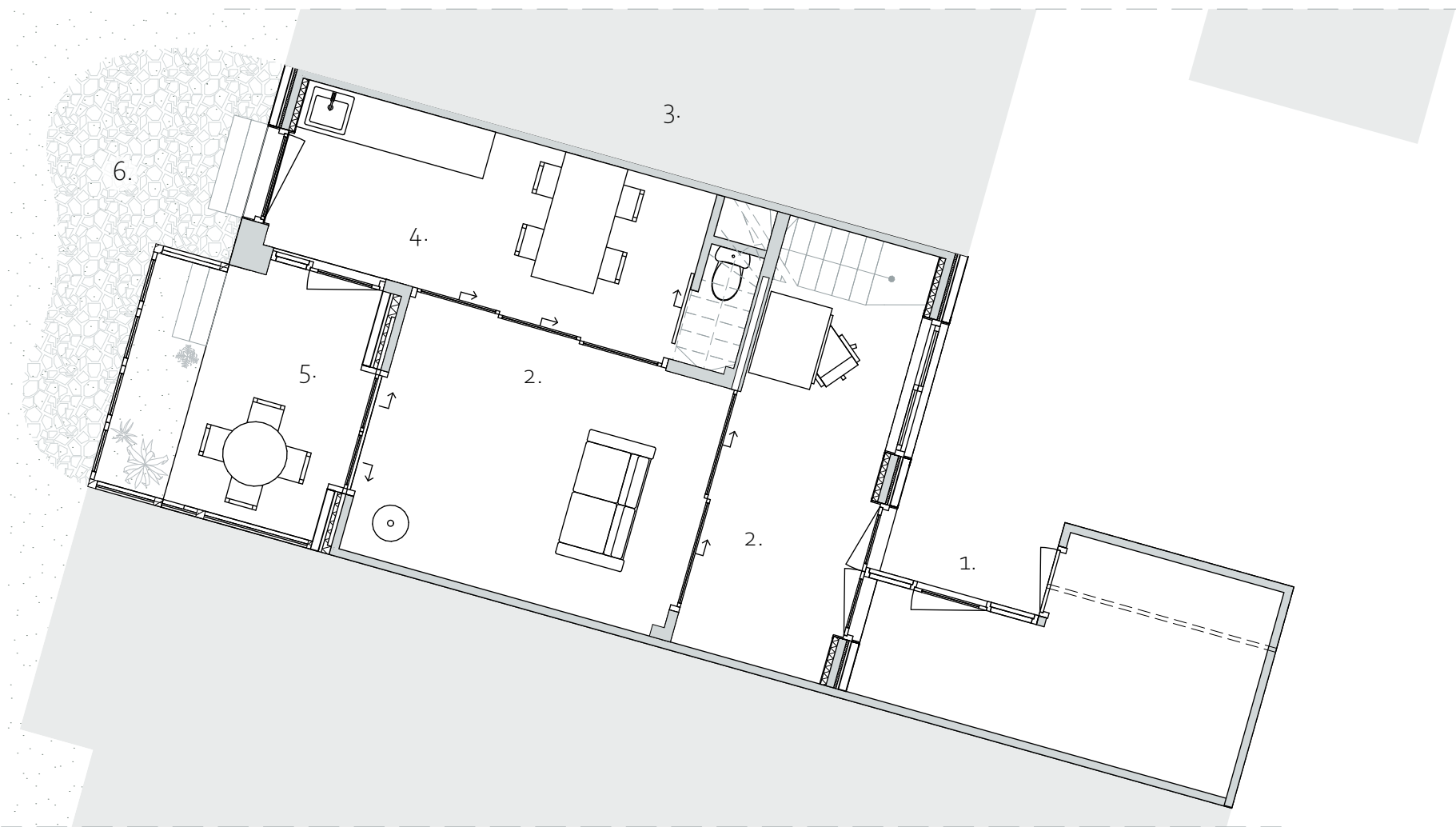
Floorplan ground floor - Scale 1:100



Floorplan first floor - Scale 1:100



Floorplan second floor - Scale 1:100



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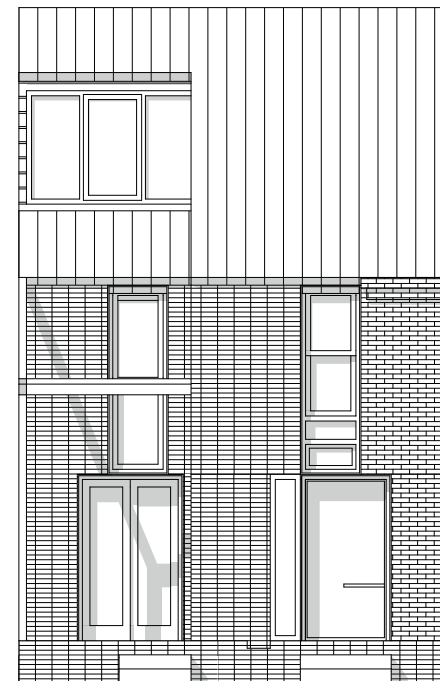
## Housing type B

New situation

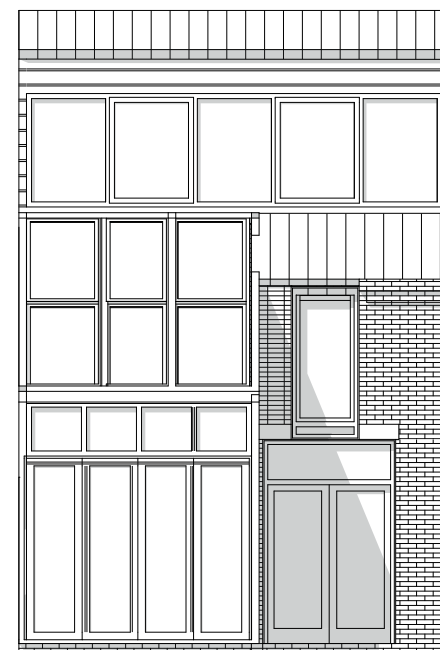


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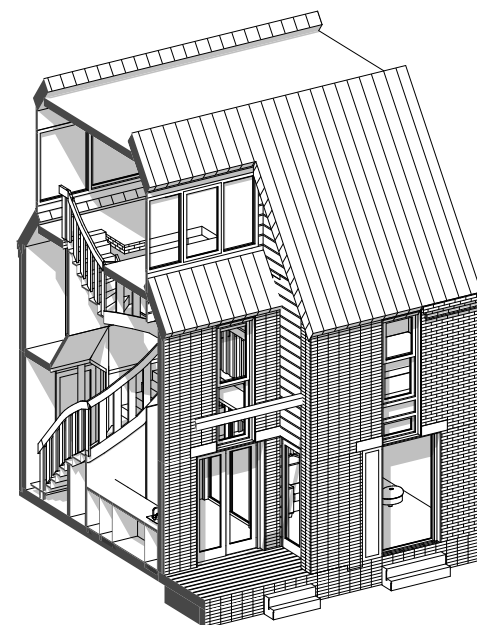
Housing type C  
New situation



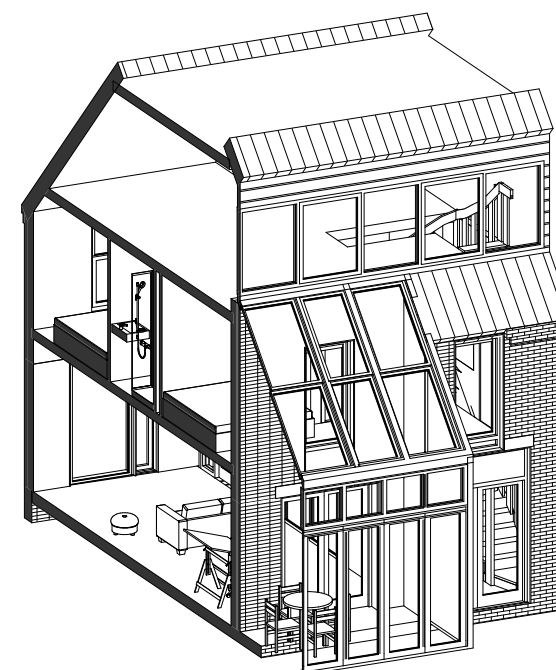
Elevation courtyard side (back) - Scale 1:100



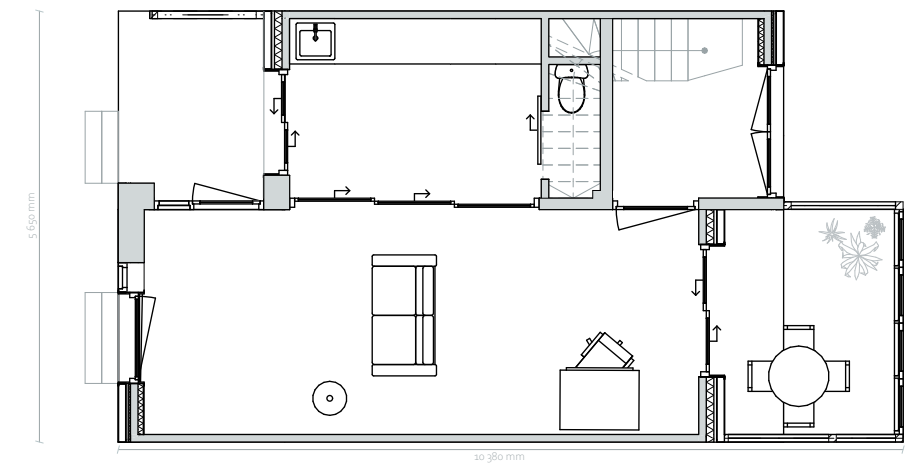
Elevation street side (front) - Scale 1:100



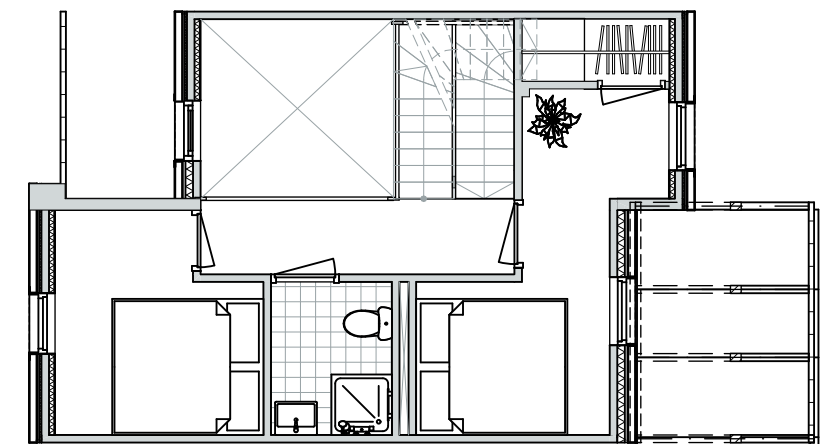
Axonometric view/section courtyard side



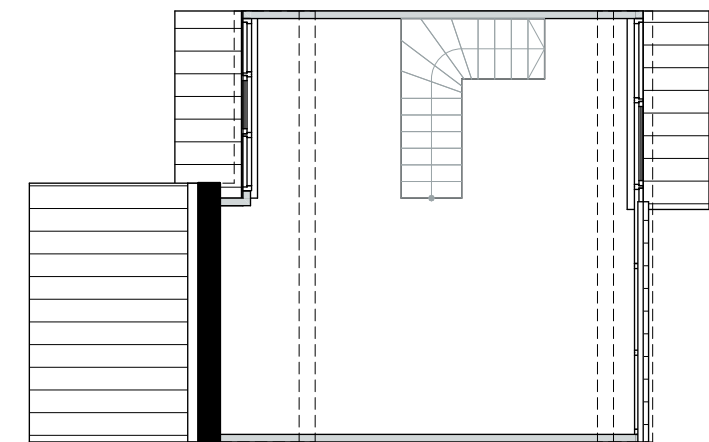
Axonometric view/section streetside



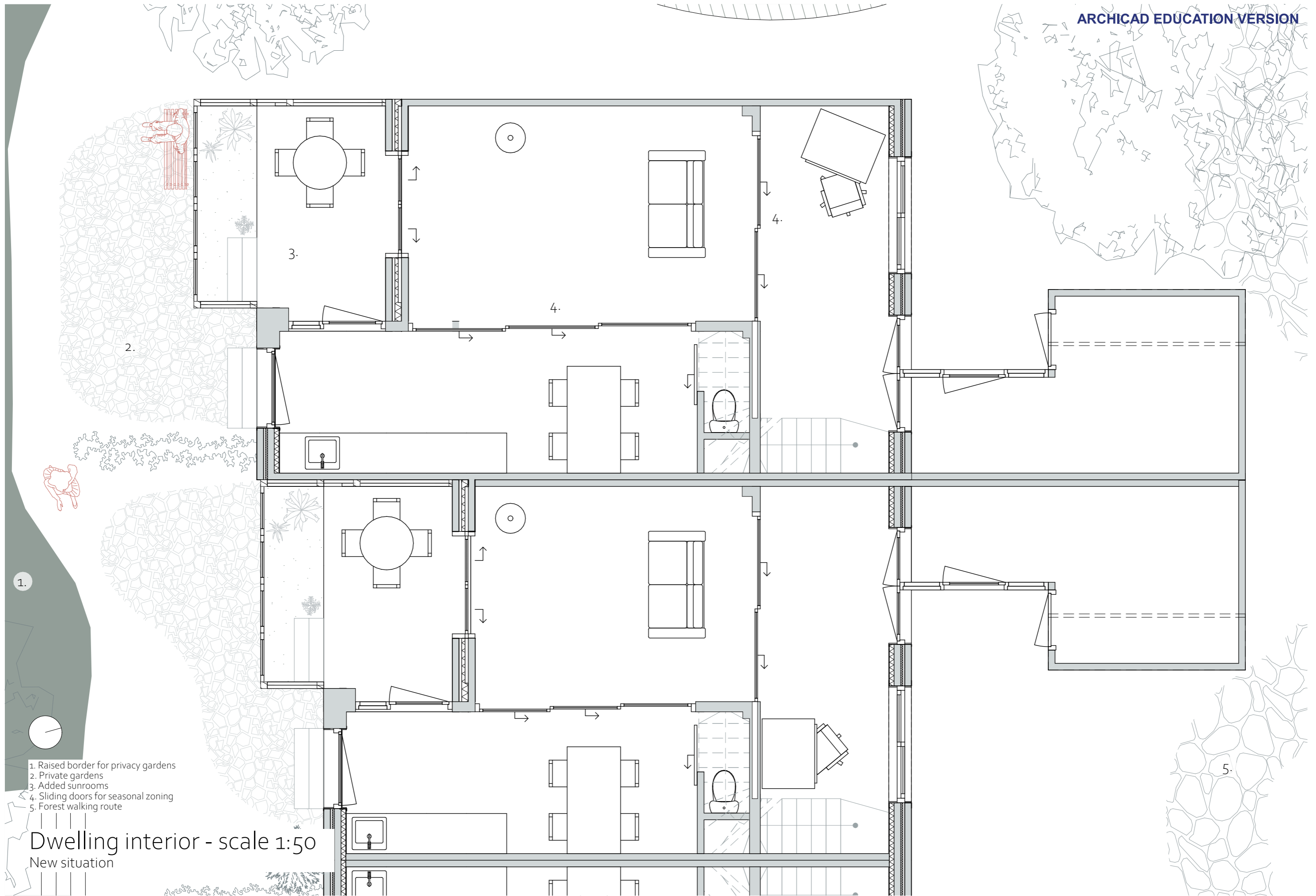
Floorplan ground floor - Scale 1:100



Floorplan first floor - Scale 1:100



Floorplan second floor - Scale 1:100



- 1. Raised border for privacy gardens
- 2. Private gardens
- 3. Added sunrooms
- 4. Sliding doors for seasonal zoning
- 5. Forest walking route

Dwelling interior - scale 1:50  
New situation