

# Recipe for preventive resilience



**volume by Okan Kalak**

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# + Content

<b>1. Essay</b>	04
<b>2. Research</b>	08
<b>3. abstract concepts</b>	22
<b>4. References</b>	30
<b>5. Winterschool</b>	42
<b>6. Chosen project location</b>	46
<b>7. Design blocks</b>	50
<b>8. Design directions</b>	66
<b>9. Elaborating the (chosen) design(s)</b>	80
<b>10. Logbook &amp; literature</b>	136

*For too long the emphasis has been solely on curative care, it is time for a change. Time to focus more on preventive care.*



## Tutor from Practice

Erik Moedersheim  
MoedersheimMoonen Architects, Rotterdam

## Tutors from Academy

Jan-Willem van Kuilenburg  
Academie van Bouwkunst, Tilburg

Pieter Feenstra  
Academie van Bouwkunst, Tilburg

# + 1.1 Essay

My graduation project focuses on a preventive health retreat. The corona pandemic is the basis of this idea. The corona pandemic we were in has made me more aware of the importance of health. On a personal level, I certainly noticed in the first lockdown that I moved less, sat almost all days and felt less energetic. In addition, I noticed around me and on the news that I was not the only one who experienced the first lockdown in this way. This made me think about the lifestyle of us as humanity.

Although it sometimes seems that lifestyle is something new, it can be traced back to 400 BC. Hippocrates described that there are 6 general health principles for aging as healthily as possible. This theory focuses on healthy air, water & soil, healthy food, sufficient exercise, being psychologically strong, good bowel movements and sufficient sleep & wakefulness (Knoeff, 2017). However, we have lost our awareness of these preventive factors. Almost our entire focus has shifted to curative care. This is also apparent when we zoom in on the cost ratio of curative versus preventive care. No less than 95% of healthcare costs are spent on long-term care and only 2,4% on preventive care (Thomas, 2018). Curative care and its integration into the health care system are deeply intertwined. For example, insurance companies only really earn money when someone becomes ill and needs curative care, while everyone knows deep down that this is counterproductive and is not THE approach.

The consequences of the years of emphasis on curative care are painfully visible when we look at the ever-growing number of obese people (60% of adults in 2040) in the Netherlands (Cbs, 2021). In addition, there are almost 1.5 to 2 million people with lung complaints (info, 2018), with the corona pandemic on top of this, this vulnerable group is getting bigger and bigger. Wouldn't a preventive approach have made us more resilient and vital as a society? Can't this approach be different? What if insurance companies are rewarded by having as many fit customers as possible?

In this way a reversed effect is created, which provides a refreshing view of the increasing health problems in our country. I therefore propose that the government, insurance companies and employers join forces and together get the best out of our working society. Employers must be given the opportunity to encourage their employees to stay in a preventive health retreat. It is a form of local educational travel where various themes in relation to health are central. Moreover, it not only helps yourself, but it makes your CO<sub>2</sub> footprint smaller in relation to a distant foreign trip. In this way you also contribute to a less polluting world.

Incidentally, the health resort brings various advantages. For example, the Dutch have an increasing need for domestic travel (so it broadens travel options in a sense), it creates new jobs, the money remains in own country and a new generation of healthcare providers can be inspired by visiting this place with the family at a young age.

Despite the fact that the accommodation is initially only accessible for the individual who is referred to it, there are certain parts of the retreat that have a public function. Think hereby among others about the museum tours of which the 'one-day visitor' can make use of.

As a referred individual you have the right to use this place in two ways. You are entitled when you receive a decision via the Occupational Health and Safety Service (provided your employer has this at its disposal) for a stay to work on your health. The other method involves a referral through the family doctor. The family doctor submits the client's application to the health insurer. The health insurer weighs the application. Provided the application gets approved through the health insurance, the client can contact the retreat directly to plan a stay. The family doctor can refer her patients, for example, if they have obesity or lung complaints. This type of retreat bridges the need for a place of residence between completely vital and rehabilitation or recovery. In this sense, the project positions itself as an extension of the care hotels in our country. However, care hotels are mainly intended for people who no longer need specialist care after an operation or hospitalization, but who still need a period of rehabilitation and/or recovery. There is often 24 hour nursing and care available. This is different with recipe for preventive resilience, there is no need for 24 hours of nursing and care. People who stay in the retreat fall in terms of health between vital and rehabilitation / recovery.

Recipe for preventive resilience is also a meeting place for local residents, one day visitors, schools and companies. 12 health themes, derived from the 6 health principles mentioned earlier, form the basis for the programme. The architectural program includes a restaurant, foyer, gym, health check-up facility, spa, auditorium, arts & crafts, office with conference room and suites.

By consciously modeling space & form in characteristic archetypes, the desired activities arise in one place. Places can be enriched in this way and given extra meaning. This also applies to the location where the retreat is intended. Due to the newly introduced archetypes, it not only gives the place more dimension, but also enriches people through the degree of impact on lifestyle. Each function contributes to preventive health in a different way.

At the spa, think of the relaxing effect on body and mind, improving your resistance & cleansing your skin (Zwembad, 2022). With sports you can think of relaxing better and you suffer less from stress, it works against gloom, depression and anxiety, you can sleep better & wake up easier in the morning, your muscles and bones become stronger, you get a more beautiful skin and it is also good for your blood pressure and cholesterol. In addition, the risk of obesity, psychological problems, diabetes and cardiovascular disease decreases (Thuisarts, Ik wil gezond bewegen, 2017). The gym and fitness, together with the outdoors, are places where people can exercise and move under supervision.



# + 1.1 Essay

The auditorium has more focus on the mental educational aspect whereby a broader awareness of healthy lifestyle is outlined on the basis of lectures and books. Behavioural change often only takes place when people are aware of what a healthy pattern is and the awareness of their current lifestyle. That is why it is important to also provide space for educational functions. A health check at the doctor and physio also contributes to awareness. It actually shows you how healthy you are and where you can improve.

By being busy with arts & crafts, your mind becomes calmer and the stress cycle is broken (Pennings, 2019). Being creative gives a sense of freedom that we experienced in childhood. We weren't experts then and we didn't put any pressure on ourselves. Being creative gives us the opportunity to take risks again, to try new things and to remove inhibitions in a healthy way.

The restaurant focuses on a healthy diet and, together with the kitchen, is closely linked to the garden. By eating healthy you have a smaller chance of early death, diabetes and cardiovascular disease. Healthy eating can have a major impact on maintaining a healthy weight, helping you to develop better defences against disease and keeping you fit longer (Voedingscentrum, Waarom is gezond eten belangrijk?, 2021). In order to give a broader picture of healthy cooking options, educational cooking workshops are also given in the retreat. Before cooking together, together with the chef, ingredients such as vegetables and herbs can be collected from the designated garden. This experience gives a broader picture of growing vegetables and cooking with local ingredients.

The intended location for Recipe for Preventive Resilience is located in the Veluwe. In Radio Kootwijk to be precise, an area that served as a broadcasting station until 1998. In 1923 it made its first long wave connection with Bandung in Indonesia. This made intercontinental phone calls possible. Compared to the Netherlands, Radio Kootwijk is a fairly central location which is relatively easily accessible from various provinces. In addition, Radio Kootwijk also has a strong symbolic value (metaphor) as a spreader of the word of prevention throughout the Netherlands. At the end of the Radioweg is the concrete colossus, the main building. Together with the water tower and the former hotel, these three building objects form an ensemble visible from the Radioweg. However, this ensemble is no longer what it used to be. In 2006 a fire broke out in the former hotel. A large part of it then perished and to this day looks like a ruin (Pluijm, 2014). Within the Recipe for Preventive Resilience design case, the plot extends from this ruin to the paved parking lot behind it and everything in between.

The architectural concept of Recipe for Preventive Resilience is based on a system of axes in which the starting point of the axes engages with the heart of the existing symmetrical building volumes. The symmetrical water tower and former hotel, together with the relatively flat sandy plain at the time, were the first buildings on this piece of land. Later, the wooded area and the sub-buildings were added. Hence, high priority is given to the starting points of the axes. At the end points of the axes, on the other hand, there are new building volumes.

Together, this leads to a balanced play of existing and new architecture. For each axis, the connection is emphasized by; integrating features of the existing architecture into the new, the path with pavement between the two buildings and the principle that the functions of the vertical axis has a contradiction in usage (rest on the one side and movement on the other side). The design method for working with axes is in line with the environment. Think in particular of the rectilinear end of the Radioweg which ends at broadcasting building A (main building). As a visitor, you are already connected to the symmetrical concrete broadcasting building from about 600 meters in one straight (sight) line.

The axes system forms the identity carrier of the public routing and has a high priority in the design of the public space. From an organizational point of view, it is of great importance that there is a certain clarity and readability in the routing. However, the visitor is also presented with the option to take a more adventurous route through a slightly sloping hilly landscape. An organic path system is interwoven by the 2 axes. This adventurous path system with certain characteristics of an English landscape garden fits naturally with the existing paths towards the wooded areas. Furthermore, the public paths are of great importance to lead the visitor through the nature in an adventurous way and to prevent people from walking through the wild nature themselves and thus affecting the biodiverse garden. In the long term, the landscape garden will become a dynamic plant and flower friendly landscape with various trees from tree category 3. (Ecopedia)

The garden will need time to strengthen to its true quality and interwovenness with the environment. As how the present and upcoming generation users will come and go, the garden will evolve and grow.

Finally, the plan has subtle accents of glass, these accents are derived from the monumental references from the existing environment. On the central axis of the concrete main building there is an open gate with 2 subtle glass fixtures resting on a weighty mass of concrete. These 2 glass fixtures are designed in the same style as the glass fixture at the tip of the water tower, approximately 400 meters away. Building on this, 2 contemporary glass roof accents are introduced. One glass roof accent is connected in a straight line to the water tower. The other glass roof accent is on the side of the former hotel, this shape is derived from the original roof shape of the original roof.

The concept of Recipe for preventive resilience is initially a pilot. Provided the pilot is successful and the demand for it grows, the concept can be introduced in various places in the Netherlands. Based on the project ambition and budget, it is possible to choose to remove or add parts of or to the program.



## + 2.1 Introduction

We live in an era where the consumer is confronted with an abundance of choices from the modern capitalist-driven market. By no means all the choices that are presented today are of a good nature, in other words not good for the world and people. The self-evidence of obtaining choices and with it goods and service overshoots its target.

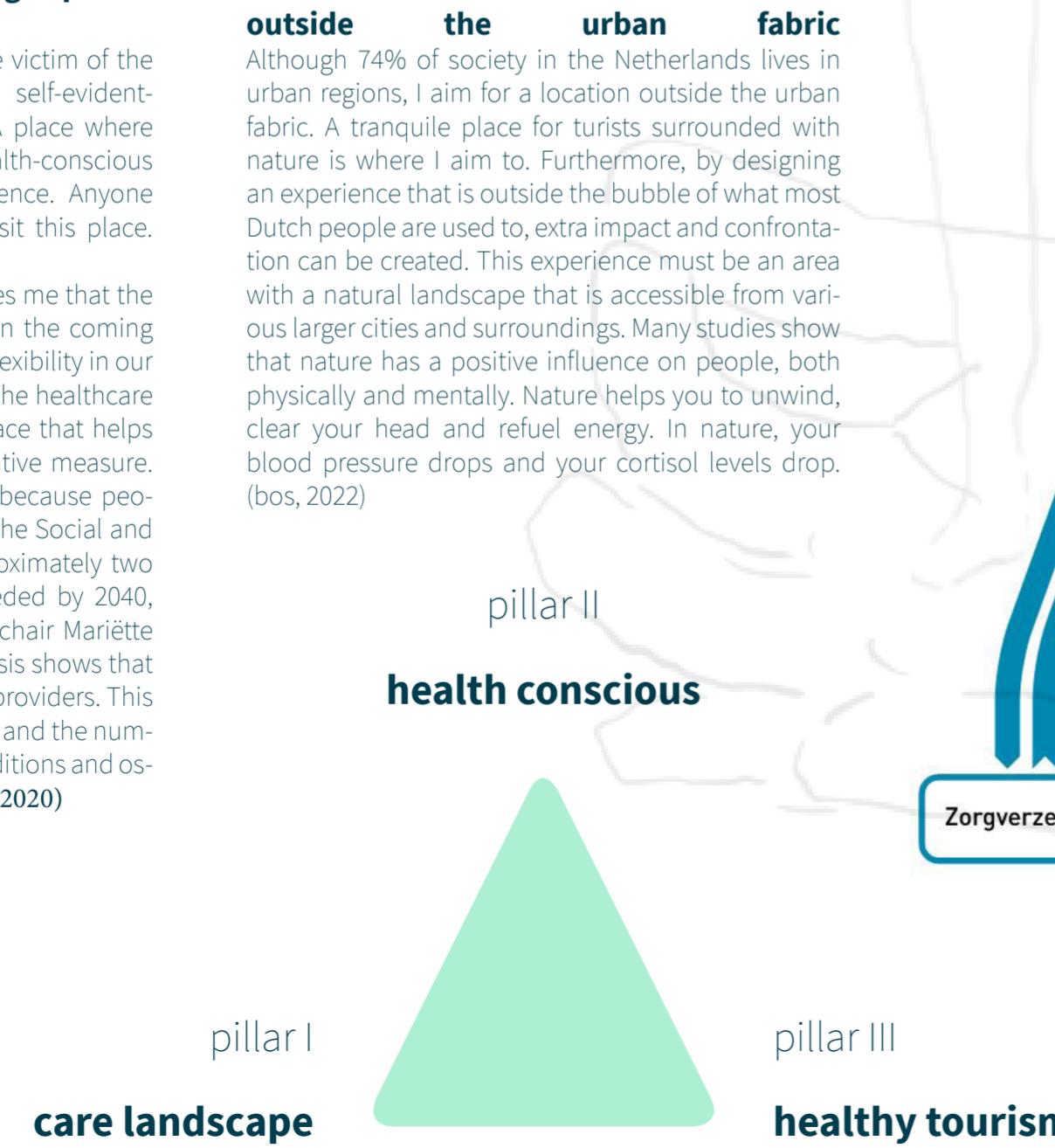
This unhinged self-evidentness will grow from generation to generation. If one will not confront with keeping both feet on the ground in our modern capitalist world, the gap between nature and people will widen. This is the exact opposite of what our earth needs. In my point of view, the earth needs a closer bond between nature and people. And certainly in the future!

Health also suffers from our modern capitalist-driven market. Just look at "advertising stimulus-sensitive target groups" who find it normal that there are unhealthy expressions, without noticing that it is being glorified. We also book (flight) travel for dirt cheap prices, the 'cinema' has been brought into the house by the offer of streaming services and great convenience has been created by digitalization. An order can be delivered to your home at the touch of one single button. As consumers, we are becoming more and more passively "programmed".

### combination of 3 starting points

I believe that people should not be the victim of the ease of behavior and the unhinged self-evidentness of the way of life as it is now. A place where people are stimulated to be health-conscious (**pillar I**) can create a new self-evidence. Anyone who is open to this can come and visit this place.

In addition to health awareness, it strikes me that the demand for care will increase rapidly in the coming decades. This requires innovation and flexibility in our healthcare landscape. I want to enrich the healthcare landscape (**pillar II**) by designing a place that helps to reduce healthcare costs as a preventive measure. Preventive measure is also necessary, because people live longer and require more care. The Social and Economic Council estimates that approximately two million healthcare workers will be needed by 2040, instead of the current 1.4 million. SER chair Mariëtte Hamer tells the NOS that the corona crisis shows that there is a major shortage of healthcare providers. This while the aging population is increasing and the number of people with multiple chronic conditions and osteoarthritis is increasing. (ondernemen, 2020)

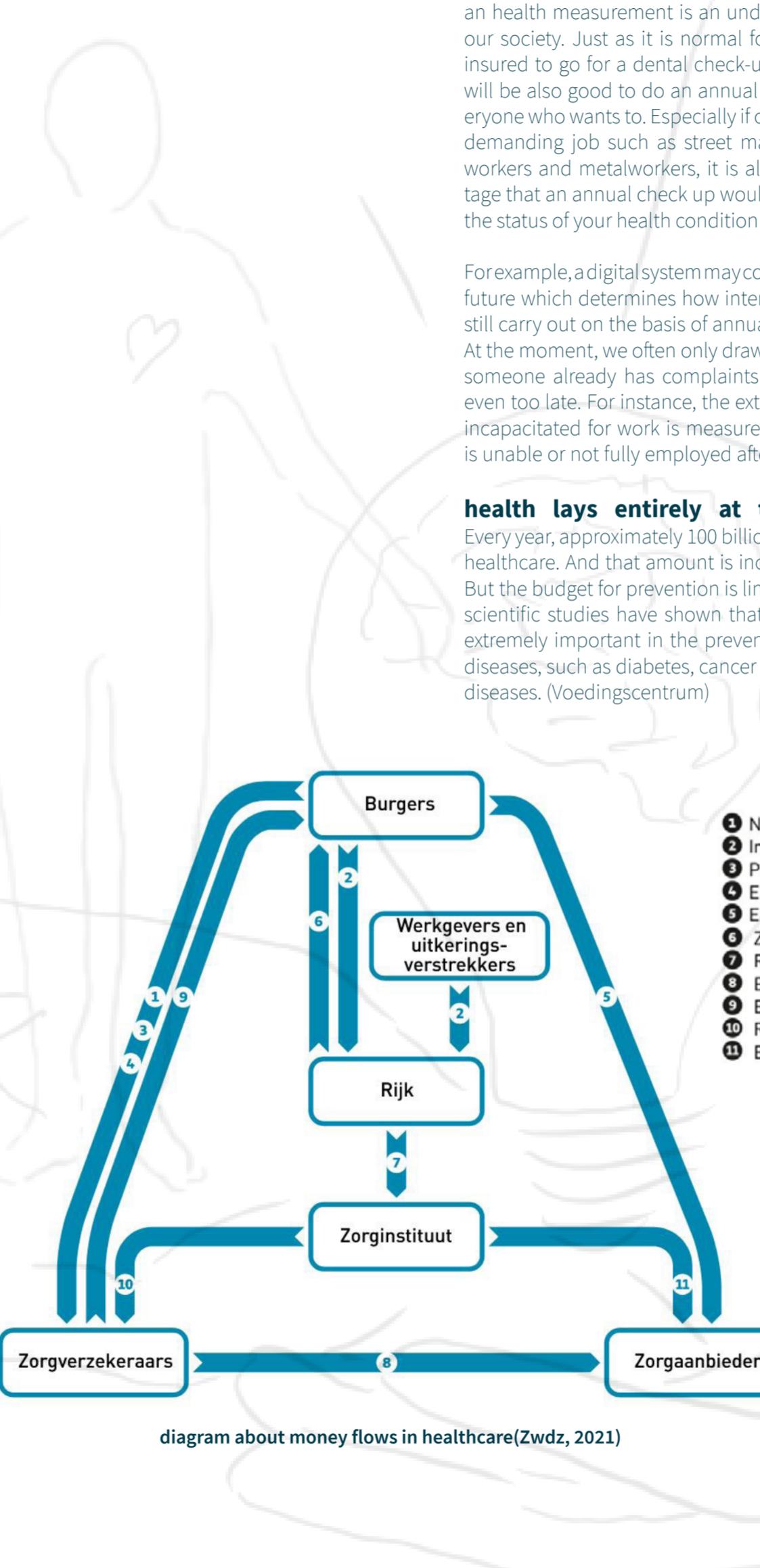


## + 2.2 health industry

I want to combine the first two pillars for the research (being health-conscious and a more integral care landscape) with the last pillar, namely healthy tourism (**pillar III**). Until the corona crisis, there has been a clear growth in spending in domestic and foreign tourism over the past ten years. Especially when it comes to foreign tourism, you can wonder double how healthy this is for the world and people.

By traveling by plane to distant holiday destinations and visit luxury hotels, you increase your CO2 footprint. Furthermore, people often eat a lot of which you often do not know where the food comes from. This is not sustainable for both the world and people. Especially with an air passenger tax approaching, local tourism is also becoming a more interesting consideration for travelers.

**goal of the research**  
A health-conscious lifestyle, a more integral healthcare landscape and healthy tourism form the basis of my research. The aim is to design an experience, in the form of a vitality center, for (domestic) tourists where a healthy lifestyle stands central. It must become a place where the mind and soul can relax. The design needs to provide / stimulate the guest (in own country) to get a broader view of health and the world by experiencing an (educational) experience.



When we talk about health prevention, I still think that an health measurement is an underexposed point in our society. Just as it is normal for everyone who is insured to go for a dental check-up 2 times a year, it will be also good to do an annual body check for everyone who wants to. Especially if one has a physically demanding job such as street makers, construction workers and metalworkers, it is already a big advantage that an annual check up would be made of what the status of your health condition is.

Forexample, a digital system may come into effect in the future which determines how intensive work you can still carry out on the basis of annual checks and facts. At the moment, we often only draw conclusions when someone already has complaints and is sometimes even too late. For instance, the extent to which one is incapacitated for work is measured after that person is unable or not fully employed after 2 years of illness.

**health lays entirely at the individual**  
Every year, approximately 100 billion euros is spent on healthcare. And that amount is increasing every year. But the budget for prevention is limited, while various scientific studies have shown that a good lifestyle is extremely important in the prevention of all kinds of diseases, such as diabetes, cancer and cardiovascular diseases. (Voedingscentrum)

At the moment there is only the duty of care. That is the duty to take action when someone is ill or in need of care. Insurers must provide good, affordable and accessible healthcare. Almost everyone is responsible in some way for providing care, but the responsibility for health now seems to lie almost entirely with the individual.

Things have to change. That means more money and more attention for prevention. A health obligation is the basis for changing this.

### where goes the 100 billion to?

In the Netherlands, such early investment at the beginning of life has not been central to government health care policy for decades. Most of the money in health care goes to curative health care, so aimed at healing instead of prevention. These health care expenditures differ enormously per age, with a disproportionality: the older a person gets, the more money the care for this person costs. About 80 percent of all health care expenditures go to long-term care, including dementia and cardiovascular disease. Only 2.4 percent of health care expenditures go to prevention and 2 percent to maternity care (CBS 2019). This spending pattern alone illustrates how little healthcare is focused on the youngest generations.



## + 2.3 Shifting history

Healthy aging is timeless. Not only now do people want to grow old healthy, vital and successful, this was no different in the past. In fact, the elements that are now seen as the key ingredients of Healthy Aging were already prominent factors in medicine before 1800. It was not until the nineteenth century that the emphasis in medicine increasingly shifted to disease and cure, rather than prevention and health. And with the arrival of the laboratory and the hospital, the question of our well-being receded more and more into the background.

In recent years this seems to be turning around again. With the view of the large group of elderly people and the fact that old age comes with defects, there is a need to consider an approach in medicine that is aimed at the prevention of pain and discomfort, quality of life and ultimately a dignified death.

Surprisingly, the topics in today's Healthy Aging discussions are often unwittingly a repetition of discussions in the pre-modern period. Then and now, it is about finding a balance in the six non-naturalia, that determines someone's health.

### Hippocrates and Galen

Hippocrates (460 - 370 BC) is considered as the founder and "father" of Western medicine because he was the first to see natural rather than supernatural causes for disease. Central to his works is the idea that nature is the best healer, an idea that is popular today in several medical traditions. The classical elements of fire, water, earth and air also played a major role in ancient Greek medicine.

Thus, the definition and description of non-natural history belongs to the father of medicine. However, it was Galen of Pergamon (129 - 210) who first formulated them in his commentary on Hippocrates' work on epidemics. Galen developed the idea of the non-naturalia further in his works on medicine and health. Galen was the most influential medical author of antiquity. He is most famous for his teachings of humors (blood, phlegm, yellow bile, and black bile) and temperaments (moist, dry, hot, and cold), which had been developed on the Hippocratic writings. (Knoeff, 2017)



Book Gelukkig gezond! (Knoeff, 2017)

### 1. Airs, waters, places

The first environmental factor describes the natural habit: the quality of air and (drinking) water, climate, the changing seasons and the land we inhabit. The disciplines of medical geography and medical meteorology, both originating in the eighteenth century, are rooted in tradition of this environmental factor.

### 2. Eating and drinking

Ideas about healthy food and dietary habits have a long history. Since the beginning of Western medicine doctors have been busy putting together healthy diets. Their ideas were influenced by how corpulence was valued in society.

### 3. Exercise and rest

Ever since the Greek gymnasium, doctors have been interested in the healthy exercising of the body. Moderation was an important criterion in determining the amount of exercise for men and women in different phases of their lives. Ideas about exercise and sports have often been bound up with ideas about citizenship.

### 4. Sleep and wakefulness

The adage early to bed, early rise is as old as medicine itself. This environmental factor is about a healthy balance between working and resting, sleeping habits, sheets, blankets, nightcaps, and everything that helps with a healthy night's sleep.

### 5. Excretion and retention

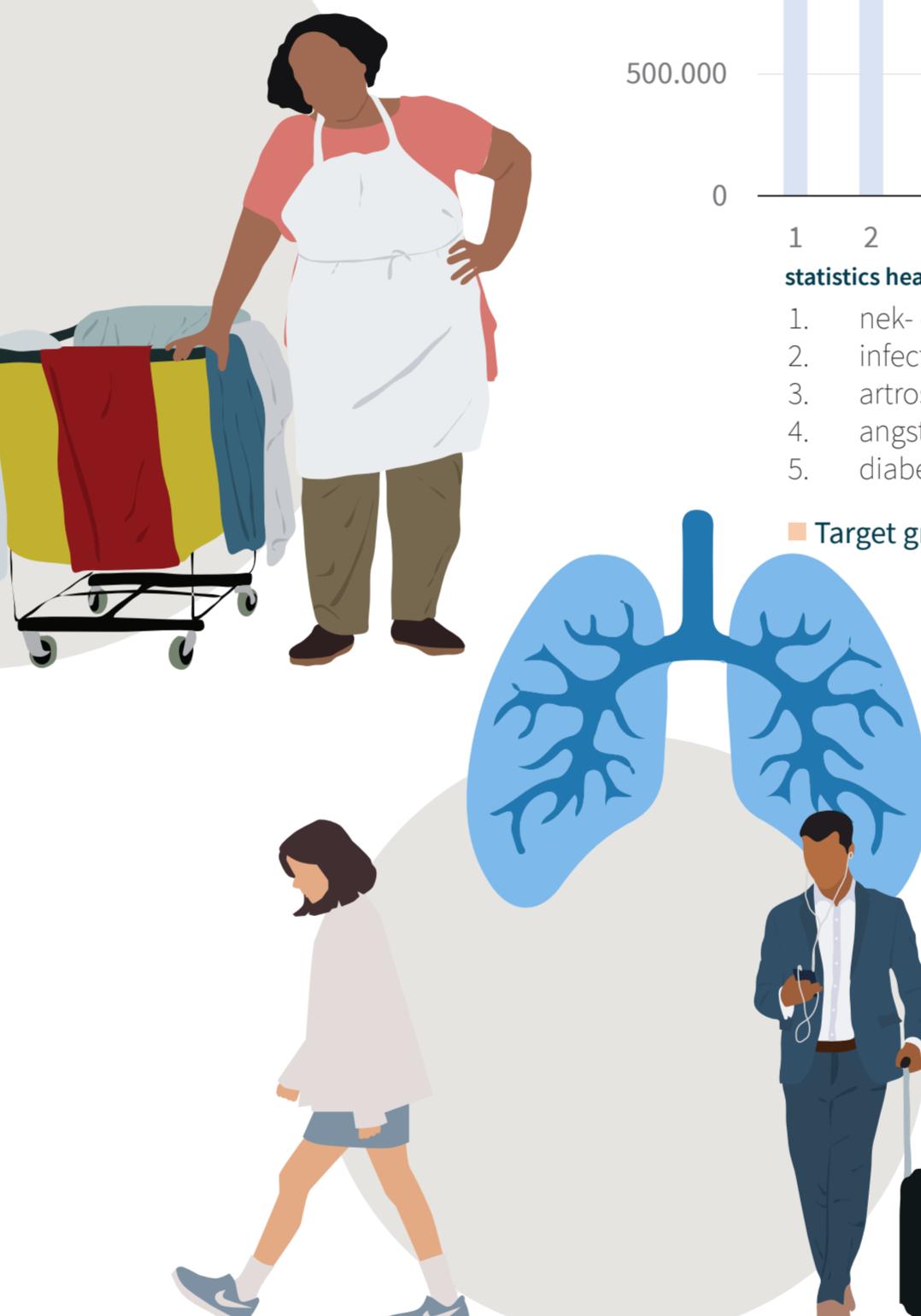
Perhaps more than any other non-natural, the balance between what is excreted by the body (in for instance urine, faeces, sweat and milk) and what is retained (in blood, seed and saliva) is important for a good health.

### 6. Emotional balance

Pre-modern doctors worried about how passions and emotions could disturb the body. Anger, lust, sadness, aversion, despair and other emotions were considered diseases of the soul and it was important to keep these diseases in check (Knoeff, 2017).

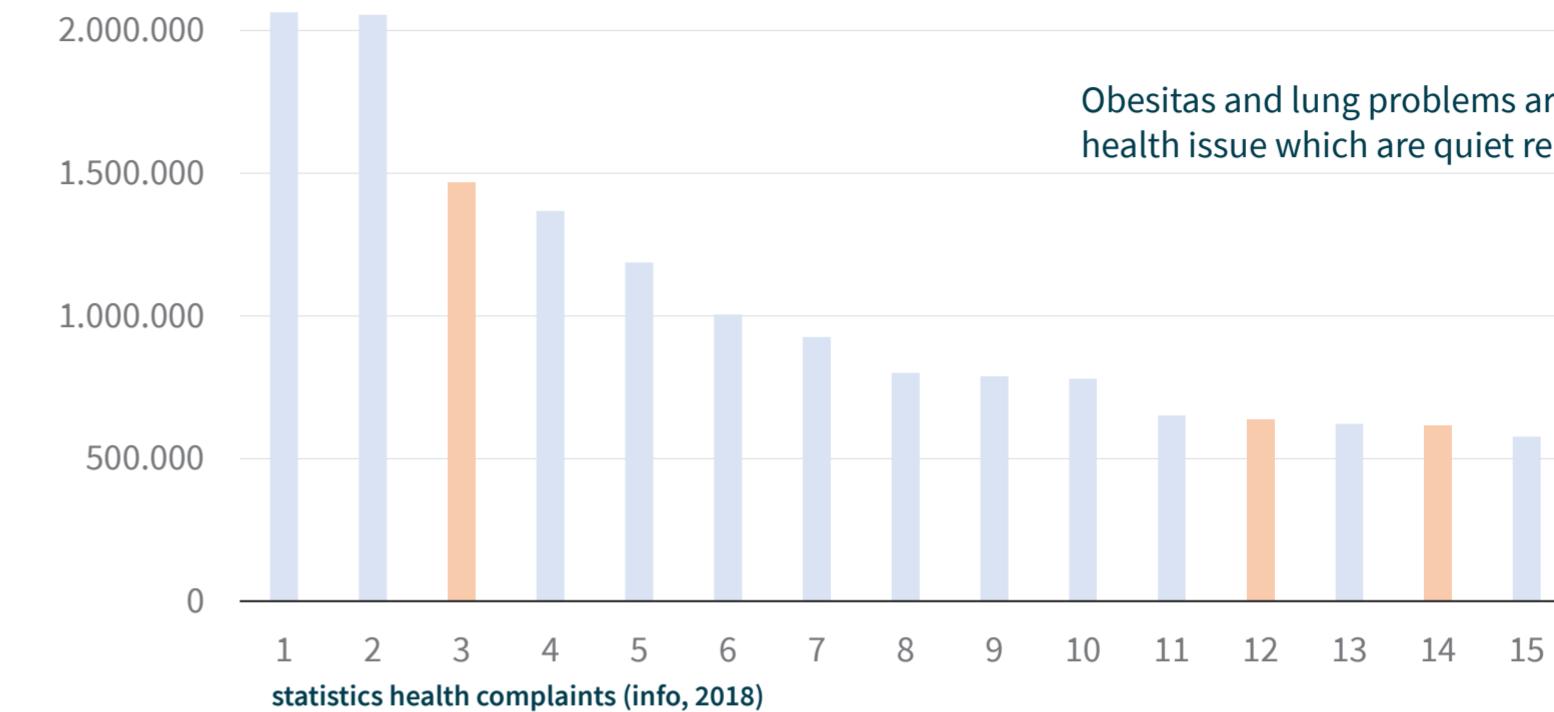


Hippocrates  
(460-370 BC)

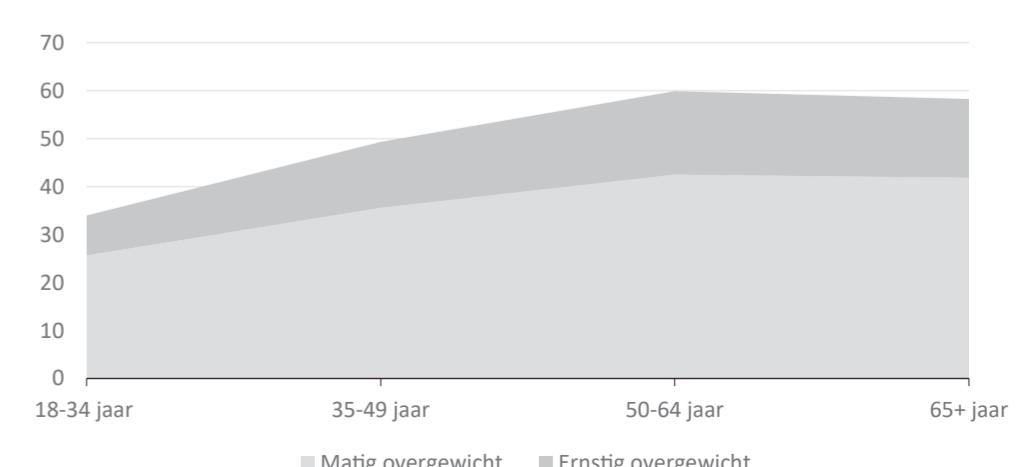
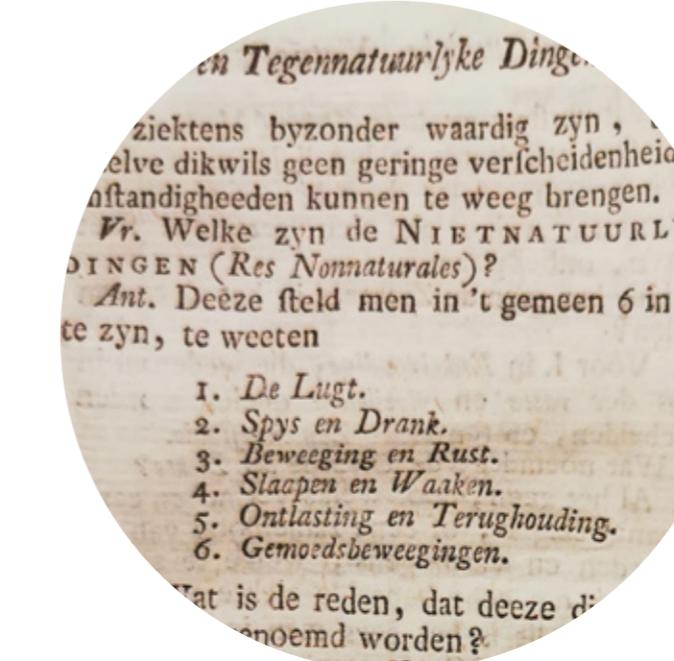
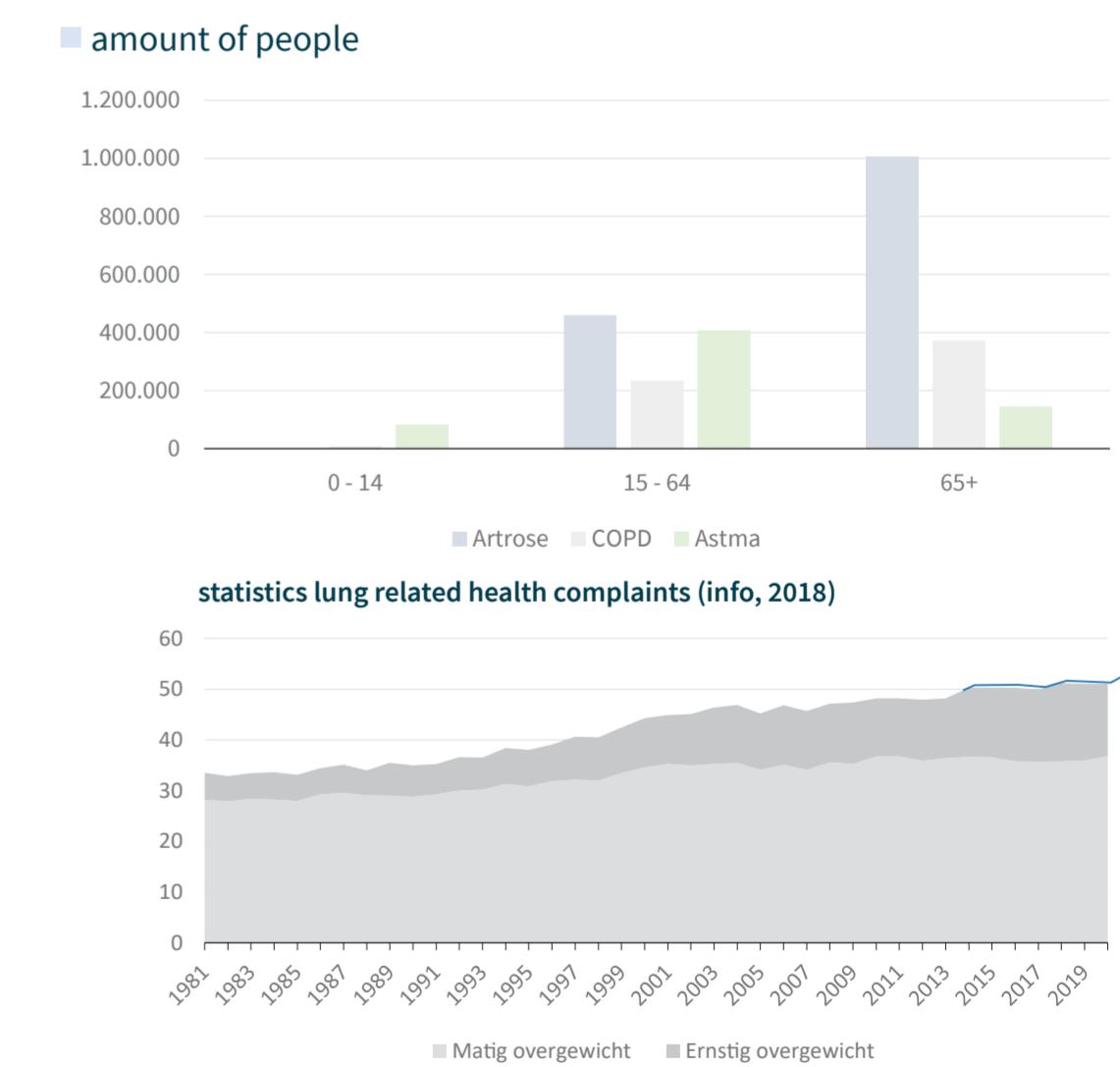


Galen  
(129 - 210)

## + 2.4 Most common health issues

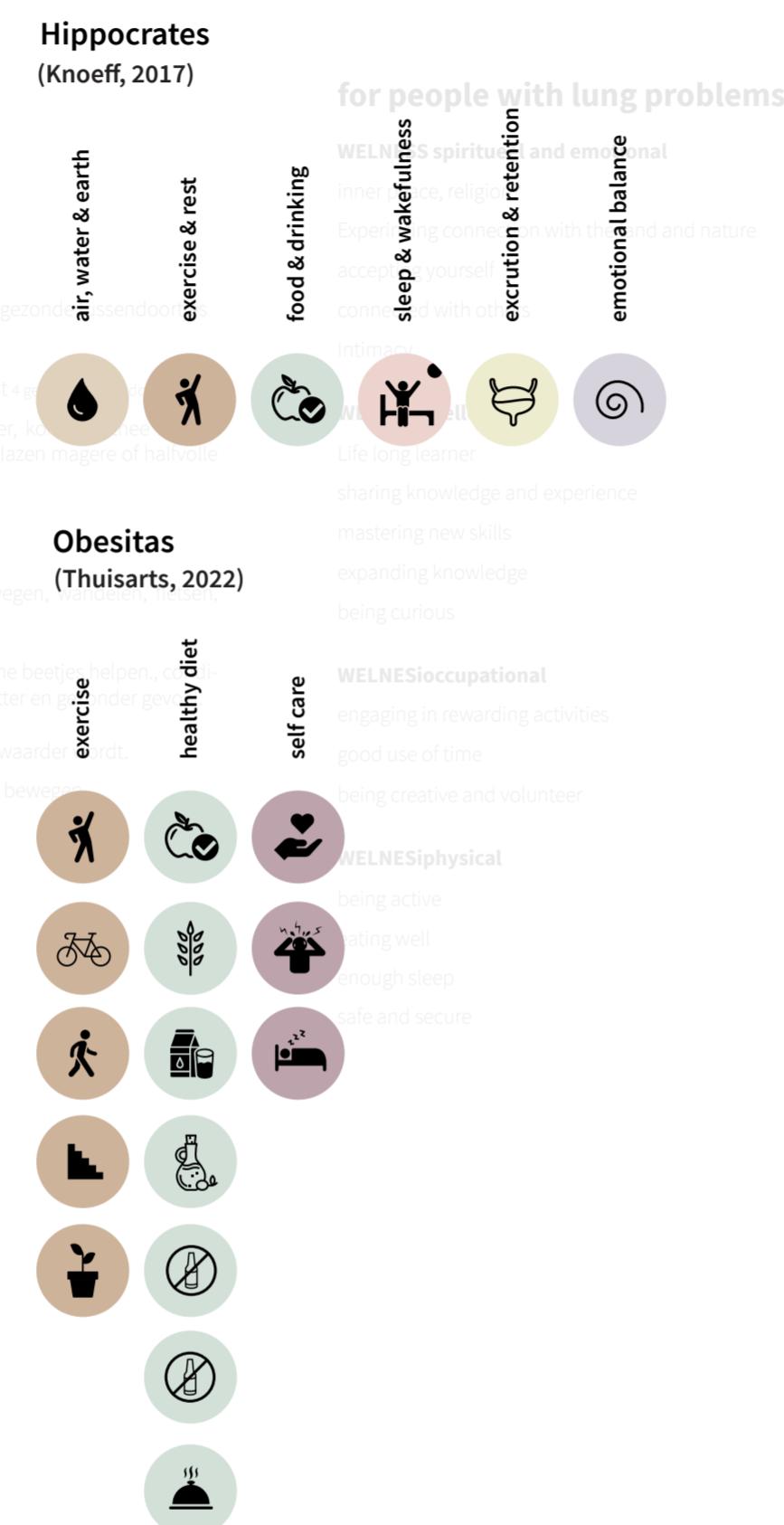
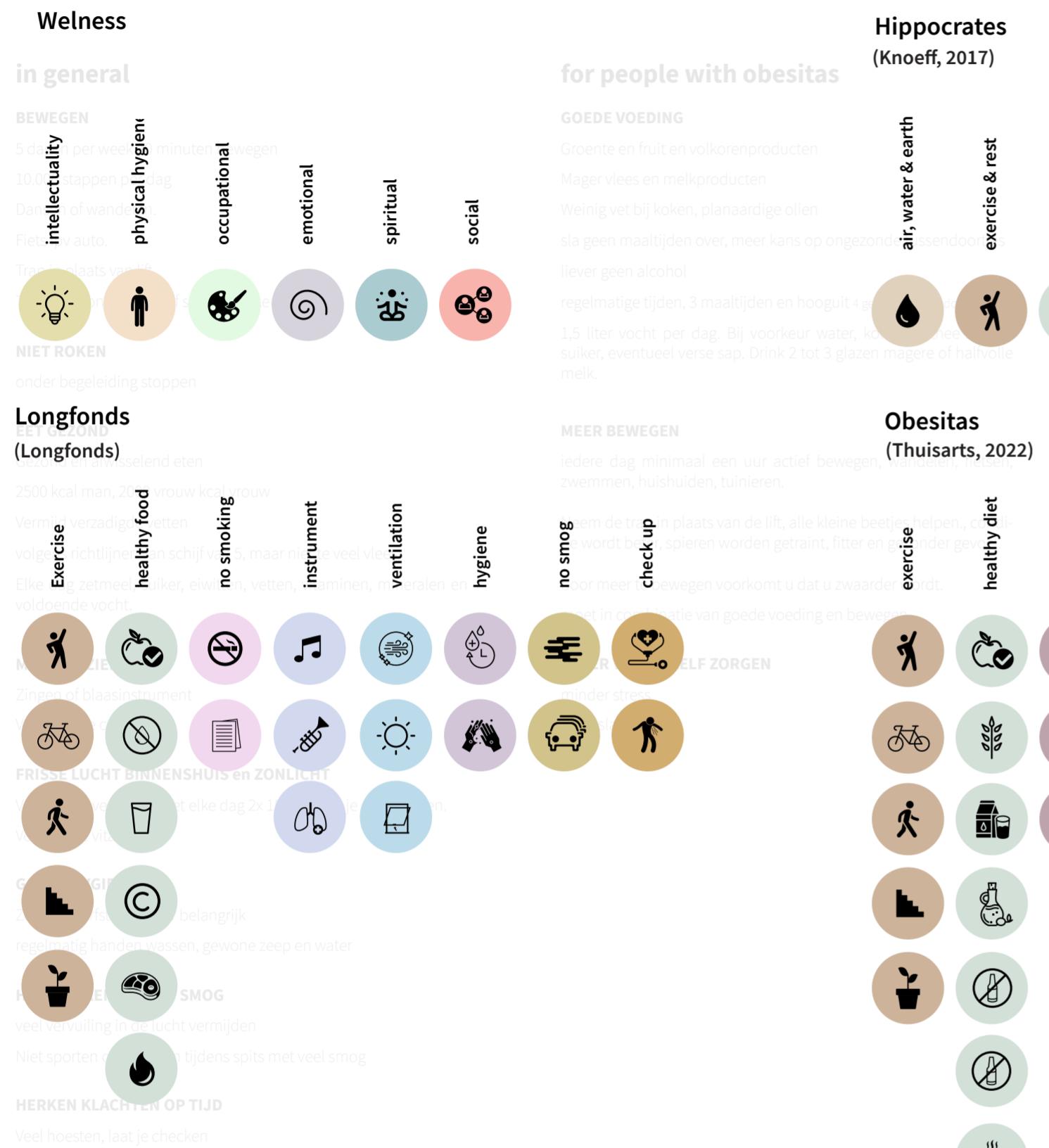


Obesitas and lung problems are a common health issue which are quite relevant today.

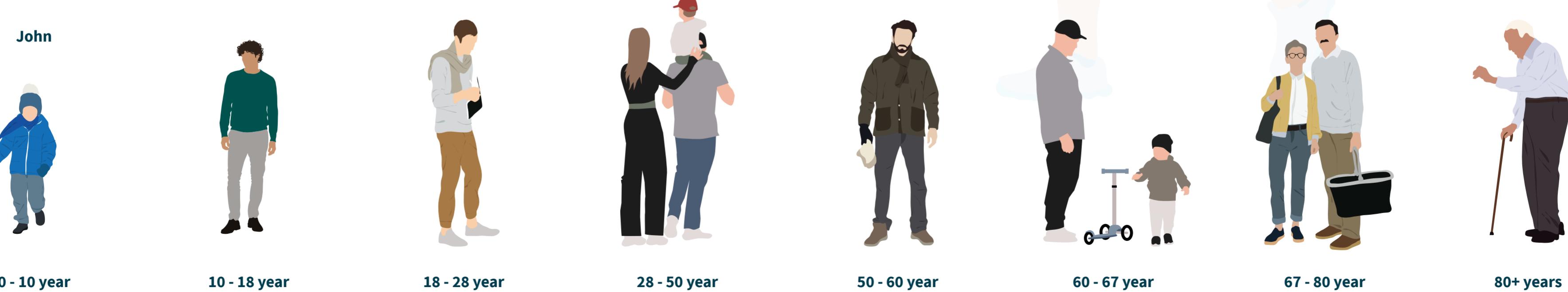
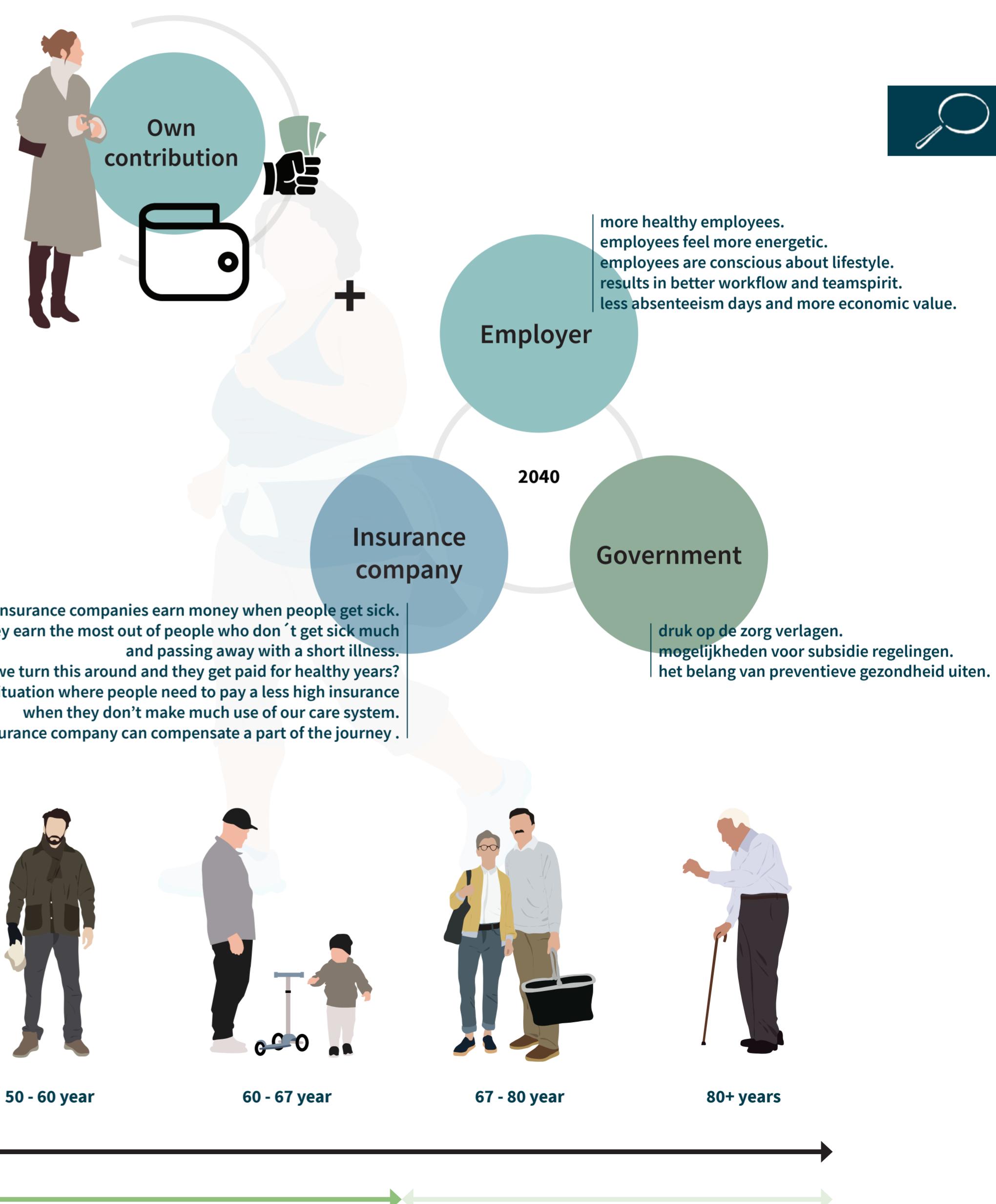


statistics; amount of people in NL with obese categorized in age (Cbs, 2021)

# + 2.5 Prescriptions



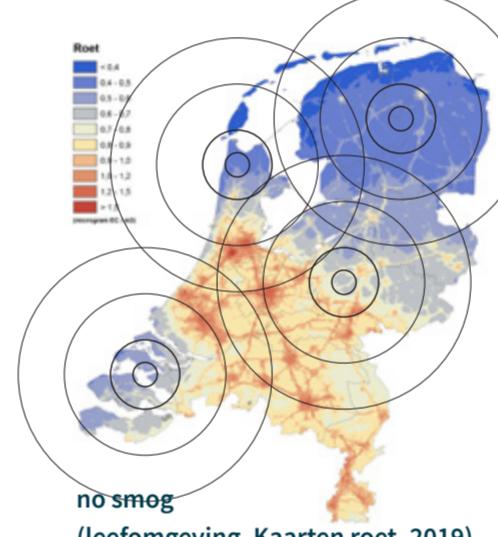
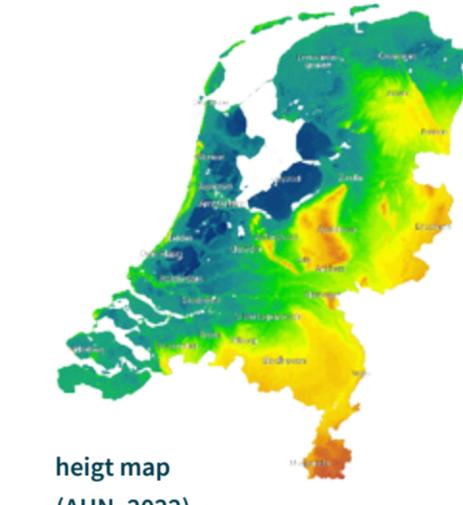
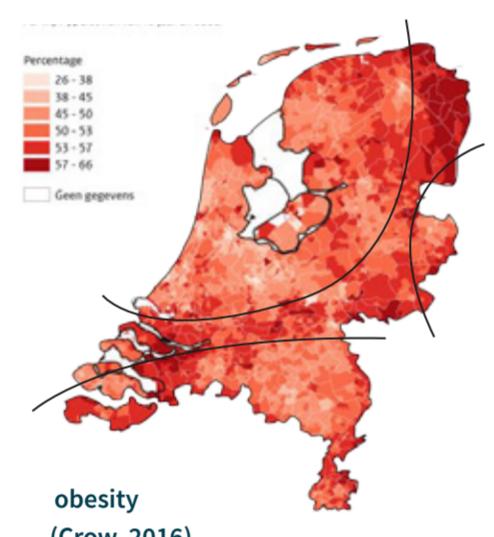
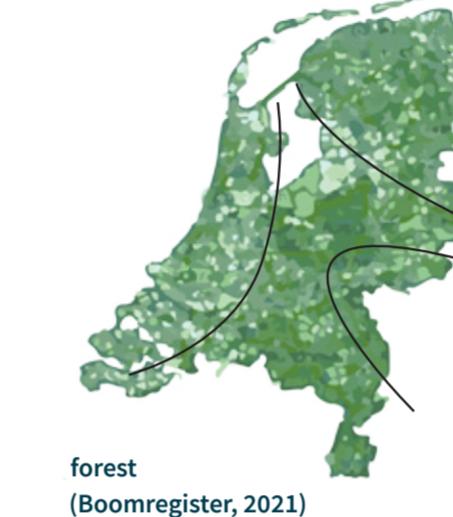
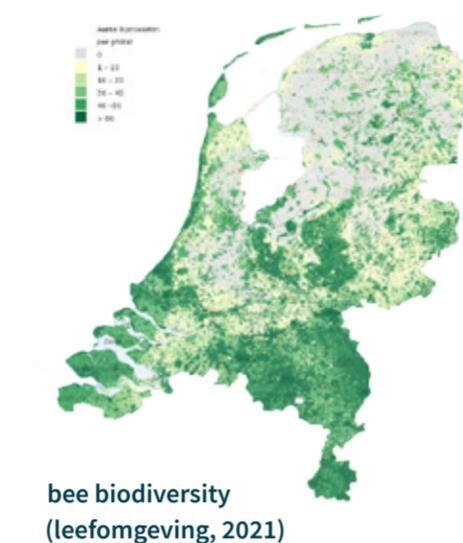
## + 2.6 Target group and economicly



## + 2.7 Location & advantages

The ideal place in the Netherlands?

What are the criteria for determining the project location of the health activation retreat?

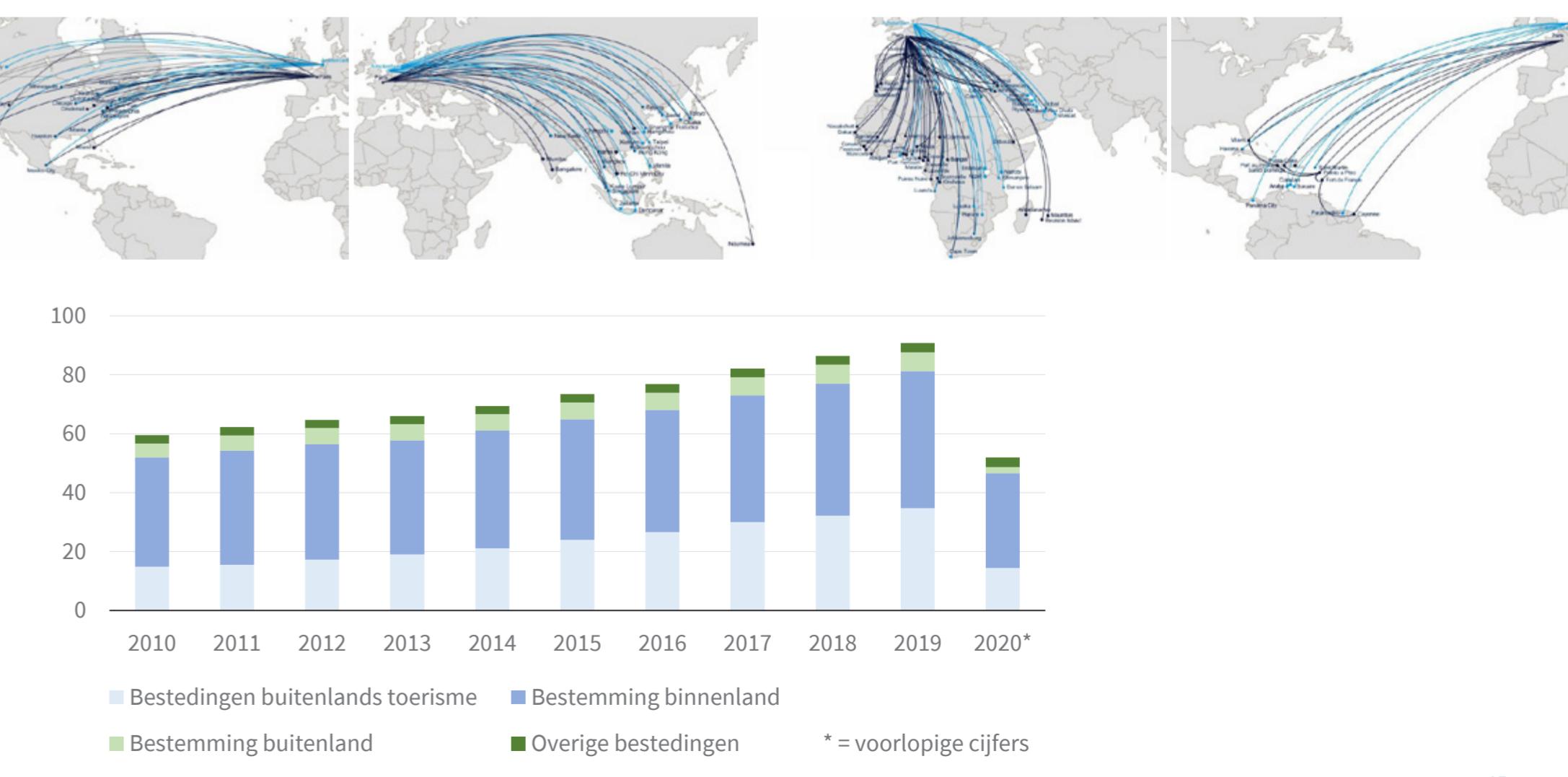


Advantages of local tourism



Destination flights from Schiphol to foreign countries

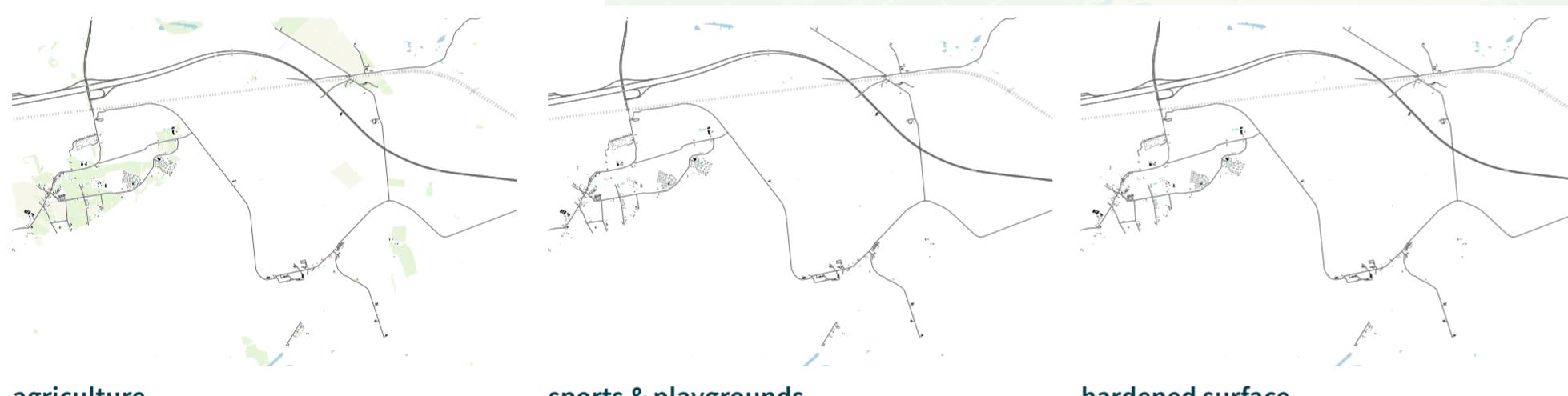
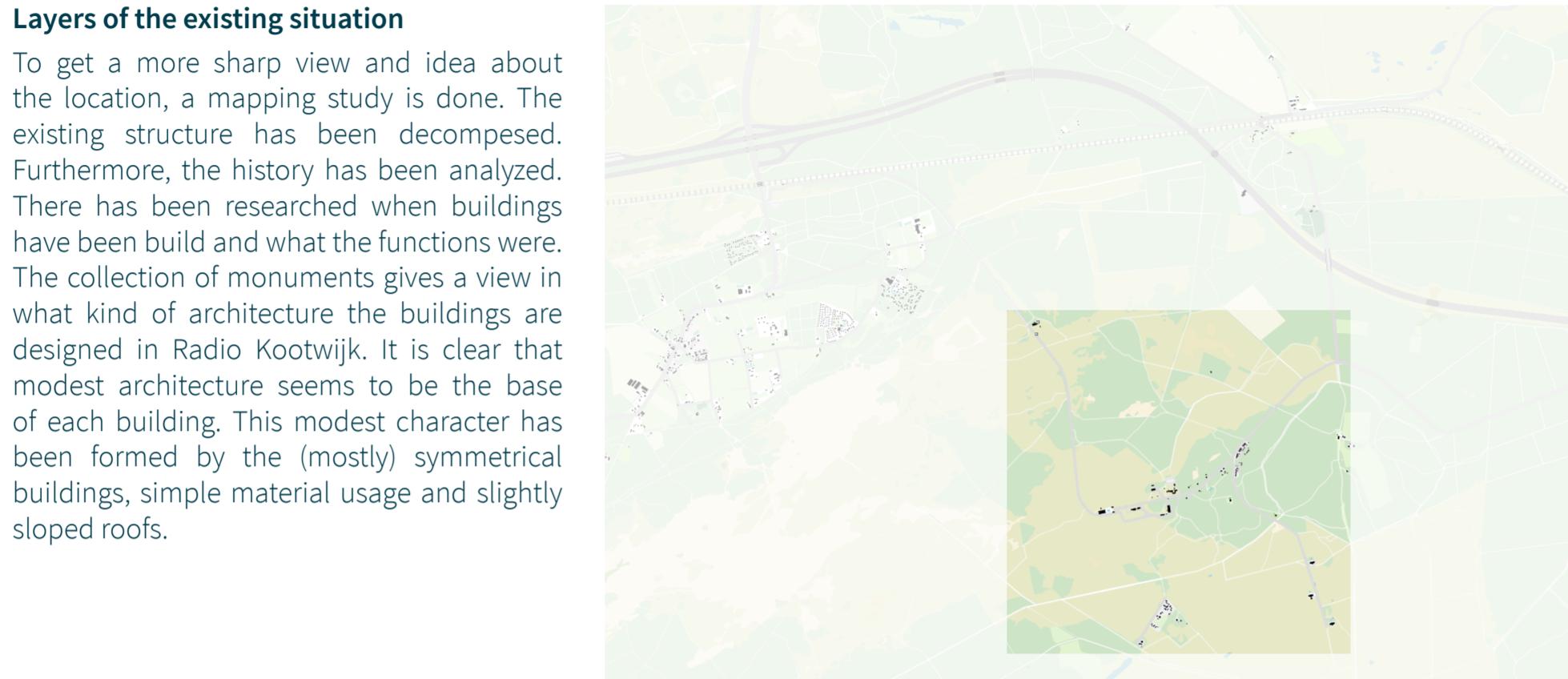
Routes from Schiphol (Airlineroutemaps)



## + 2.9 Radio Kootwijk

### Layers of the existing situation

To get a more sharp view and idea about the location, a mapping study is done. The existing structure has been decomposed. Furthermore, the history has been analyzed. There has been researched when buildings have been build and what the functions were. The collection of monuments gives a view in what kind of architecture the buildings are designed in Radio Kootwijk. It is clear that modest architecture seems to be the base of each building. This modest character has been formed by the (mostly) symmetrical buildings, simple material usage and slightly sloped roofs.



agriculture

sports & playgrounds

hardened surface



sand



walking paths



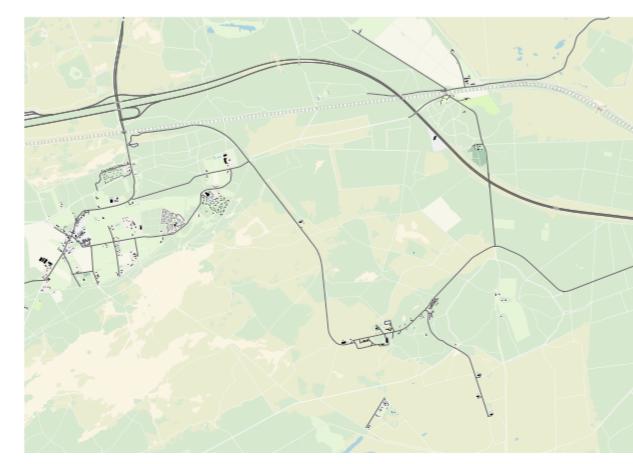
trees



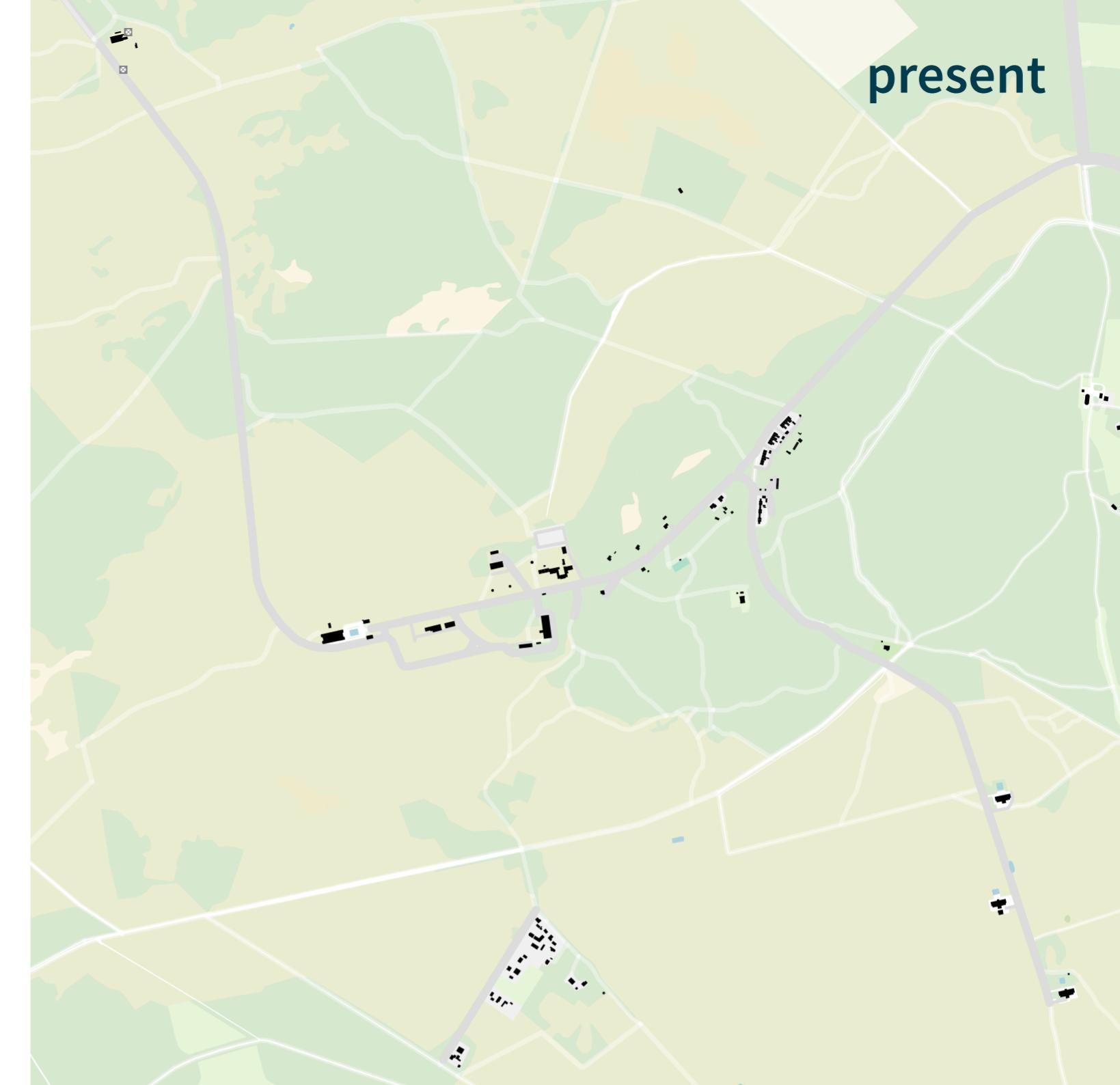
low heath



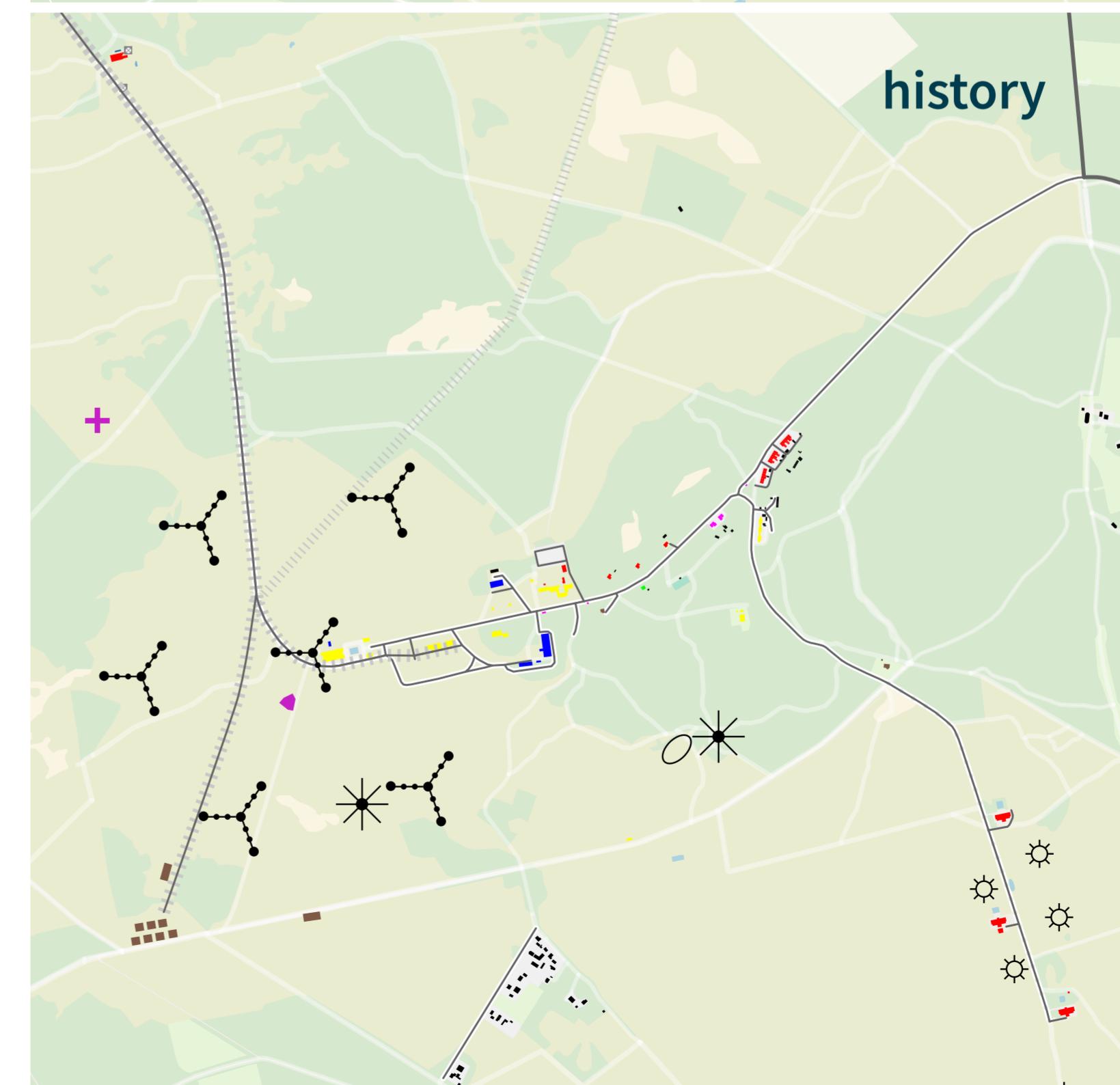
roads & railway



total



present



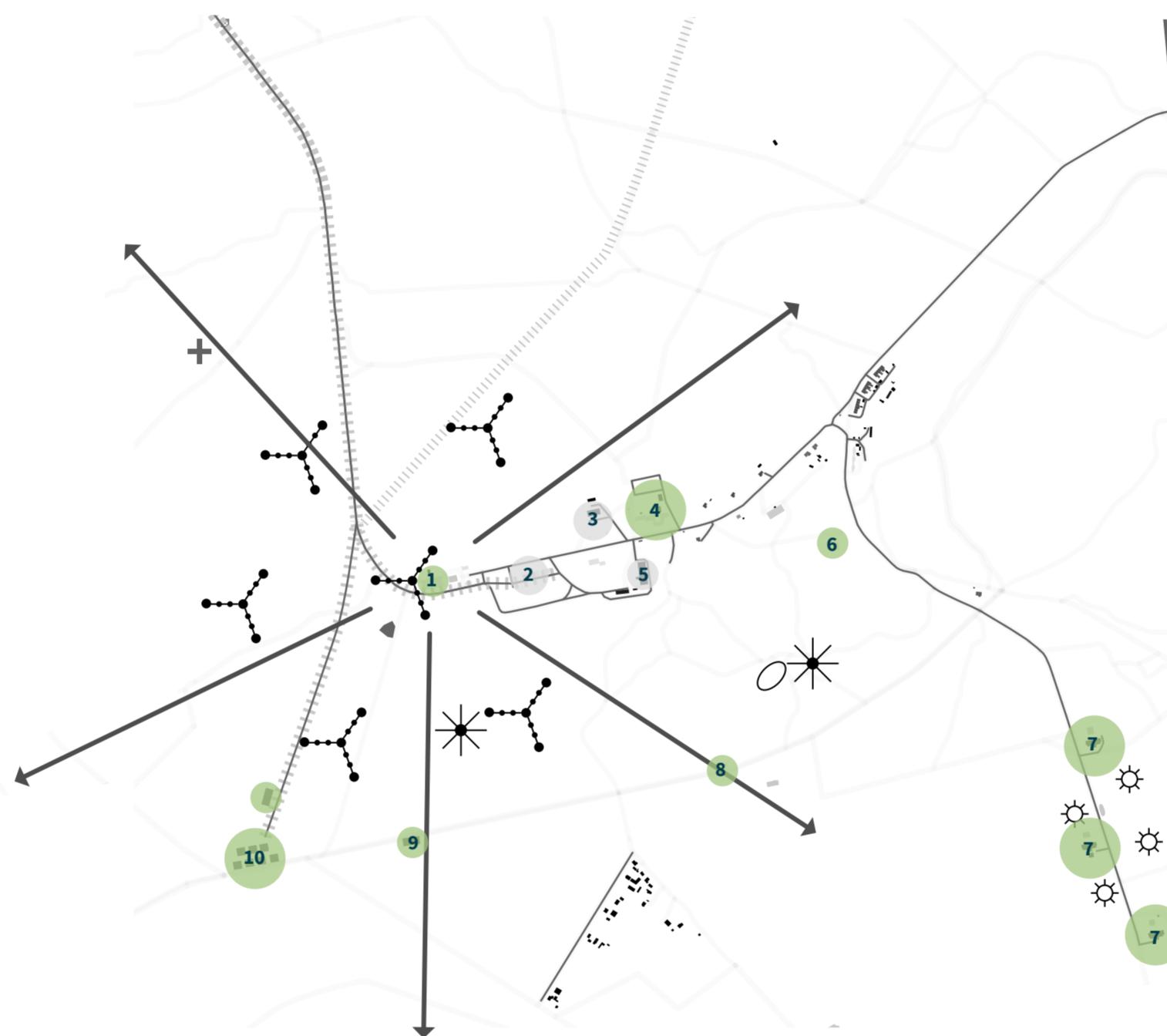
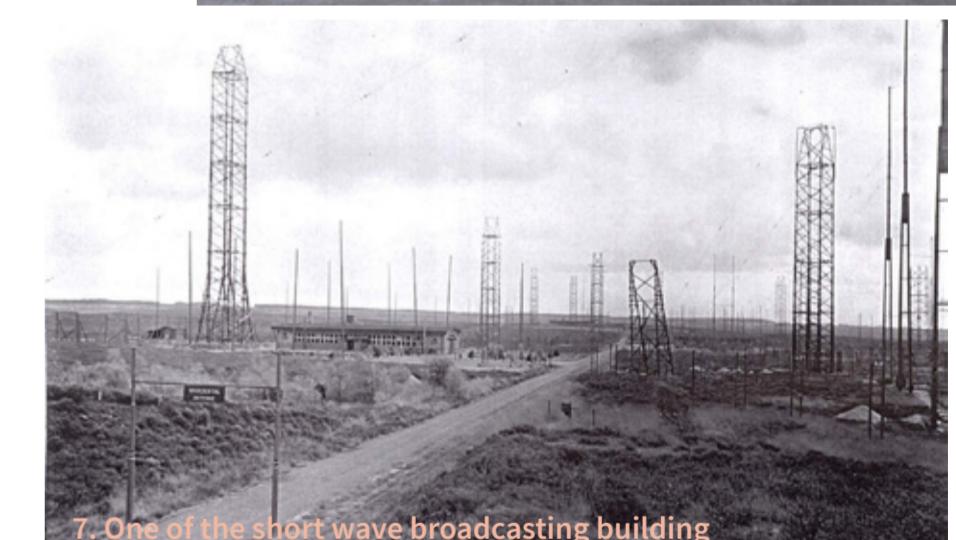
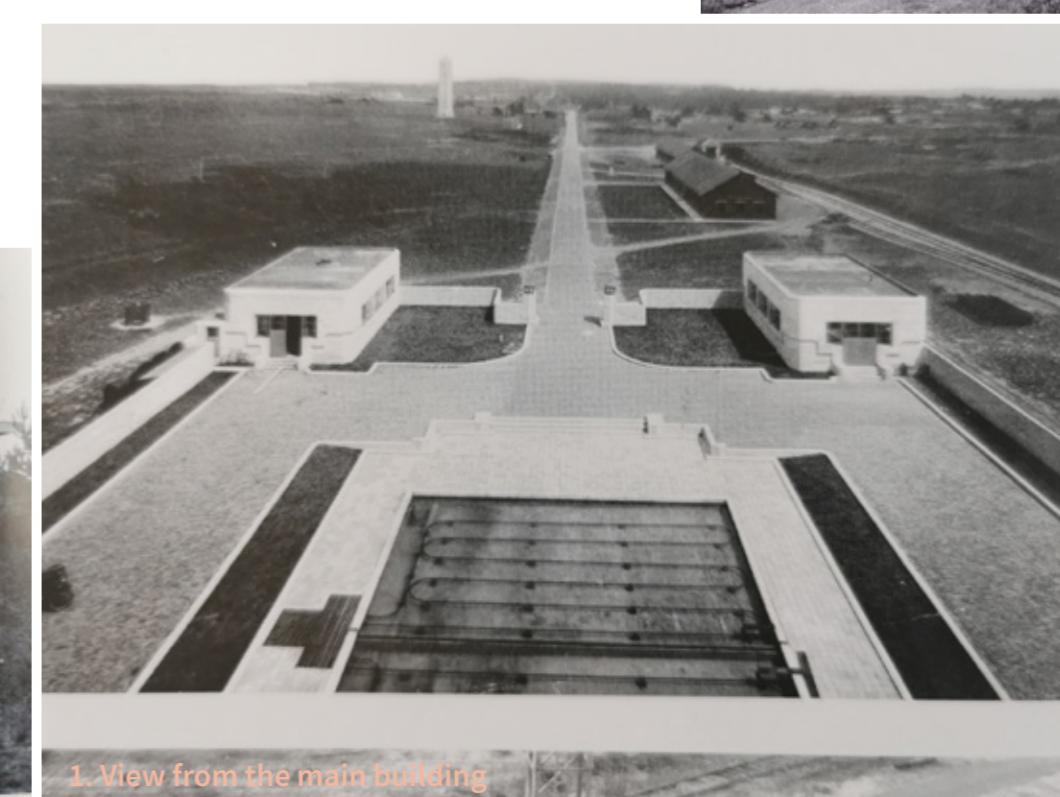
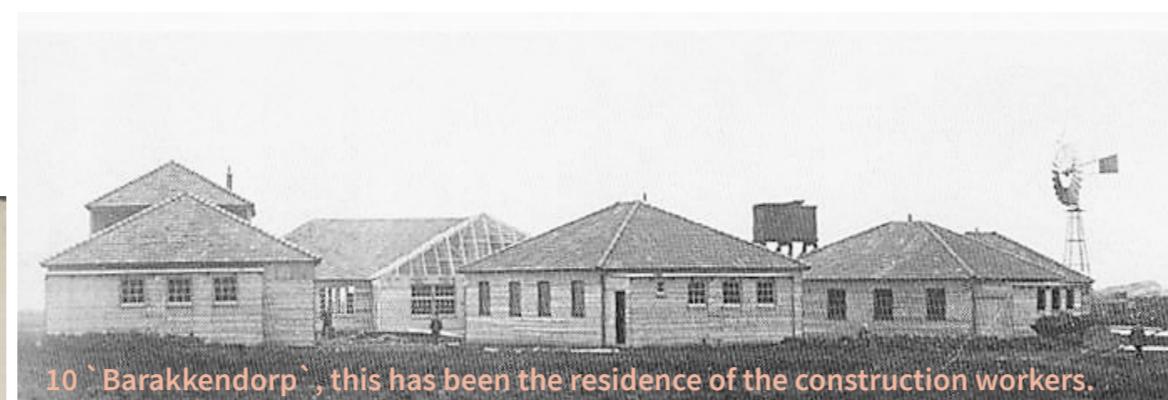
### LEGENDA

- bestaande bebouwing
- laag groen / heide
- zandgebied
- bomen
- landbouwgrond
- verhard oppervlak
- sport en spel
- camping terrein
- water
- routing
- prominente hoofdaders
- ecoduct
- tunnel
- spoor
- spoorwegovergang



- Wurzburg Riese schotel
- zendmast korte golf
- zendmast lange golf
- kuilparabol
- spoorhalte
- spoorhalte
- 1920 - 1923
- 1928 - 1940
- 1940 - 1945
- 1945 - 2004
- smalspoor
- normaalspoor

# Collection of monuments



● = (partly) empty or demolished real estate with cultural value

● = buildings (partly) in use



## + 2.10 Seasonal study

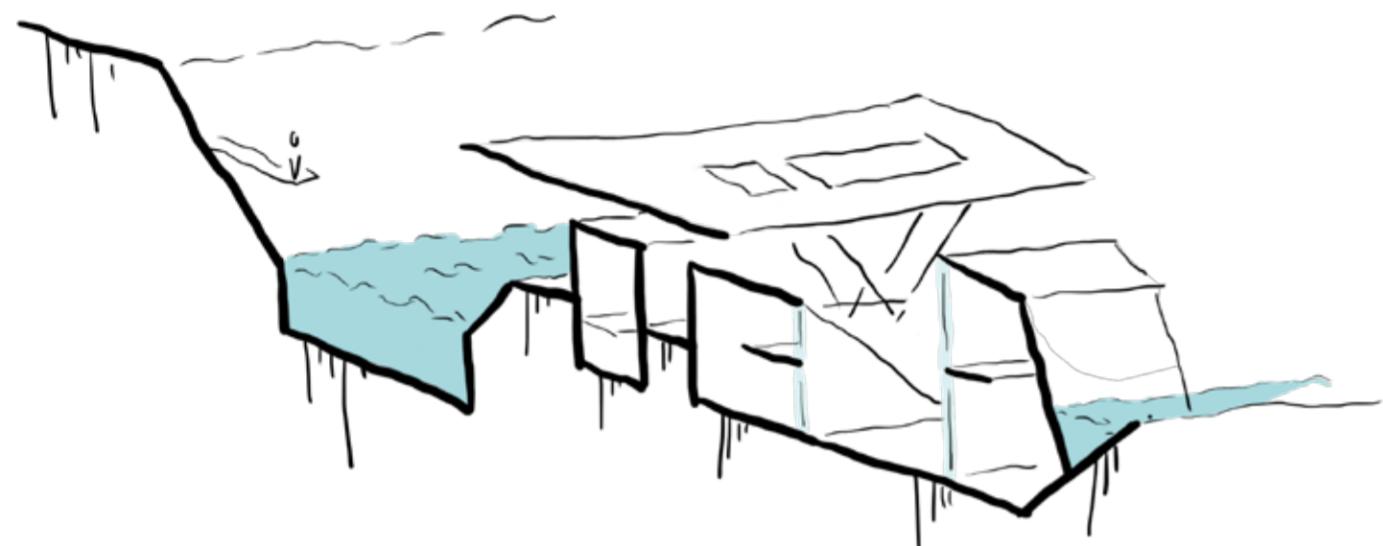


### Glimpse from the surroundings

This seasonal model diagram gives a glimpse of the present environment factors and aspects from its surroundings. Factors and aspects such as the breeding season, temperature, bee season, best period to cut trees, planting season and more has been linked to the calendar year.



## + 3.1 three abstract concepts



### Embedded network

respecting the horizontality of the landscape

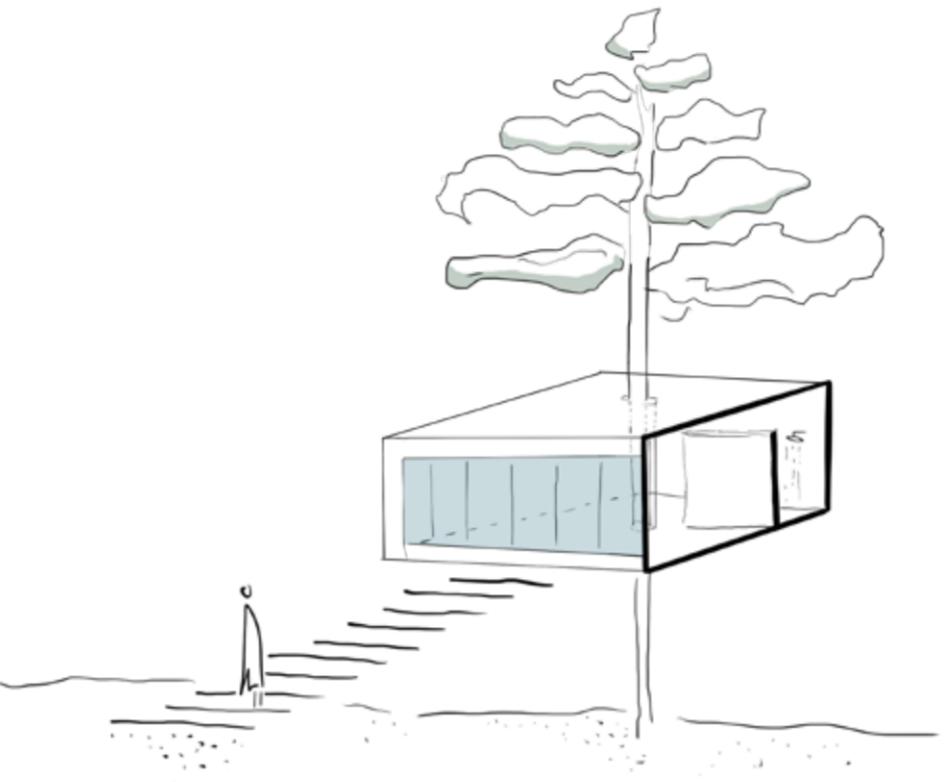
#### Concept 1

The user fully absorbs the silence and tranquility of the landscape in this concept. The relatively long walks to outlaying buildings with activity focus the user to let go of the daily hectic pace and embrace a journey that feels like meditation. A connection with nature in its purest form. Through wind and weather and sometimes an appearance of a shelter that is camouflaged in the materialization of the ever-changing landscape. Often embedded, in which one building is more pronounced than the other, but constantly forms an appearance that respects the landscape. The embedded character creates something mysterious that arouses curiosity at the user. The interior, on the other hand, is perceived by the user as warm, domestic and sheltered. The transparent parts are framing the landscape like a painting through the wood profiles of the window frame.

The network consists of one semi-embedded main building and various sub-buildings, scattered in the area. The main building consists of 30 guest rooms, a health check up, restaurant, sports circuit with swimming pool, lobby, bar, art gallery, meditation room, makers space, multifunctional auditorium, sauna, swimming pool, boardrooms and spacious guest studios. There are 6 different sub-volumes located throughout the landscape. These are smaller residential studios. Each of which has a contemporary architecture in a form in which you are invited to experience the landscape in a different way per residential studio. The sub volumes have a bedroom, toilet, bathroom, living room and outdoor space. The location of the sub-volumes is deliberately placed in the area. This can be based on sightlines, historical points, symbolic lines and landscape features.

### Lifted boulevard

follow the language of trees



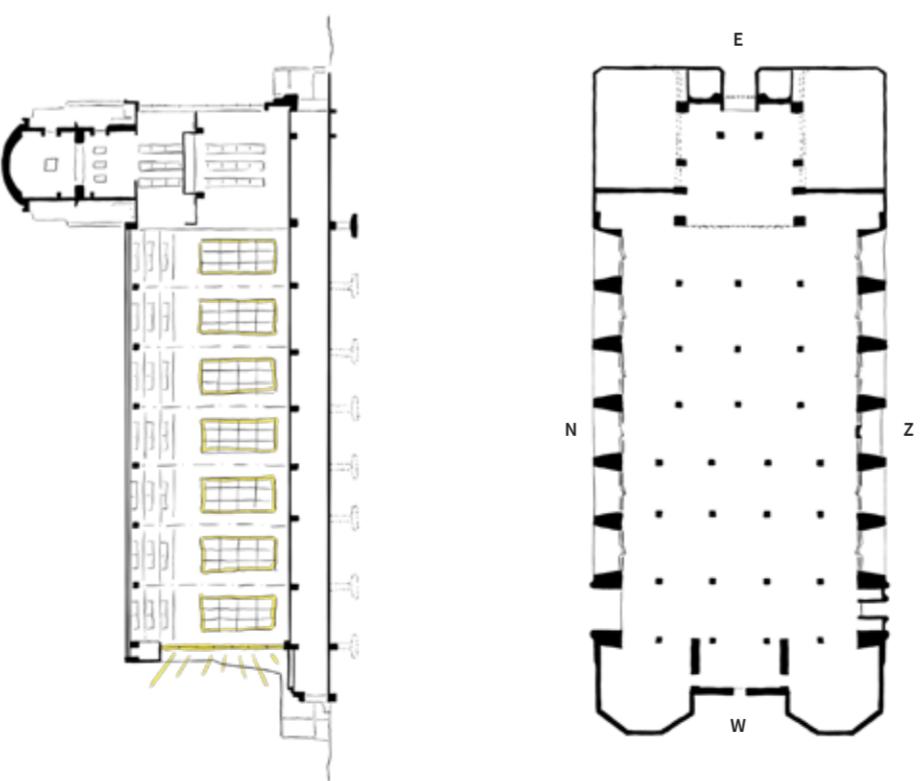
#### Concept 2

How we walk at a leisurely pace through the forest and see the sunlight falling through the leaves like sunbeams to the ground is something that fascinates. The silence of the forest is interspersed with birdsong and gusts of wind that make the leaves move. During the forest walk we smell the ground due to the rain that has just passed and we feel the bark as we walk past trees. The walk through the wooded landscape provides energy, reflection and peace.

During the stay, the user experiences relatively short contrasting moments between shelter and temperate wilderness. In this case you will experience shelter in the buildings and temperate wilderness is experienced when walking on the open sky bridges. For example, functions are not connected to one colossal building, but each function of the retreat is lightly spread between the rhythmic phenomenon of trees. This arrangement encourages movement. The dispersed functions in relation to the boulevard are supported by a construction that follows the language of the tree. Often these buildings are supported by single columns / one column which ensures as little damage to the ground as possible. Although we normally experience the tree from eye level, the user experiences this experience at different heights between the trees. The height of sky walkways and functions determines the degree of interaction of sight, with animals, with landscape and with people. The height also determines the extent of private spaces and public spaces. The sky walkways also offer an opportunity to make parts of the retreat public for cyclists and runners, which leads to an extra experience and fits in with the rousing character of Radioweg. Lifted boulevard houses the following functions: a health check up, restaurant, sports room, swimming pool, lobby, bar, art gallery, meditation room, makers space, multifunctional auditorium, sauna, swimming pool, boardrooms and spacious studios.

### Central mix

concrete podium to the landscape



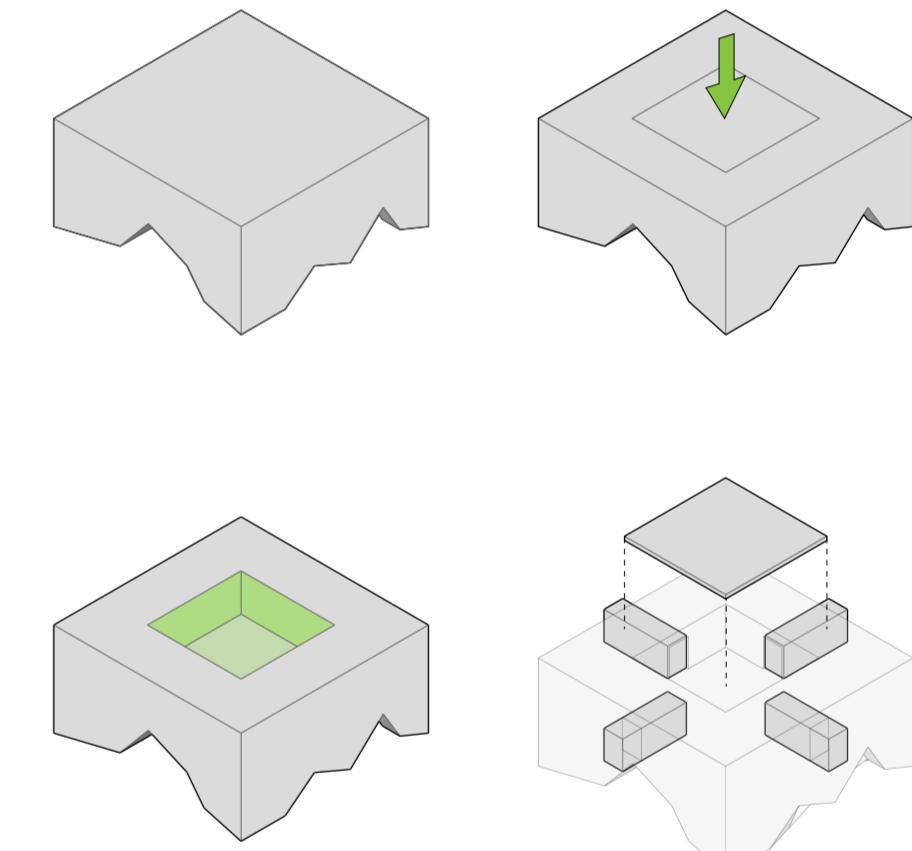
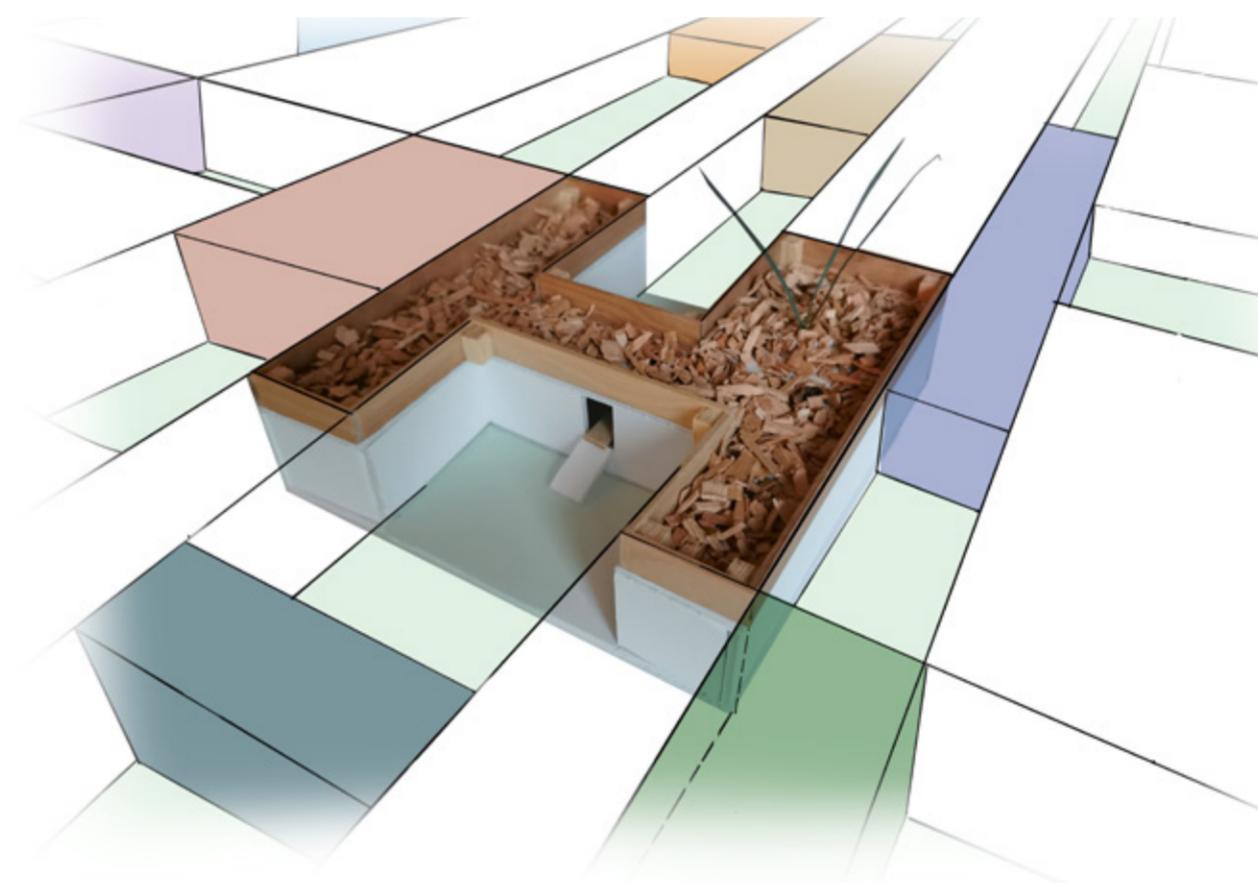
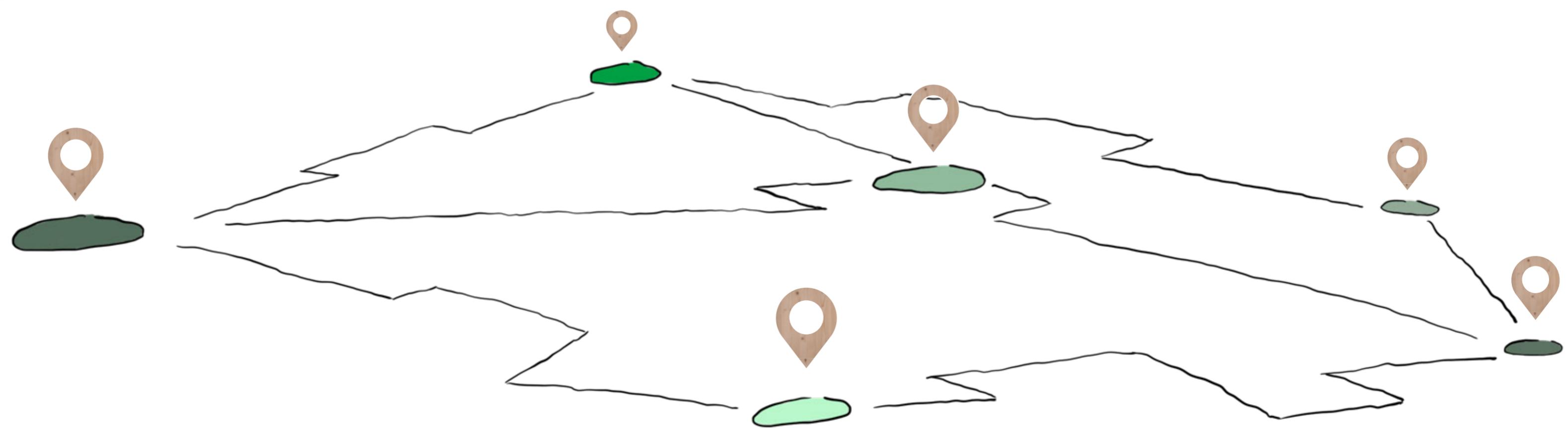
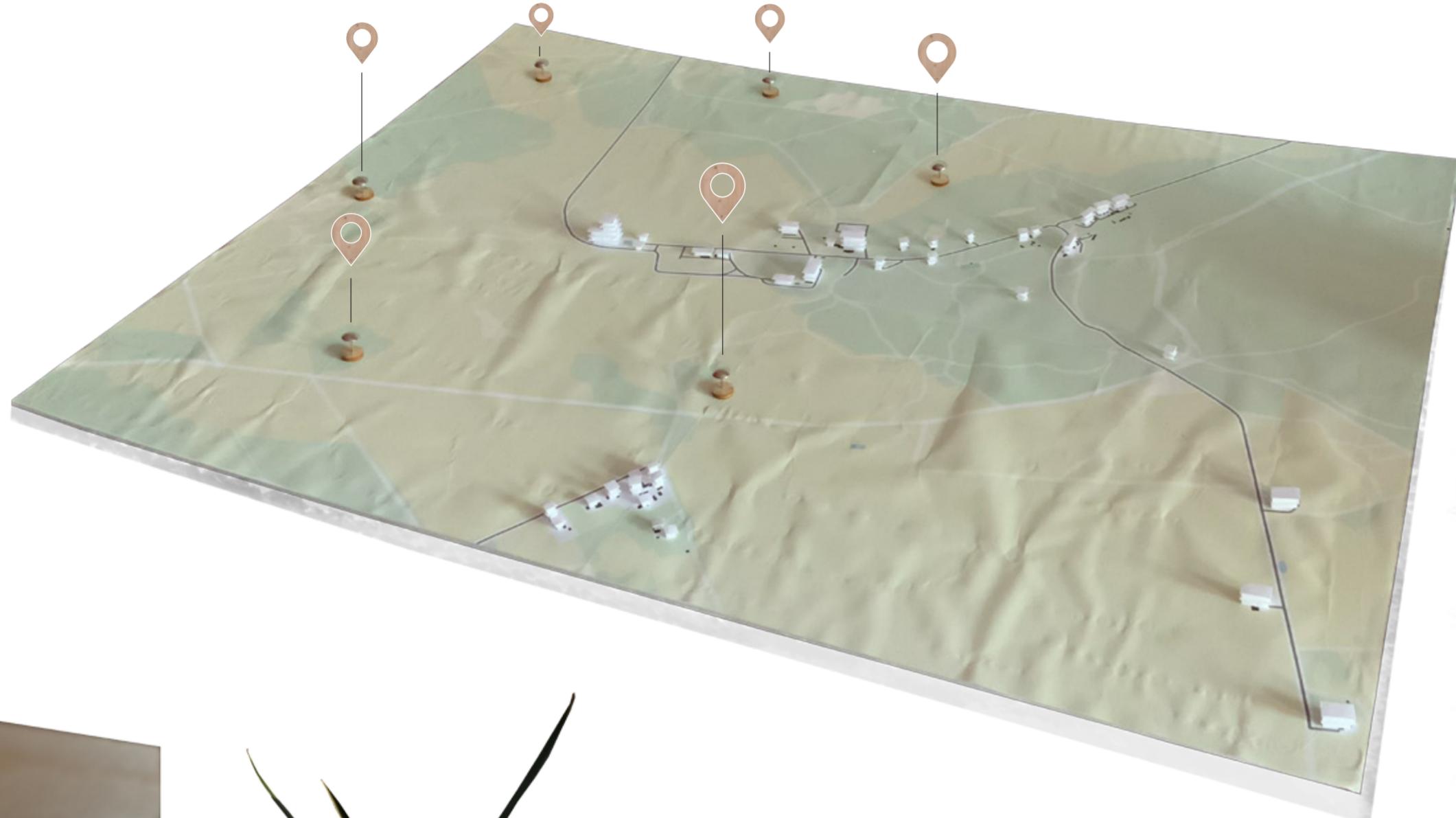
#### Concept 3

The form language of the concrete broadcasting building has been inspired by a Egyptian sphinx through architect Lüthmann. The building has been completed in 1920 and has housed various functions since then. Today it serves as an event center. Guided tours of the building are also given. The broadcasting building is of great cultural and historical value, so it is not surprising that it is a national monument. In this case, this means that there is very limited design freedom, both inside and out. Nevertheless, this concept is theoretically put to the test to repurpose this stately building. In this concept, the national monument is respected to a certain extent and (wooden) demountable units are placed in the broadcasting building. Due to a tactical placement in the existing frameworks, there will be space reserved for a health check up, restaurant, sports room, swimming pool, lobby, bar, art gallery, meditation room, makers space, multifunctional auditorium, sauna, swimming pool, boardrooms and spacious studios.

The broadcasting building also acts as a concrete podium towards the landscape. This is a strength. From inside this building, the user has a special view into the distance. This certainly applies to the 5 sightlines for which Staatsbosbeheer has indicated that it will keep these sightlines as open as possible. With its large window frames on the side facades, the broadcasting building is prominently present in the horizontal landscape where no differences in height are visible. The sunrise and sunset in relation to the positioning of functions in the building is something that must be taken into account.

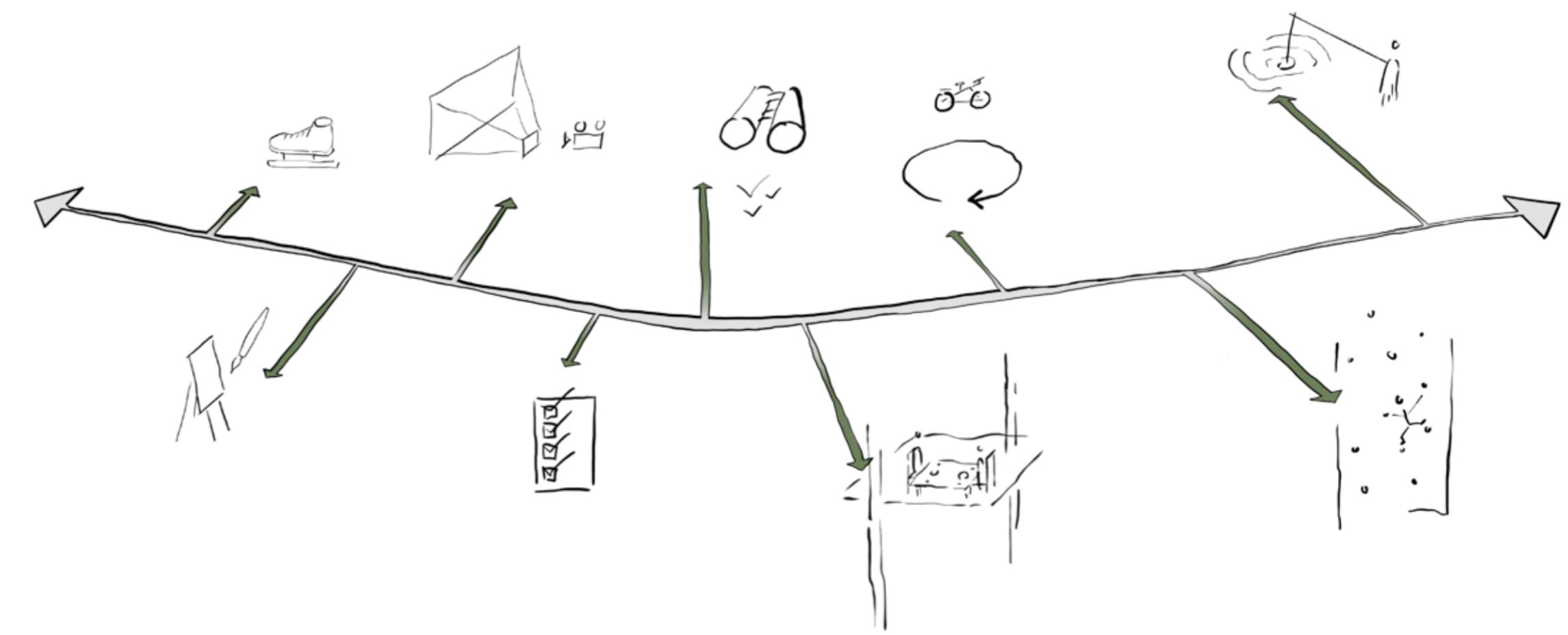
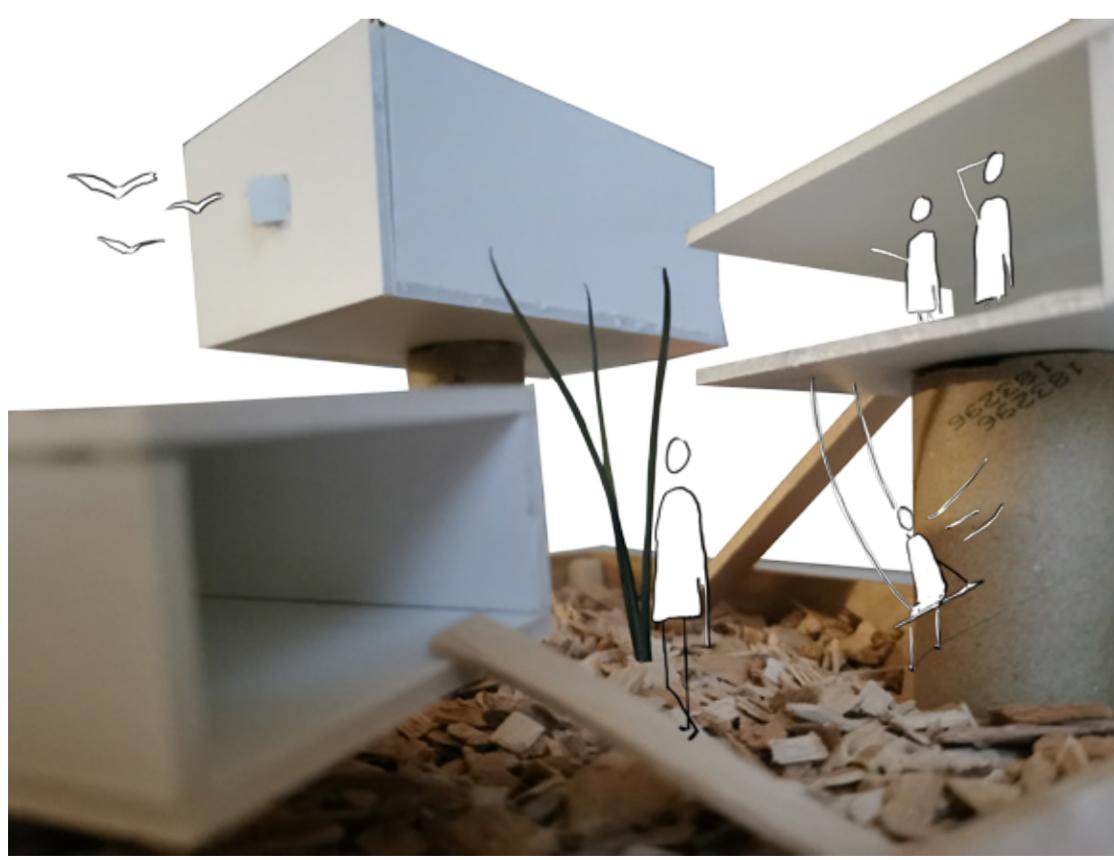
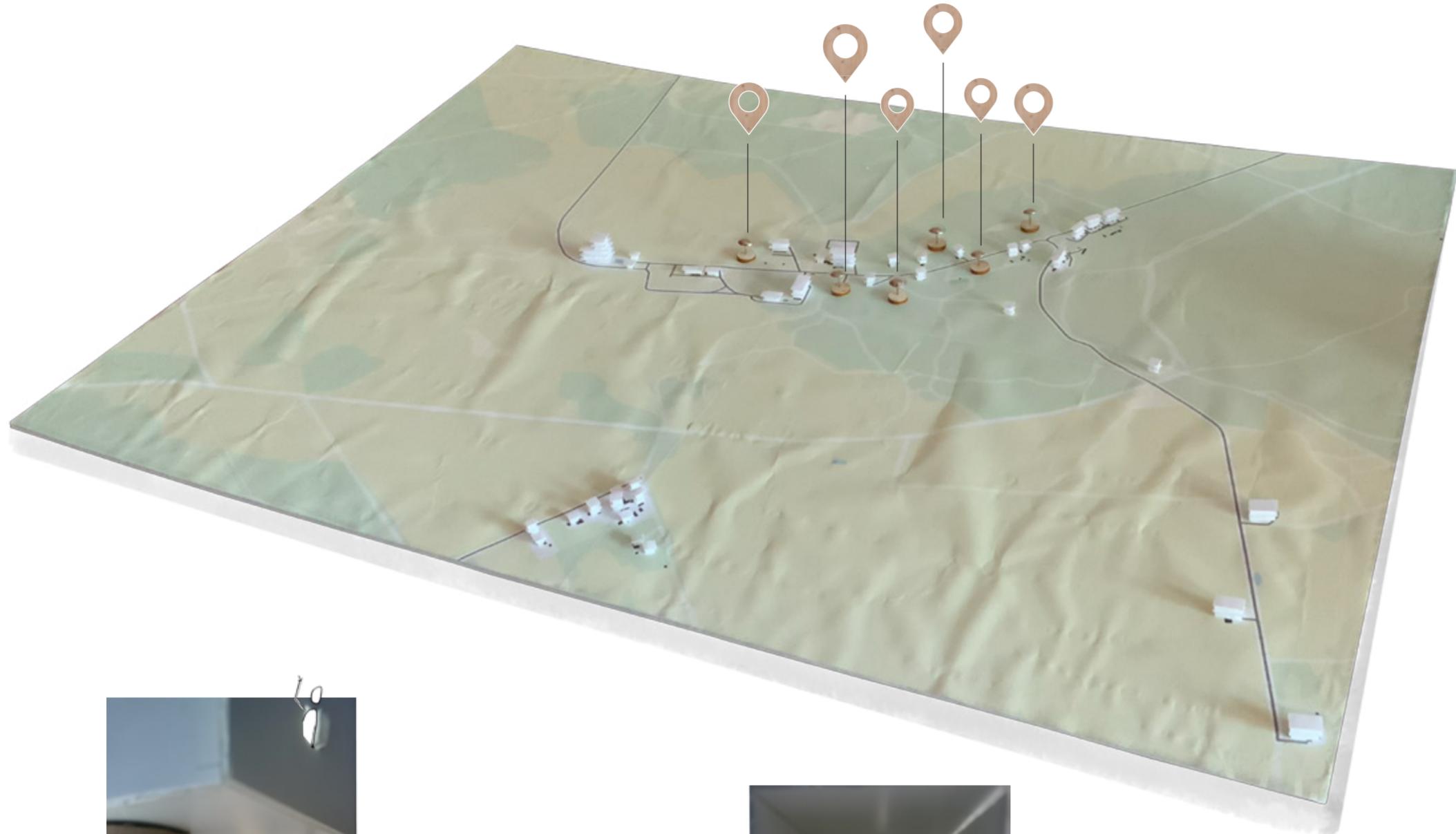
## + 3.2 Embedded network

respecting the horizontality of the landscape and scattering the program over the area



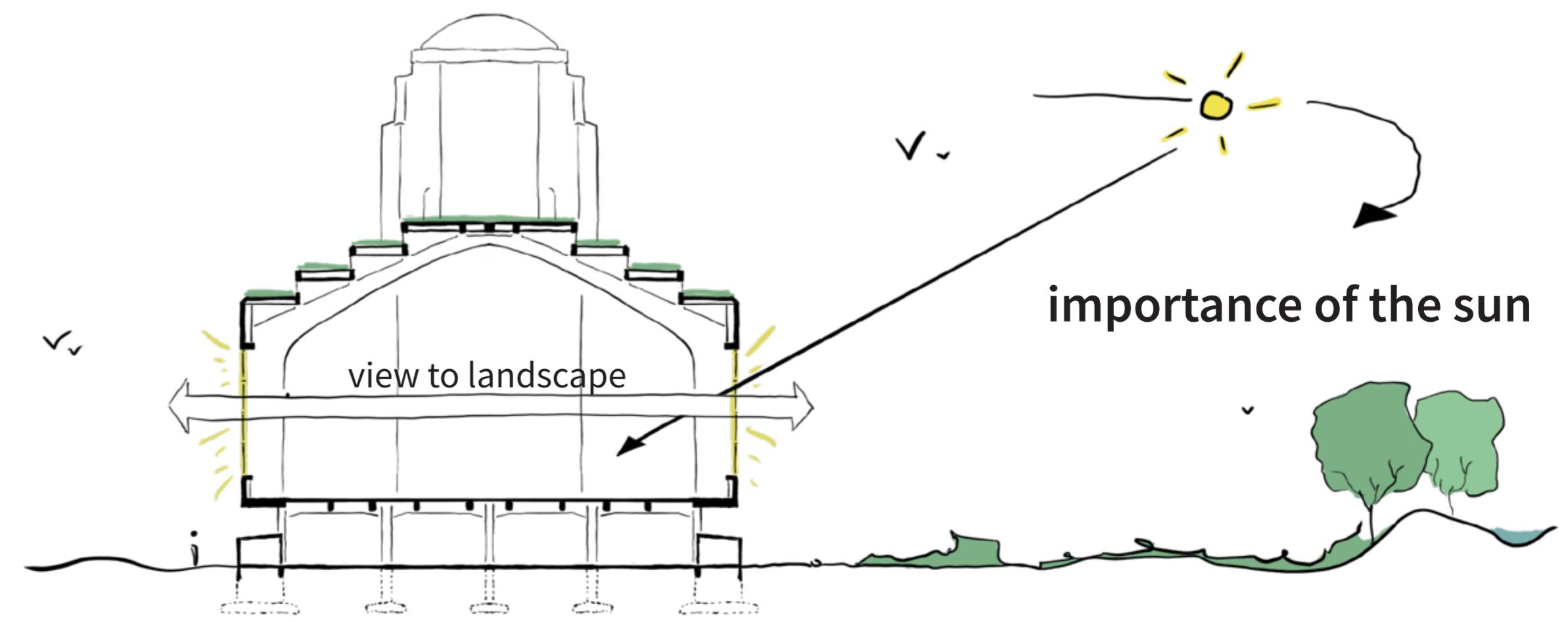
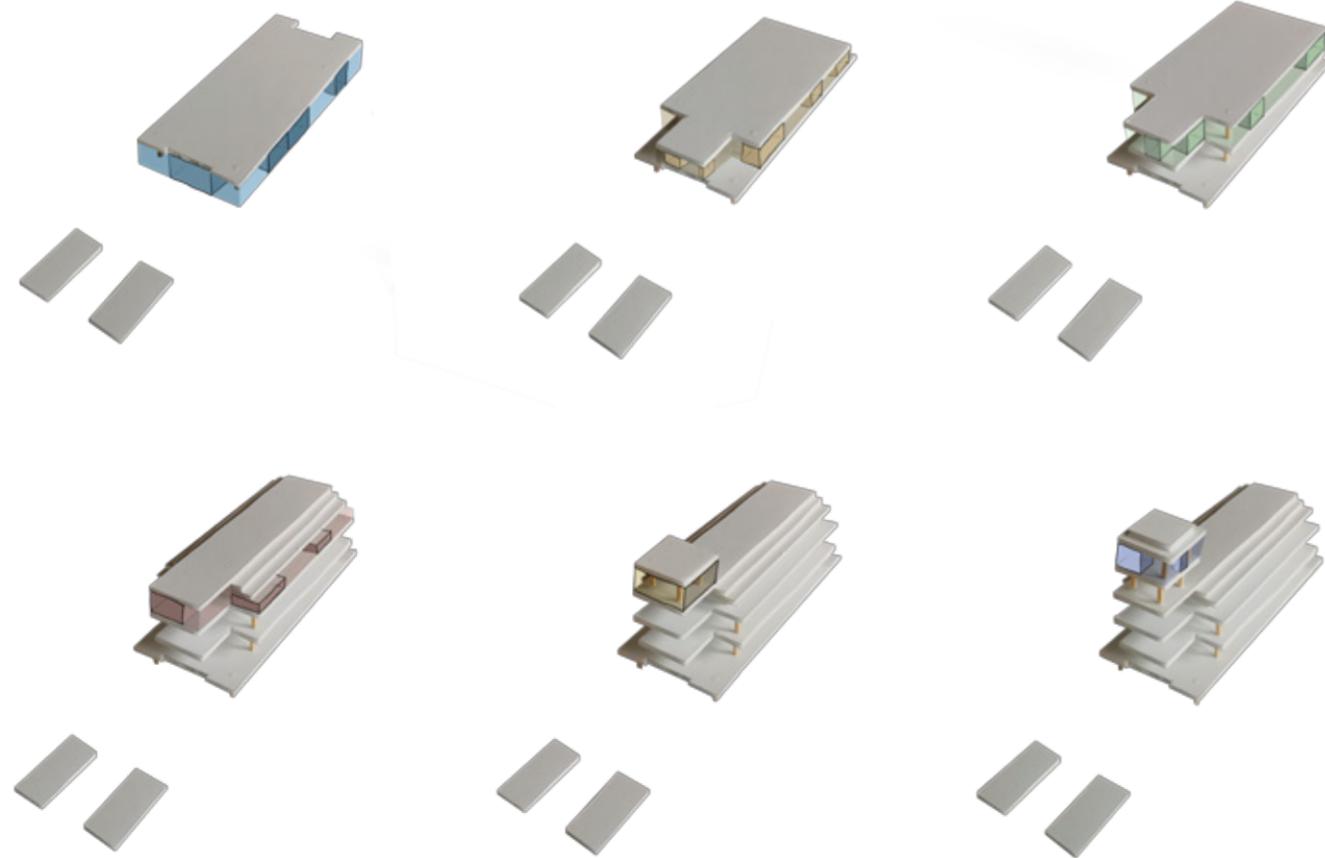
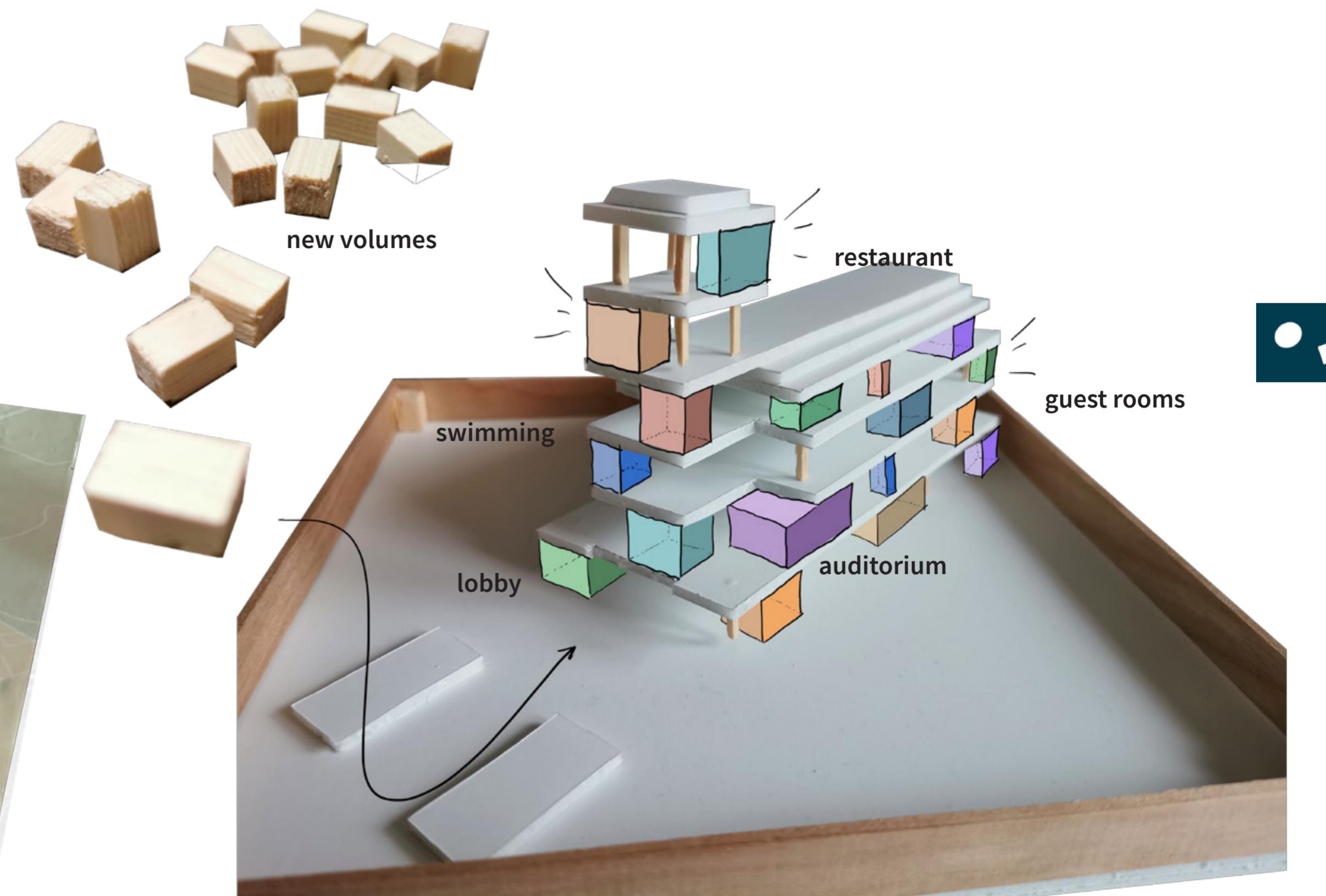
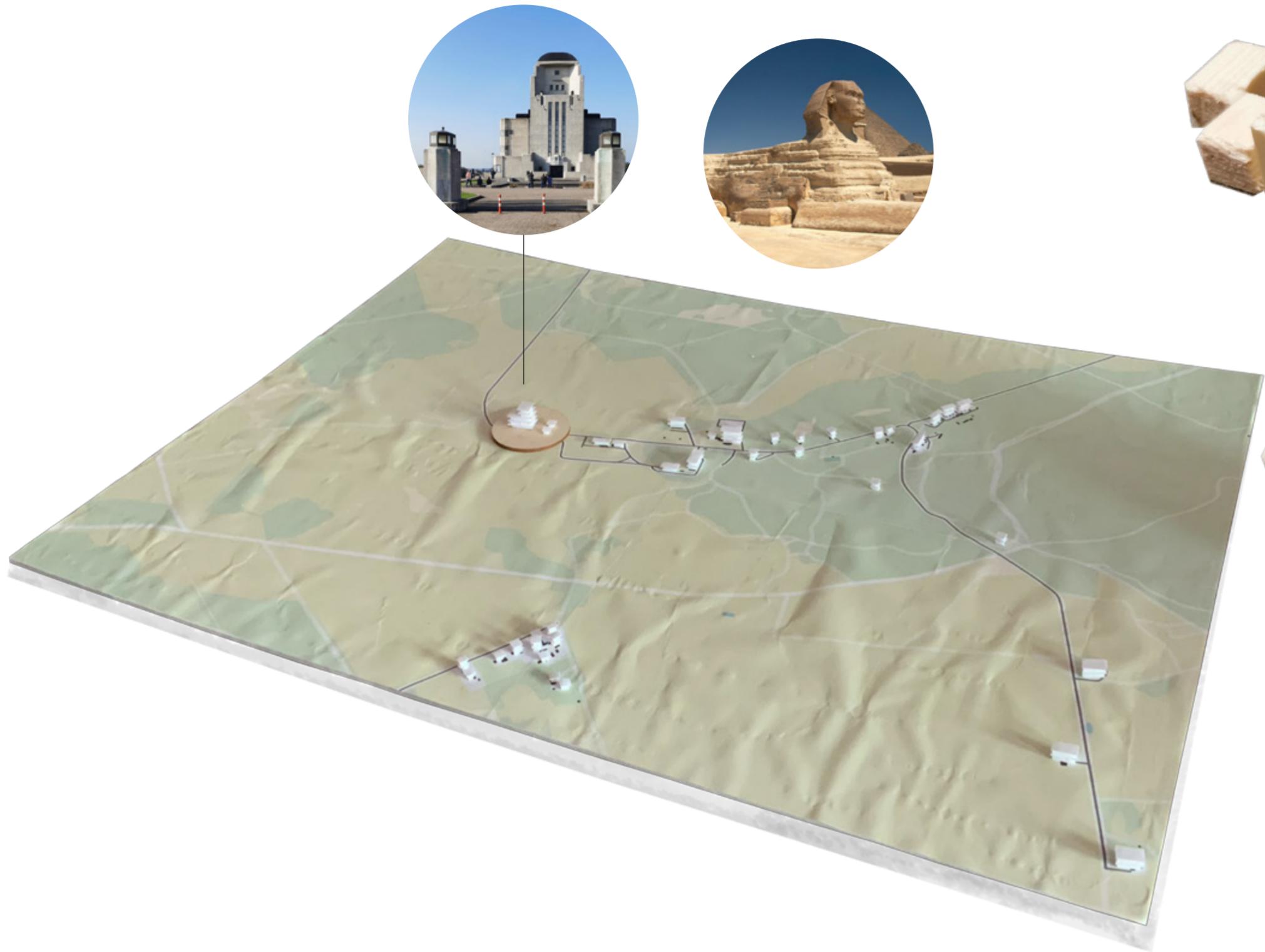
## + 3.3 Lifted boulevard

introducing a scattered program along the existing 'boulevard'



## + 3.4 Central mix

Concentrated program at one place to stimulate a certain liveliness



## + 4.1 Therme vals



plan of the lower level (Panáčková, 2015)

### Upper level

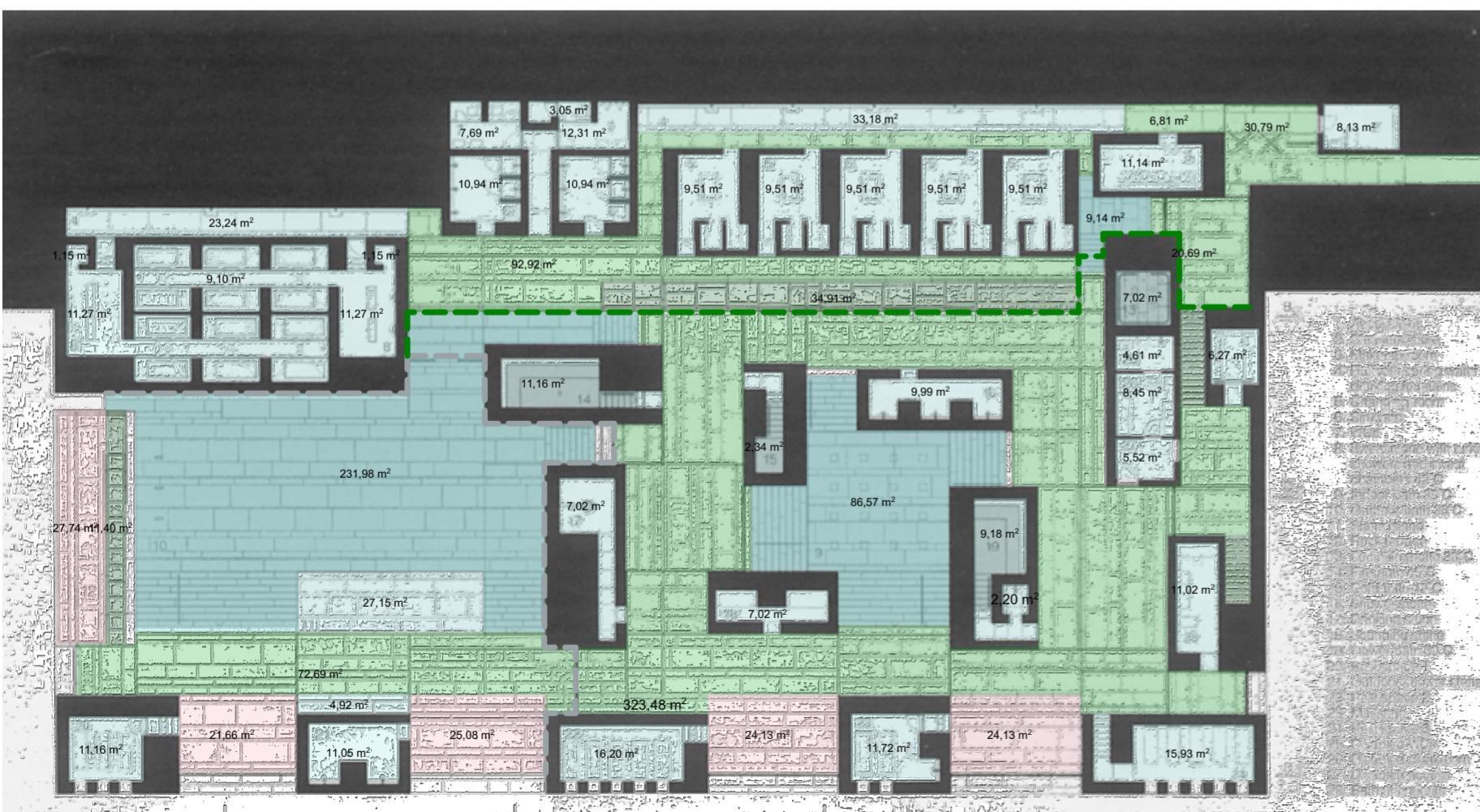
#### Function proportions

Verkeersruimten	650 m <sup>2</sup>
Terrassen	123 m <sup>2</sup>
Overig	390 m <sup>2</sup>
Baden	319 m <sup>2</sup>
Techniek	-

verhouding verkeersruimte ten opzichte van bouwlaag oppervlak  
= opp verkeersruimte / opp bouwlaag  
=(650m<sup>2</sup> / 1482m<sup>2</sup>) \* 100  
= 43,85%

### References

In order to form the program of requirements, different reference projects have been analyzed.



plan of the upper level (stellamiao, 2017)

### Lower level

#### Function proportions

Verkeersruimten	245 m <sup>2</sup>
Overig	260 m <sup>2</sup>
Terrassen	33 m <sup>2</sup>
Techniek	770 m <sup>2</sup>

verhouding verkeersruimte ten opzichte van publiek bouwlaag oppervlak  
= opp verkeersruimte / opp bouwlaag  
=(245m<sup>2</sup> / 1308m<sup>2</sup>) \* 100  
= 25,23%

### Total

#### Function proportions

verhouding techniek ten opzichte van geheel gebouw  
= opp techniek / opp geheel  
=(770m<sup>2</sup> / 2790m<sup>2</sup>) \* 100  
= 27,6%

## + 4.2 Fungzen Forest resort

MIX aan gebruikers en doelgroepen TOTAAL 40 kamers

- 1 pers conskamers x15
- 2 pers conskamers x20
- gezinskamers x5

binnentuinen

Leertuin

Washok

Personeleeskantine



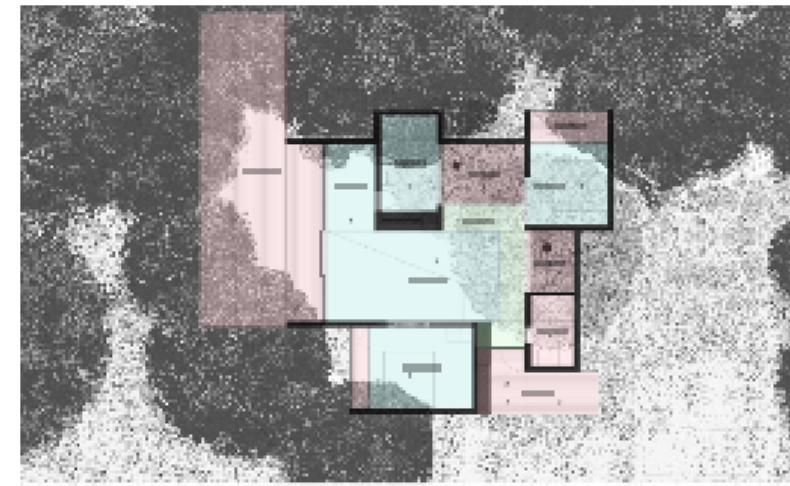
Design by TAO architects (Shuangyu, 2021)

- |                            |                         |
|----------------------------|-------------------------|
| 1. Buitenweg               | 12. Toiletten           |
| 2. Stromend water          | 13. Tuintje met boom    |
| 3. Binnenkomst             | 14. Kleine binnenplaats |
| 4. Receptie                | 15. Leesgedeelte        |
| 5. Bagage ruimte           | 16. Theesalon           |
| 6. kantine                 | 17. Leeshoek            |
| 7. Bar                     | 18. Activiteitengebied  |
| 8. Binnenplaats            | 19. Warm fornuis        |
| 9. Keuk en                 | 20. Binnentuintje       |
| 10. Kantoor                | 21. Tuintje             |
| 11. zitplaatsen restaurant | 22. Terras              |

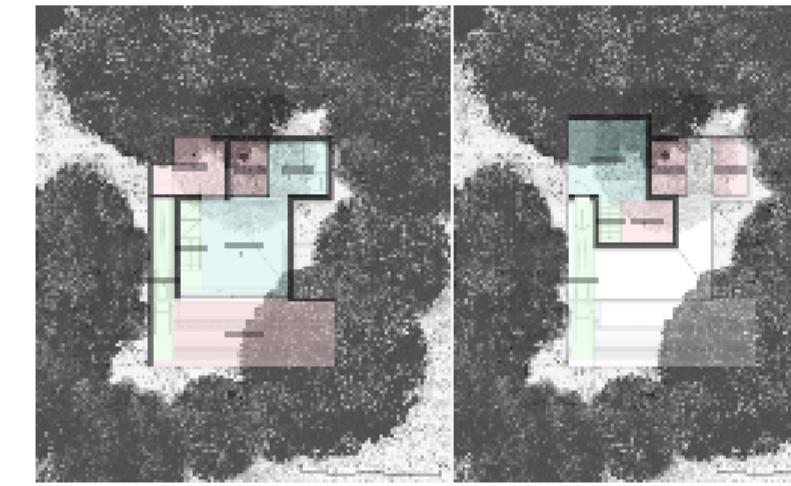
MIX aan gebruikers en doelgroepen  
 - type A: voor 1 of 2 personen x20  
 - type B: voor 3 personen x10  
 - type C: voor 4 personen x10

**minimaal 1850m<sup>2</sup> benodigd oppervlak voor studio gebruik**

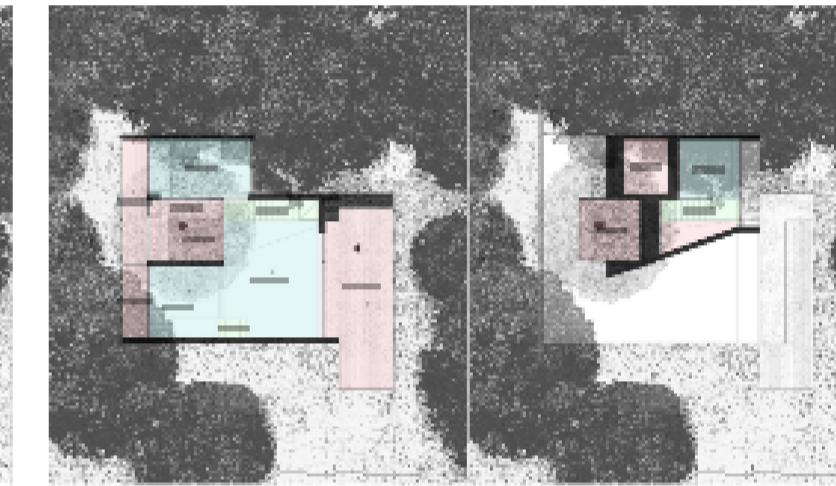
hier komt aan m<sup>2</sup> bij:  
 - eventuele verkeersruimte  
 - verloren ruimte door viden  
 - personeelskamers  
 - parkeren



1. Hoofdingang  
 2. Entree gebied  
 3. Activiteitengebied  
 4. Ruimte voor thee  
 5. Slaapkamer  
 6. Badkamer  
 7. Slaapkamer  
 8. Badkamer  
 9. Binnenplaats  
 10. Binnenplaats  
 11. Buitenplatform  
 12. Terras
- 3 kamer app. 70 m<sup>2</sup> (excl buitenruimte)  
 voor 4 personen (excl buitenruimte)



1. Hoofdingang  
 2. Leebruimte  
 3. Badkamer  
 4. Binnenplaats  
 5. Terras  
 6. Glijbaan  
 7. Slaapkamer  
 8. Vide / open ruimte buiten  
 9. Vide / open ruimte binnen  
 10. Binnenplaats  
 11. Buitenplatform  
 12. Terras
- 2 kamer app. 35 m<sup>2</sup> (excl buitenruimte)  
 voor 1 of 2 personen (excl buitenruimte)



1. Hoofdingang  
 2. Entree gebied  
 3. Leebruimte  
 4. Slaapkamer  
 5. Badkamer  
 6. Terras  
 7. Binnenplaats  
 8. Terras  
 9. Terras  
 10. Slaapkamer  
 11. Dakraam  
 12. Vide / open ruimte binnen  
 13. Vide / open ruimte buiten
- 3 kamer app. 45 m<sup>2</sup> (excl buitenruimte)  
 voor 3 personen (excl buitenruimte)

Stel we gaan uit van 10x dit type  
 = 10 stuks x 70m<sup>2</sup> = 700m<sup>2</sup>

Stel we gaan uit van 20x dit type  
 = 20 stuks x 35m<sup>2</sup> = 700m<sup>2</sup>

Stel we gaan uit van 10x dit type  
 = 10 stuks x 45m<sup>2</sup> = 450 m<sup>2</sup>

1850 m<sup>2</sup>

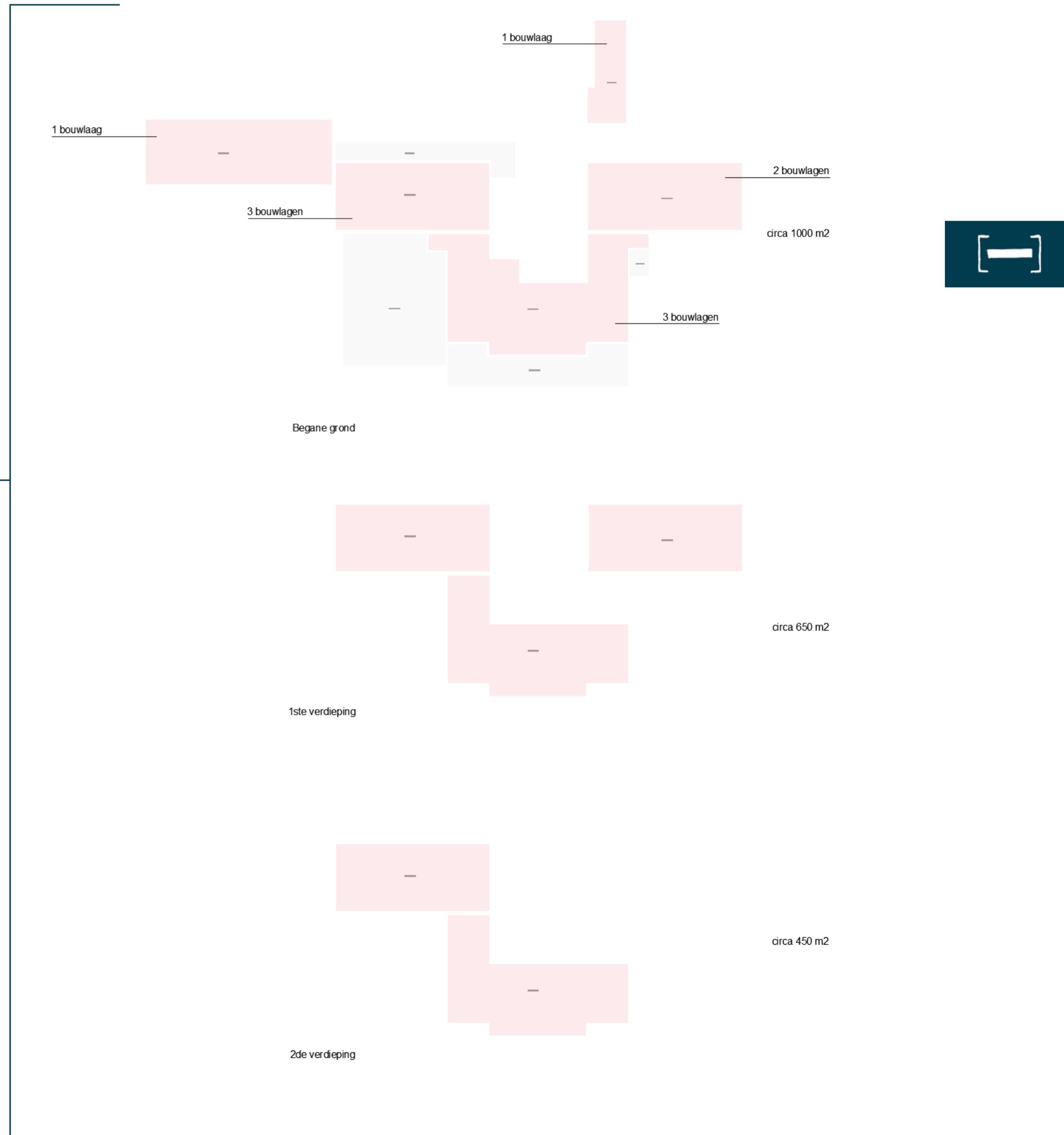


## + 4.3 Former hotel Radio Kootwijk



Het voormalig hotel  
Voor de hotel functie diende het gebouw als  
verblijf voor ongehuwde ambtenaren

Images of the former hotel (Pluijm, 2014)



## + 4.4 Restaurant El Bulli



Ground floor plan of restaurant El Bulli (Lopez, 2011)

+/- 70 zitplaatsen binnen  
+/- 20 zitplaatsen buiten  
5 toiletten  
Transparante plint  
duidelijk onderscheid gasten en keuken  
Zichtlijn naar buiten toe vanaf zitplaats gedeelte

Gastronomisch: 1,6 tot 1,8 vierkante meter per klant  
Full-service: 1,1 tot 1,4 vierkante meter per klant  
Balieservice: 1,6 tot 1,8 vierkante meter per klant  
Fastfood: 1 tot 1,3 vierkante meter per klant

Guidelines per restaurant type (Hofman, 2020)

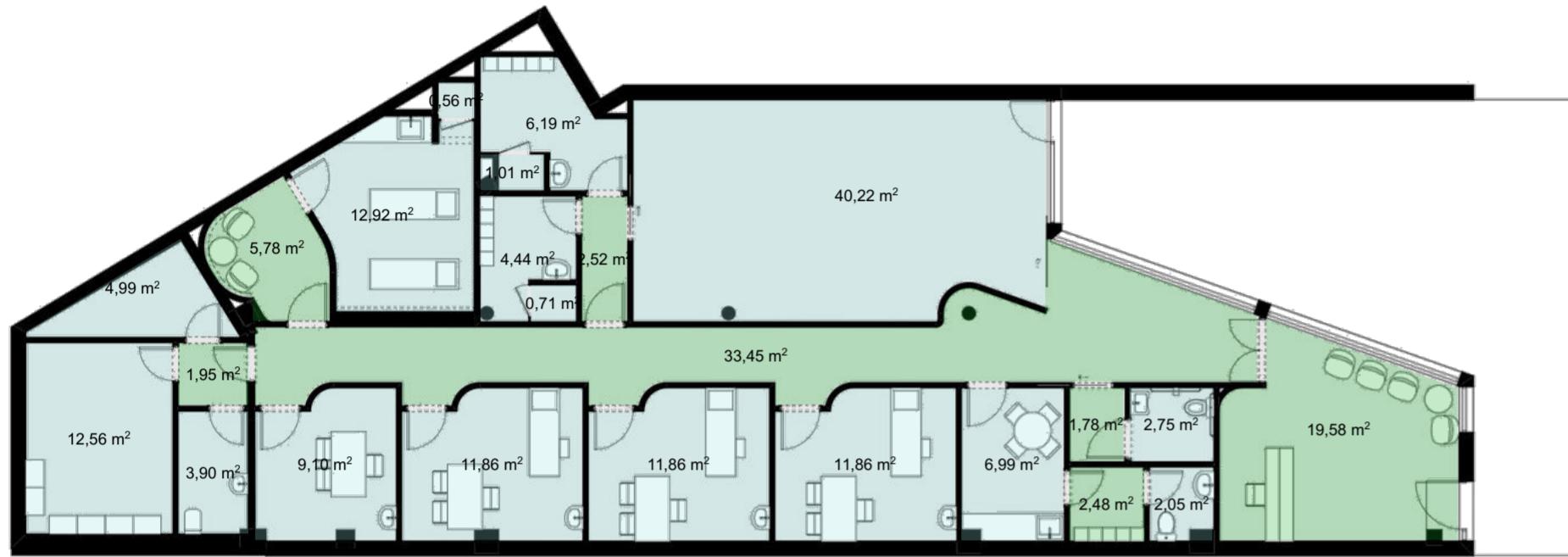
## + 4.5 Kino Rye



Ground floor plan of Kino Rye (Architects, 2015)

auditorium incl. kantine  
 1. Landscaped external courtyard  
 2. Box office & cafe  
 3. Kitchens and Back of House  
 4. Male WC  
 5. Female WC  
 6. Glazed link  
 7. 50 seat screening room  
 8. 100 seat screening room  
 9. Stair access to projection room over  
 10. Art room

## + 4.6 Physiotherapy clinic



Ground floor plan by Hinterland Architecture Studio (Pereira, 2020)



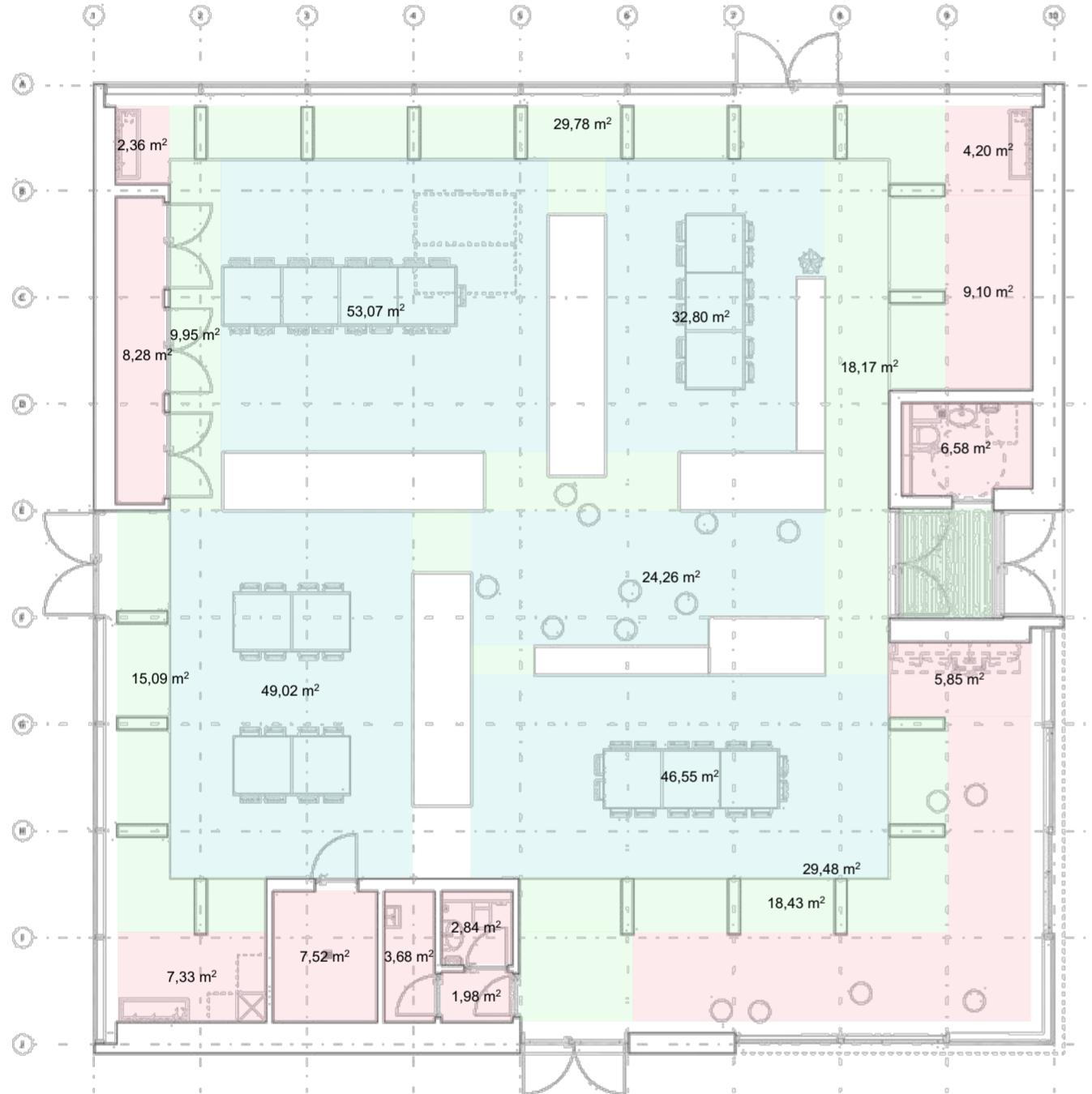
Example of a medical clinic room (LHV, 2016)

## + 4.7 Multi purpose sports facility



Ground floor plan of a sports facility (González, Multi-Purpose Sports Facility in Ørestad City / NORD Architects, 2018)

## + 4.8 House of arts Kildegaarden



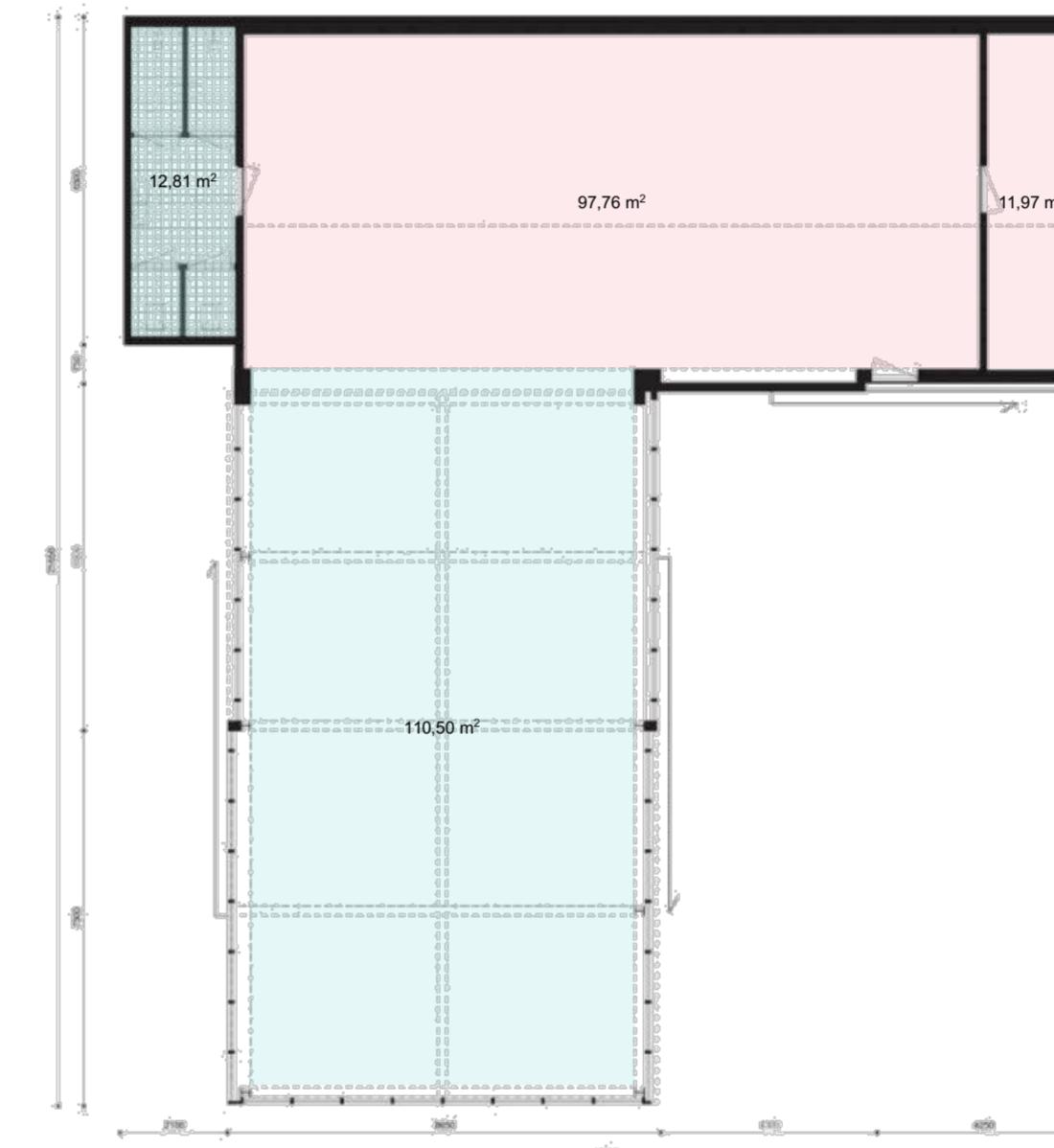
Ground floor plan by Svensborg Architects(González, 2019)

+/- 70 zitplaatsen  
2 toiletten  
Transparante plint  
te openen deuren bij elke ruimte voor activiteit

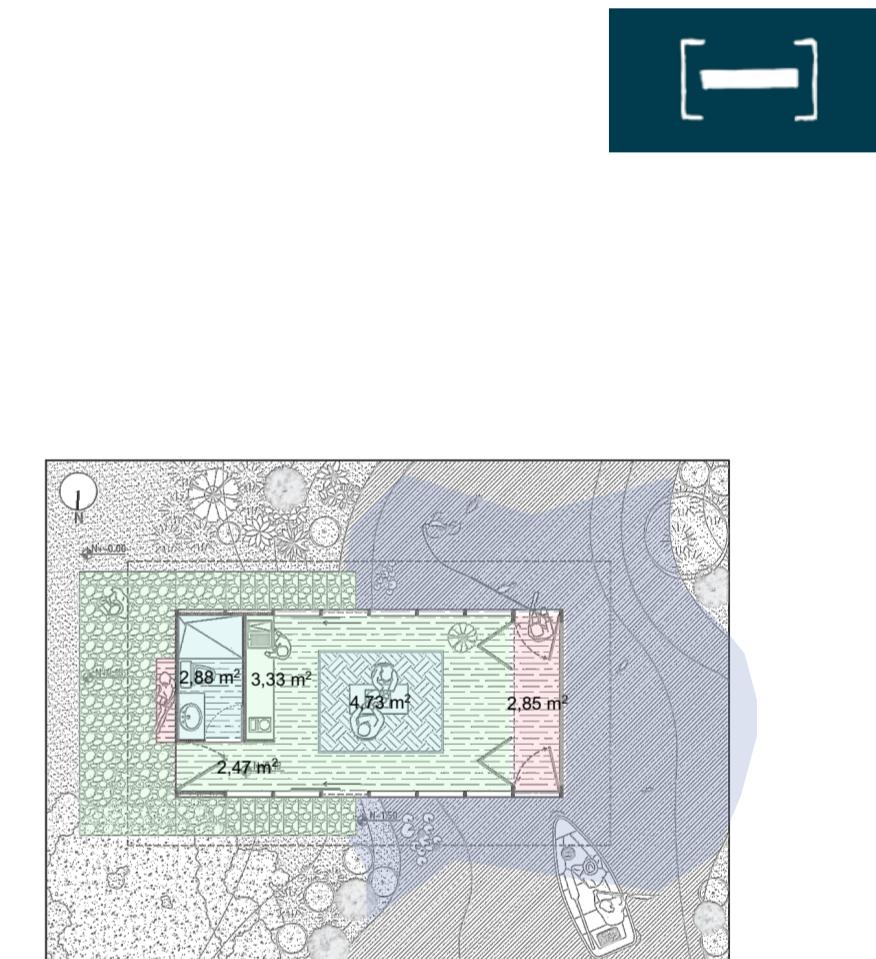
Het Arbobesluit houdt als uitgangspunt aan dat voor iedere 15 werknemers per geslacht één toilet aanwezig is. Zijn er 16 werknemers op de werkvlloer, dan geldt een minimum van twee toiletten.

Guidelines for amount of toilets (Hoeveel toiletten heb je per werknemer nodig?, 2017)

## + 4.9 Workshop space Iceman and tea room

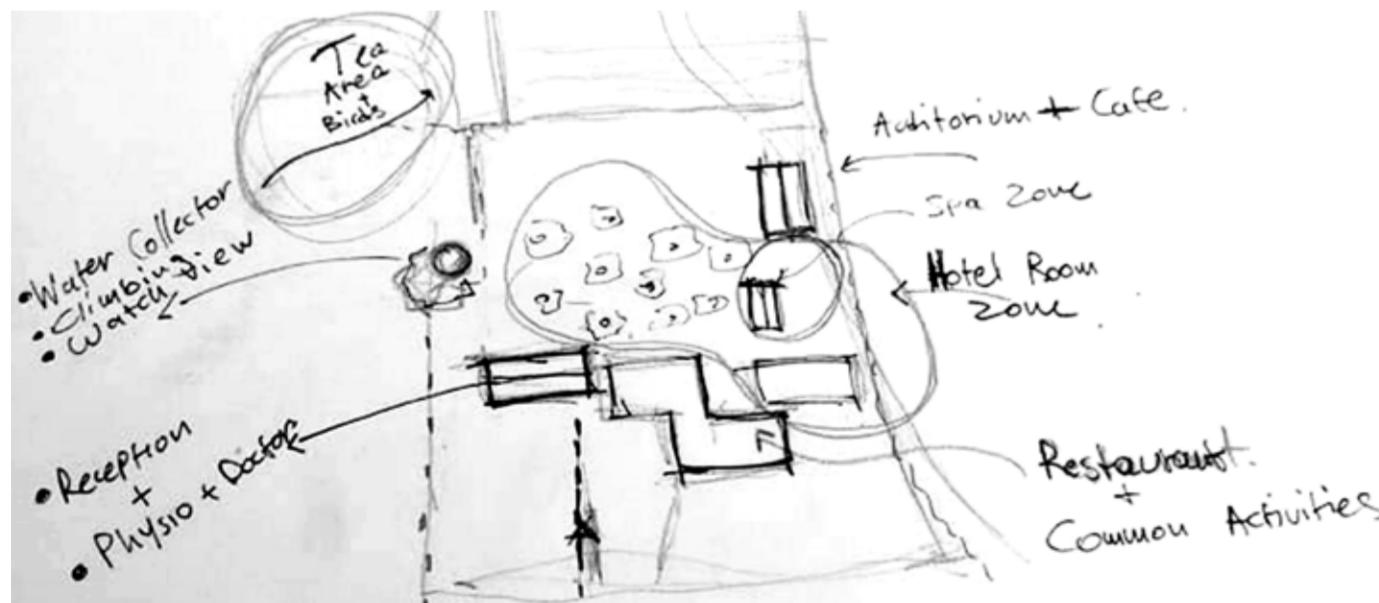
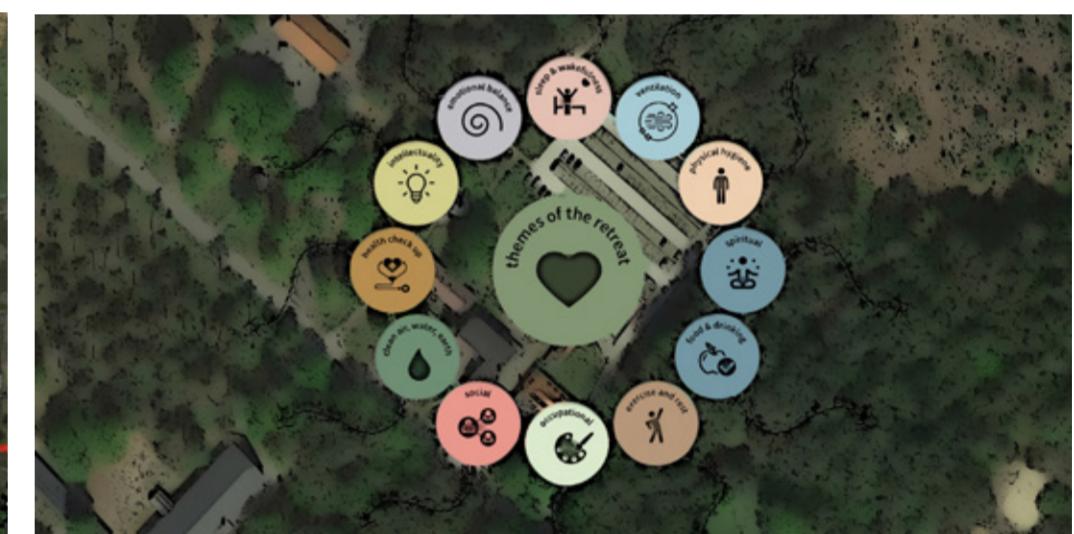
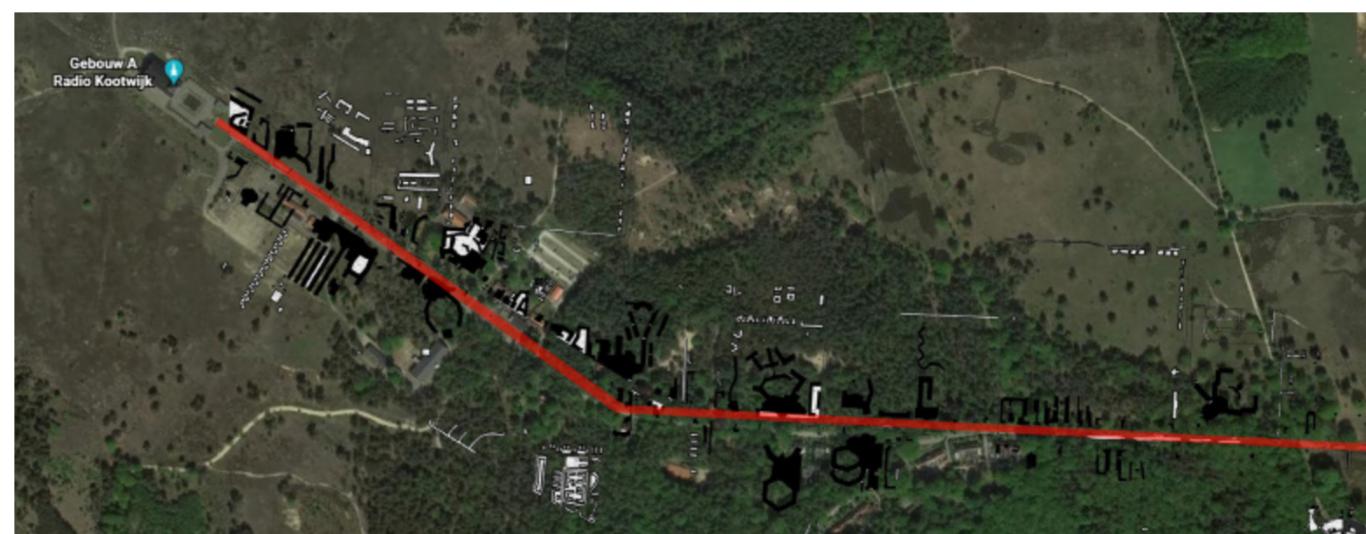
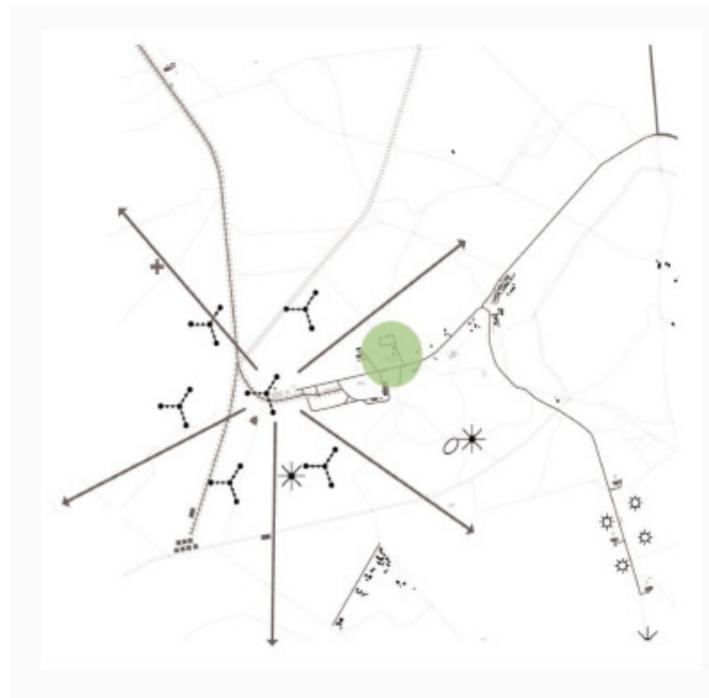
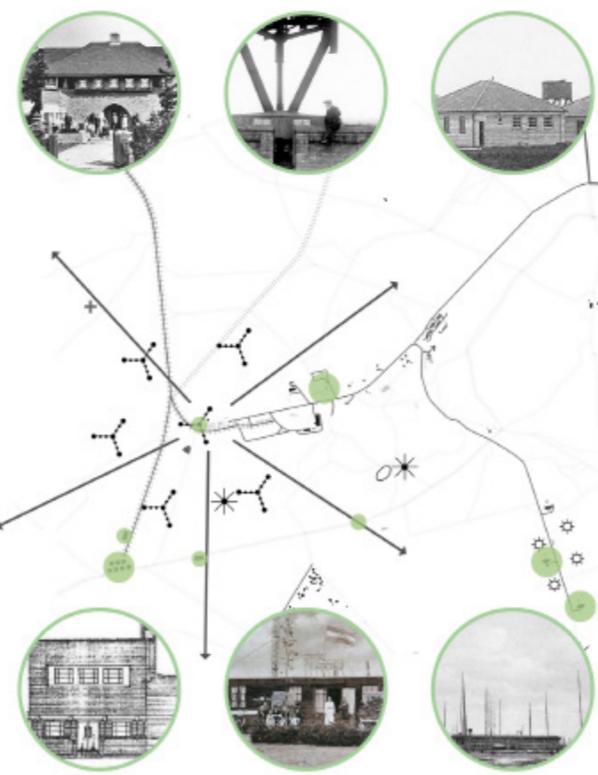
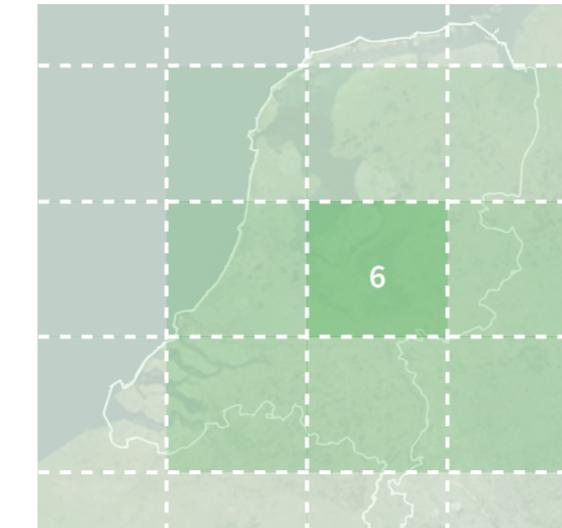
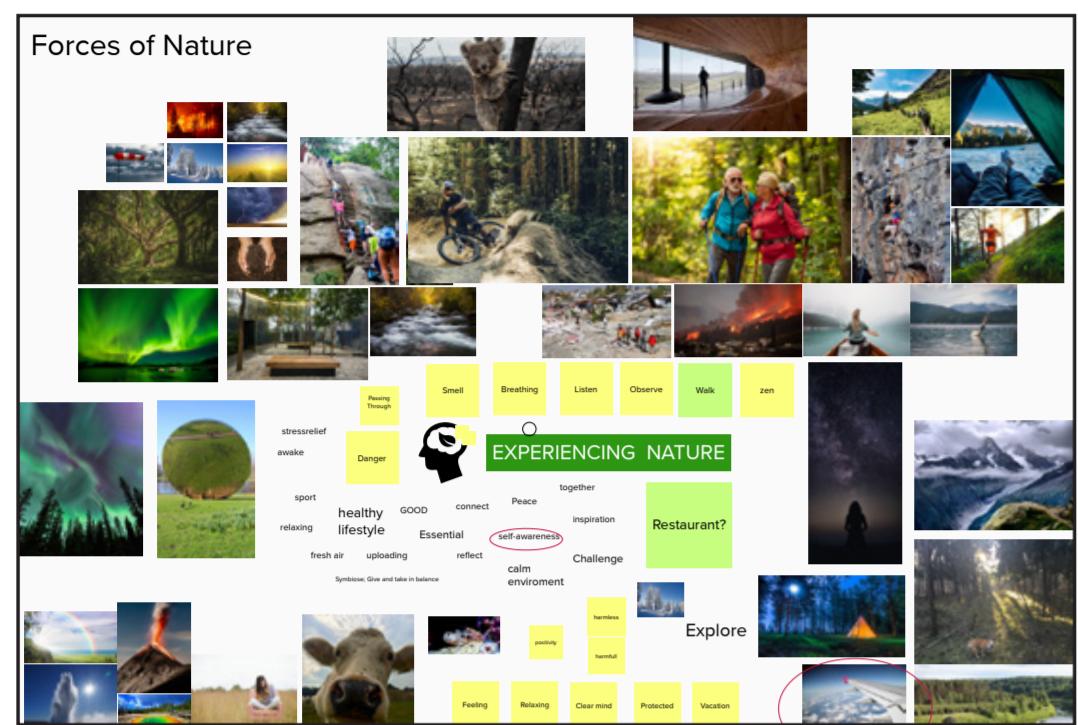


Plan by Instability We Trust (IWT, 2017)

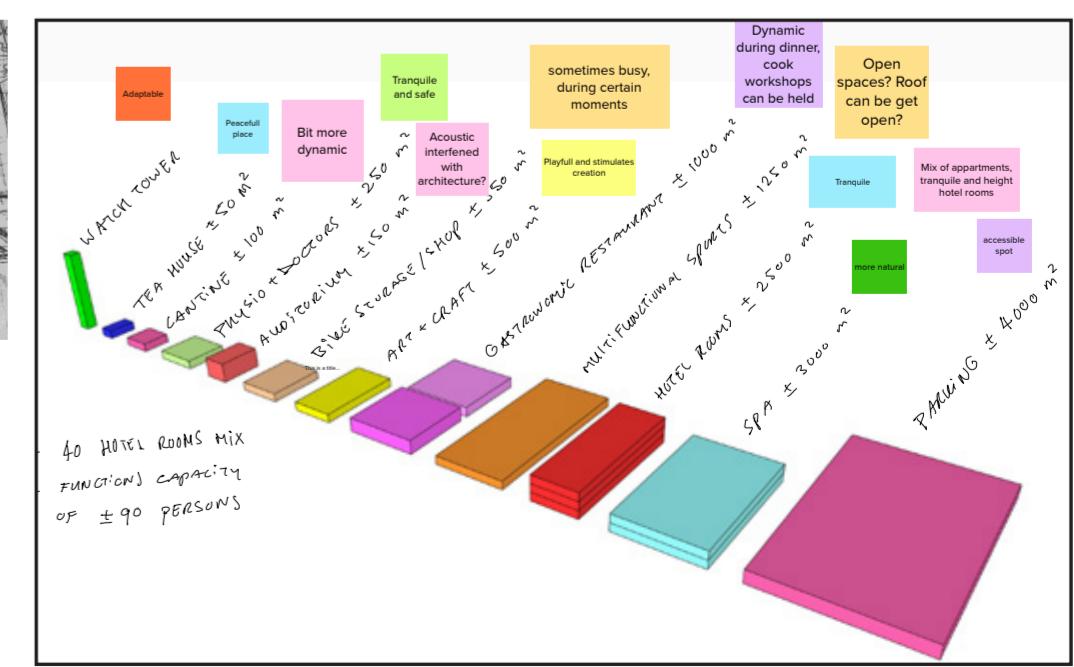
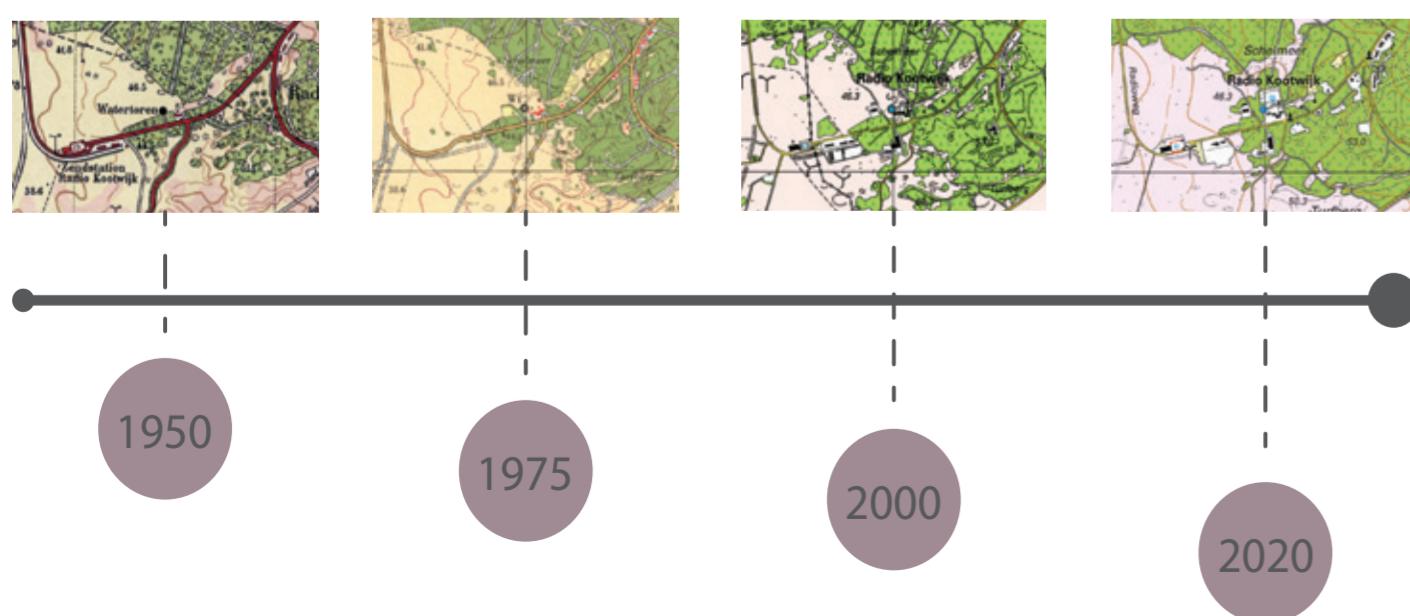


Plan by Natura Futura Arquitectura(Ott, 2021)

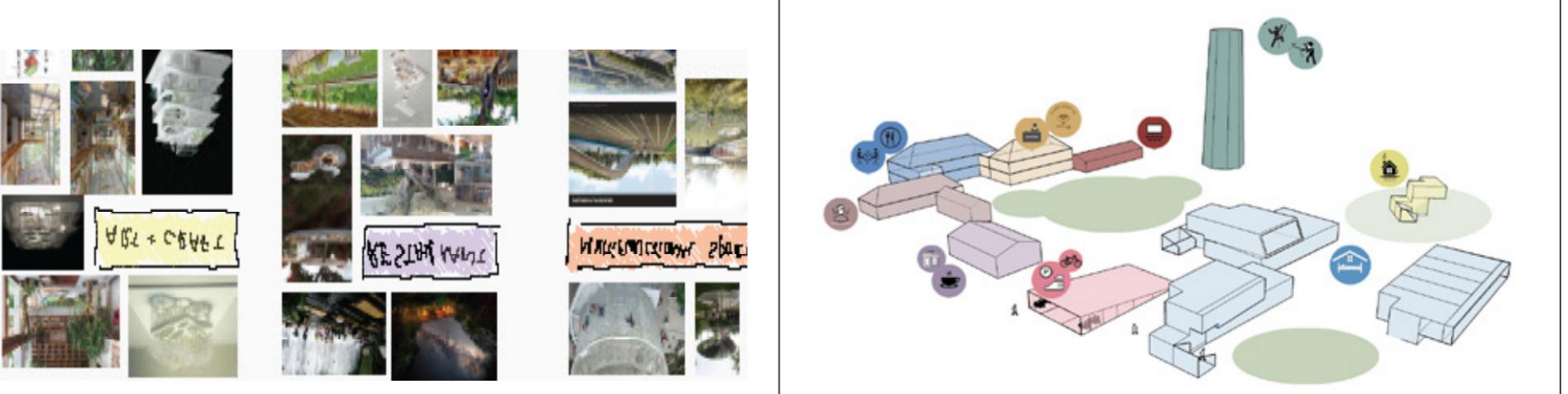
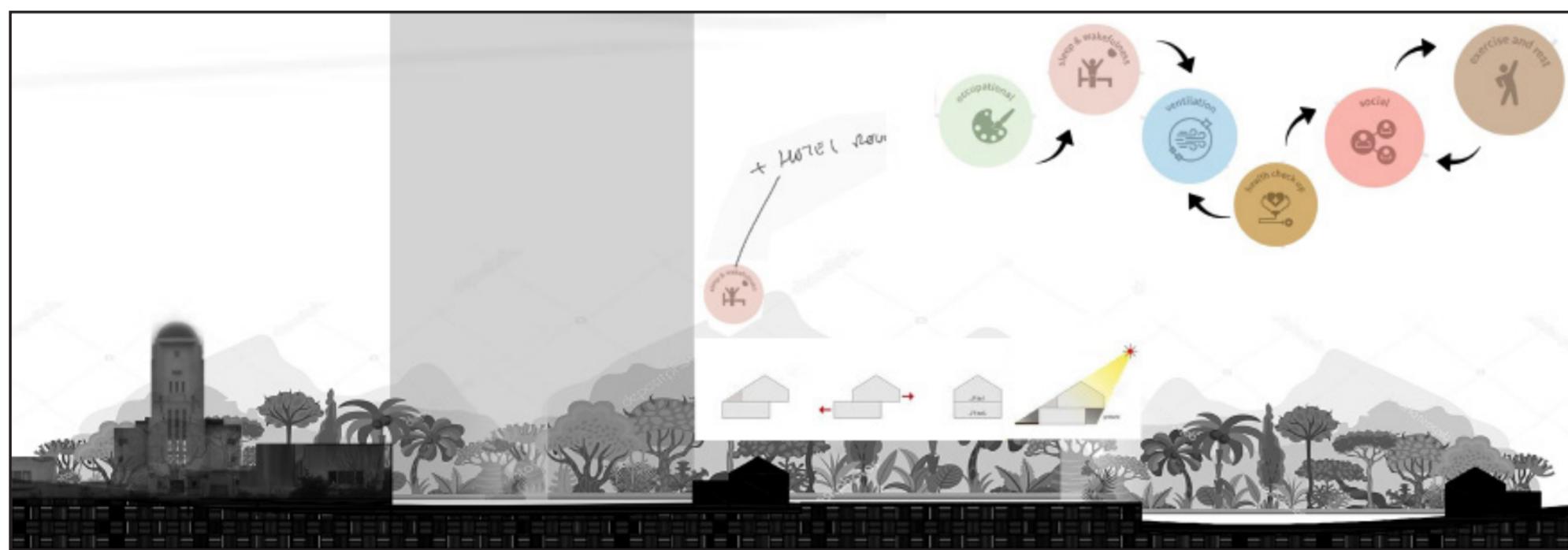
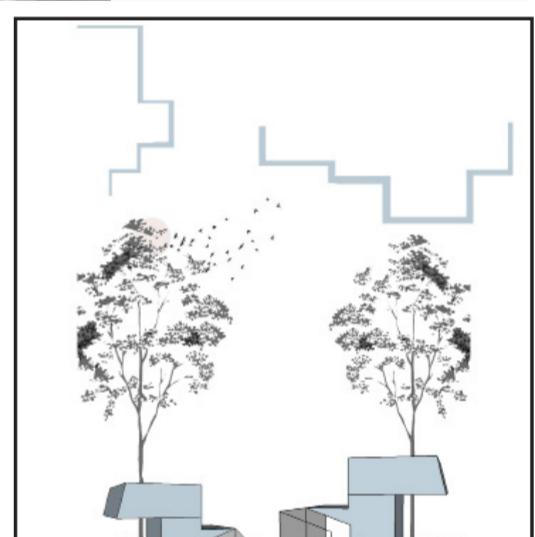
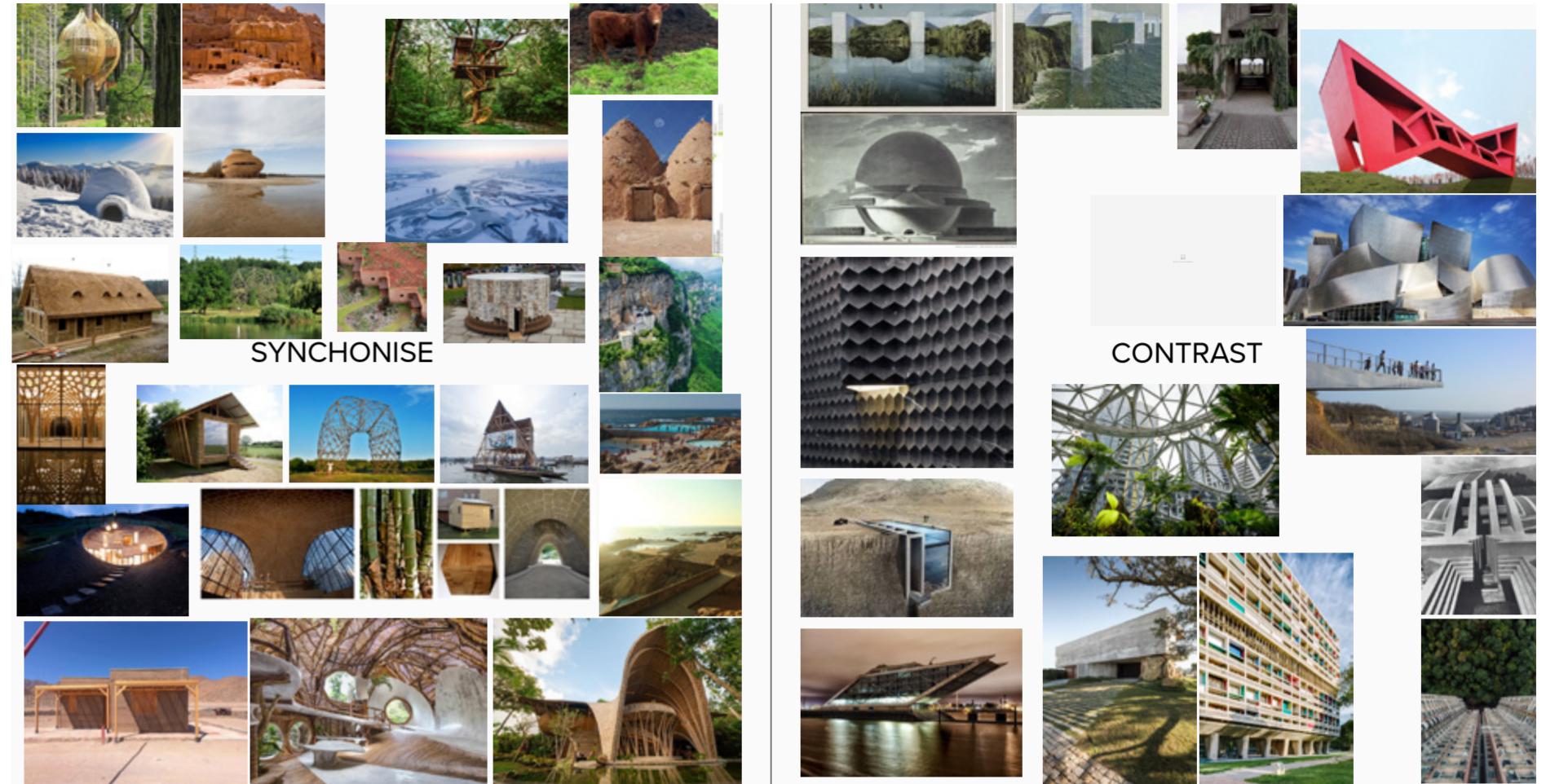
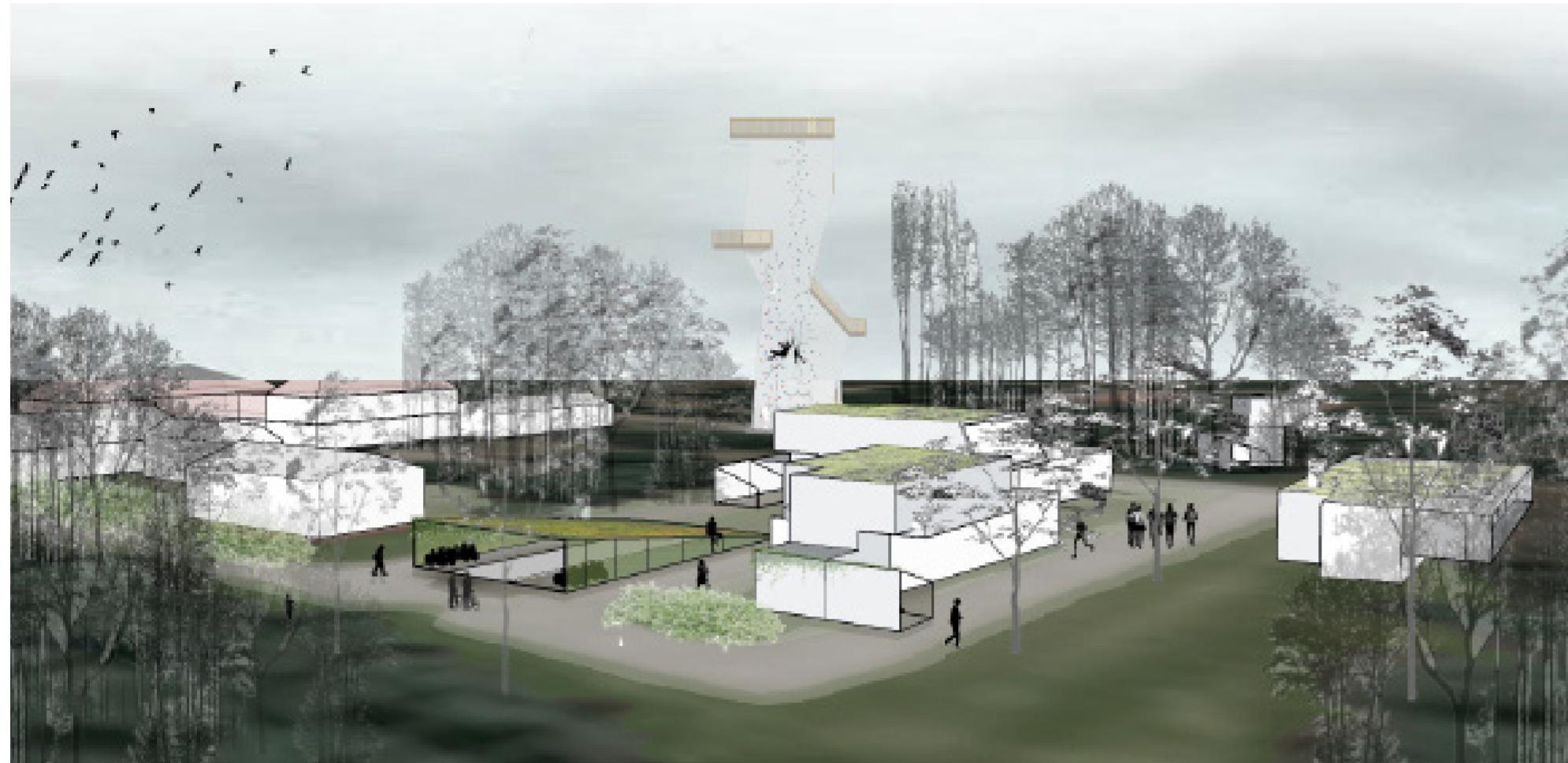
## + 5.1 Winterschool panel 1



Radio Kootwijk through time



## + 5.2 Winterschool panel 2



## + 6.2 Chosen project location plot



**existing**

Based on a scale of observation I consider to respect the existing green room which enters the plot from the west. The water tower (national monument) needs to get surrounded by enough open space so there won't be built around this identity carrier. The open spaces between the existing buildings I want to emphasize even more by making diagonal urban connections. It can be seen as a certain mirror of the existing structure.

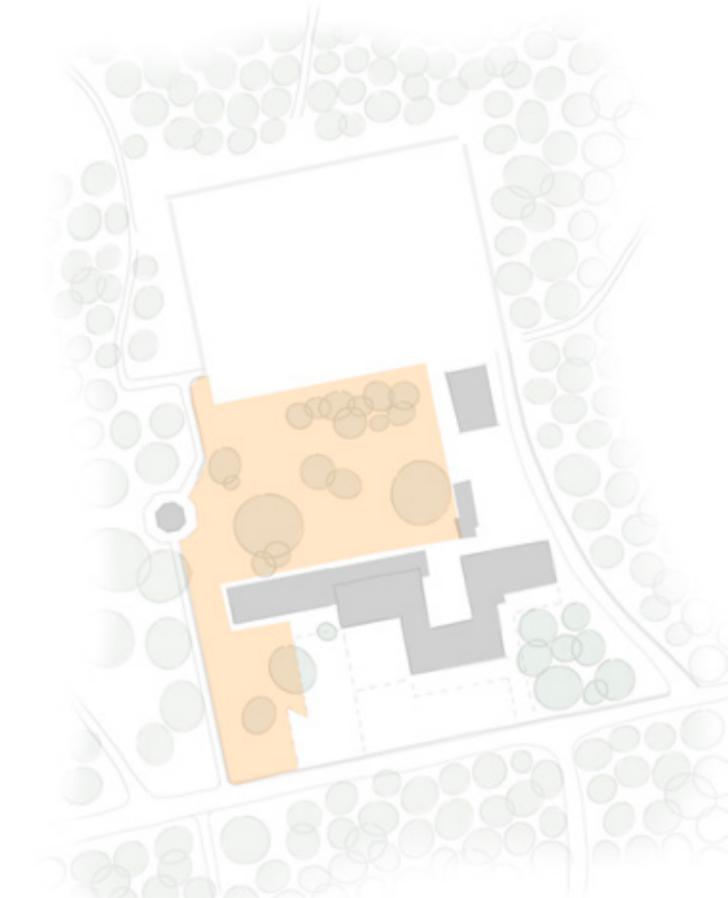
Between these diagonal lines 4 zones are the resultant. In those 4 zones, except the west side the program will be built. This does also mean that the existing parking plot (north zone) will be seen as a chance to built upon. Furthermore by building around the green room an open court yard is being created which serves as the heart of the project.

## + 6.3 Observations



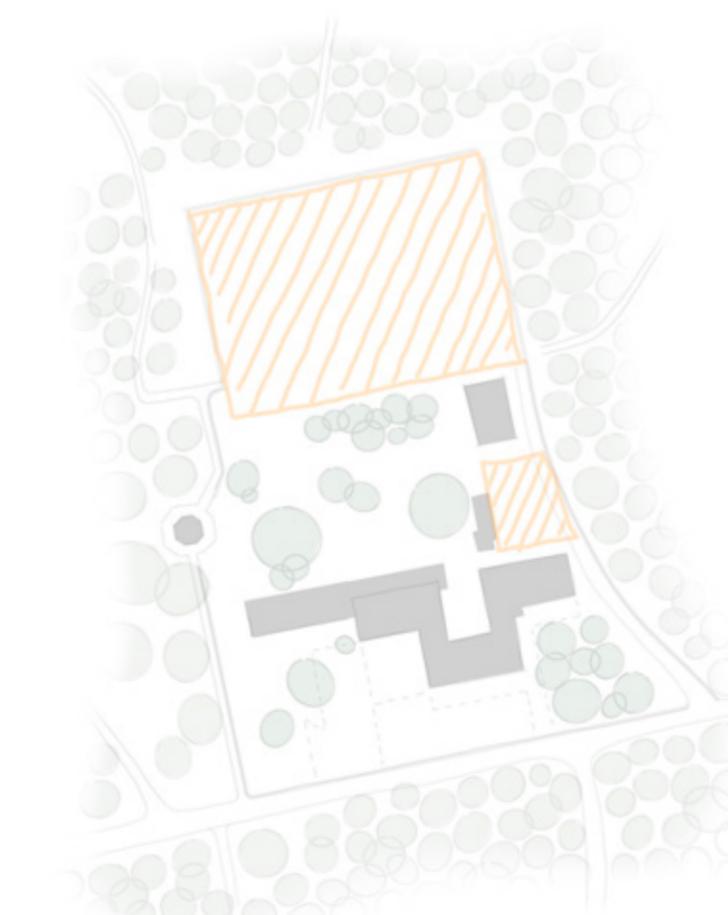
**ENTRANCES**

the existing urban structure does have 5 main paths which leads towards the center



**GREEN ROOM**

from the south side there is already entering a green room towards the plot



**SPACE**

two plots seems to have the biggest potential to built upon

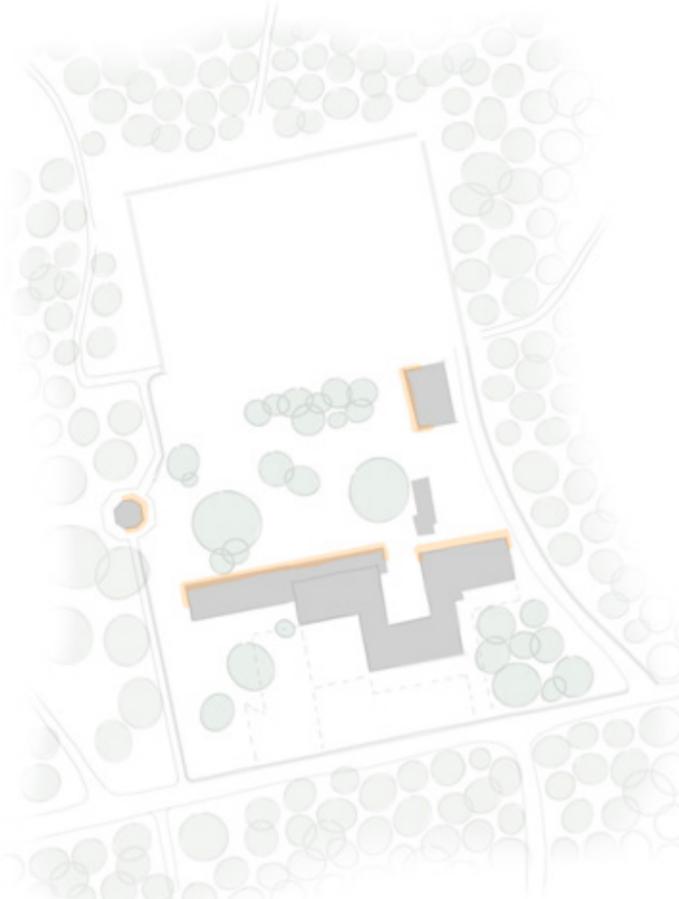


**IN THE PICTURE**

the water tower needs to stay a quality which needs to be in the picture

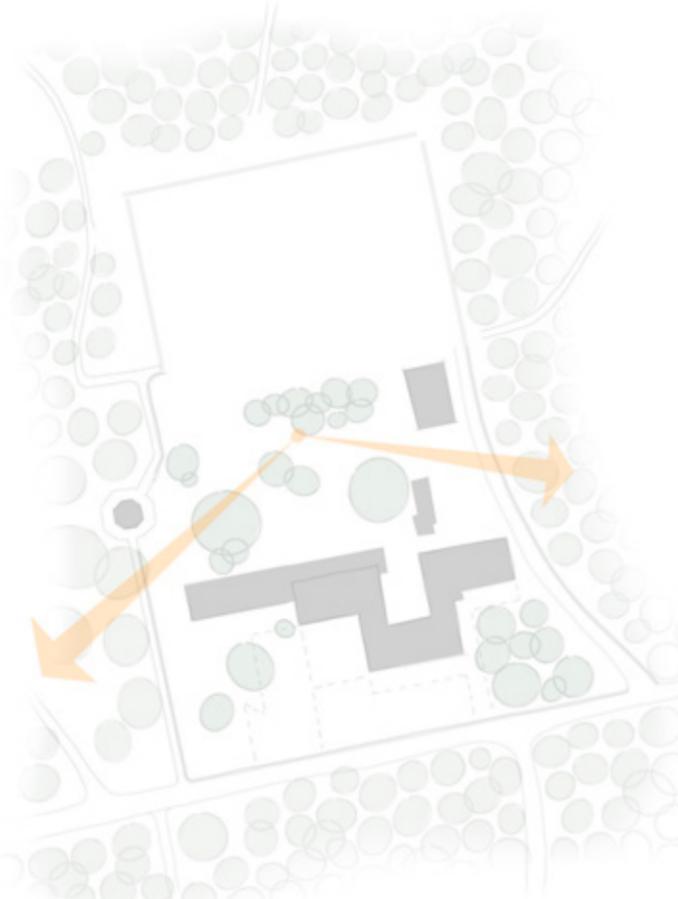


## + 6.3 Observations



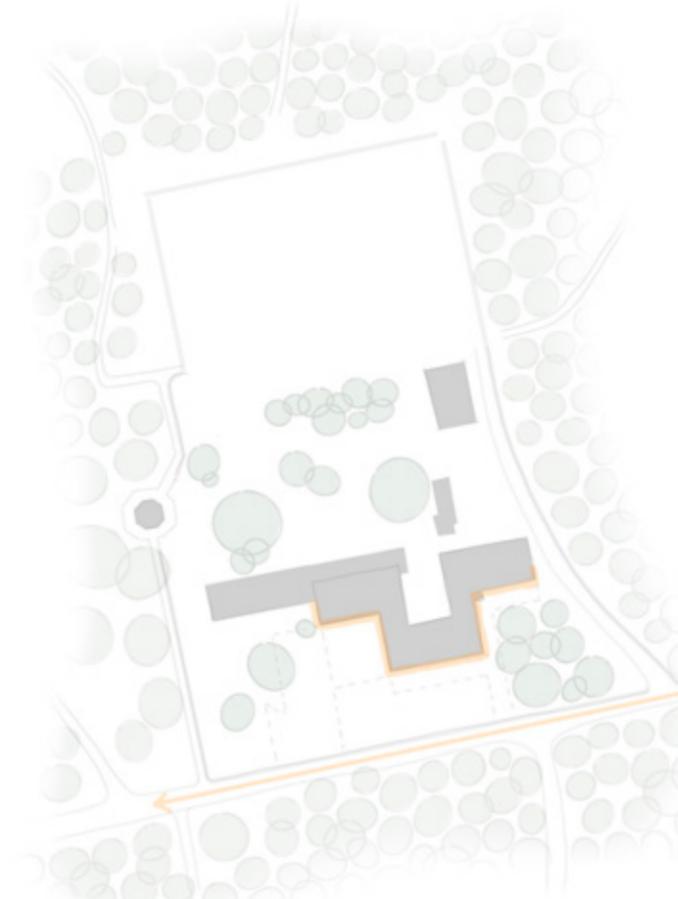
### ENCLOSURE

the existing buildings seems to enclosure the green room for a certain part



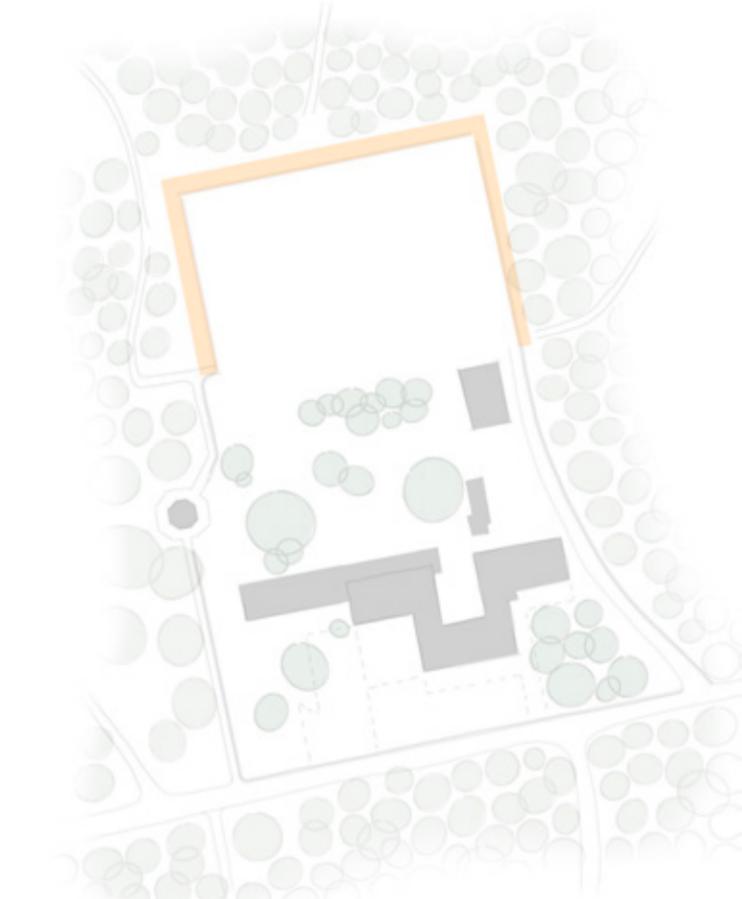
### OPENNESS

between the existing buildings there is openness towards the forest



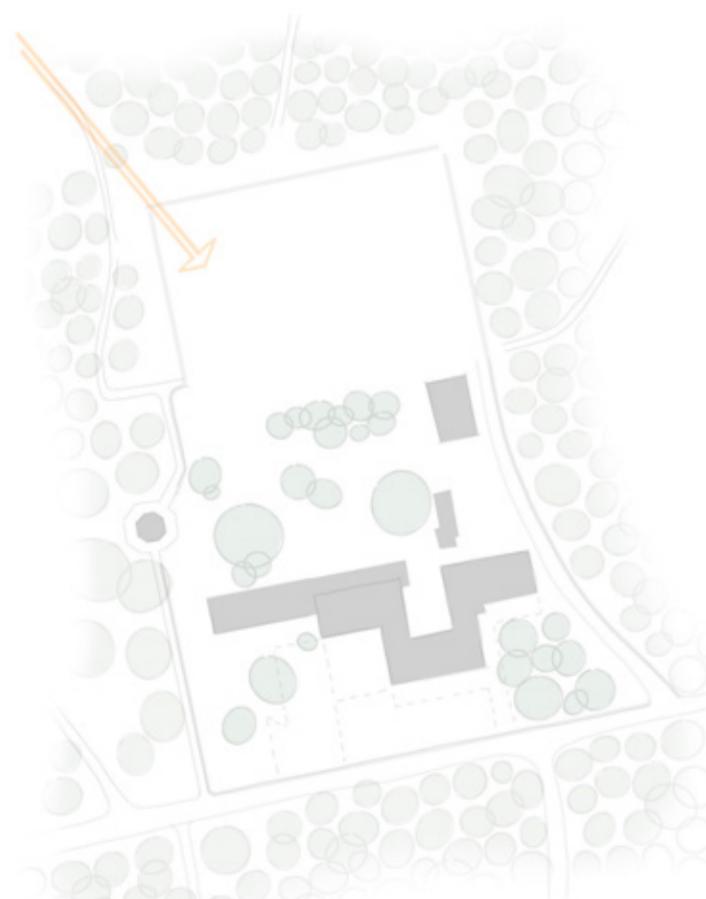
### IDENTITY

the front facade of the former hotel plays a big role in the identity of Radioweg



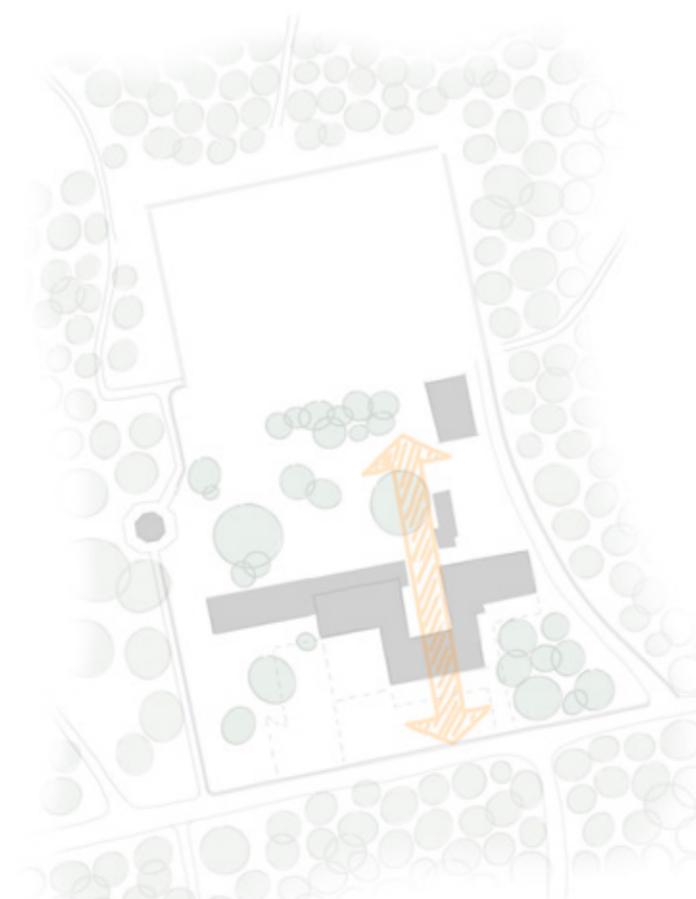
### ENCIRCLEMENT

along the existing parking plot trees do encircle the plot



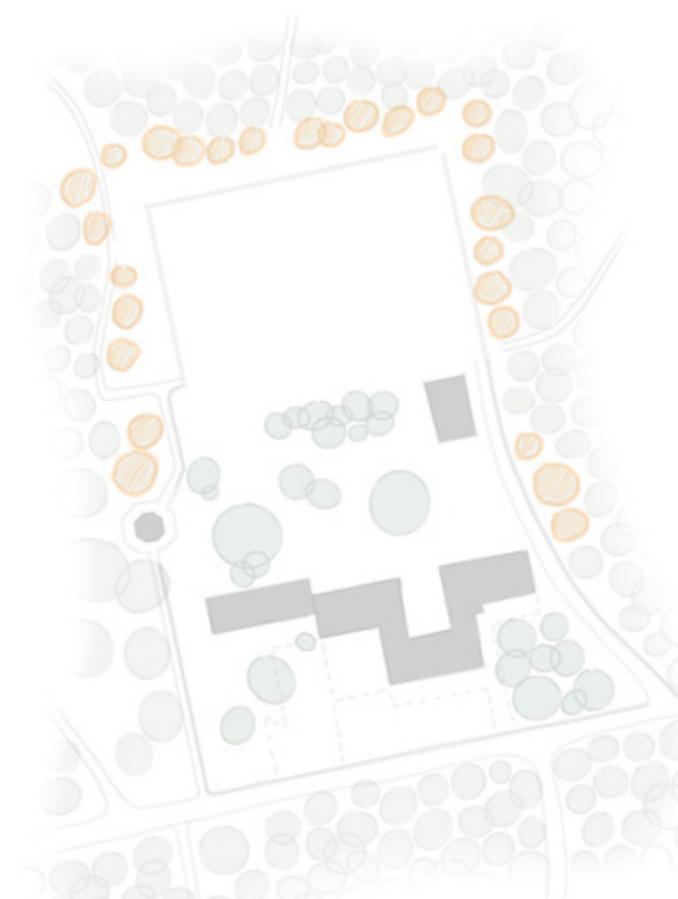
### SIGHT LINE

the walking path from the north-west does have a strong sight line



### PASSAGE

the former hotel does have the potential to get a passage towards the green room



### TREE HEIGHT

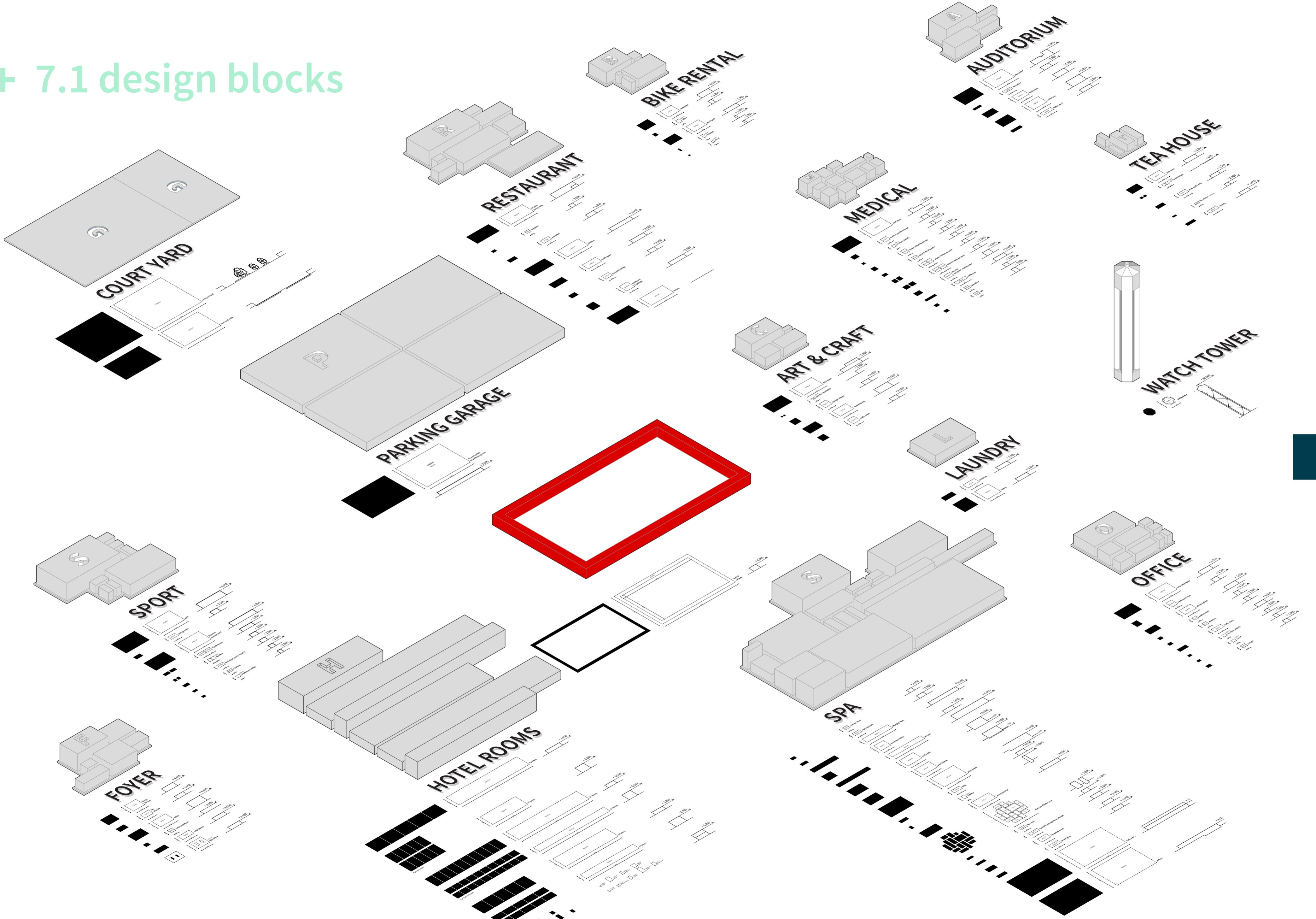
important is to stay beneath the height of the existing trees that encircle the plot



### CONFIGURATION

as well as the former hotel as the old stable does have a similar building grain

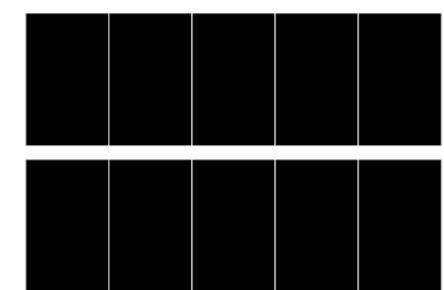
+ 7.1 design blocks



# + 7.1 Design blocks

## Hotel rooms

3 principes met 6 mogelijkheden



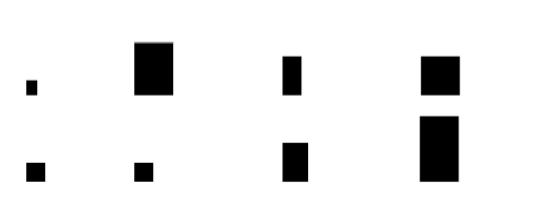
4 person room



1 or 2 person room



3 person room



hotel room



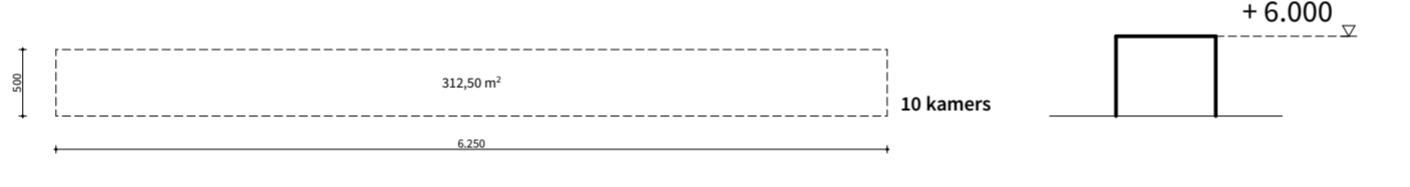
+ 3.000



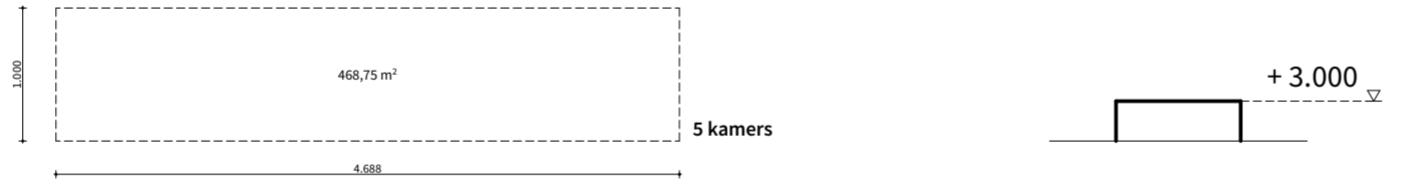
+ 6.000



+ 3.000



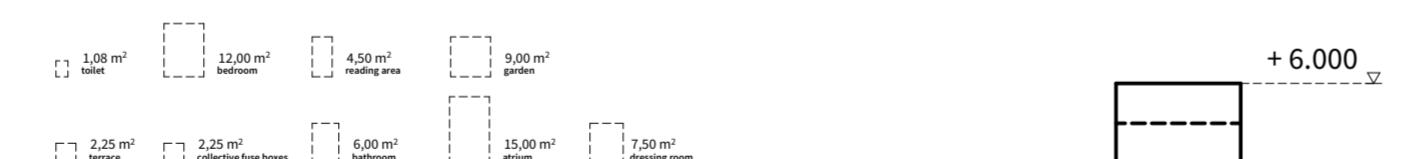
+ 6.000



+ 3.000



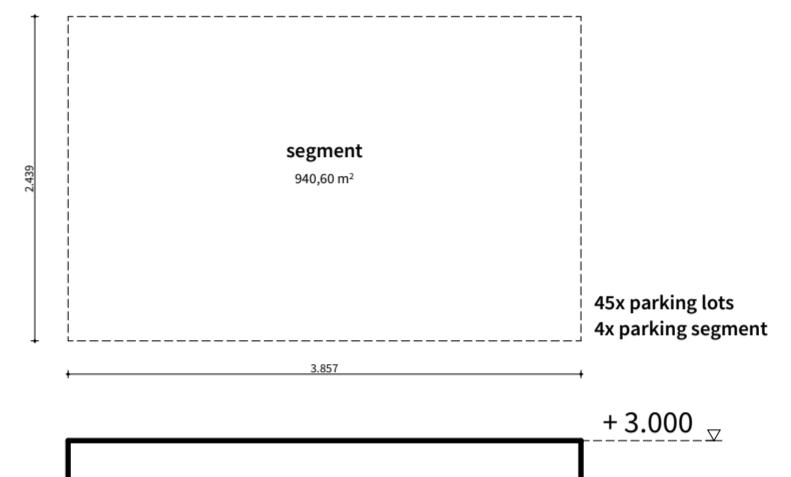
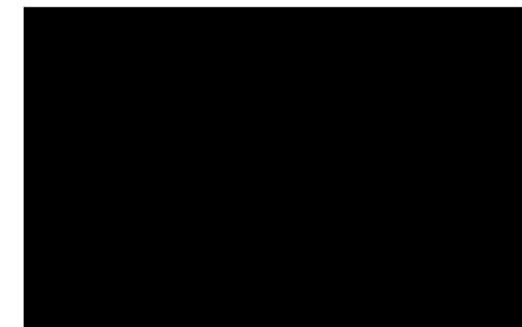
+ 6.000



+ 6.000

## Parkeren

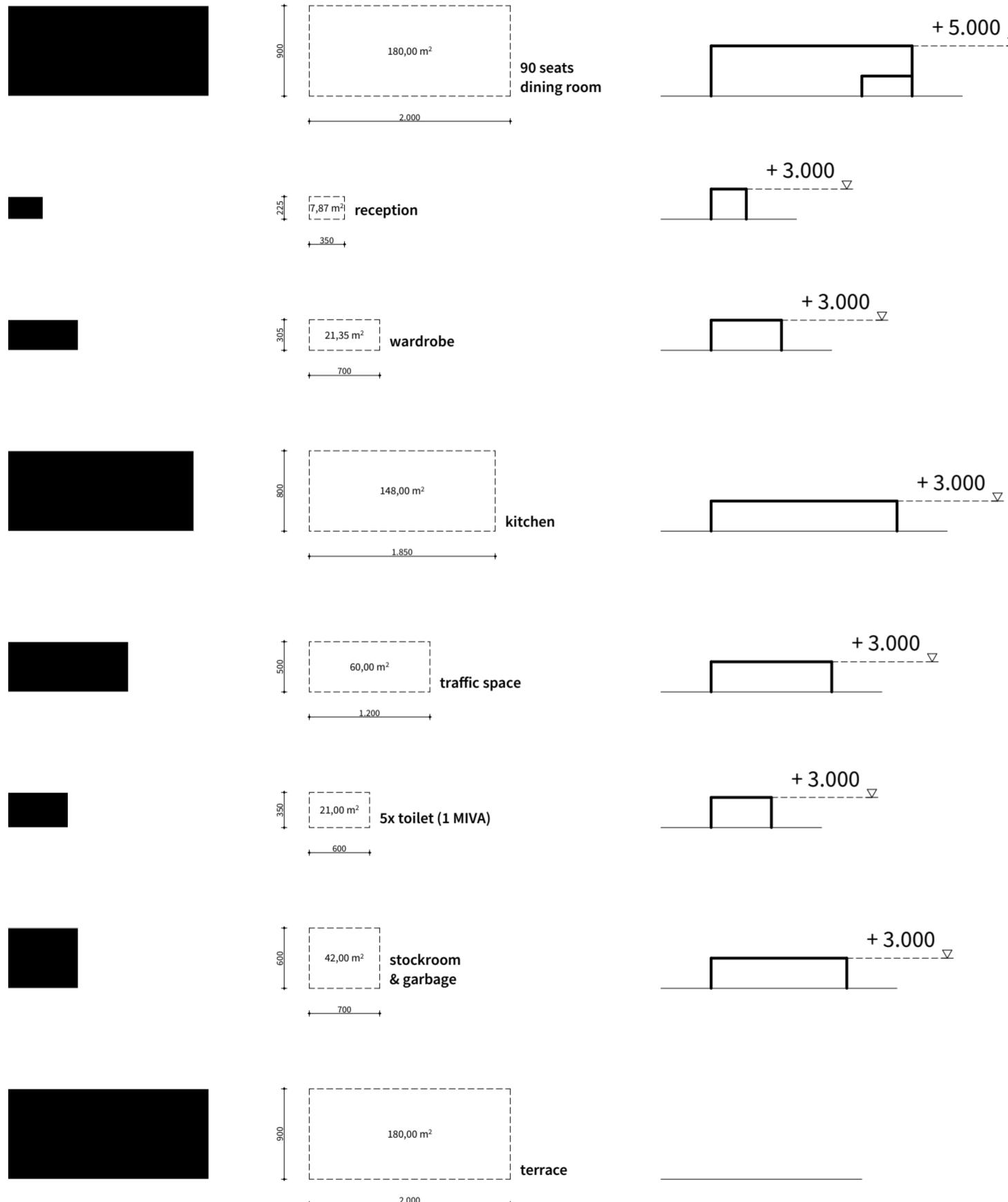
Rekening houden met MIVA en elektrisch laden



# + 7.1 Design blocks

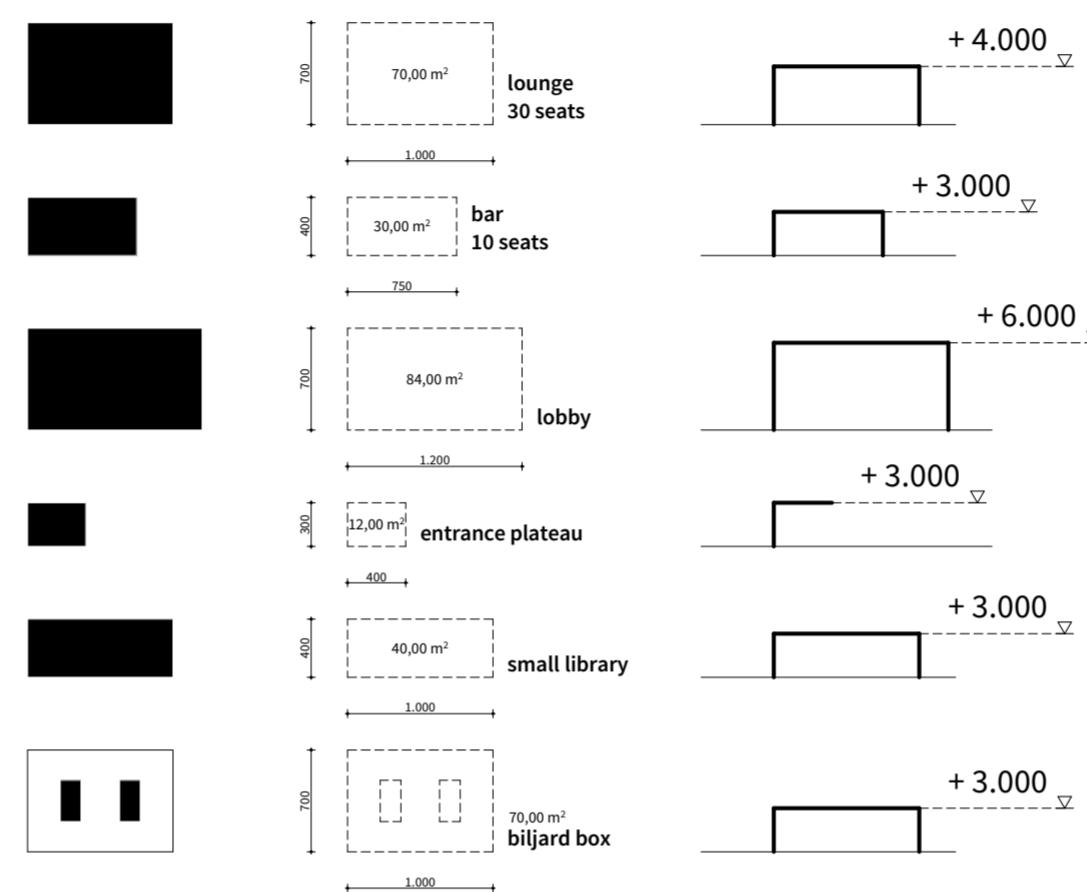
## Restaurant

Public



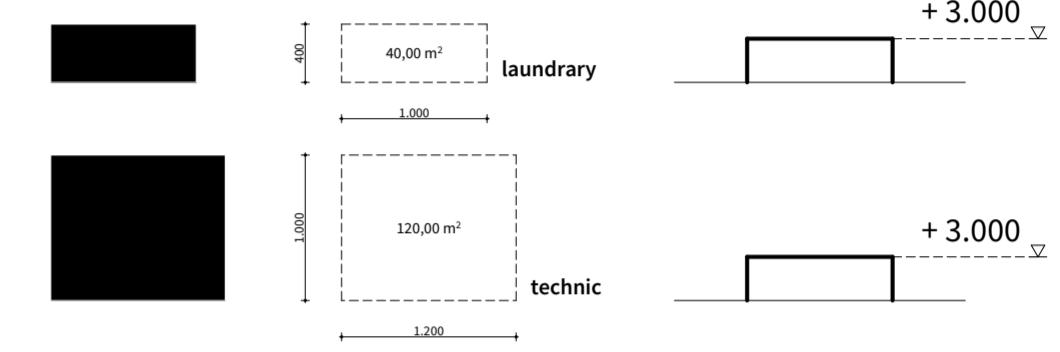
## Foyer, lounge and lobby

Rekening houden met Foyer



## dienst and technical space

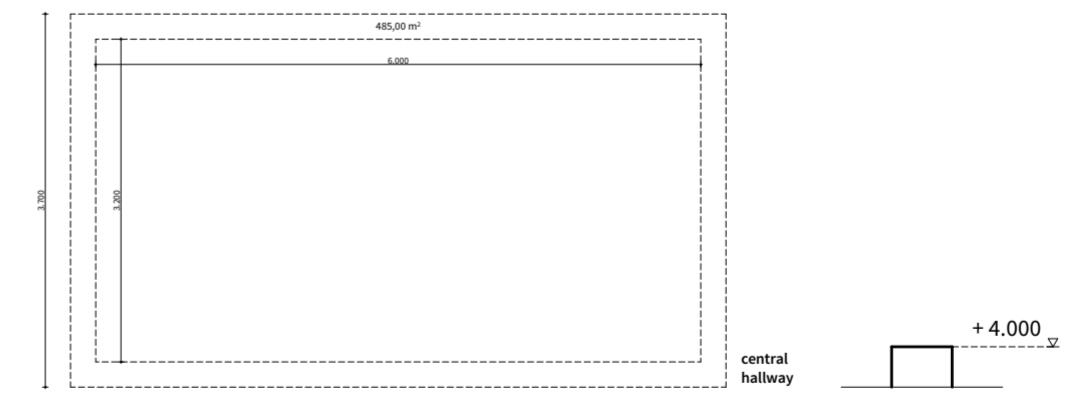
mogelijk combineren met magazijn



M<sup>2</sup>

## Loop

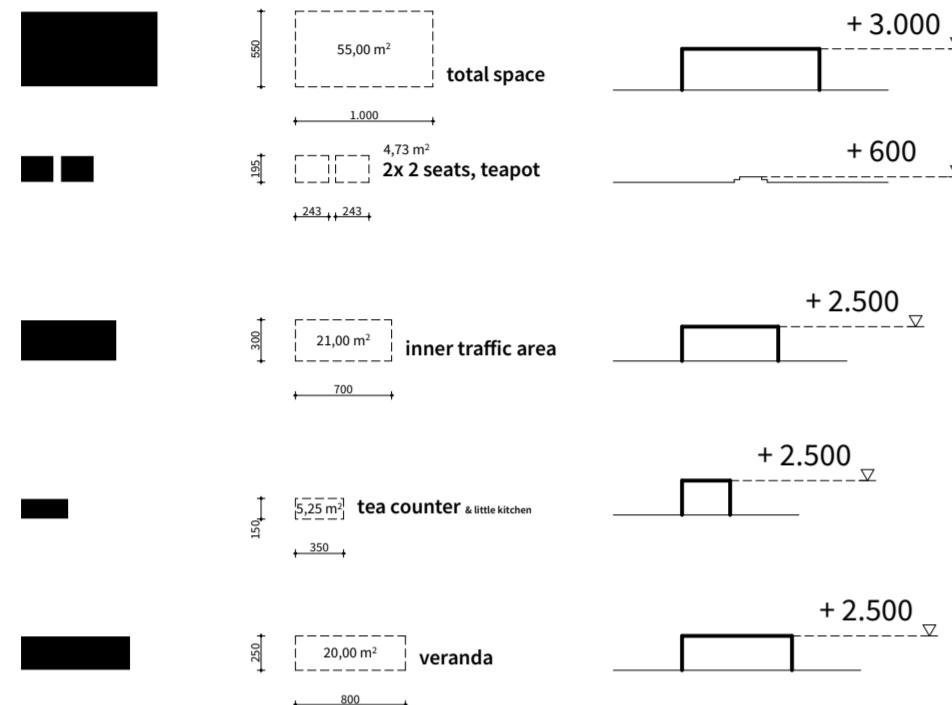
hallway loop



# + 7.1 Design blocks

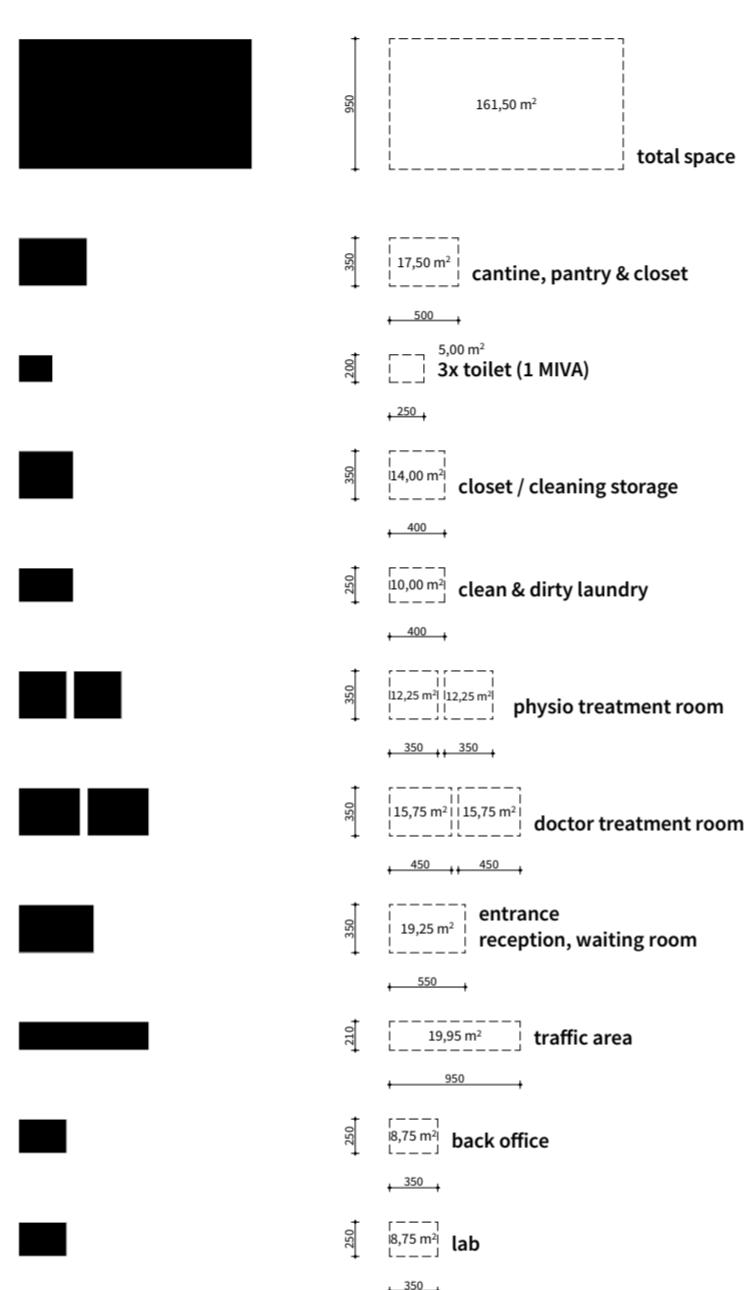
# tea pavilion

middle of the courtyard



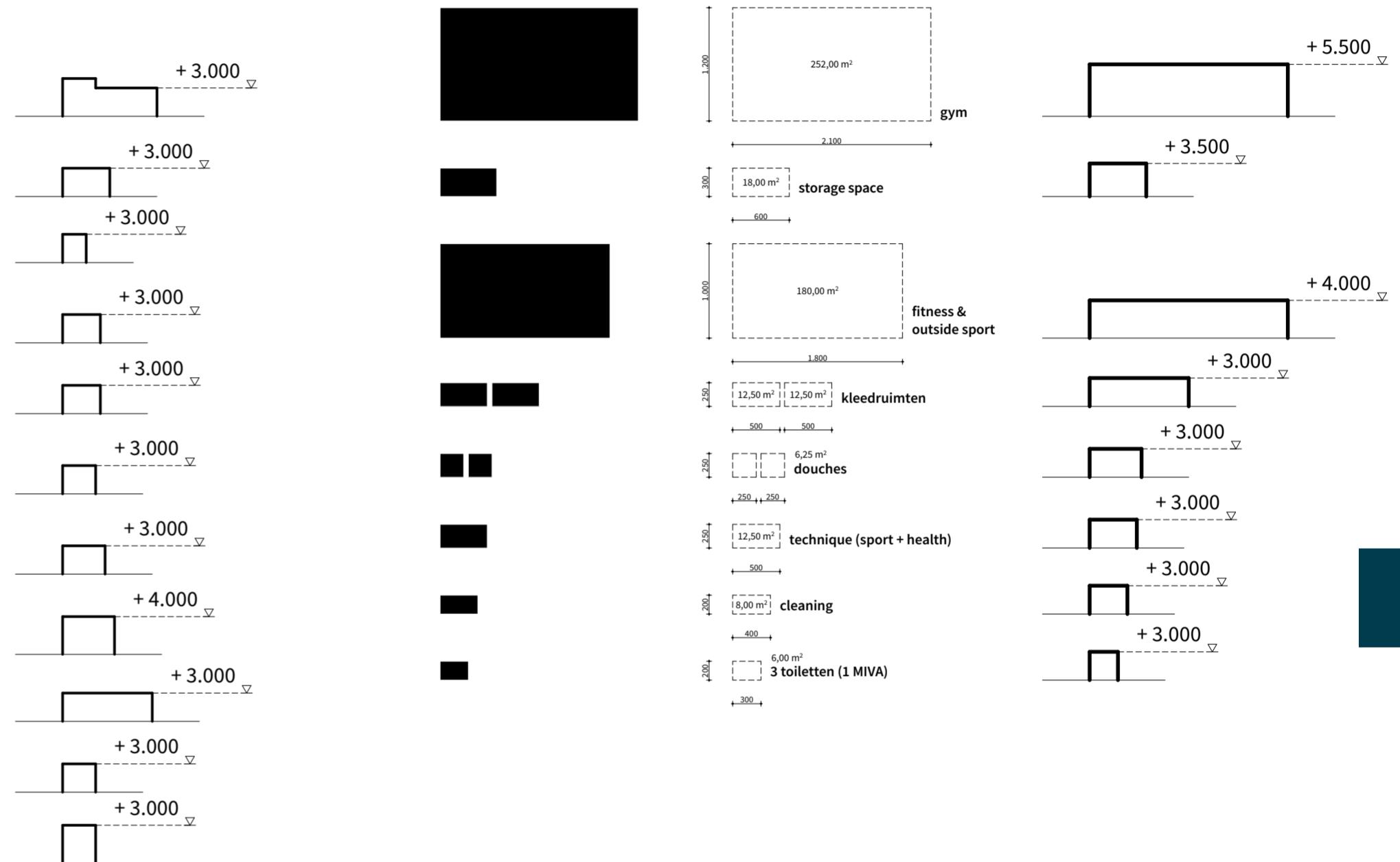
# **physio & doctors**

health check up and intake



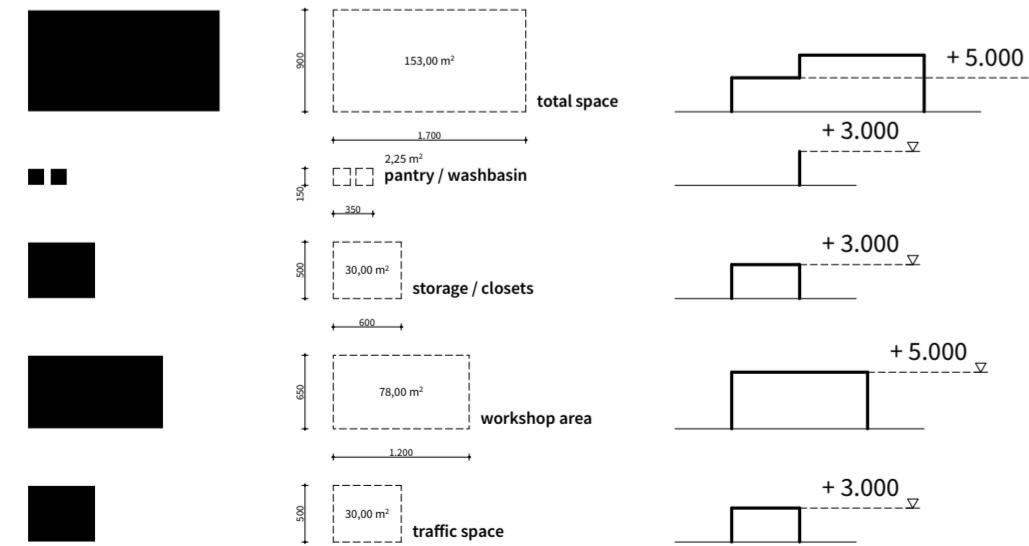
# Sports

intergaal geheel met douches, kleedruimten en toiletten



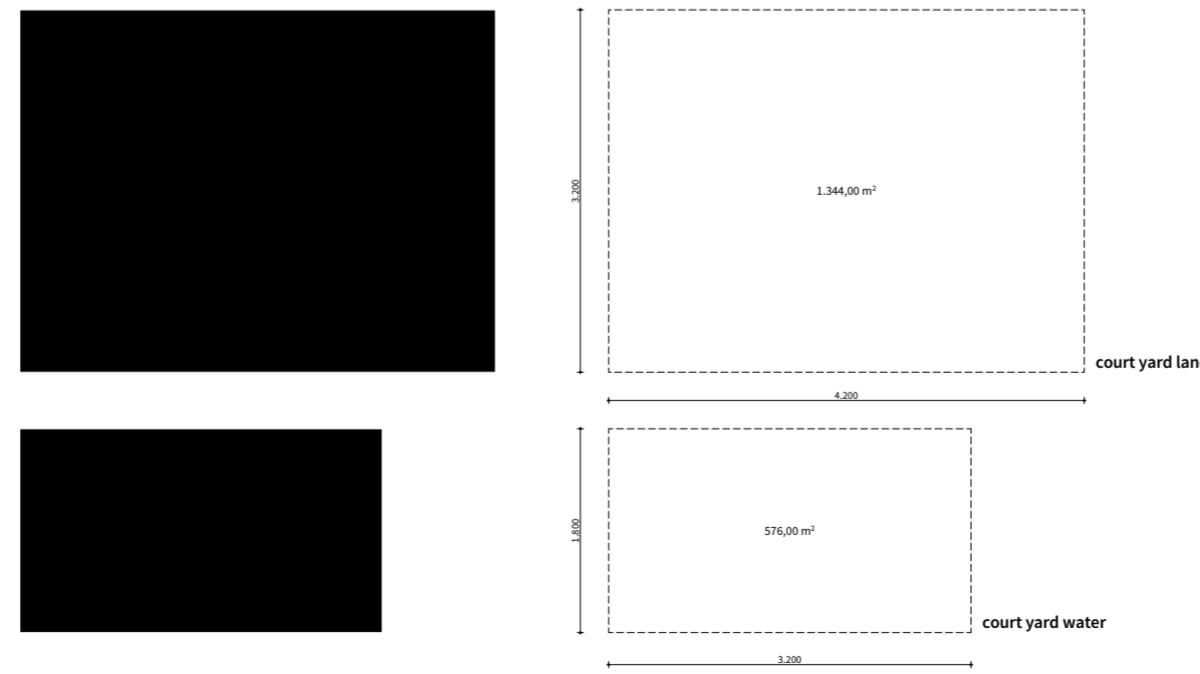
art & craft

mogelijk combineren met magazijn



**court yard**

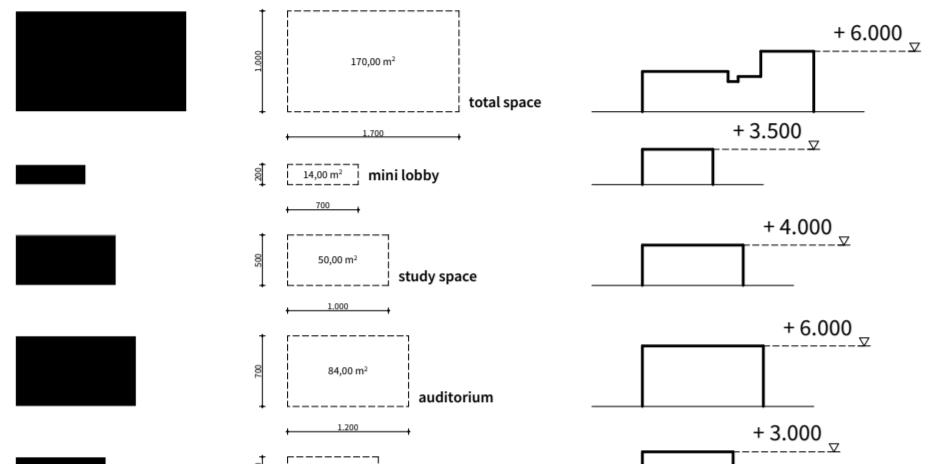
combined with tea house



# + 7.1 Design blocks

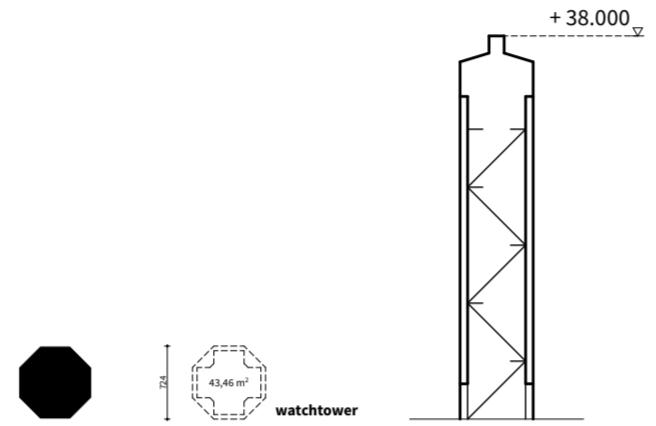
## Auditorium

Combined with study space and mini lobby



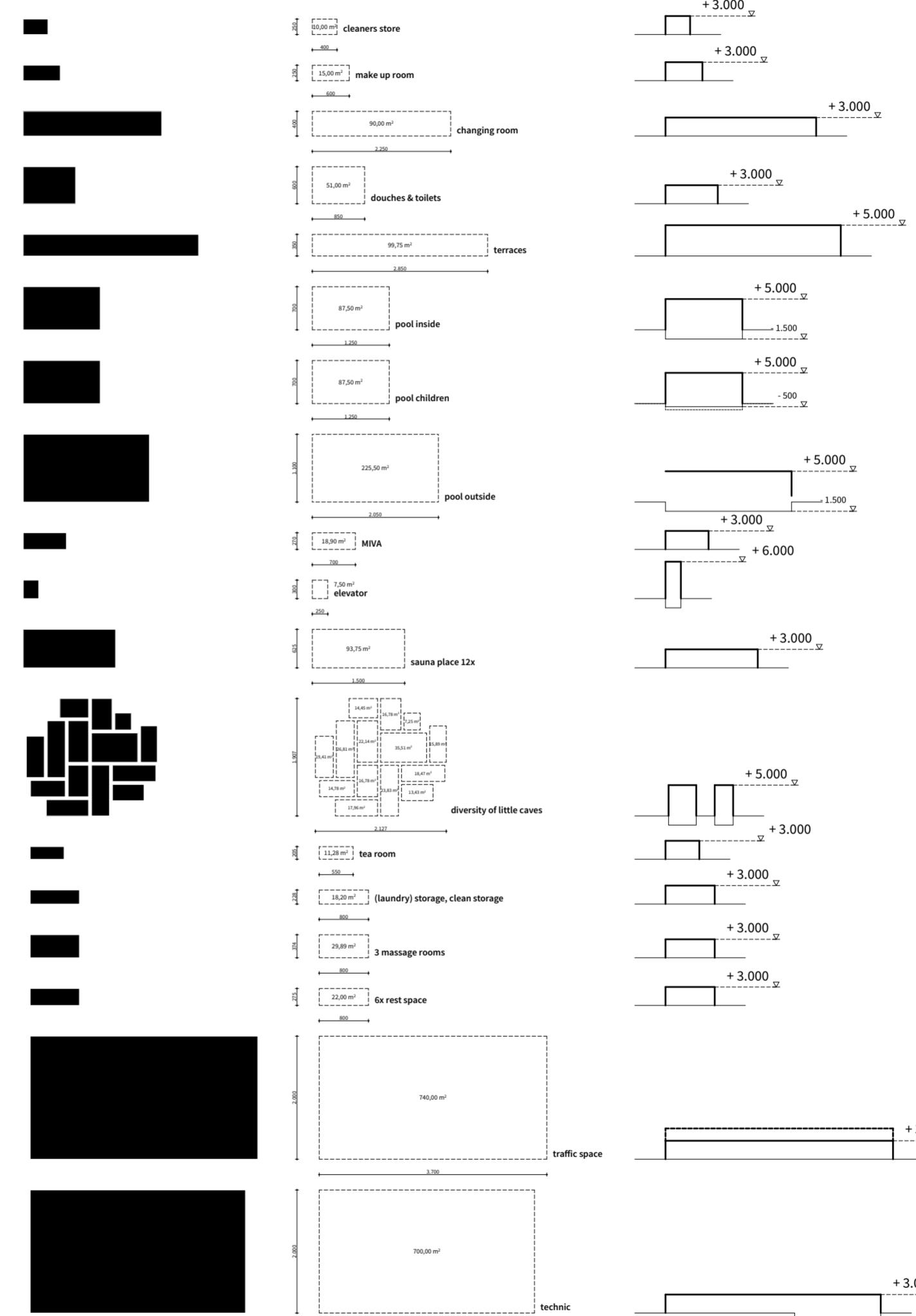
## Watch tower

Combined with study space and mini lobby



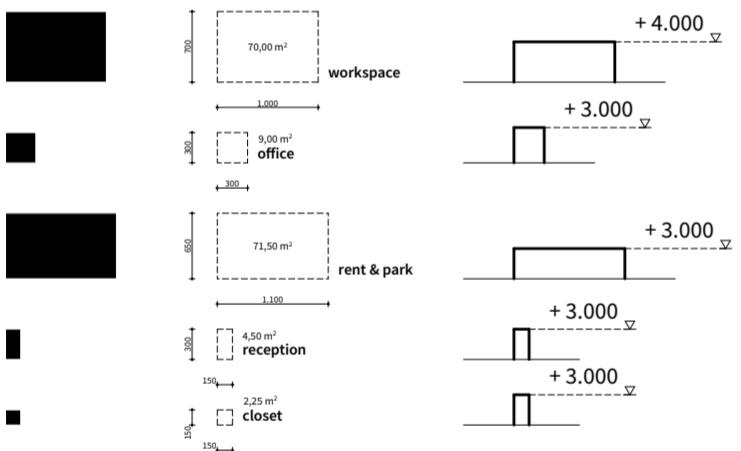
## Spa

Combined with study space and mini lobby



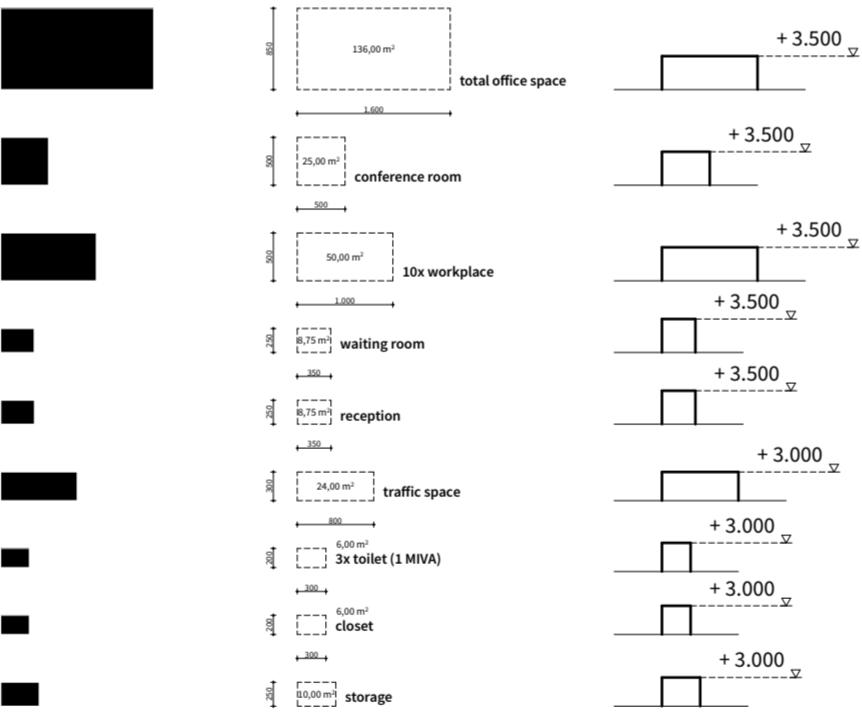
## Bike rental

Combined with study space and mini lobby

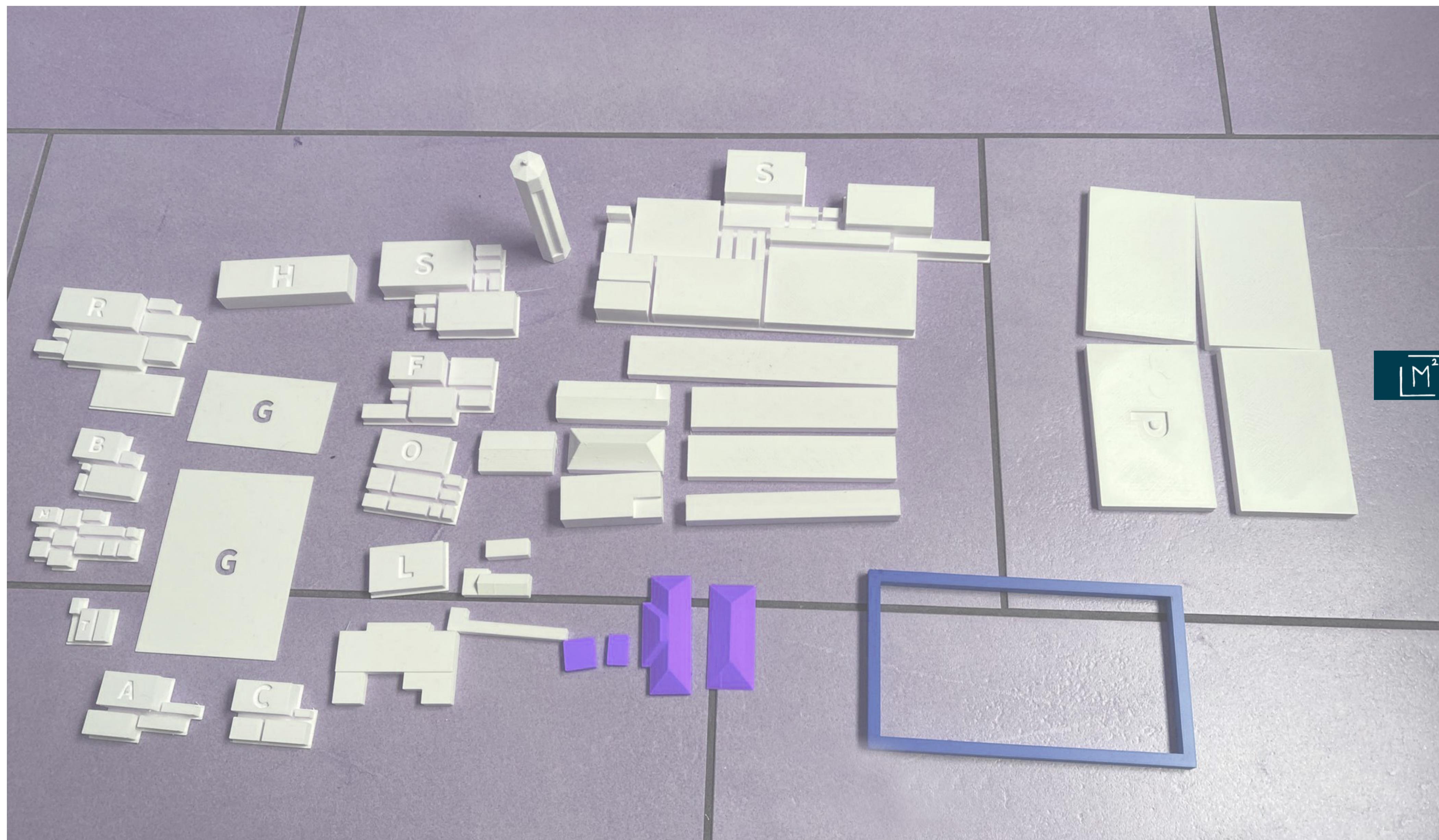


## Offices

Combined with study space and mini lobby



## + 7.2 Overview of the 3D printed program



## + 8.1 Exploring design possibilities



Option A  
3 parts gradually towards landscape



Option C  
break line with new approach



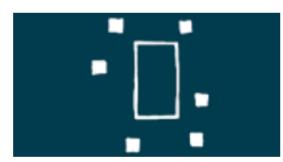
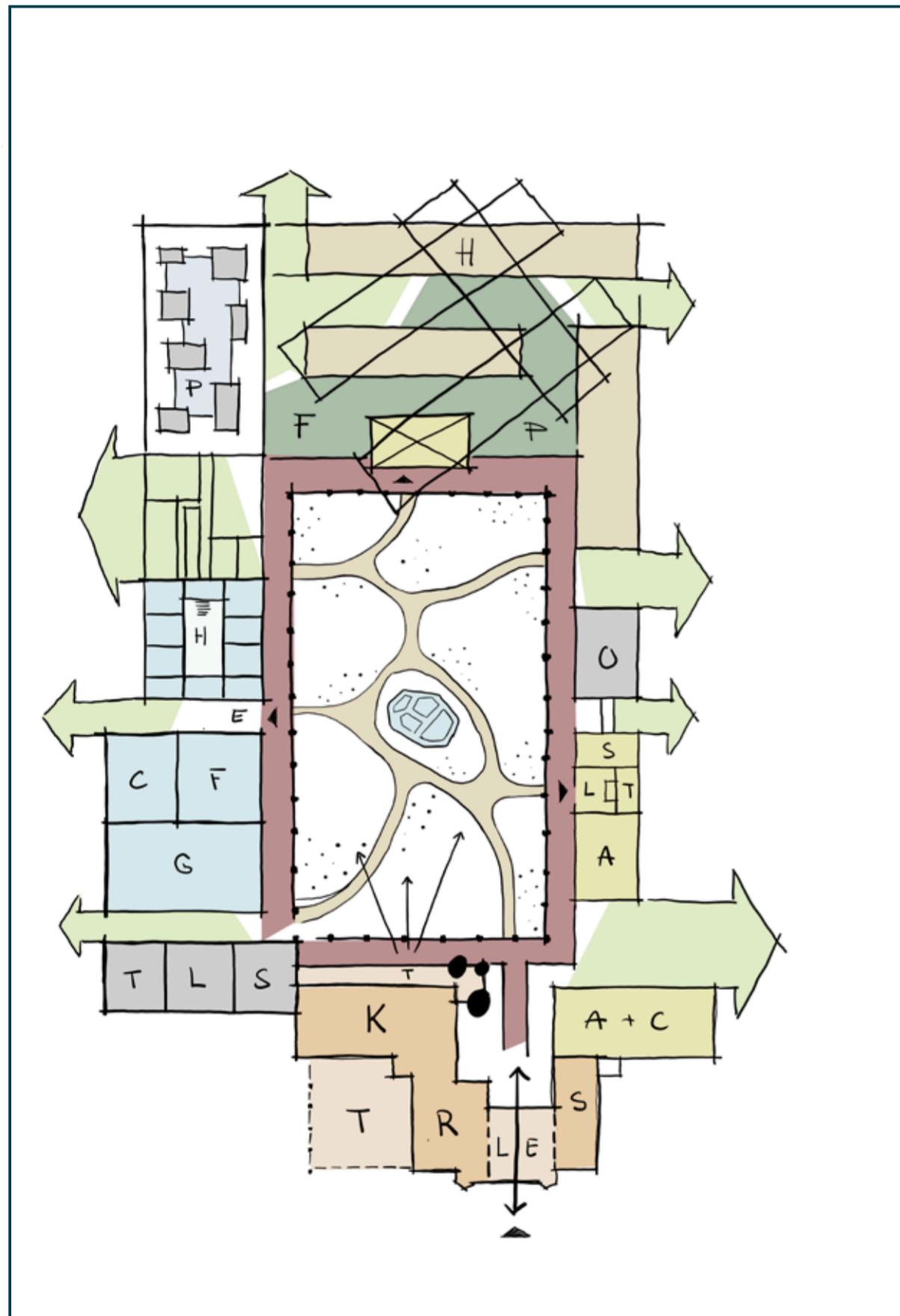
Option B  
3 different parts



Option D  
central courtyard surrounded with interventions

Definitive  
design direction

## + 8.2 three designs are being tested



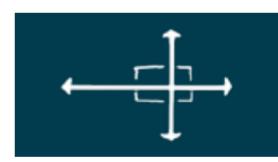
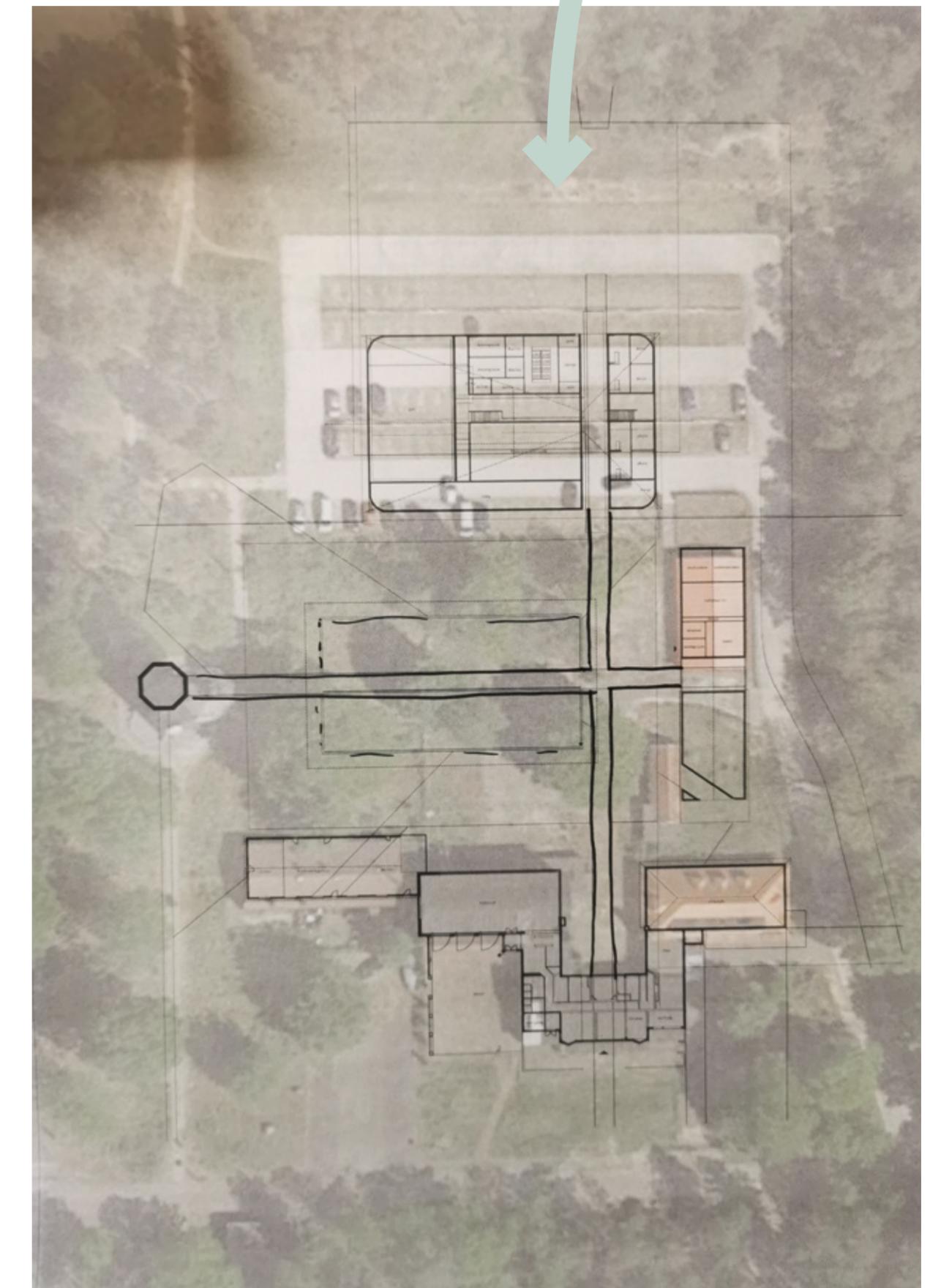
**9.1 Design direction 1**

The loop forms the base of the design. The program is placed around this loop. This creates an inner garden which stand almost on its own. A special place, which stands alone from the surroundings.



**9.2 Design direction 2**

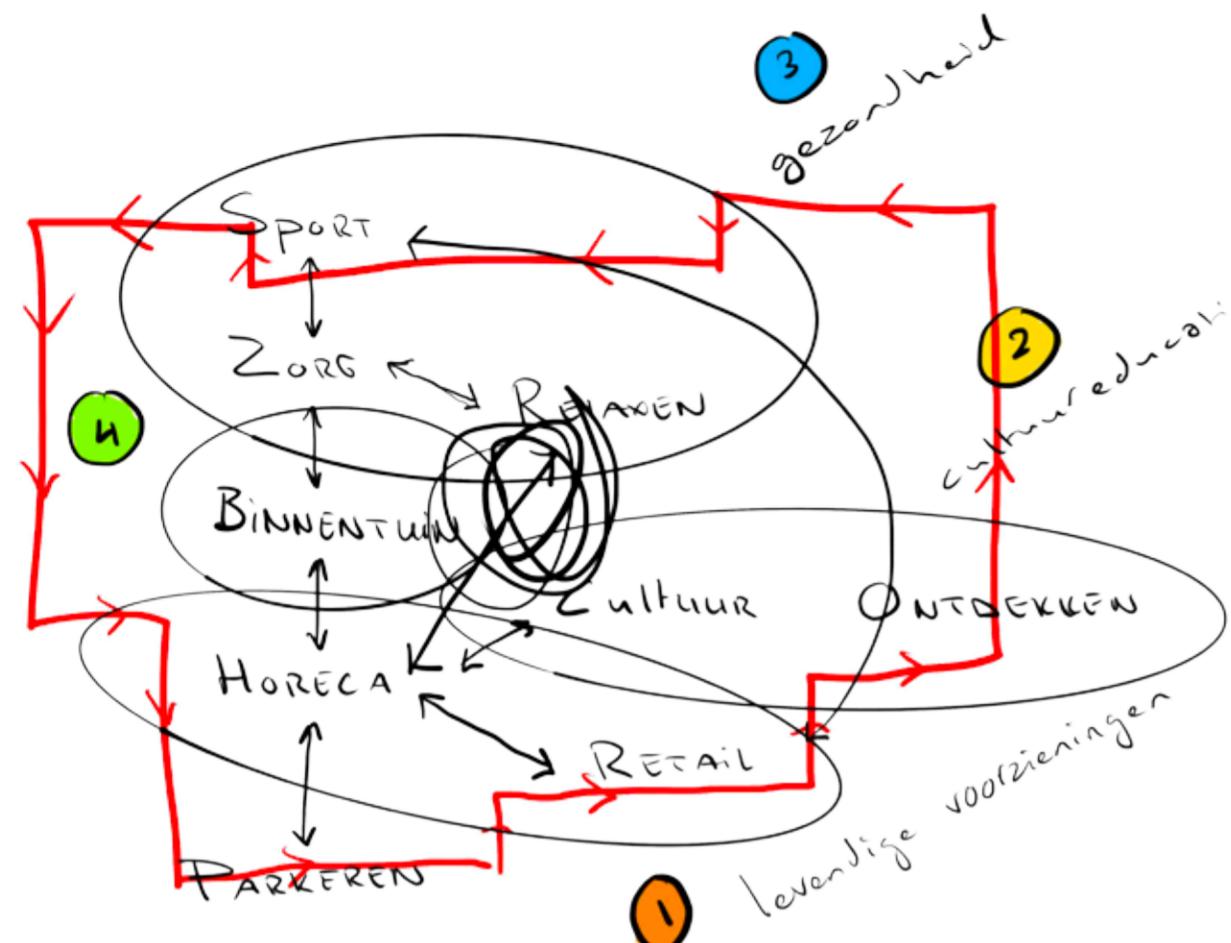
This design direction is based on densifying the program on the north side of the plot. A smaller piece of the program has been divided over the east and center-north. The existing green room, and thus the trees are being respected.



**9.3 Design direction 3**

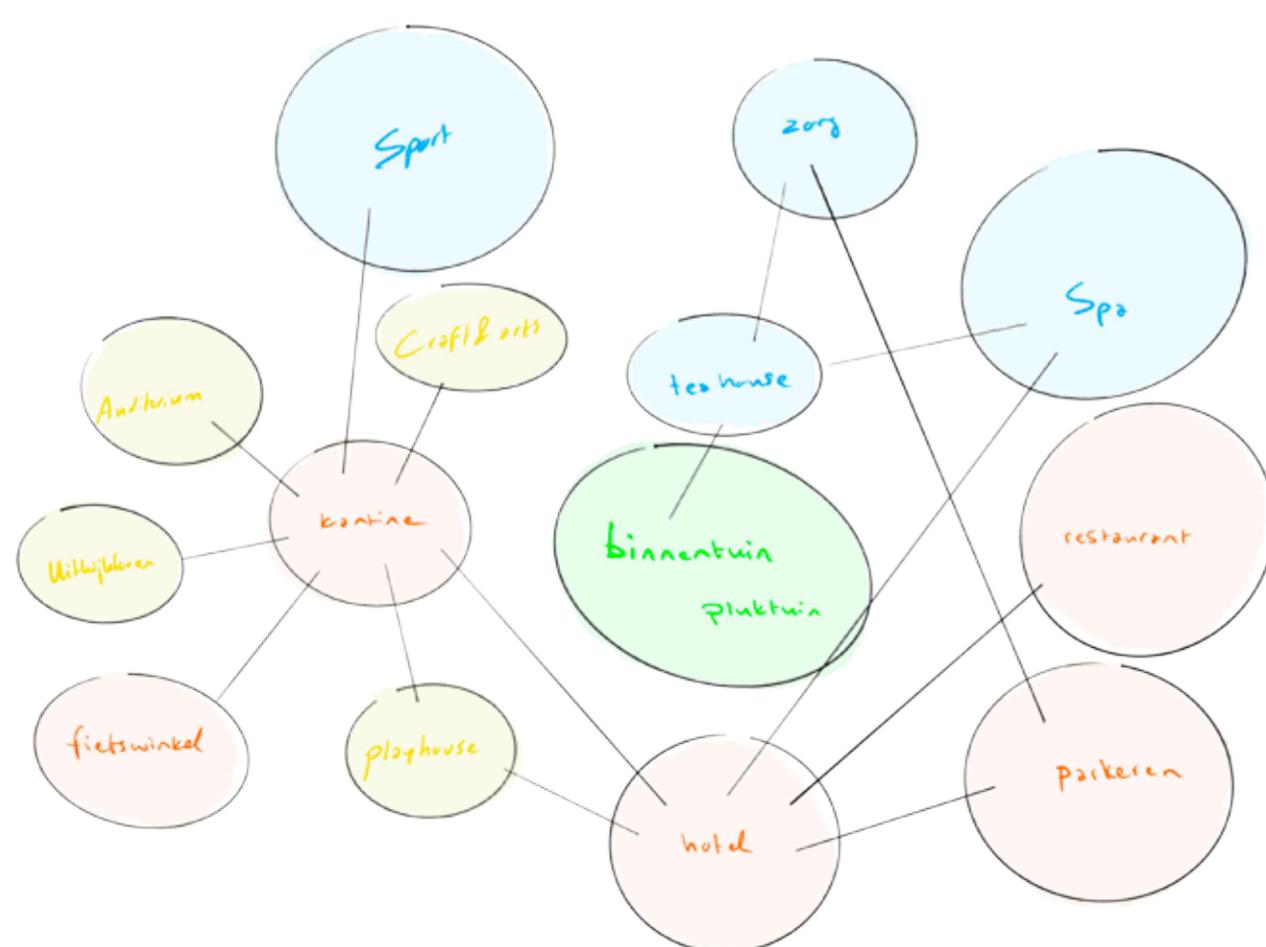
This design direction which has been chosen to develop further as the winner grasps on the center of the water tower and former hotel. From these center points 2 axises has been set out.

## + 9.1 Relation scemes



**Different function categories**

To think from a global point of view, 4 different function categories has been introduced. These categories helped to position the functions on the plot.



**Initial spot plan**

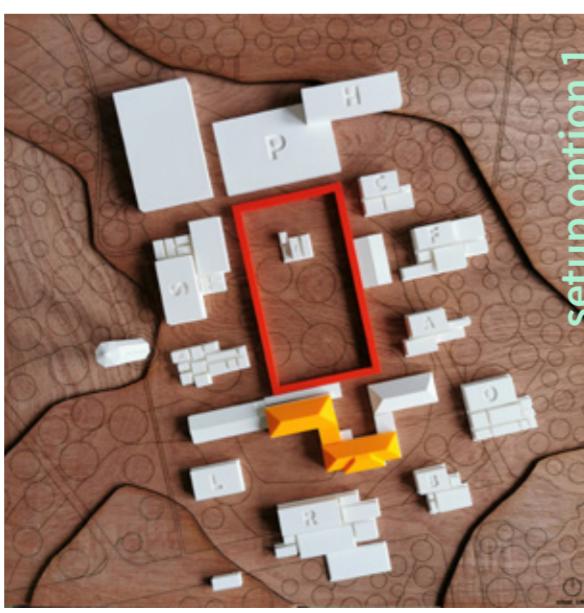
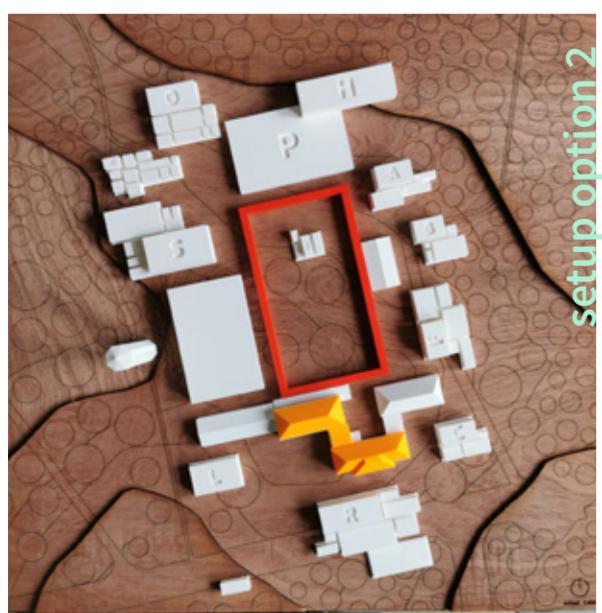
One of the first considerations was to put the hotel suits in front, as the original positioning of the suits. From the hotel suits, different function categories were accessible. Culture & education in the west, the garden central, health functions in the north and lively functions in the south.



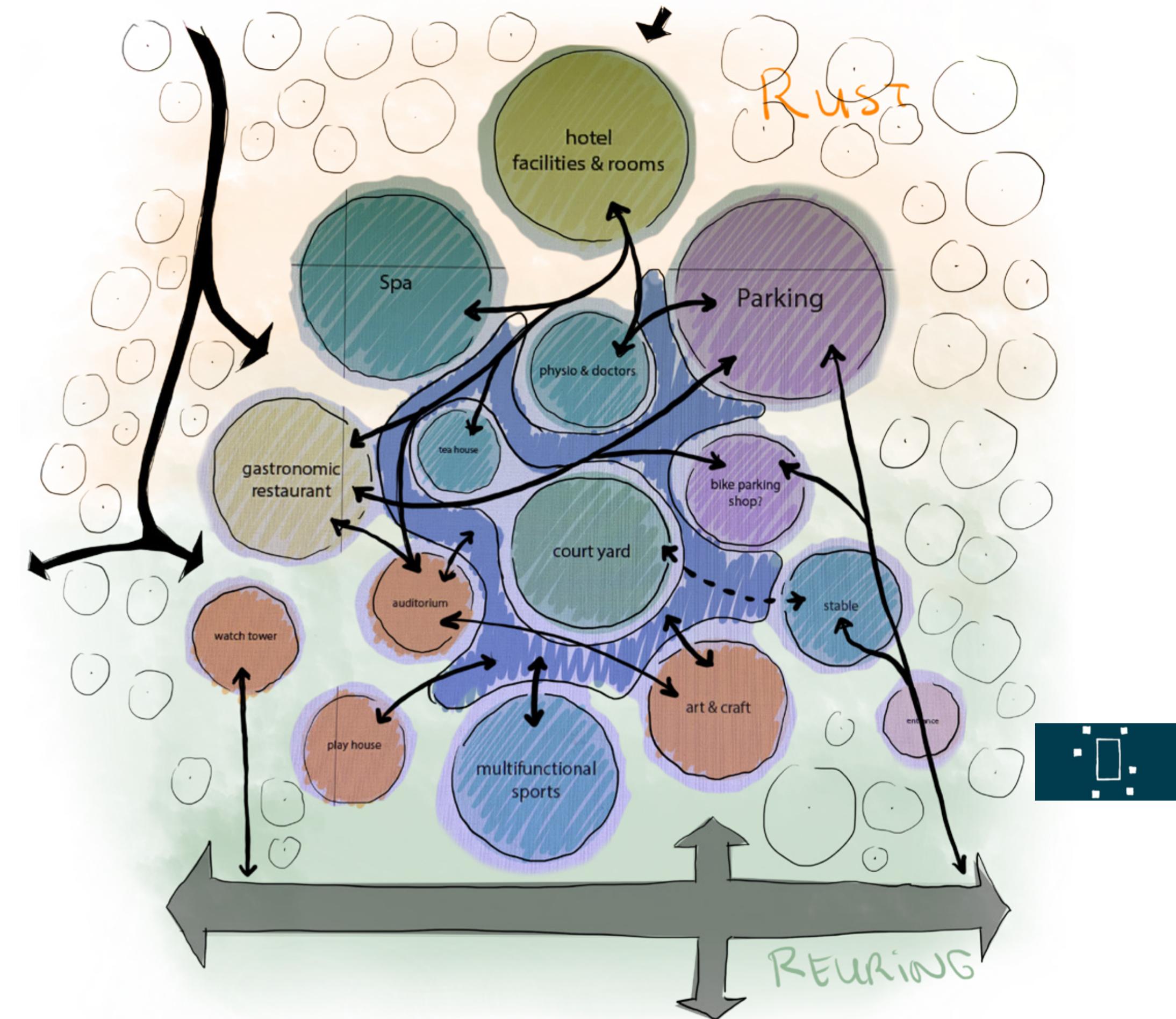
**Private and public**

Another aspect to consider when positioning the functions on the plot is the level of focus per function in relation to private or public spheres. As a guest in the retreat, the hotel room is the most private part of the stay. A function as the restaurant may have a completely public function. However, it is also interesting to think from the point of view of the visitor. How does the visitor experiences these private and public functions?

## + 9.1 Placing functions on the plot



## + 9.1 Schematic relation scheme

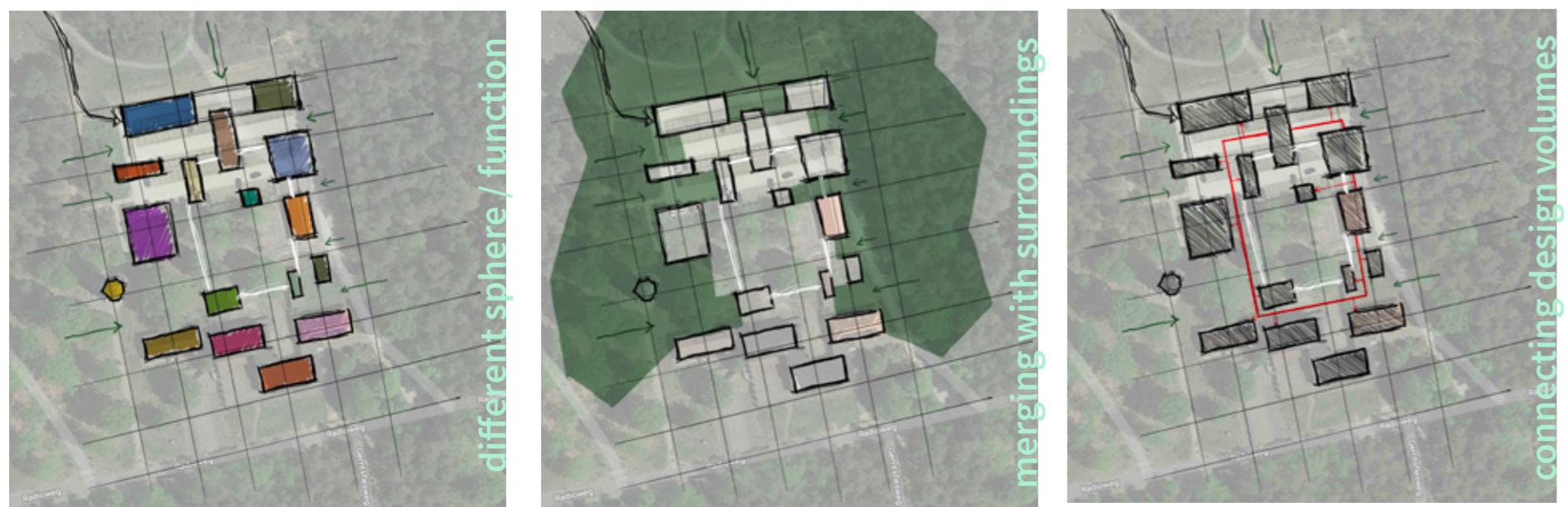


### Approach

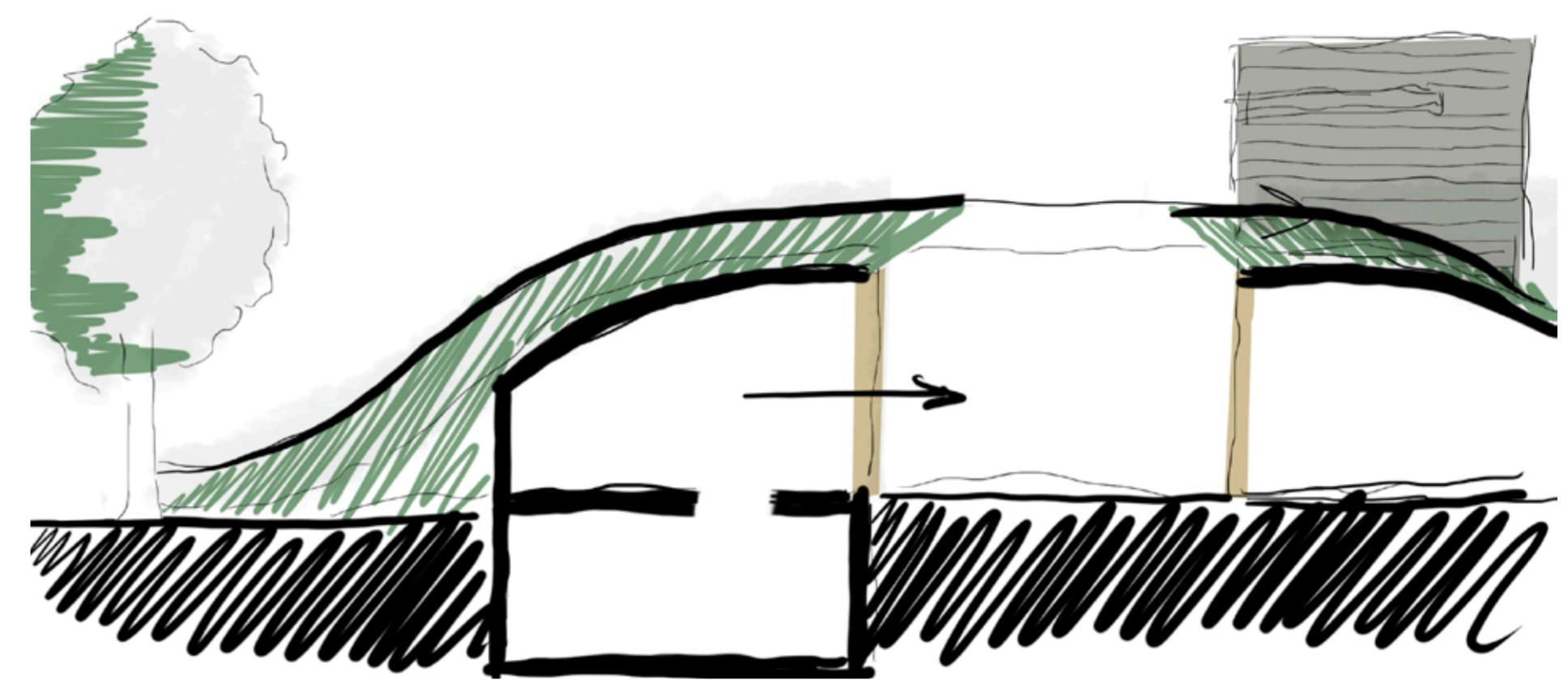
Based on the health themes, different functions have been determined that bring the retreat to a total experience. Several steps have been taken to find the right function composition. This includes categorizing functions into groups, categorizing public and more private functions and taking insulation into account. Furthermore, various variants have been investigated

by means of the plug and play model. All this has led to a search in function positioning in which various setups have been reviewed. We see this reflected in the spot plans and model setups. Based on all the methods, the top left composition turns out to be the most interesting. This clearly shows the importance of the connecting factor, the loop.

## + 9.1 Potential design scenario



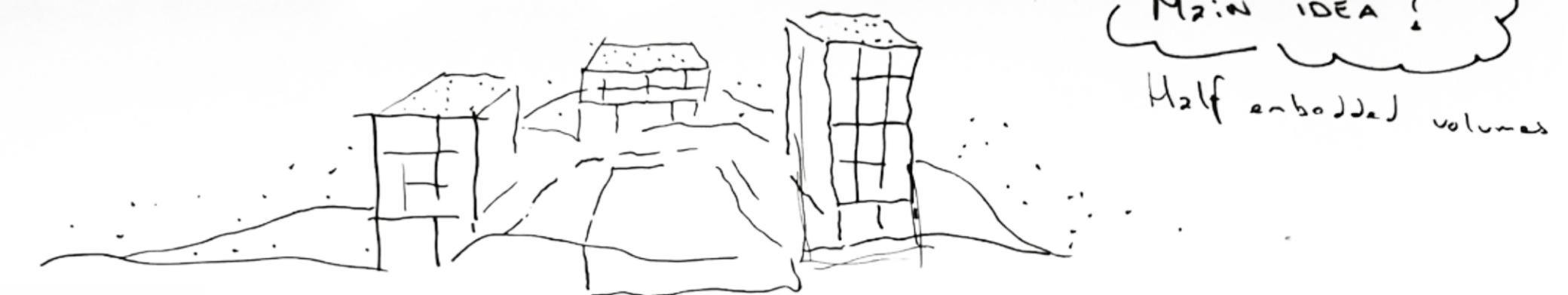
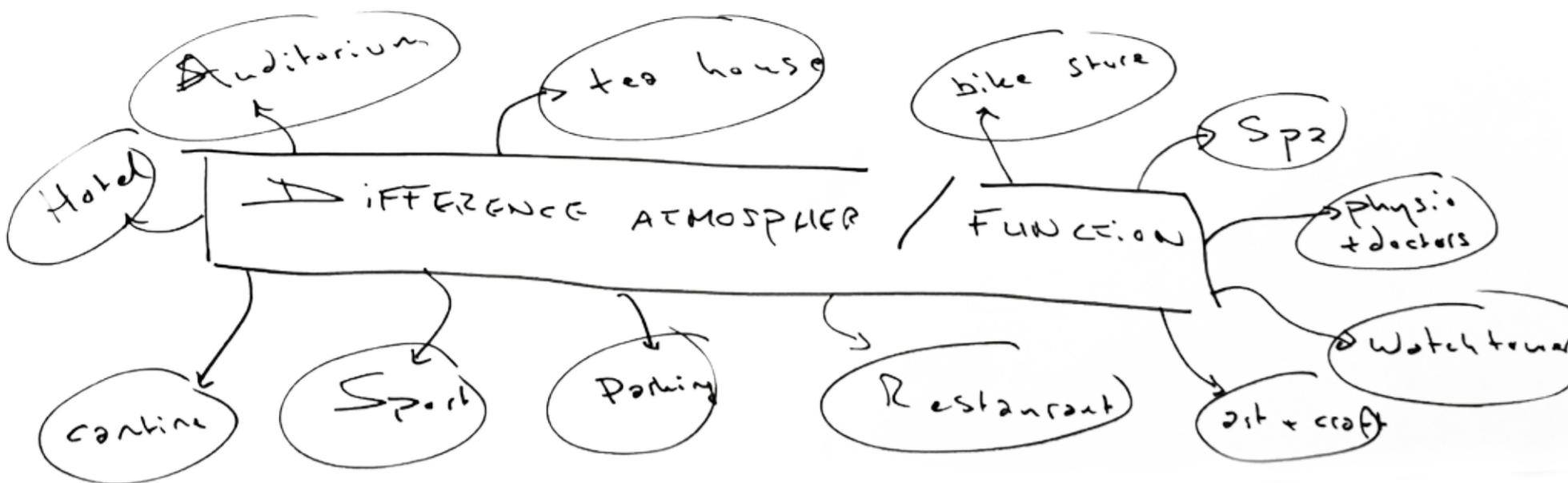
## + 9.1 Conceptual sections



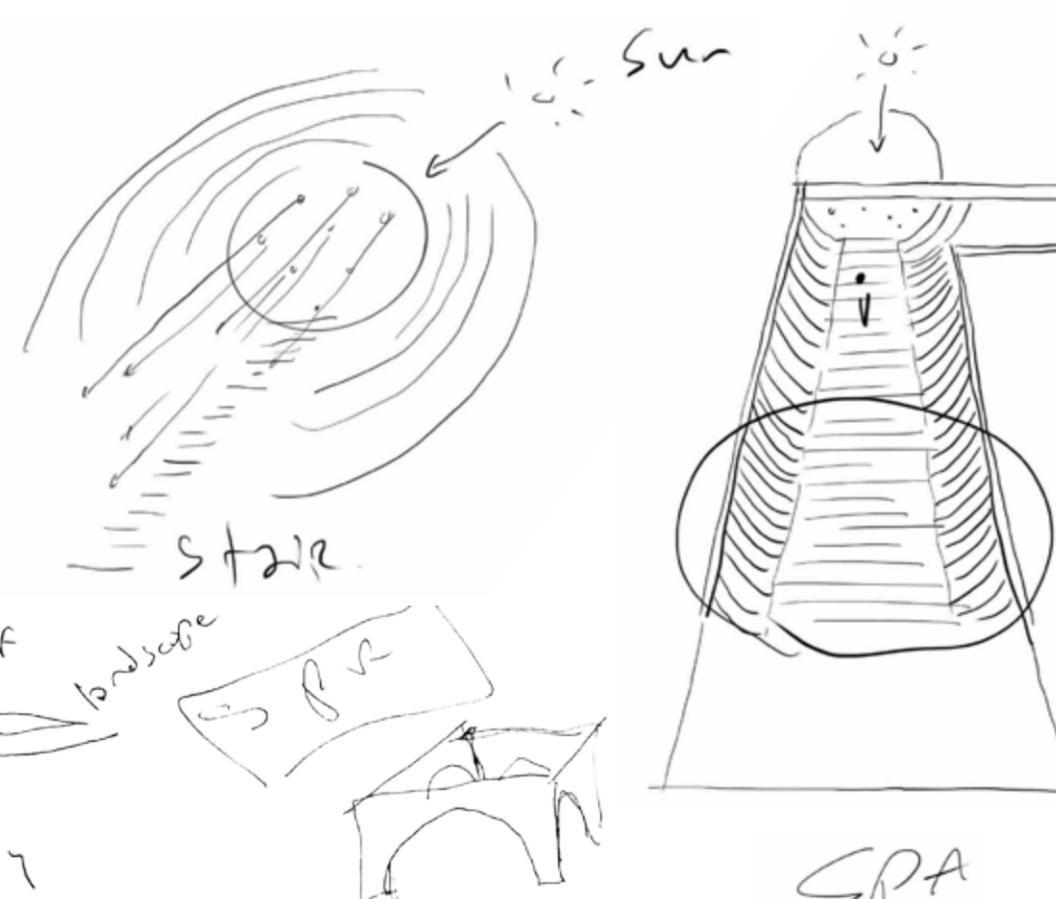
### Point of view

The differences in heights of functions is an interesting observation which is seen as design quality in this intended design scenario. These partly protruding volumes look robust, which is softened by a subtle connection of plants. This softened robustness applies in particular to the northern part of the plan area. To the south, on the Radioweg, there are several (derelict) monument buildings.

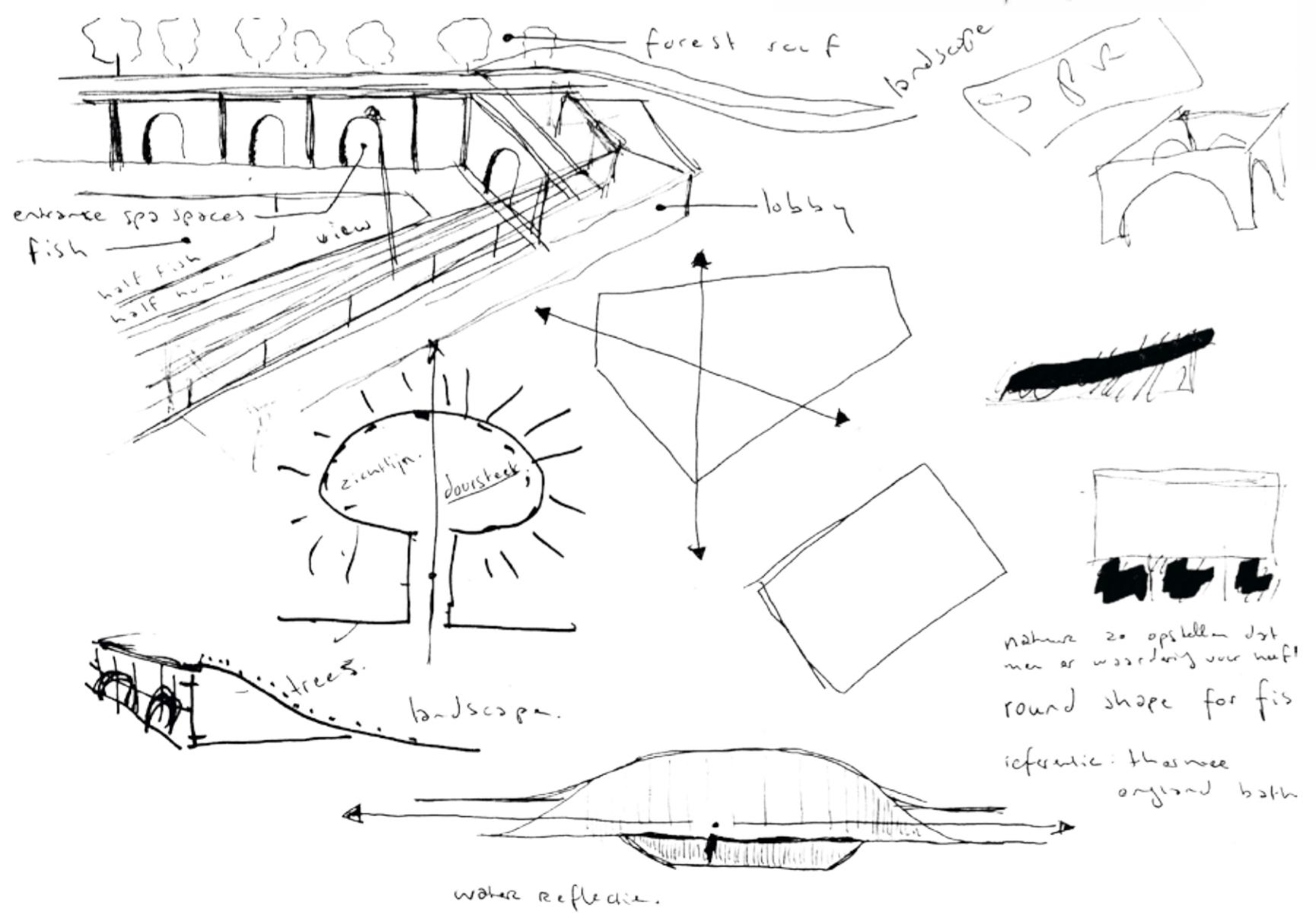
## + 9.1 Thoughts; spheres per function



HOTEL



SPA



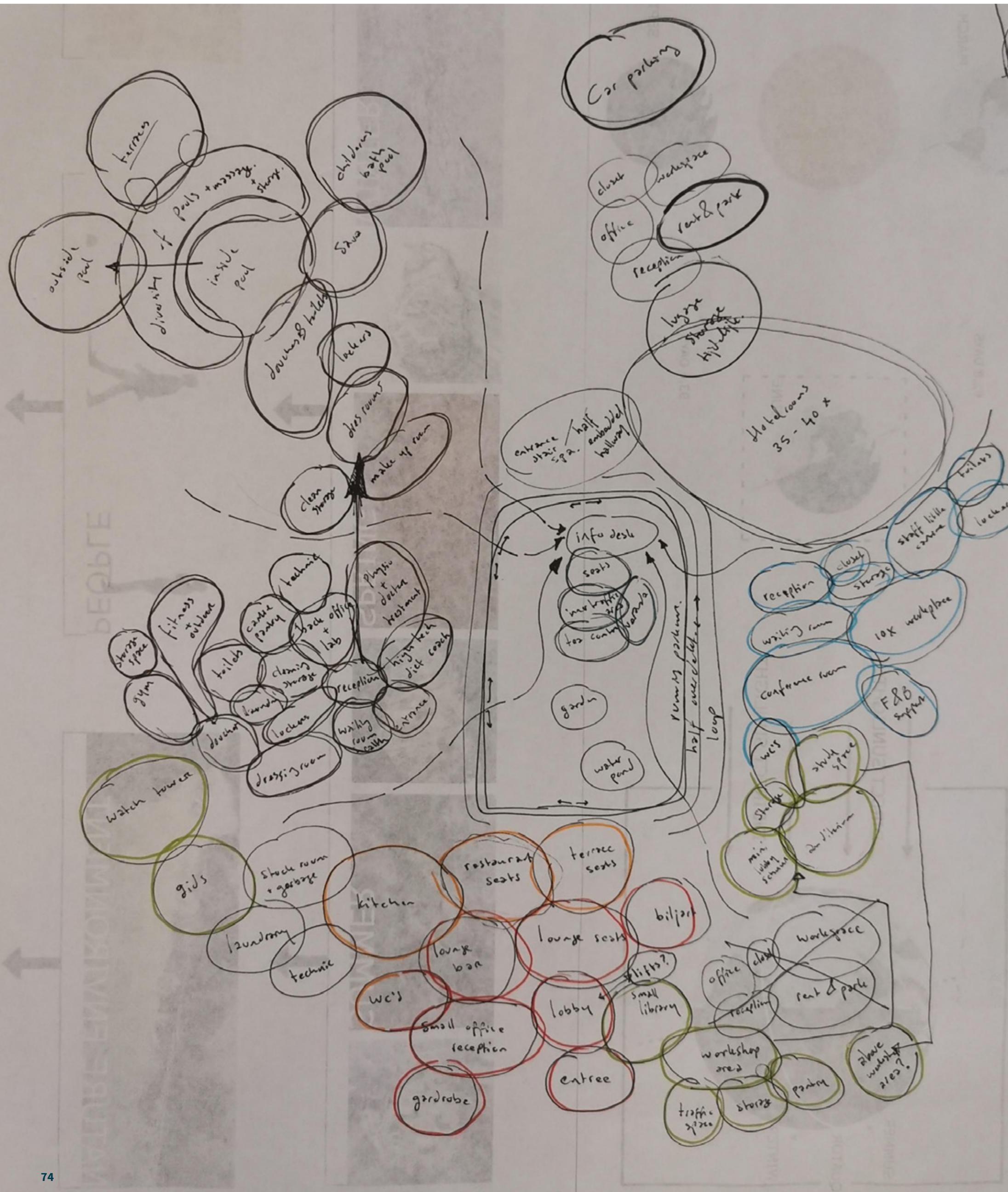
Entire embedded volume



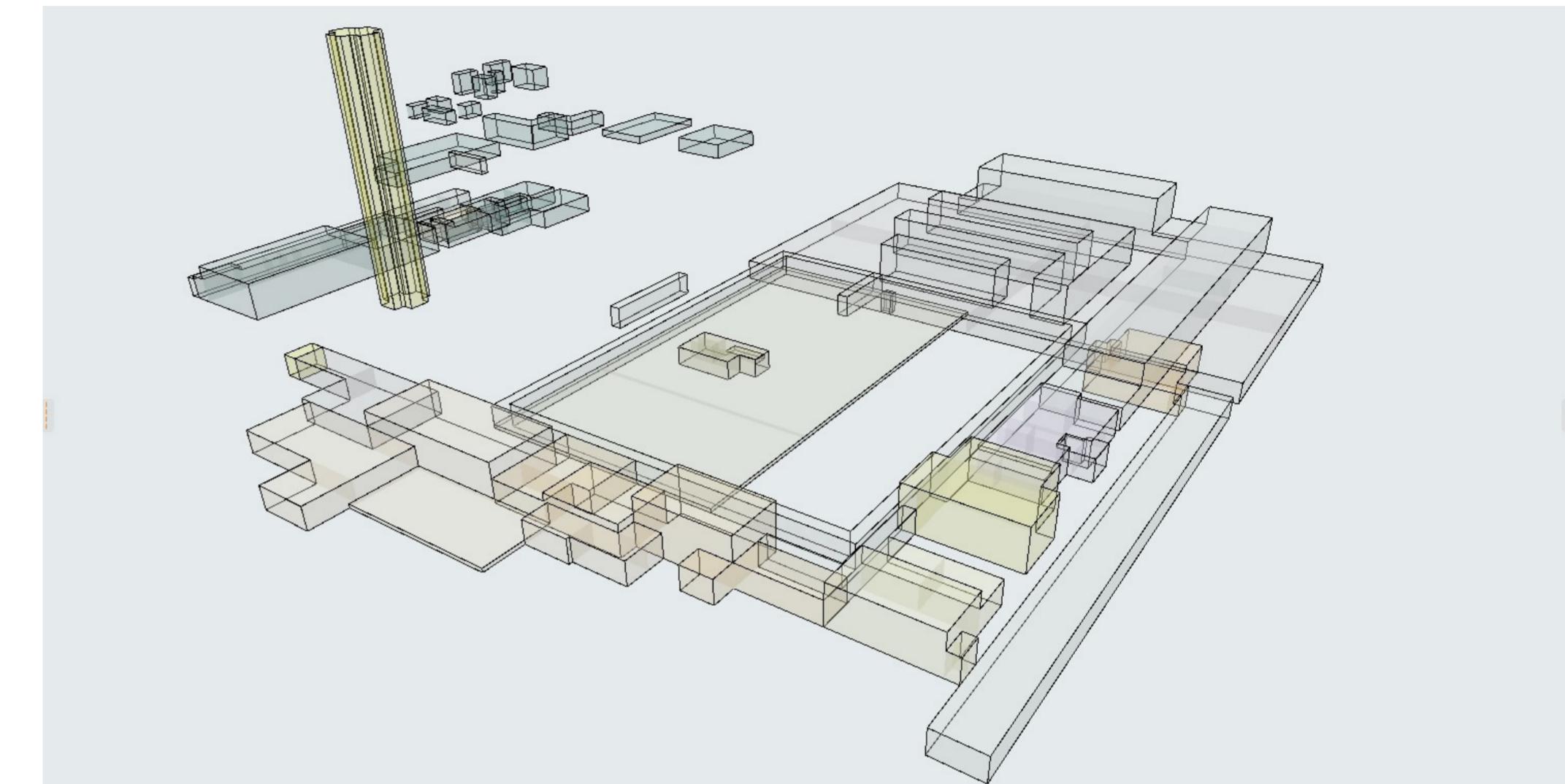
Bringing the existing roof back?

In order to make a considered choice, various scenarios have been outlined for dealing with a dilapidated monument. In this case, I see the monument as an identity carrier that can strengthen the connection between the concrete water tower and the broadcasting building. In this scenario I want to bring back the original volume in a material that contrasts with the concrete colosses that you can see from the Radioweg.

# + 9.1 Further defined relation schemes



# + 9.1 Translating the relation scheme

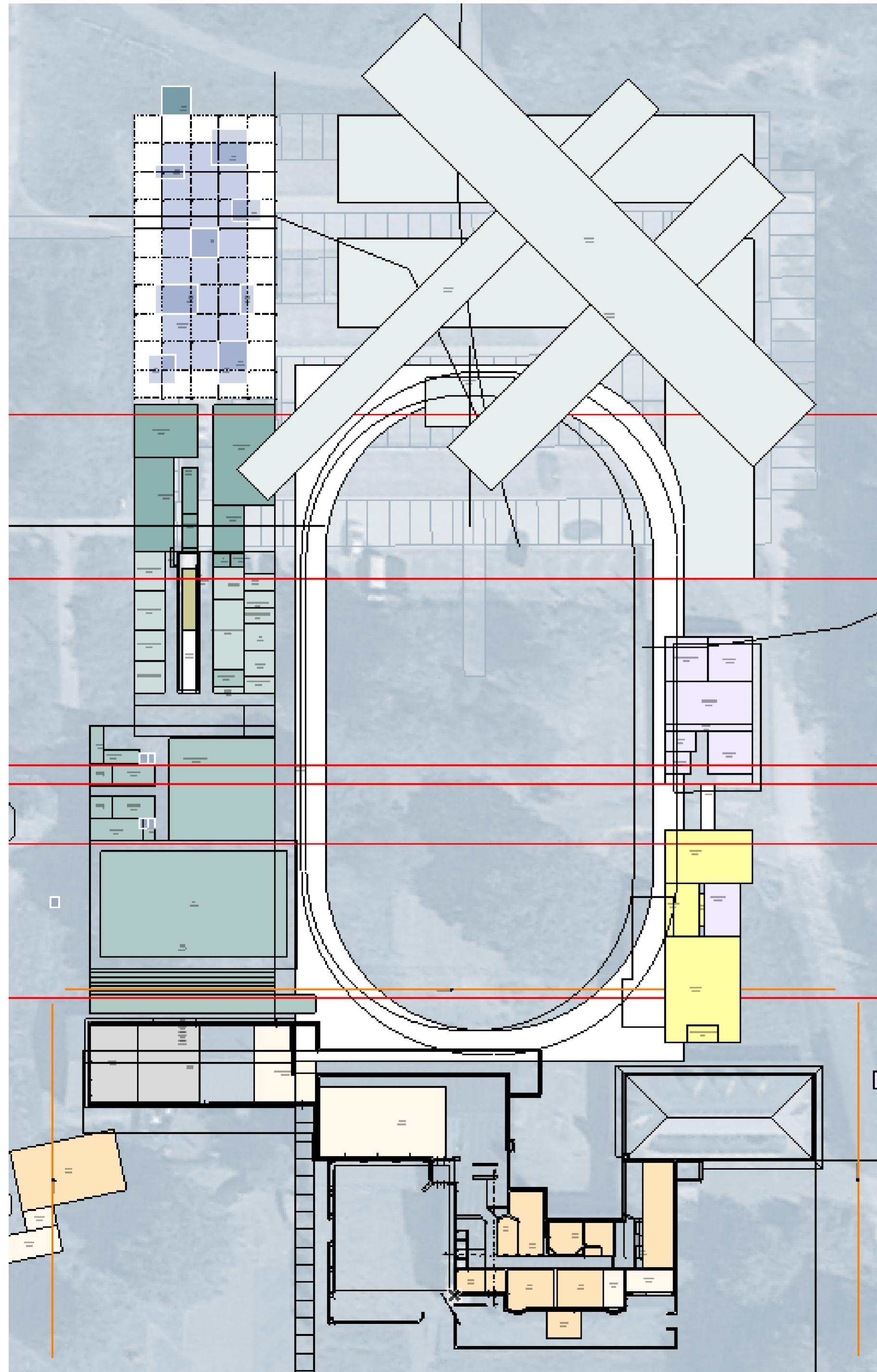


## Relation scheme

Based on the function positioning study, the logic of these collaboration of functions has been deepened out with a more detailed relation scheme (left side). Thereafter, there has been tested with 3D volumes.

## Muzentuin as a reference

To get a more sharp sense about what the measurements of the garden are, I tried to experience the Muzentuin in Tilburg. The Muzentuin isn't a garden which knows enough human measurements in my point of view. The design of the garden feels too oversized as a visitor. However, I think a garden with a measurement of 60 metres by 40 metres feels more intimate.

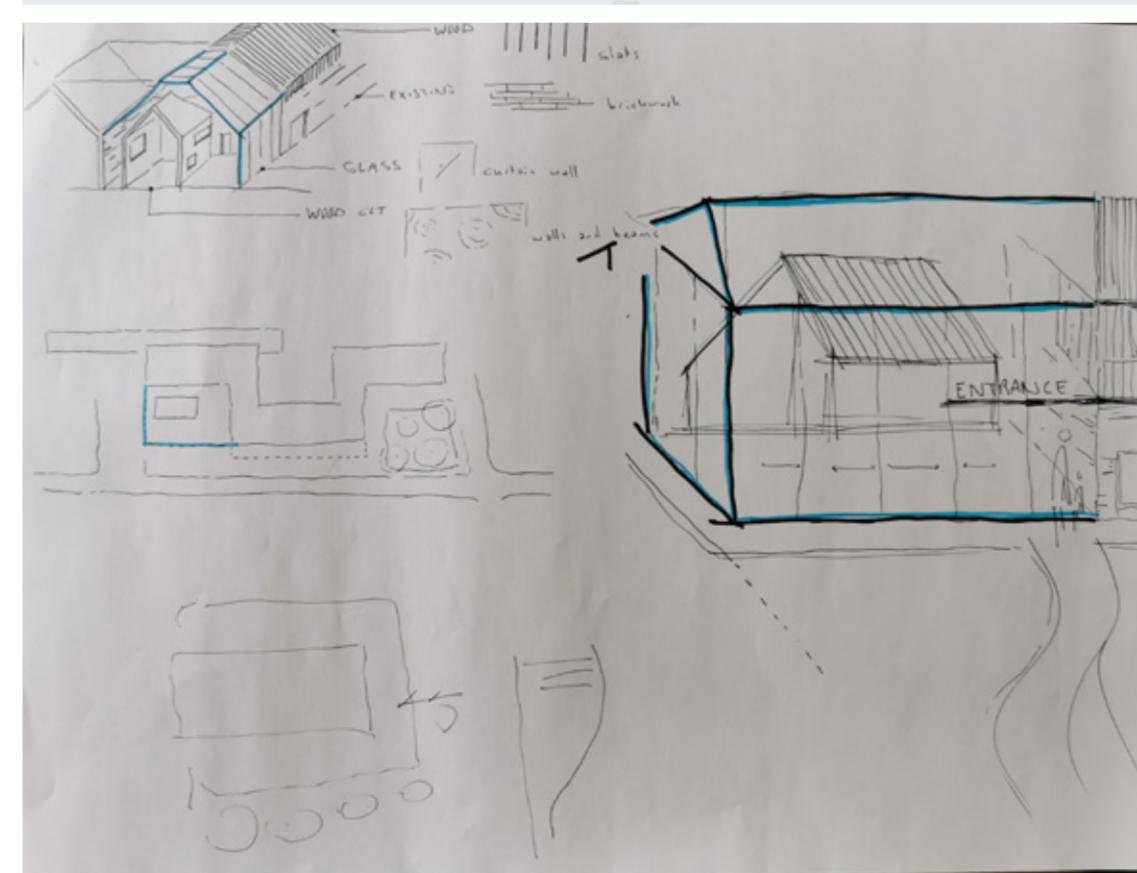


## + 9.1 Functions as volumes in 3D



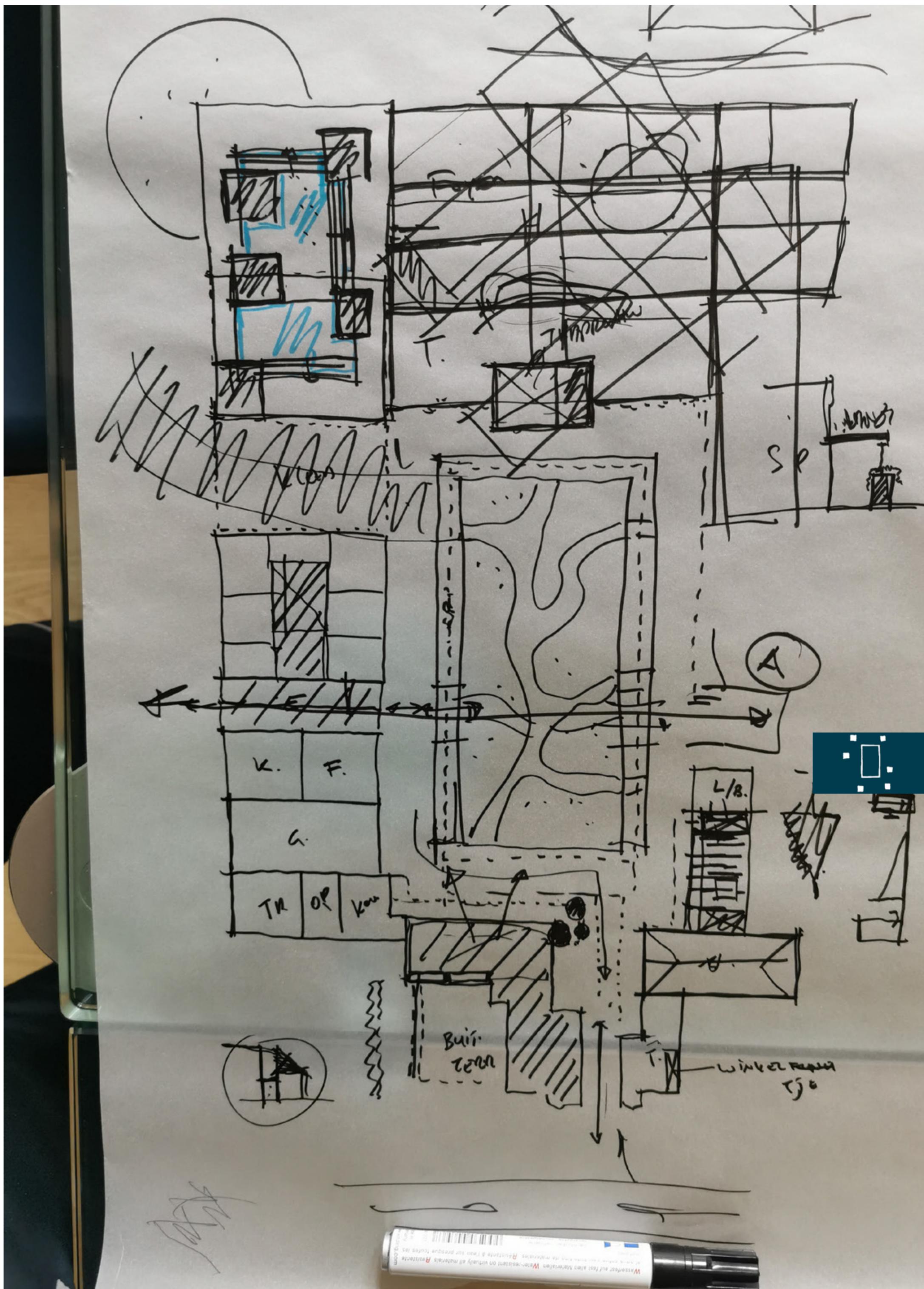
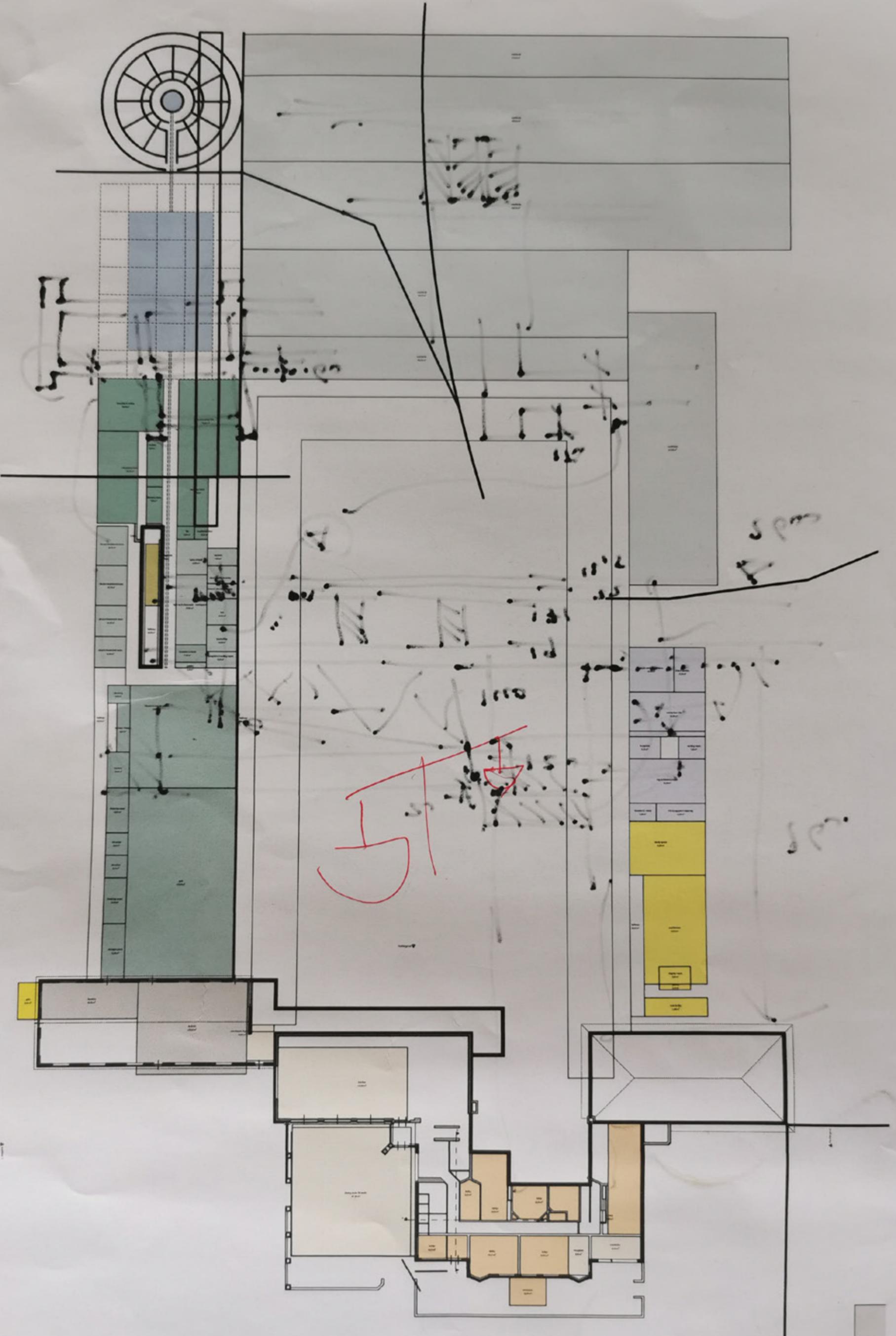
### Defining further

When defining this scenario on a more detailed 3D volume scale, there has been done tests with the way how the hotel rooms can be positioned and how the loop can function as a running track.



### Extension of the hotel?

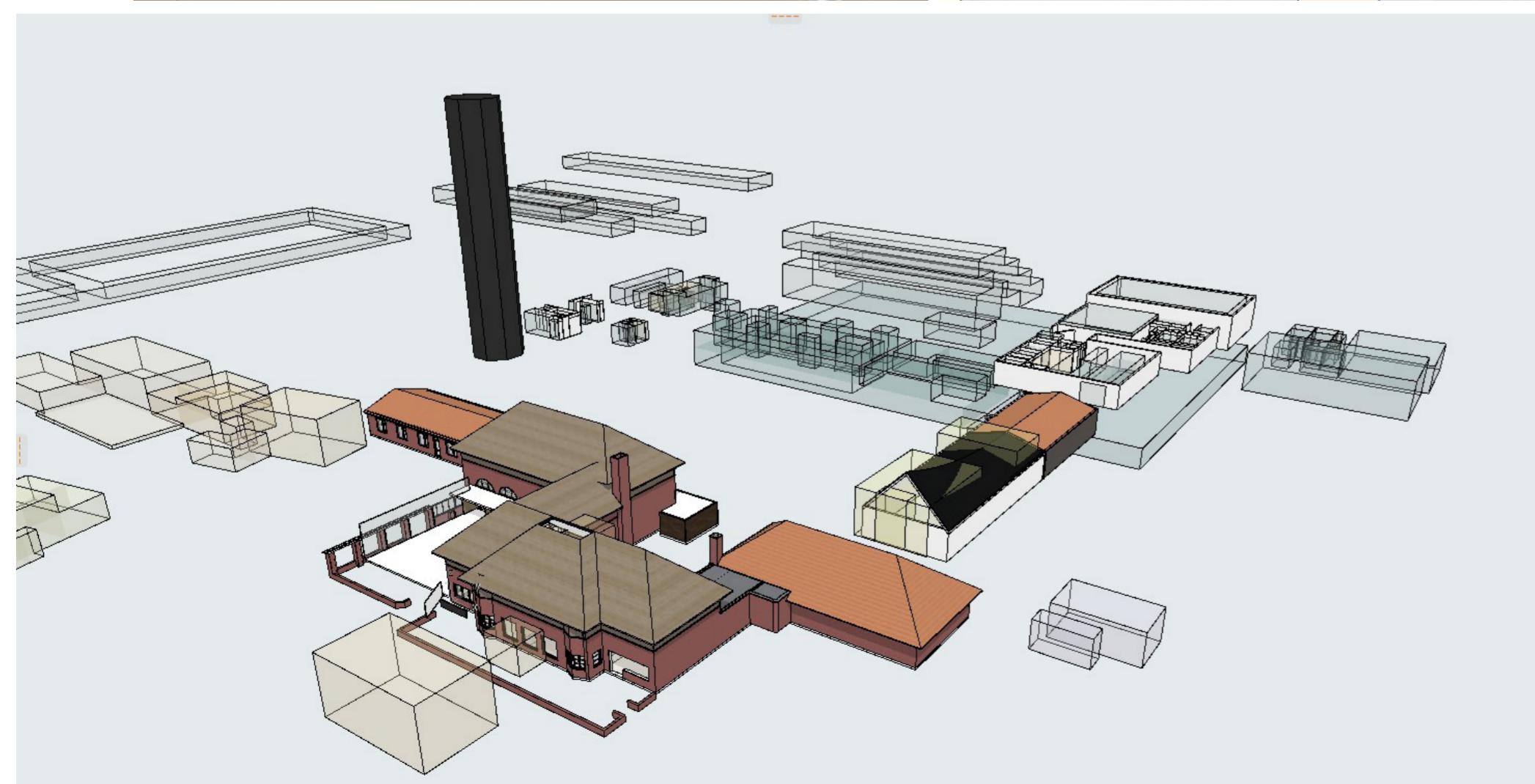
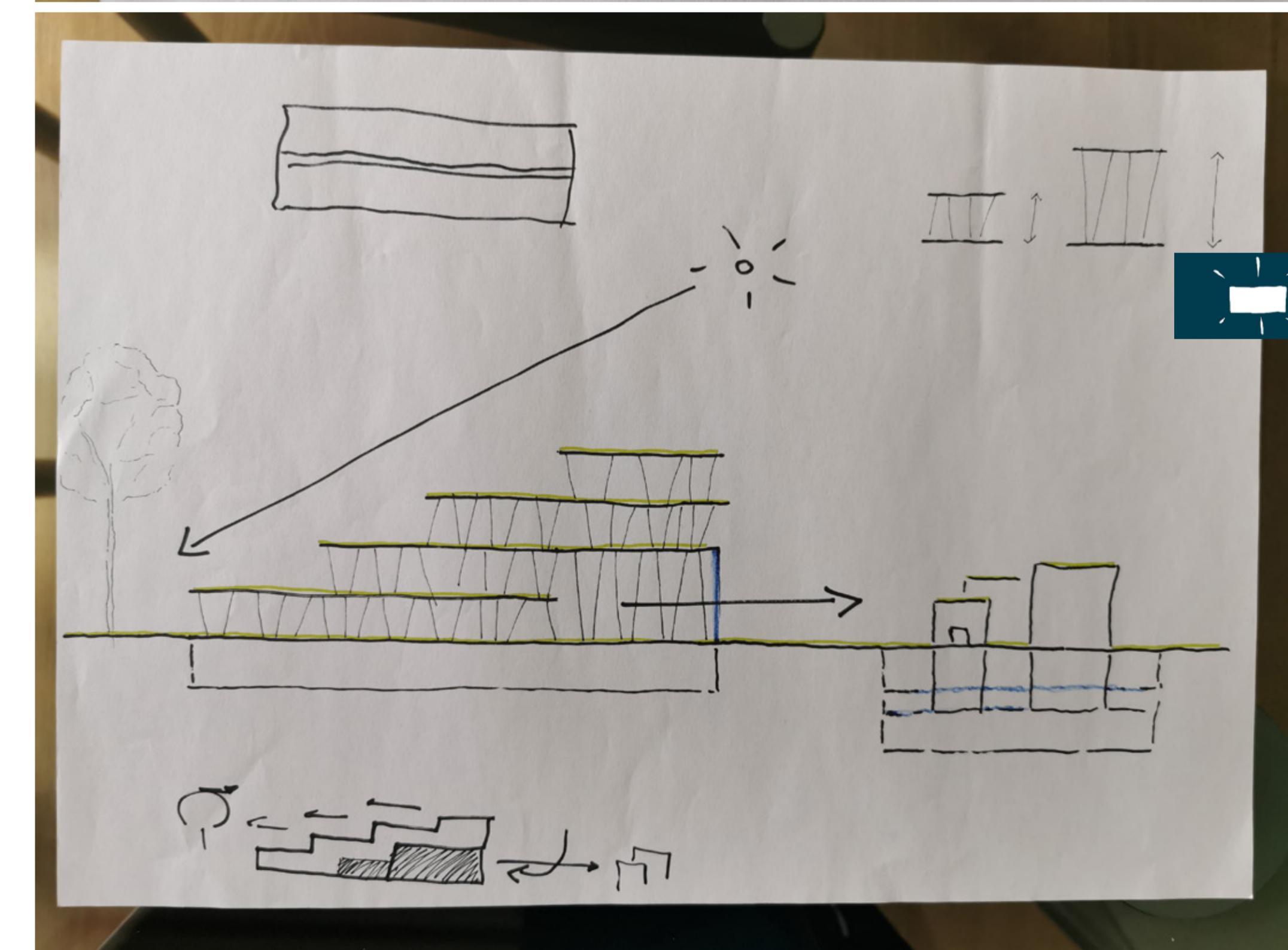
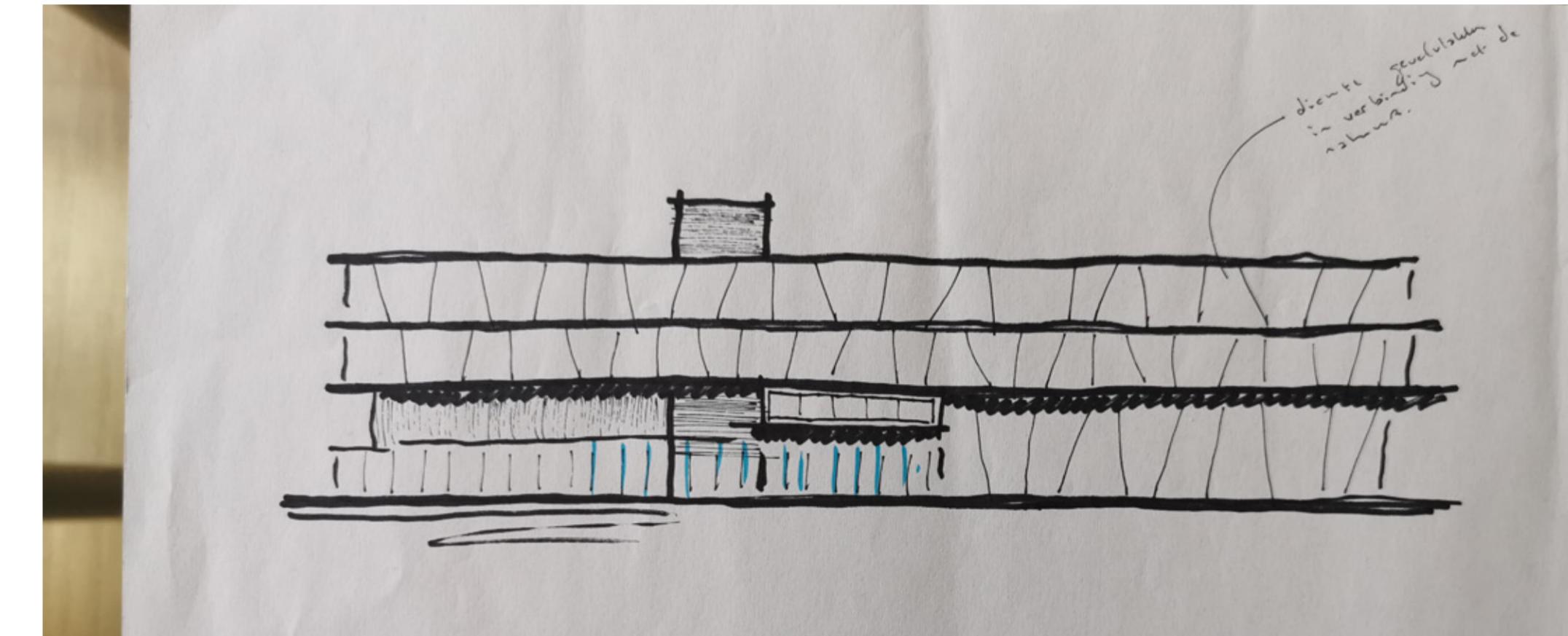
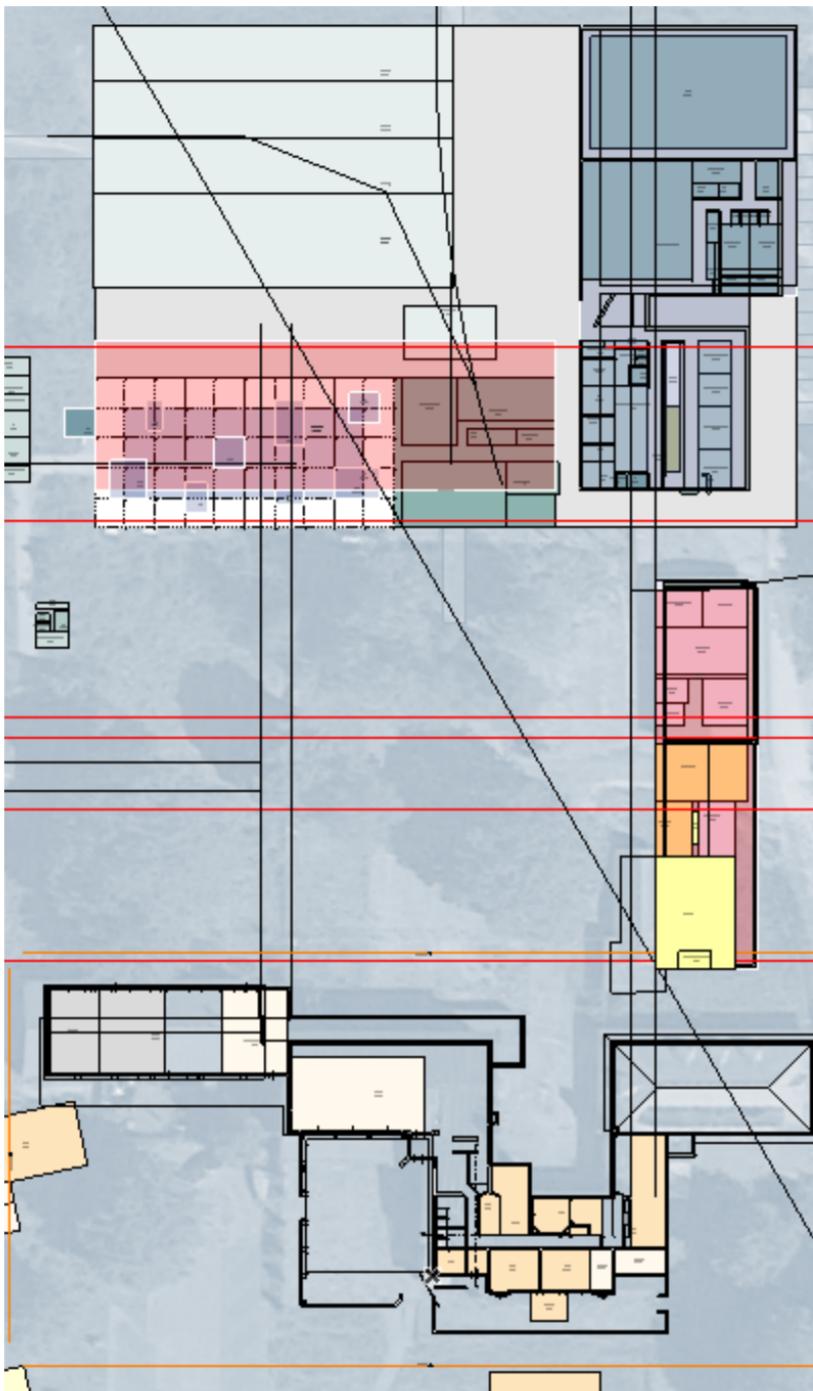
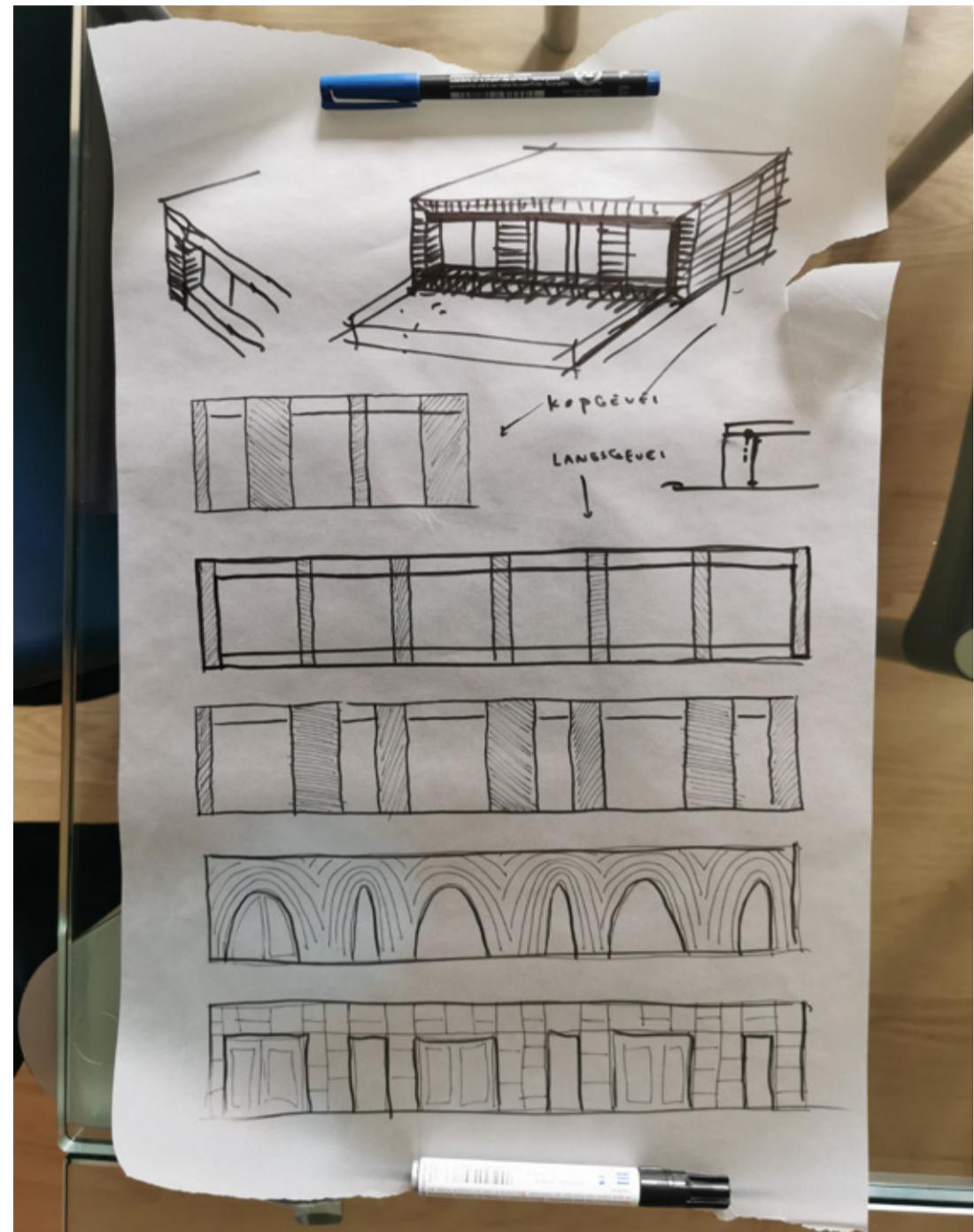
Because of the big amount of program there has been done tests with extending the former hotel as a glass element on the side of the main volume. Furthermore, this glass extension can work as an eye catcher so people from the Radioweg know where the entrance is.



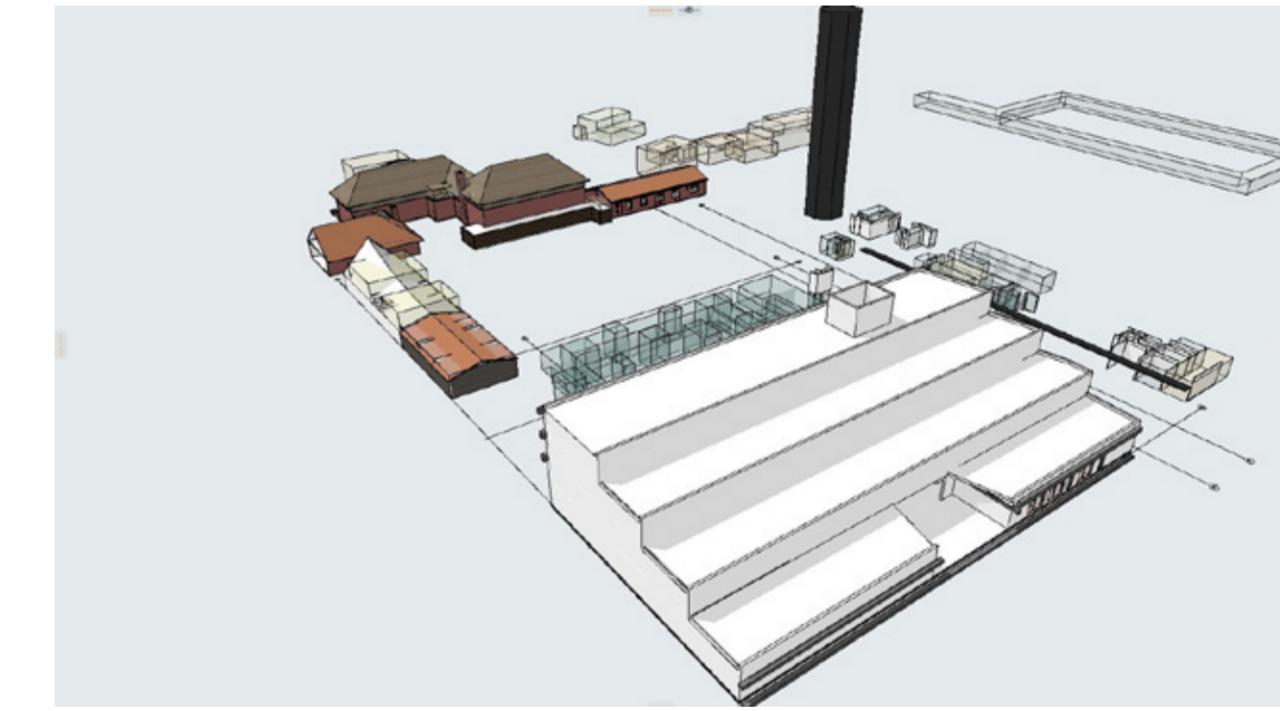
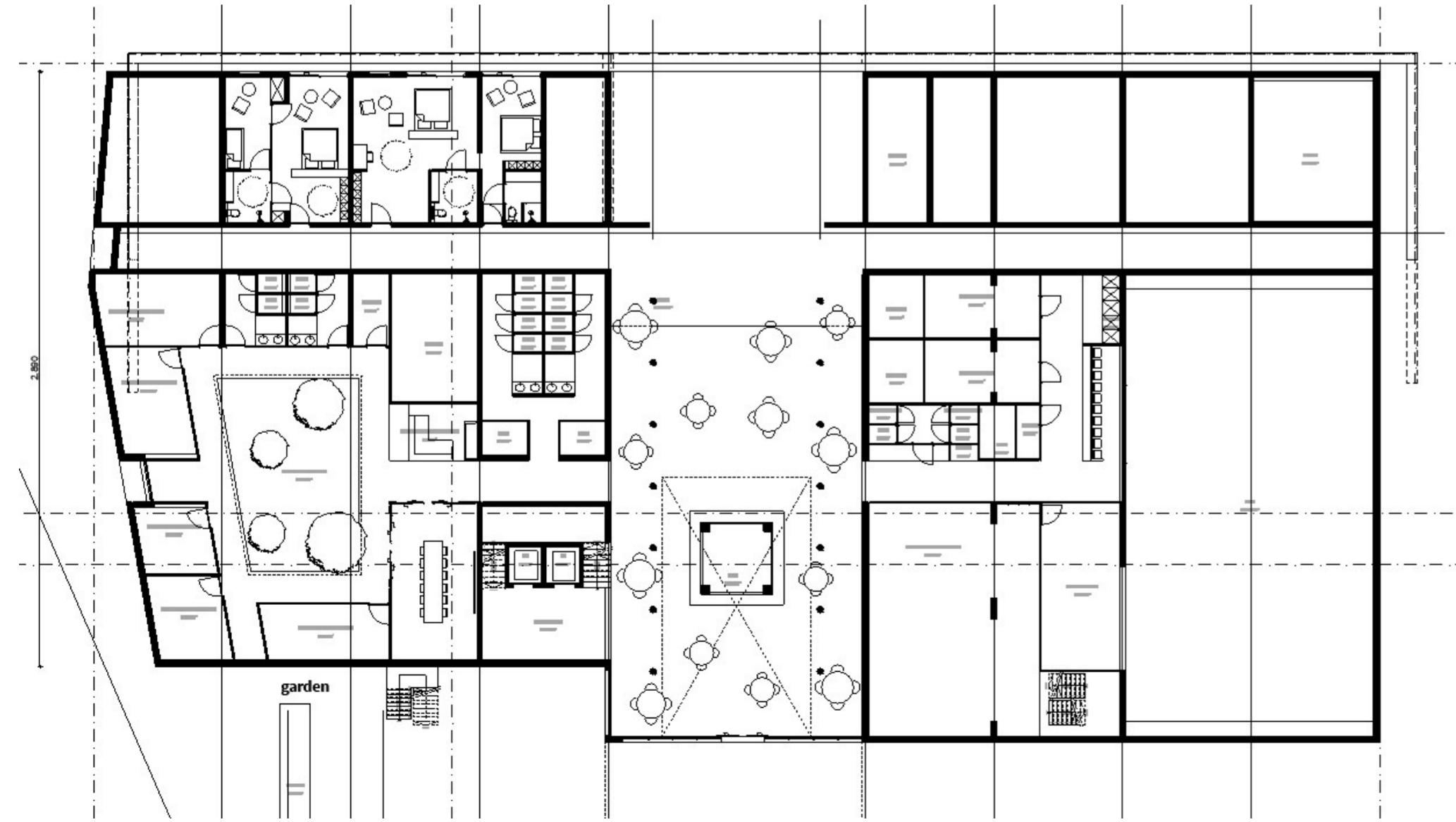
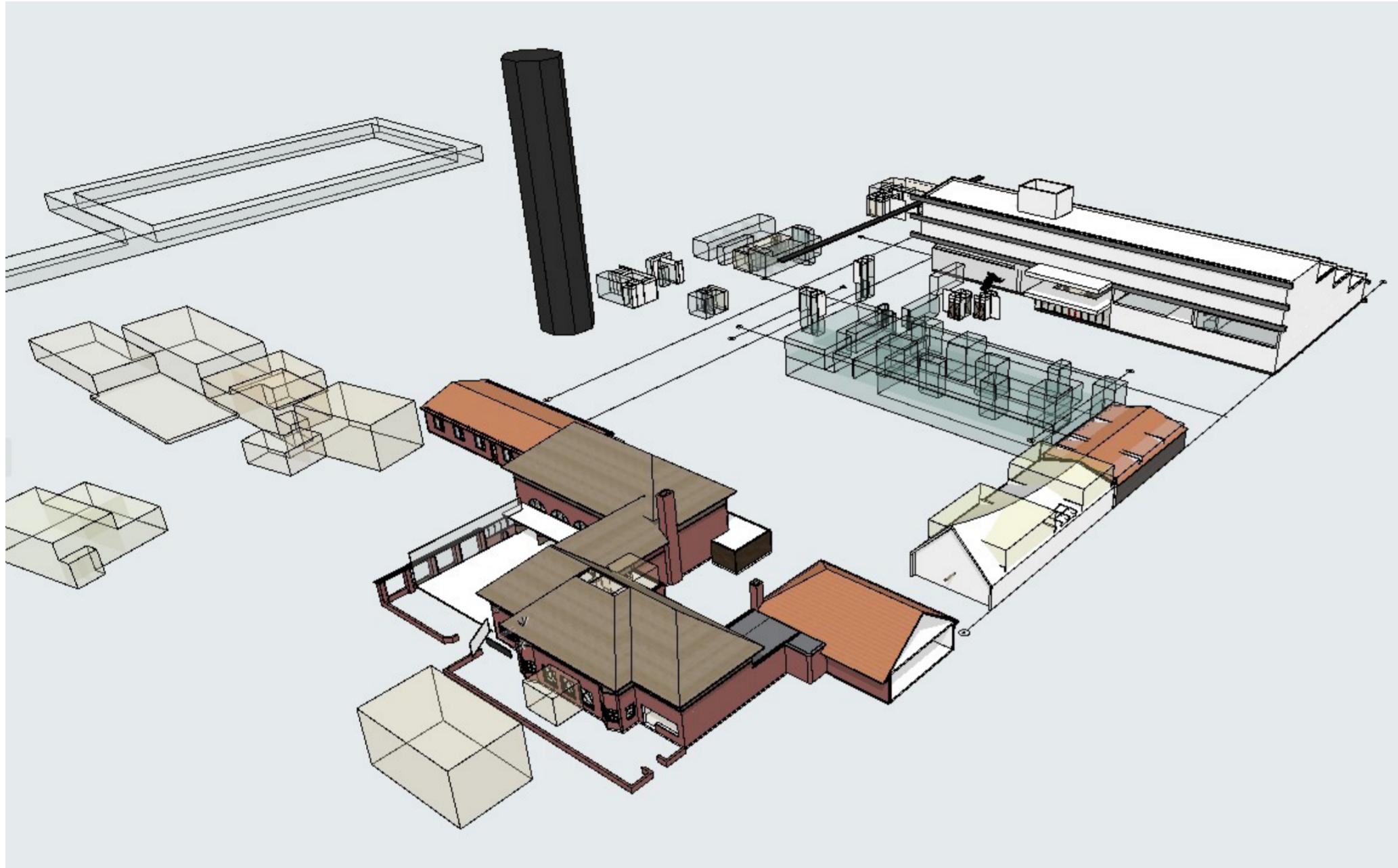
## + 9.2 Multifunctional building scenario

### The form and language

The sloped form of the multifunctional building is like a stair. Through this stair idea, the sun can provide maximal sunray towards the forest.. The language of the facade between the horizontality is based on a reflection of the forest and is like a playful rythm of branches.



## + 9.2 Trying to form the plan

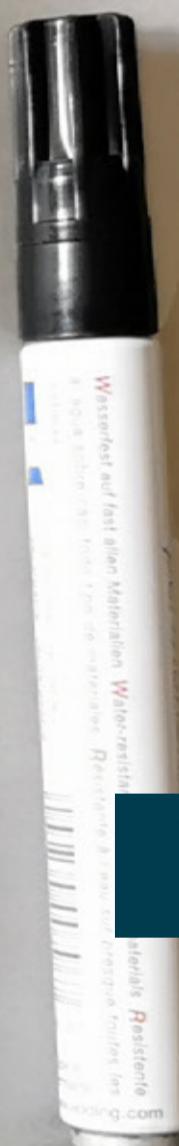
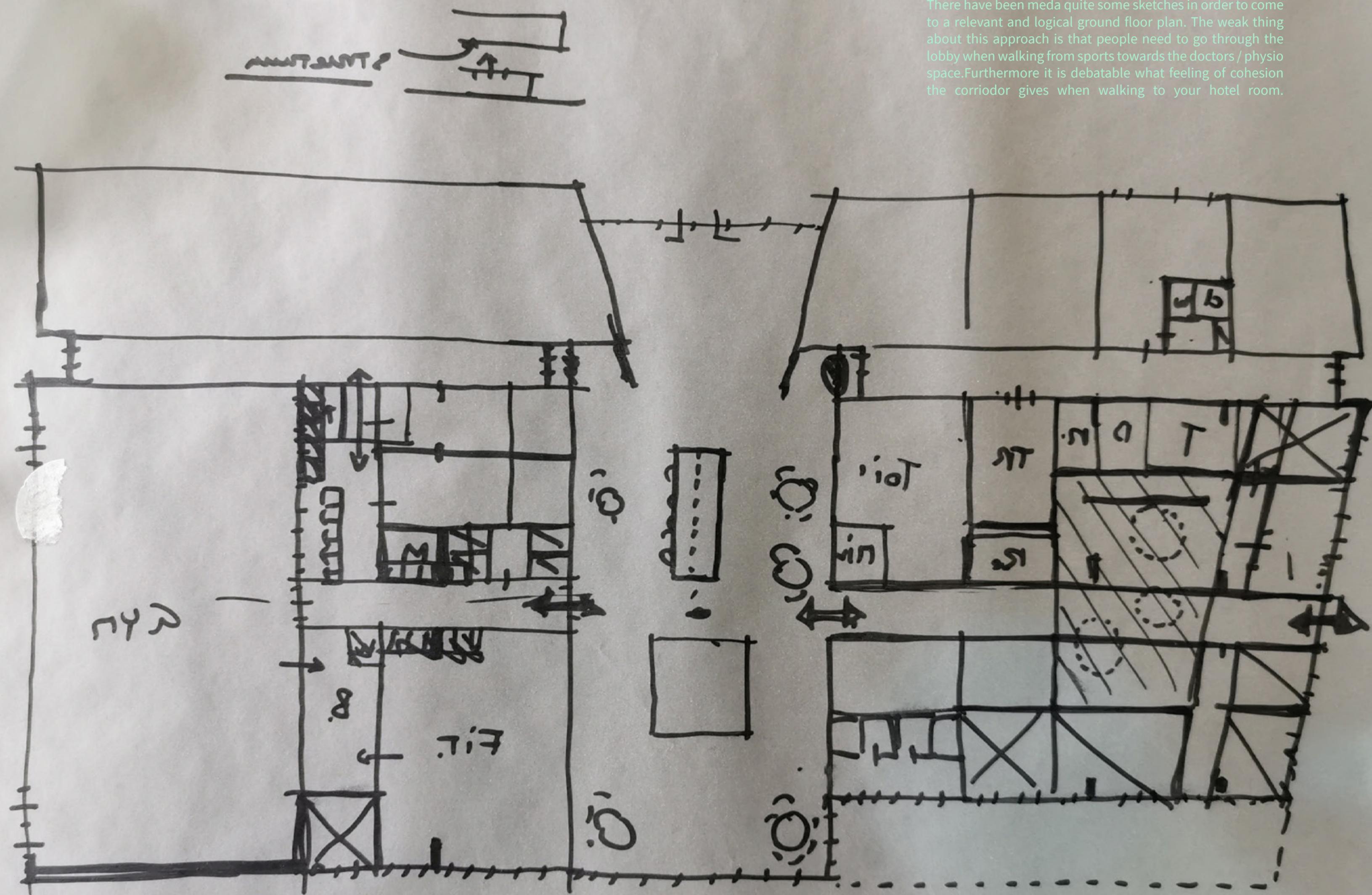


**One big building**

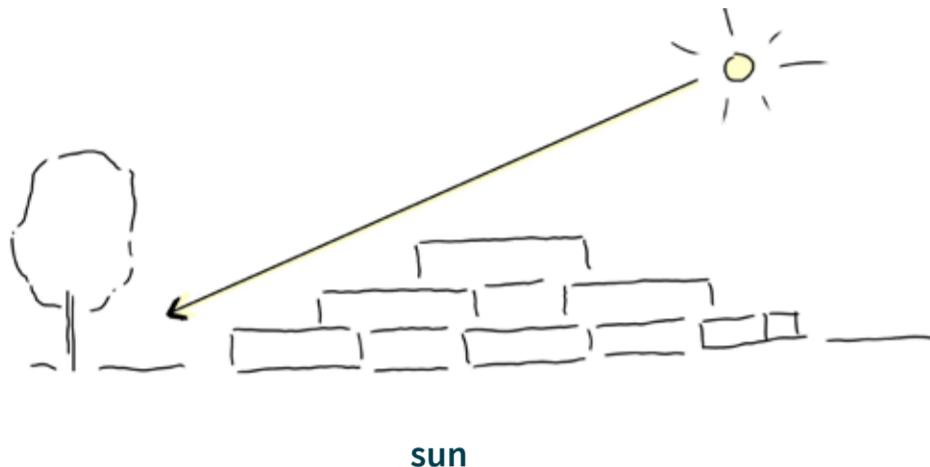
The multifunctional building scenario is based on a big statement on the north of the plot. This building contains a division of lobby, sports, physio and doctors at the ground floor. Upon it, storage space and the hotel rooms are placed. The axis on the ground floor where we find the lobby is like a gate which allows users to walk from the forest side inside the court yard of the retreat.

### Plan sketch

There have been made quite some sketches in order to come to a relevant and logical ground floor plan. The weak thing about this approach is that people need to go through the lobby when walking from sports towards the doctors / physio space. Furthermore it is debatable what feeling of cohesion the corridor gives when walking to your hotel room.



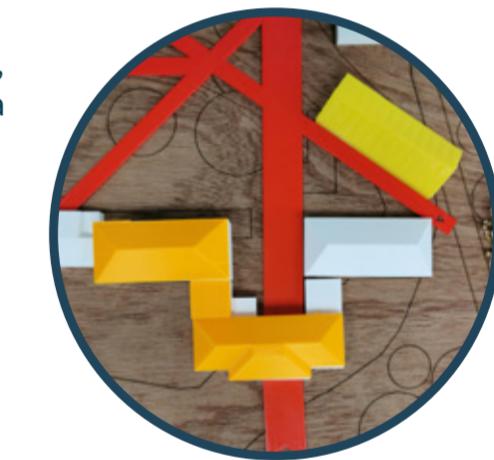
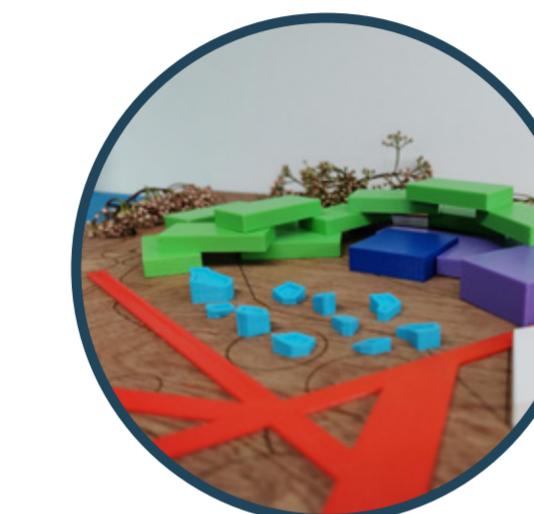
## + 9.2 Anticipating on the surroundings



To allow as much as possible sunlight to the trees, the building is stacked in a way that it seems a stair.



Each roof of this building gets vegetation on it. This generates friendly views from inside to outside and helps the animals.



### 2 accents

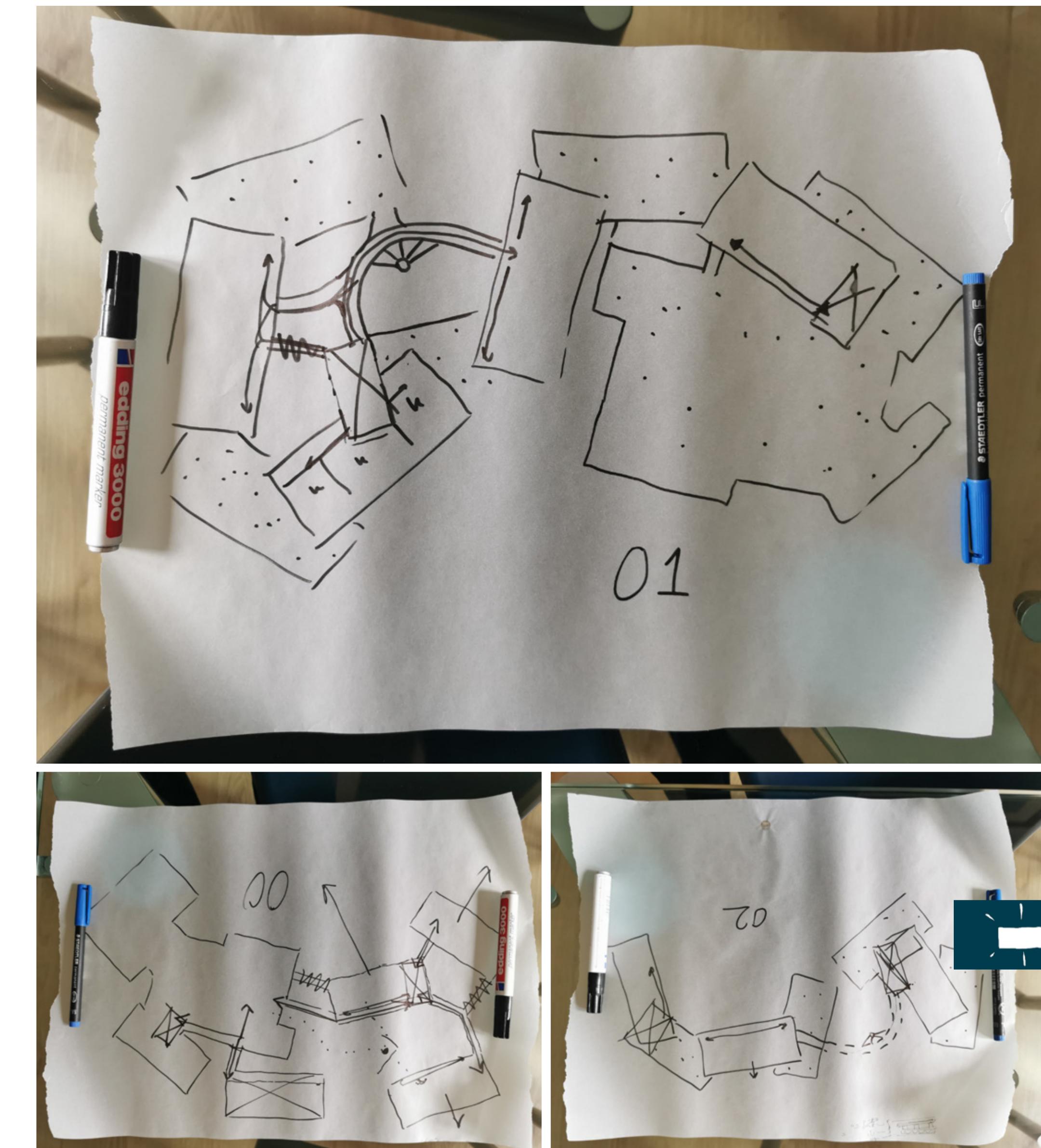
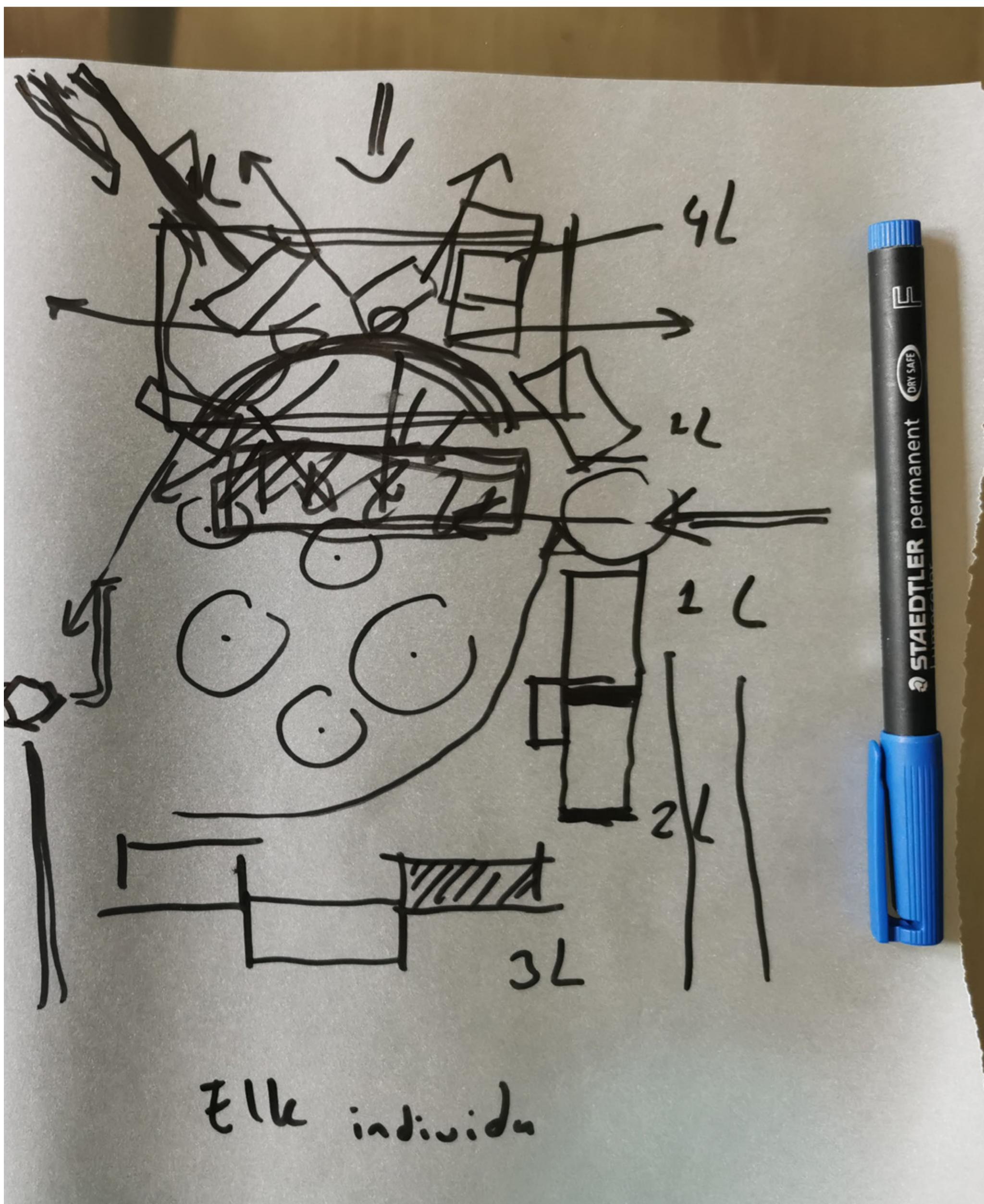
Looking from a broader picture, we see that the former hotel is a big building which can get in a way a counterpart on the other side. This allows the multifunctional building to stand there. To emphasize the 2 end points as the eye catcher, the middle part (where we find the auditorium) has been designed in a more subordinate and tranquil adaptive way.



view when you walk on the main path towards the former hotel



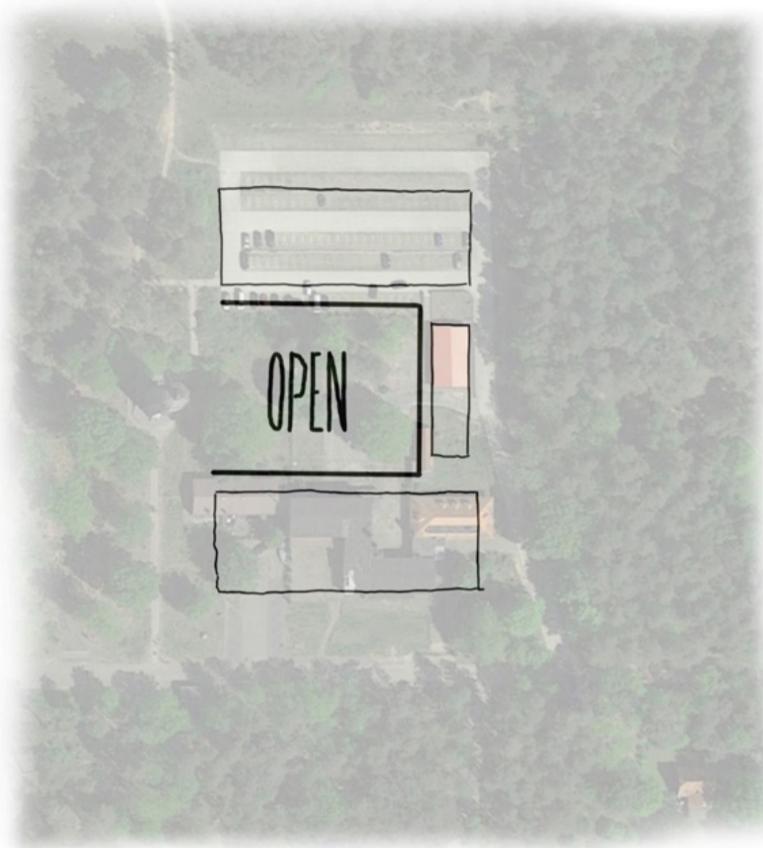
## + 9.2 Scattered blocks; main building



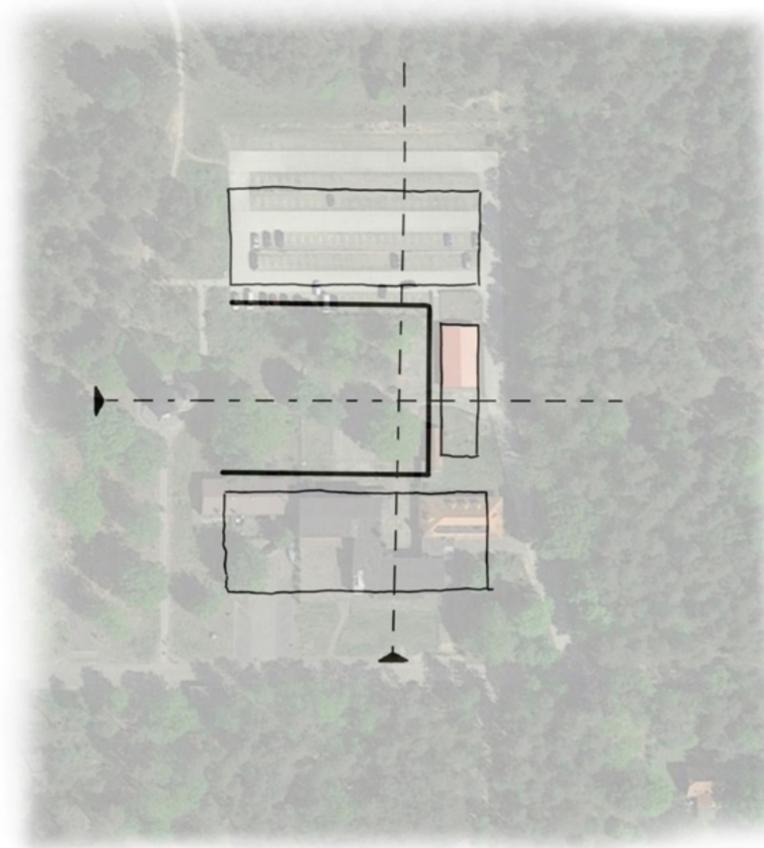
testing the scattered plan scenario

The scattered approach of blocks allows the user to have an alternating playful view towards different interesting accents in the surroundings. Think hereby of specific sight lines towards the forest, rocks of the spa and watertower. There has been done experiments with creating a full-fledged plan. It seems that there are some air bridges needed to get the program working. Furthermore, the building is not that densed which means that it becomes big and visible. From the point of view from the court yard, the building hereby 'blocks' the view to the forest.

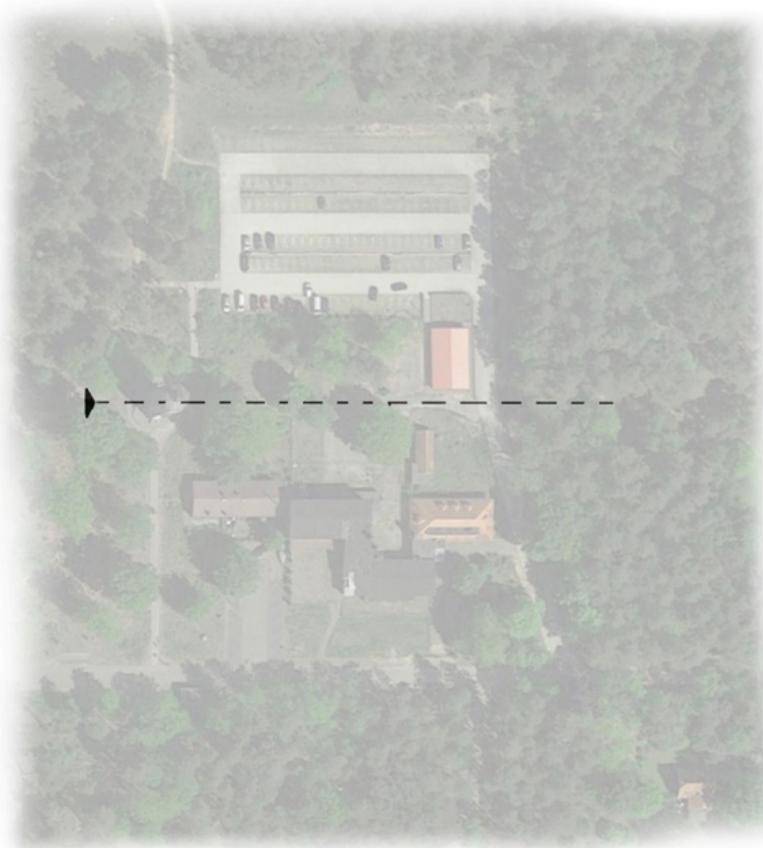
## + 9.3 The axis scenario



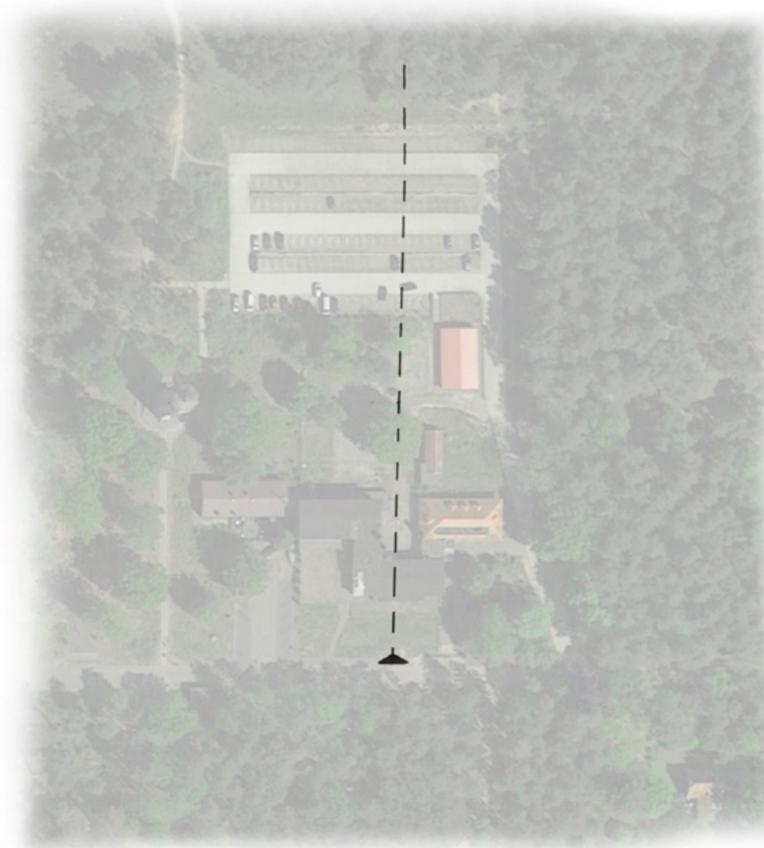
**Option D**  
central courtyard surrounded with interventions



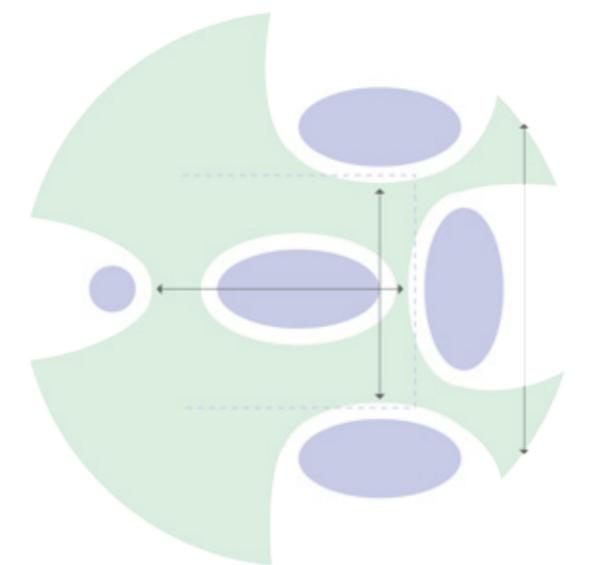
**Axis intersecting with concept idea**  
central courtyard surrounded with interventions



**Axis B**  
from the symmetric watertower



**Axis A**  
from the entrance of the symmetric former hotel



**composition**

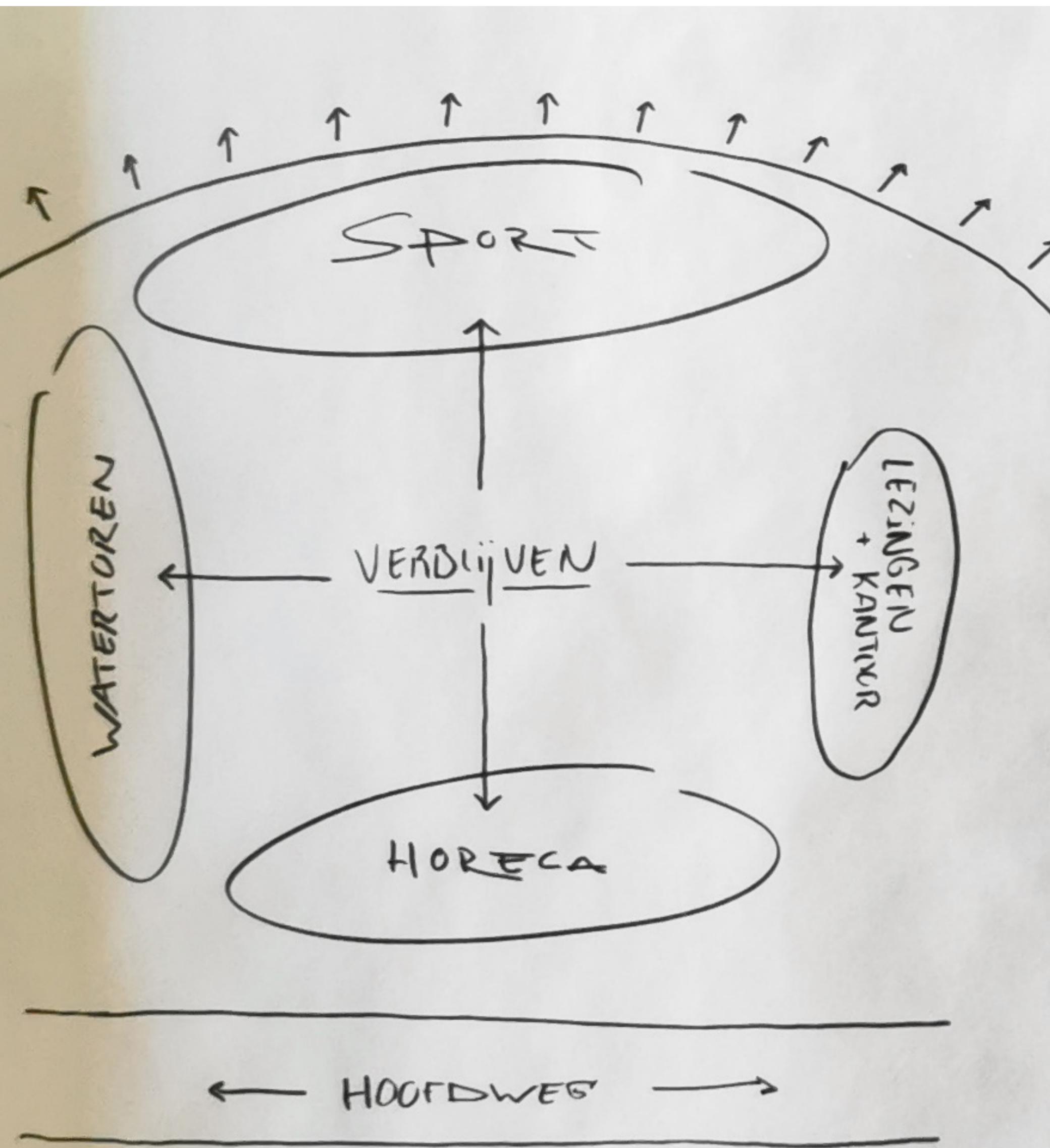
The composition allows in a certain way that the landscape quality of the surroundings enters the inner part. The inner part needs to become a place which knows a certain feeling of human scale. The 2 introduced main axes is not only important for the organization but also for the connection between the buildings. The end points of these axes do both have a certain similarity in the architecture.



**different functions**

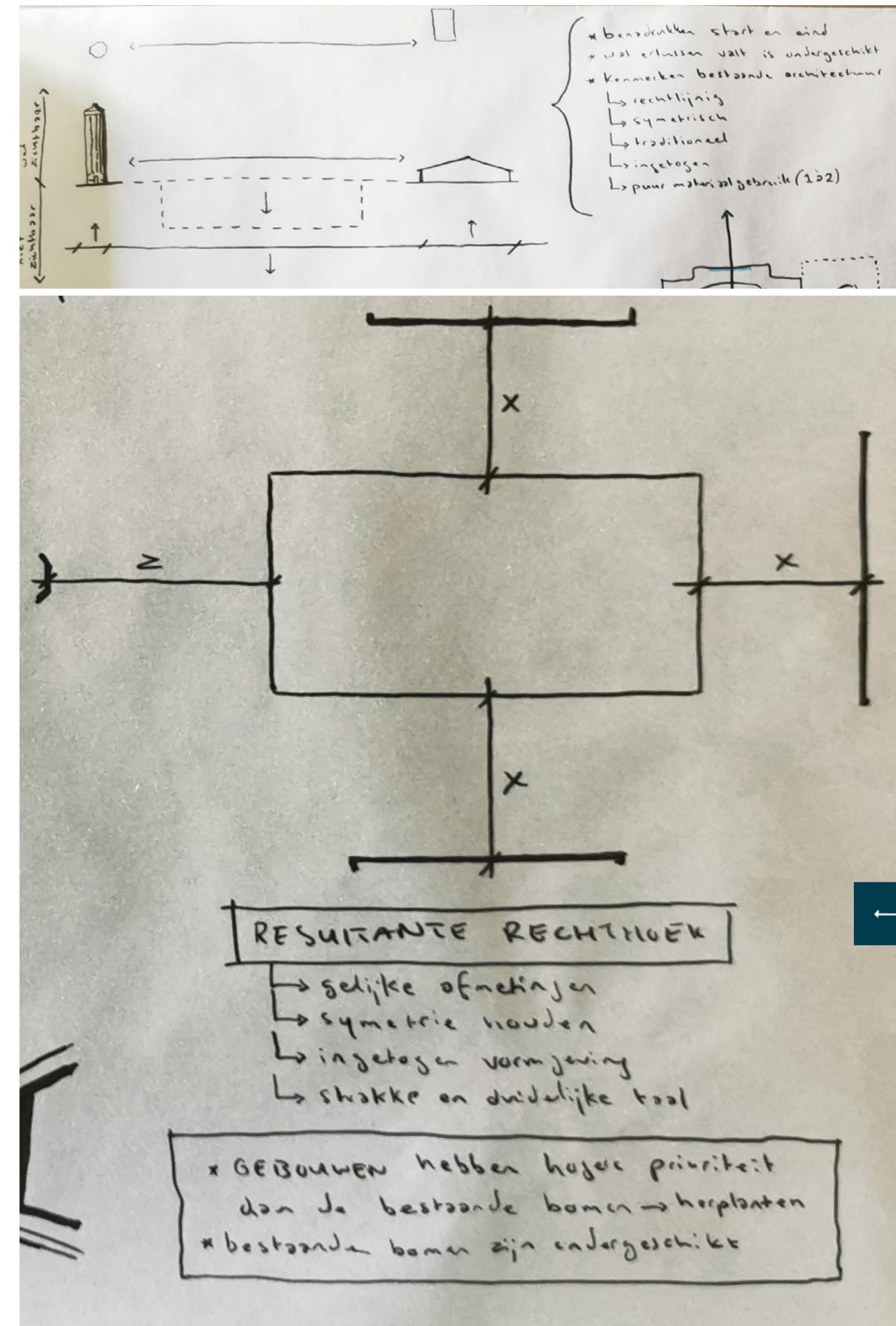
Each end point knows a different type of function. In the south, the most public function is situated, the restaurant. The south contains the arts & crafts space and logistics. The south contains the health department. On the east, the office and auditorium has been situated. This function stands in a direct line with the watertower. The middle point is in this case the most private part and contains the hotel rooms with spa underneath it.

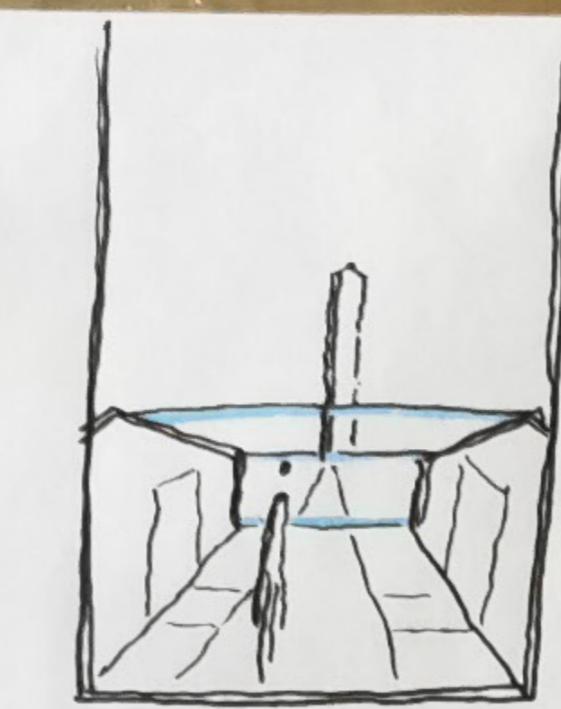
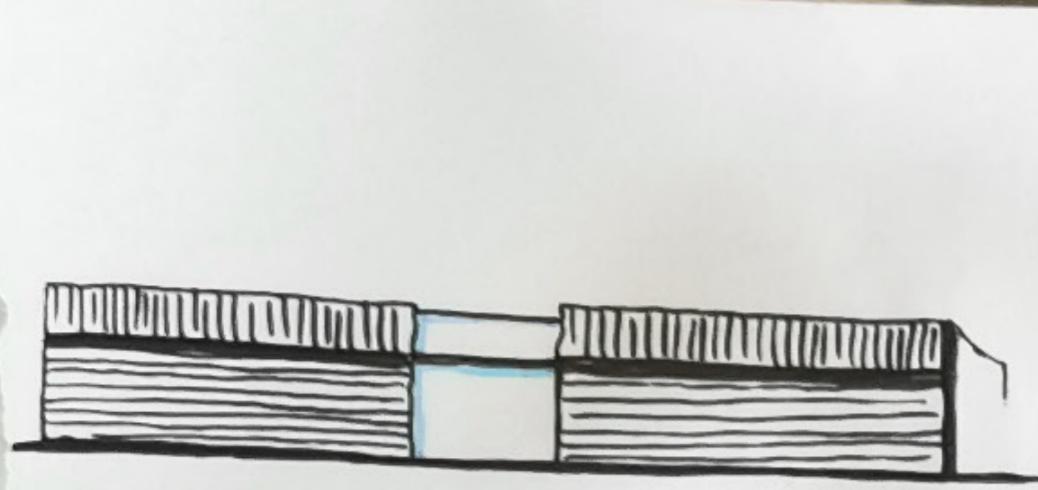
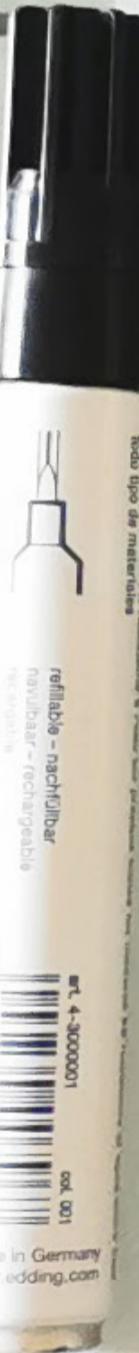




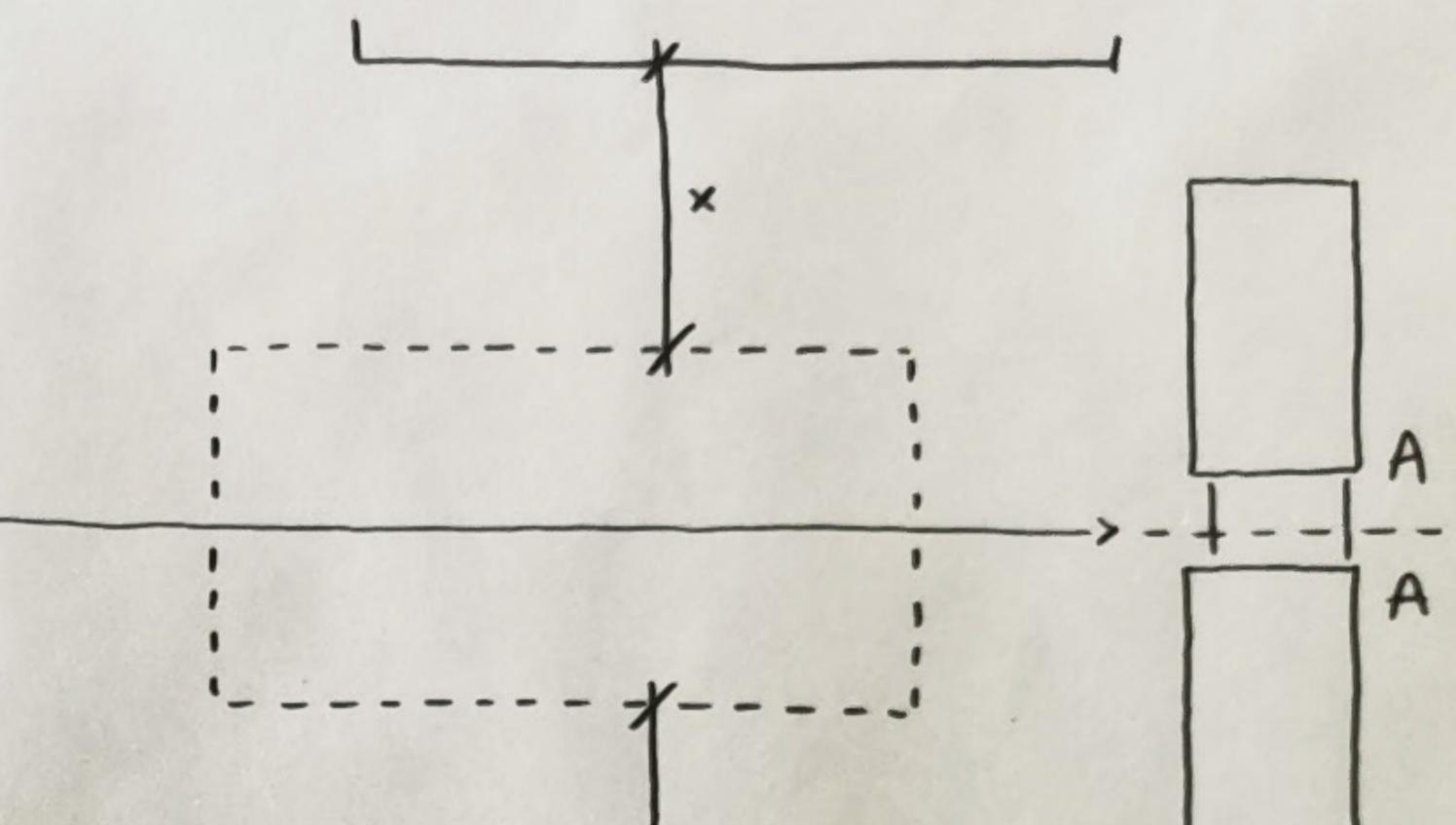
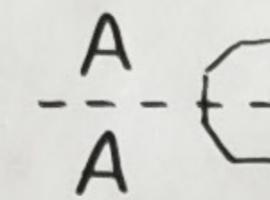
\* Verblif is centraal geïncasseerd, dit maakt alle voorzieningen goed toegankelijk.

↑↑↑ = start richting bosrijke wandelpaden/gebieden



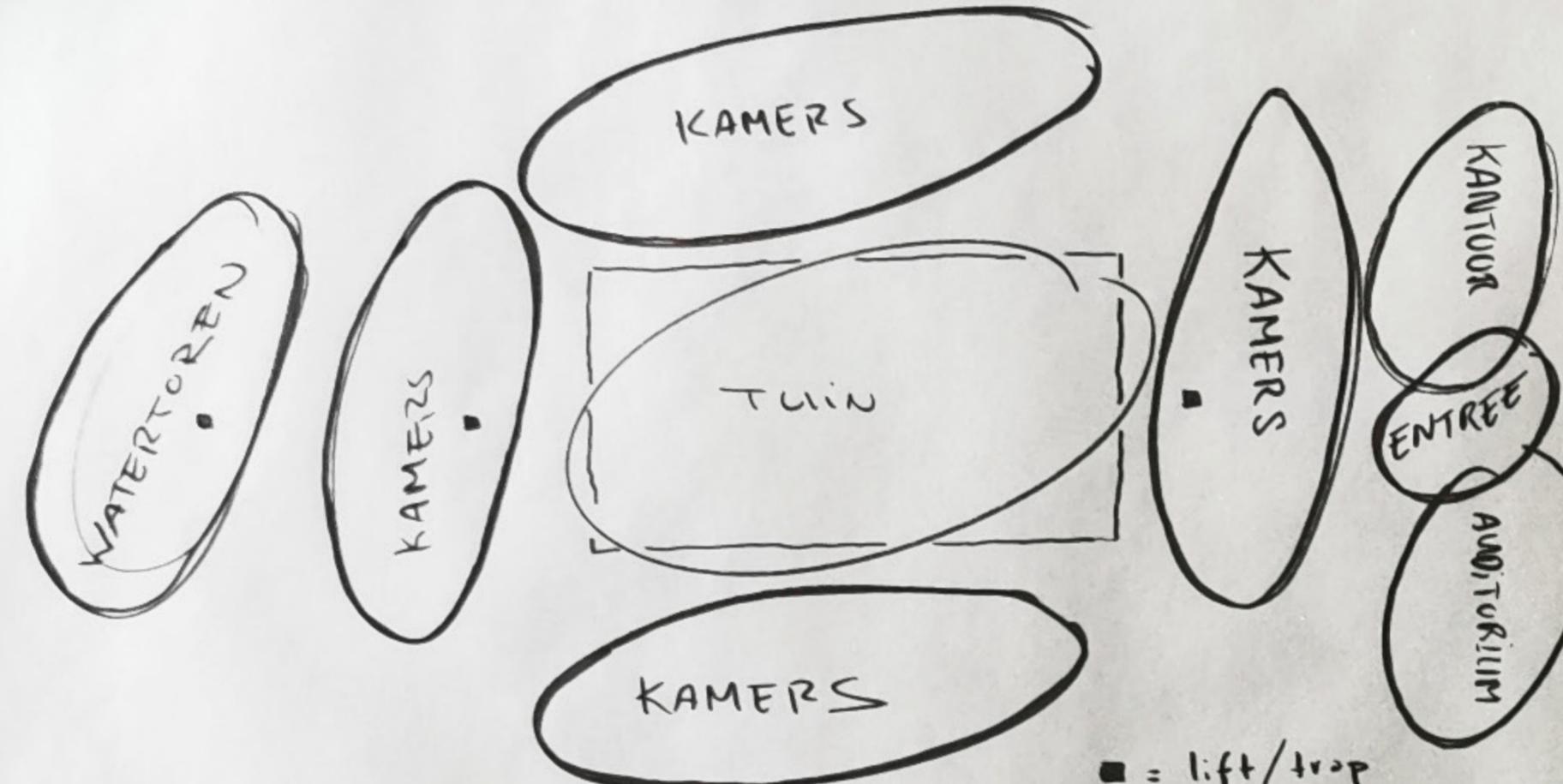
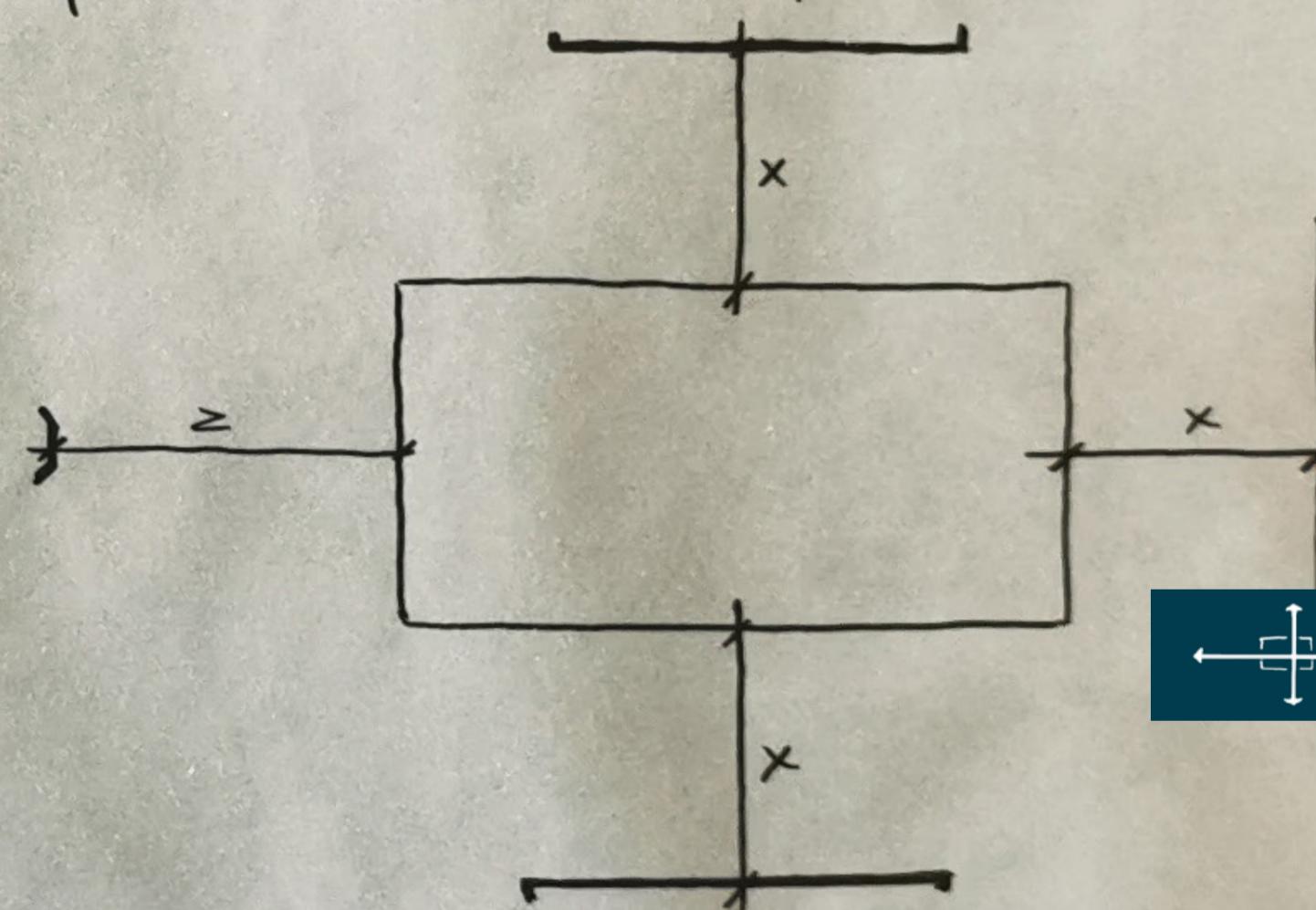


\* glazen verbinder  
versterkt de connectie  
met waterlopen & is  
een duidelijk herkenningspunt als entree.



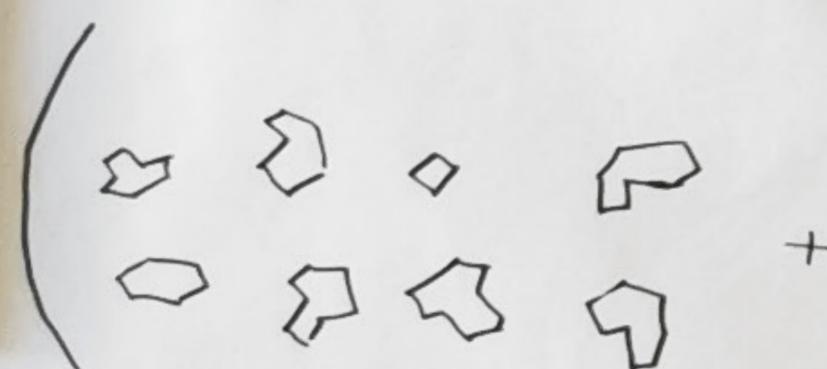
\* GELIJKE AFSTANDEN.  
\* SYMETRIE BENADRUKKEN.

**INGETOGEN SYMETRIE**

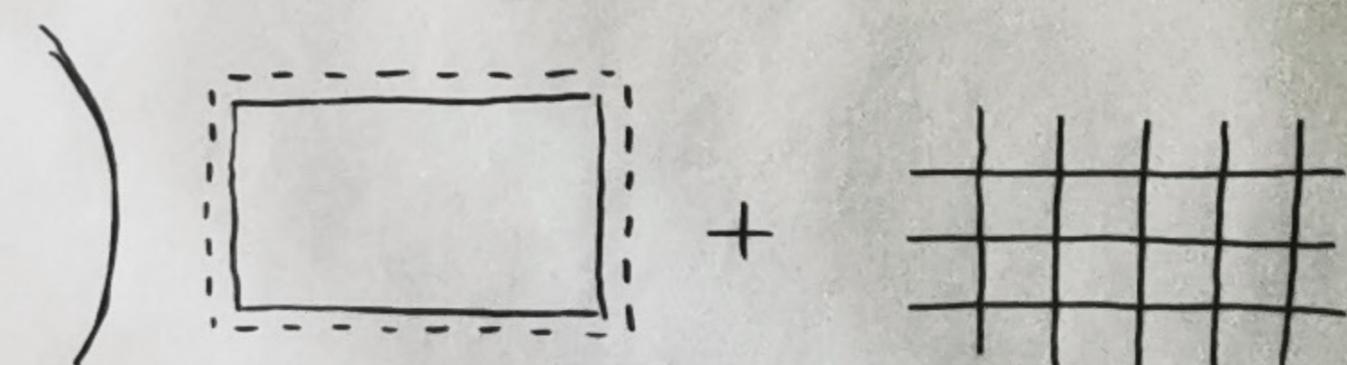


■ = lift/trap

\* Verblijfskamers zijn ontworpen in  
ingetogen architectuur → rechthoekig  
vlak met een grid invulling → de in-  
bedding verstoort de connectie van de  
gebouwen en landschap niet.

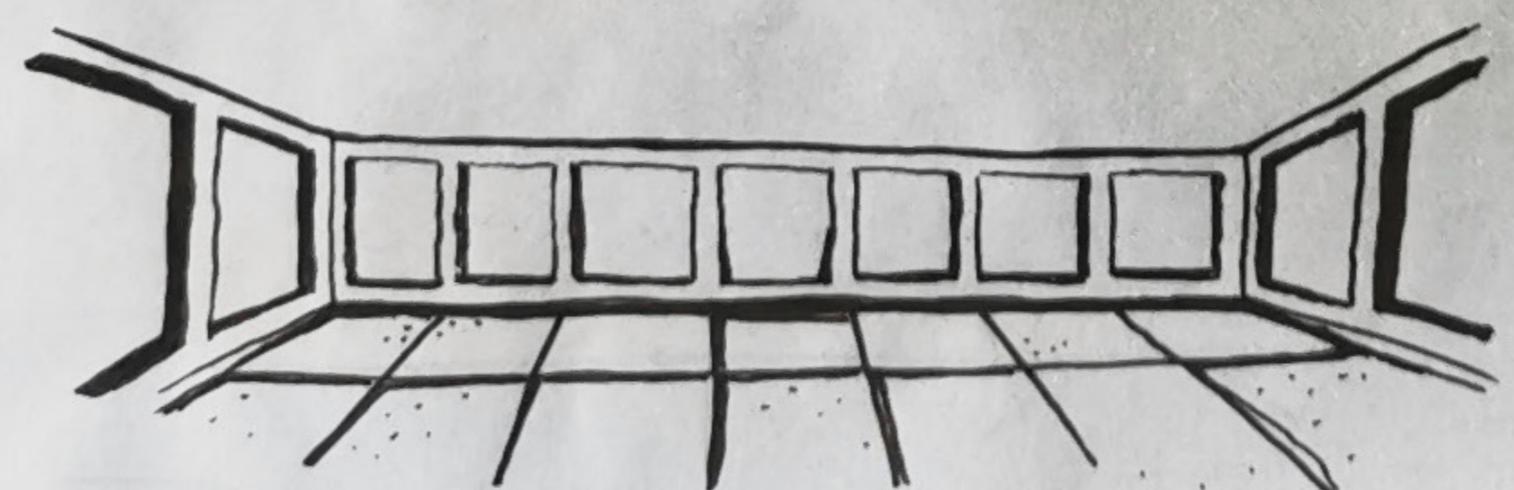


ROTSSEN



VLAG

GRID



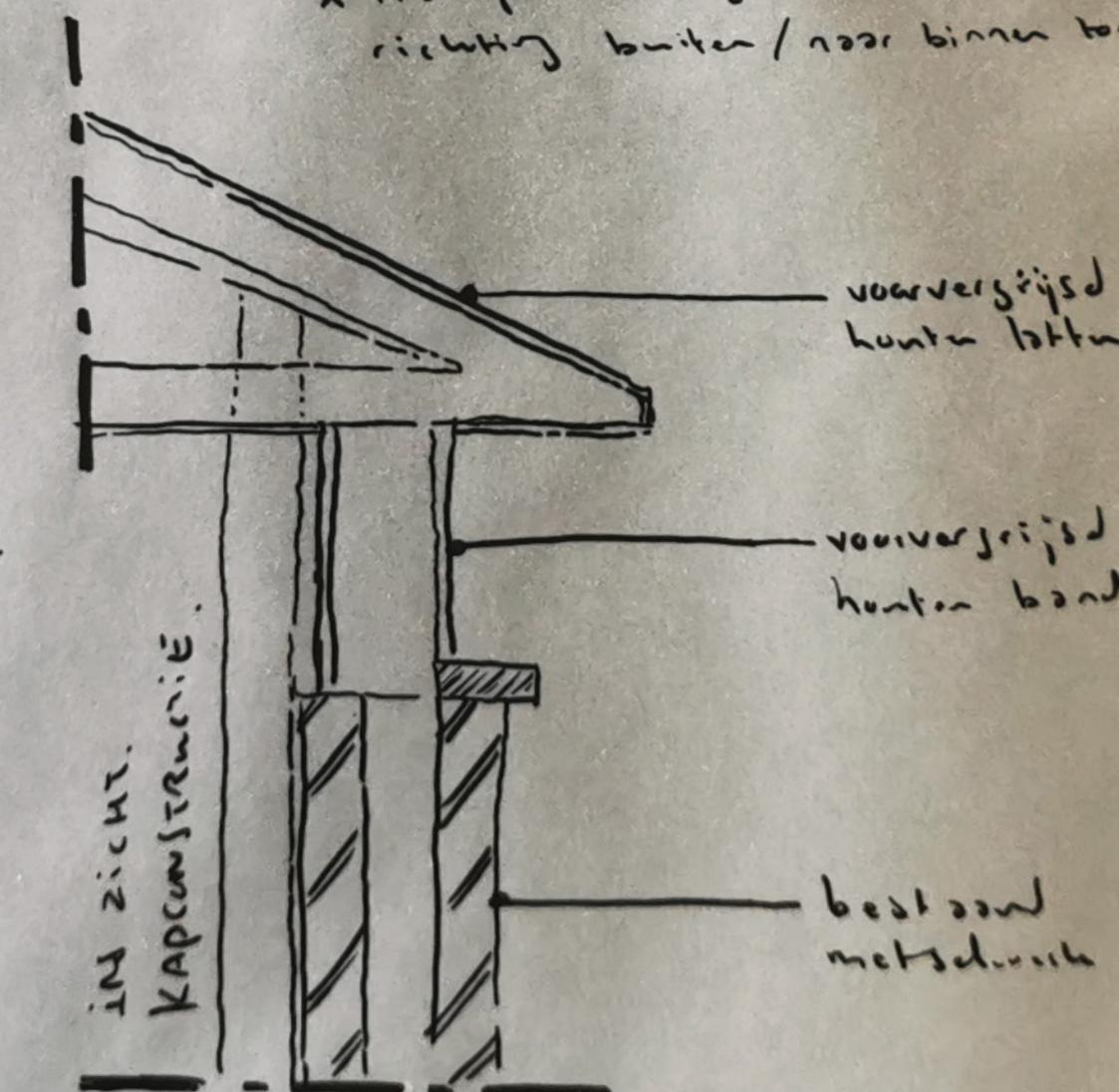
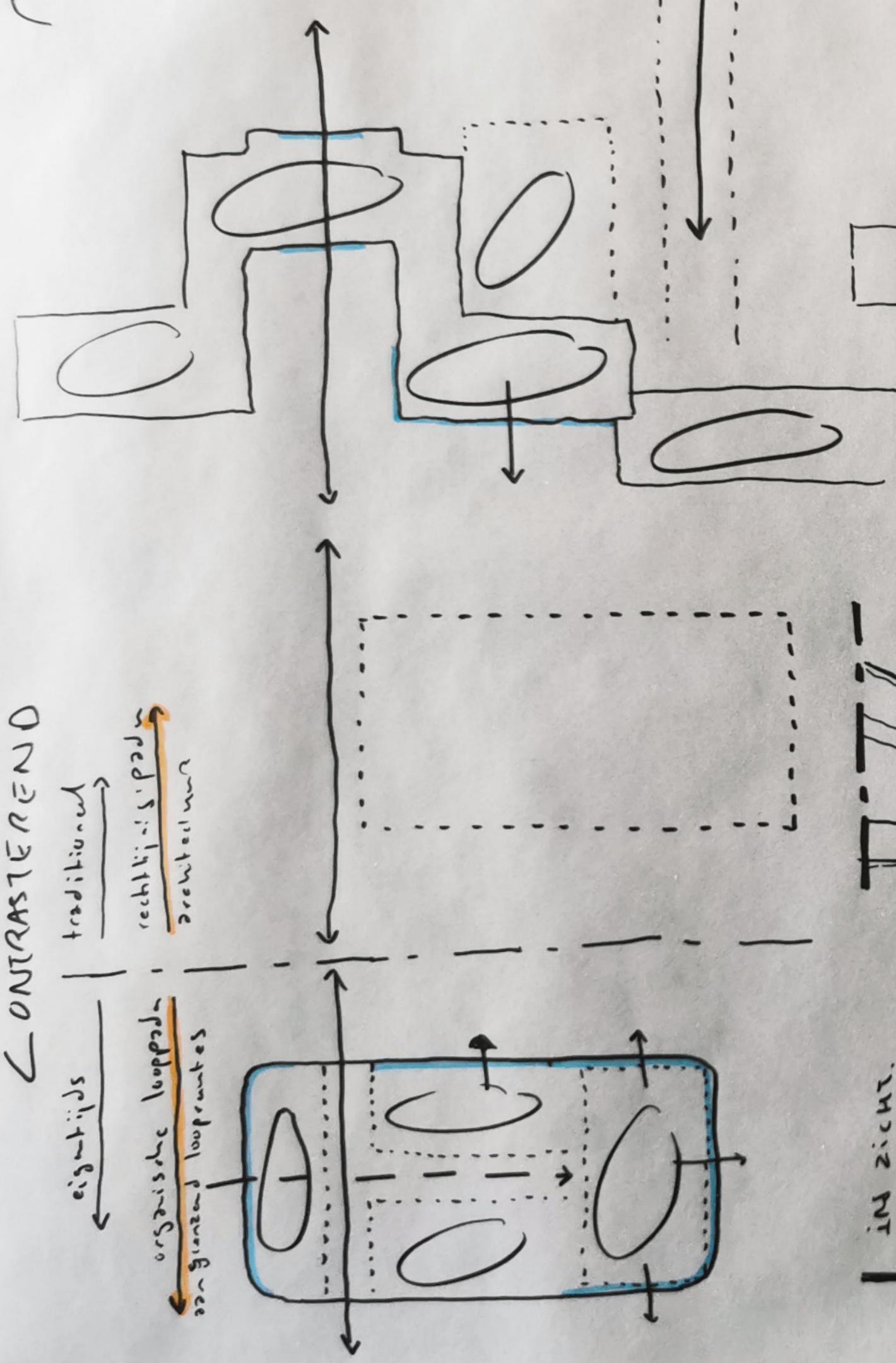
**RESULTANTE RECHTHOEK**

- ↳ gelijke afmetingen
- ↳ symmetrie houden
- ↳ ingetogen vormgeving
- ↳ strakke en duidelijke taal

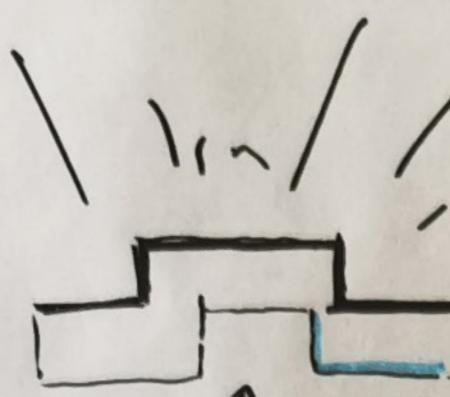
\* GEBOUWEN hebben hogere prioriteit  
dan de bestaande bomen → herplanten  
\* bestaande bomen zijn ondergeschikt

MARQUETIERS  
CONTRASTÉEN

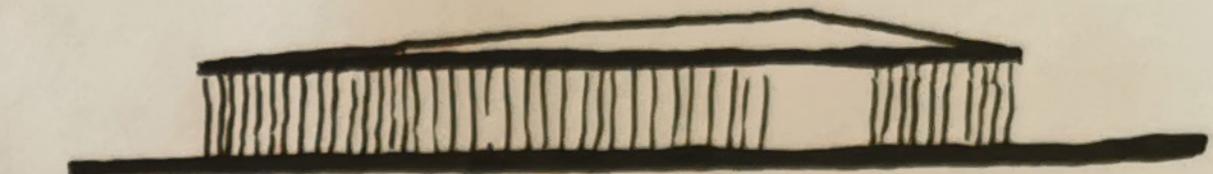
- \* benadrukkken start en eind
  - \* wat achteraan valt is ondergeschikt
  - \* kenmerken bestaande architectuur
    - ↳ rechtlijnig
    - ↳ symetrisch
    - ↳ traditioneel
    - ↳ ingetogen
    - ↳ puur materiaalgebruik (1 à 2)



- \* footprint zoals tegenoverstaand.
  - \* nieuwbeauw + ingebouwd kader
  - \* modern
  - \* ingetogen (als landschap)
  - \* midden in natuur
  - \* transparante gebouw
  - \* contrast maar harmonieus
  - \* eigentijdse wijze
  - \* eindstation van rechtlijnig  
↳ dus niet per se symmetrisch
  - \* kapconstructie zichtbaar.
  - \* transparante gebouw, openheid  
richting buiten / naar binnen toe leiden



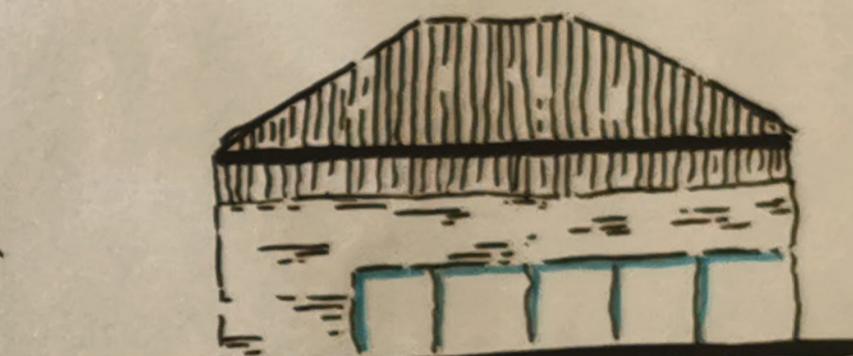
- \* transformatie
  - \* traditional 
  - \* zichtbaar hoofdweg
  - \* openheid is binomiaal



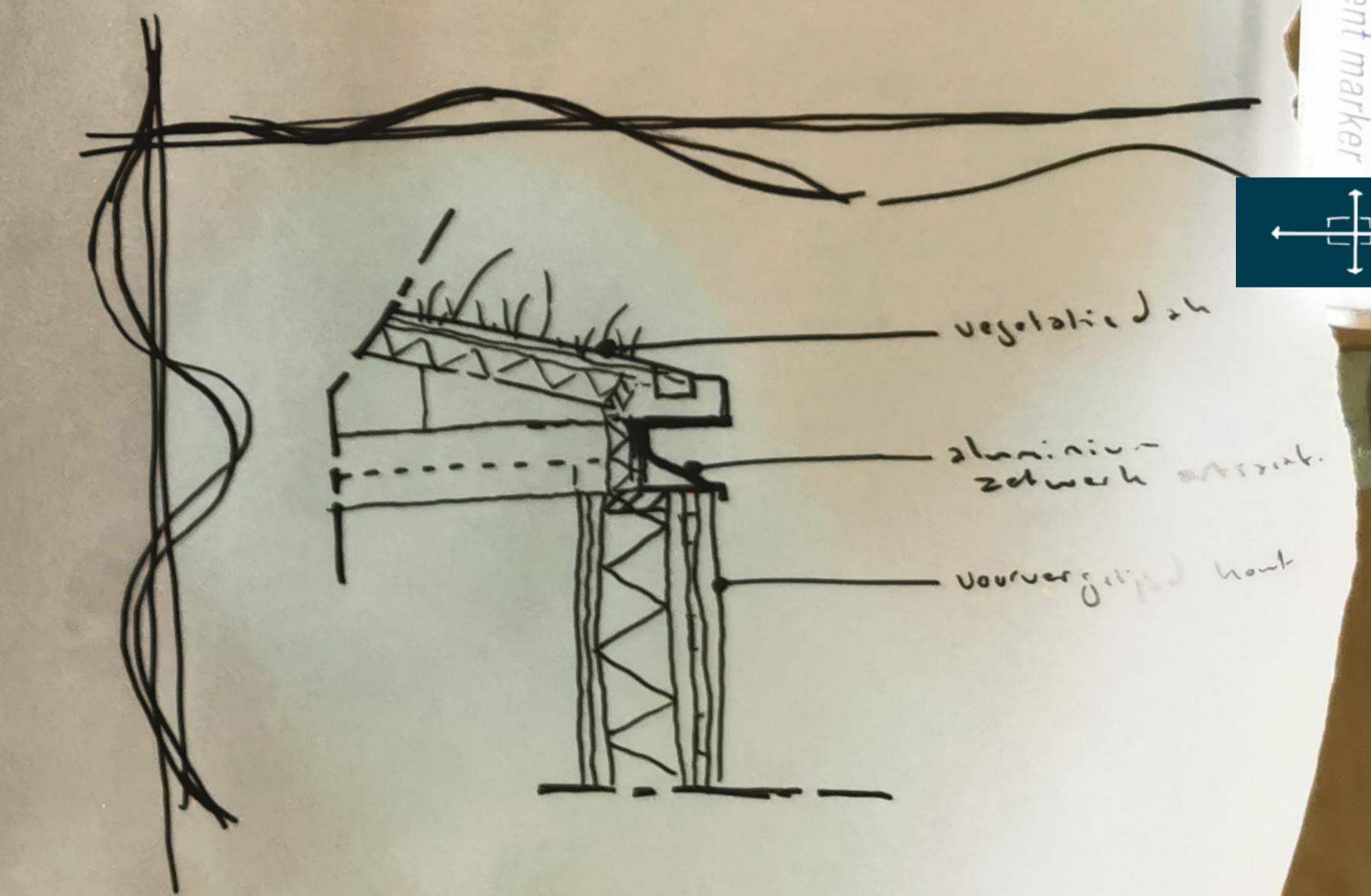
- \* loeg position passend bij de landschappelijke omgeving.

- \* 3lagen: 1. latte / korijnen  
2. band (vergissend)  
3. vegetatie dek (licht houtland)

\* licht hellend dake

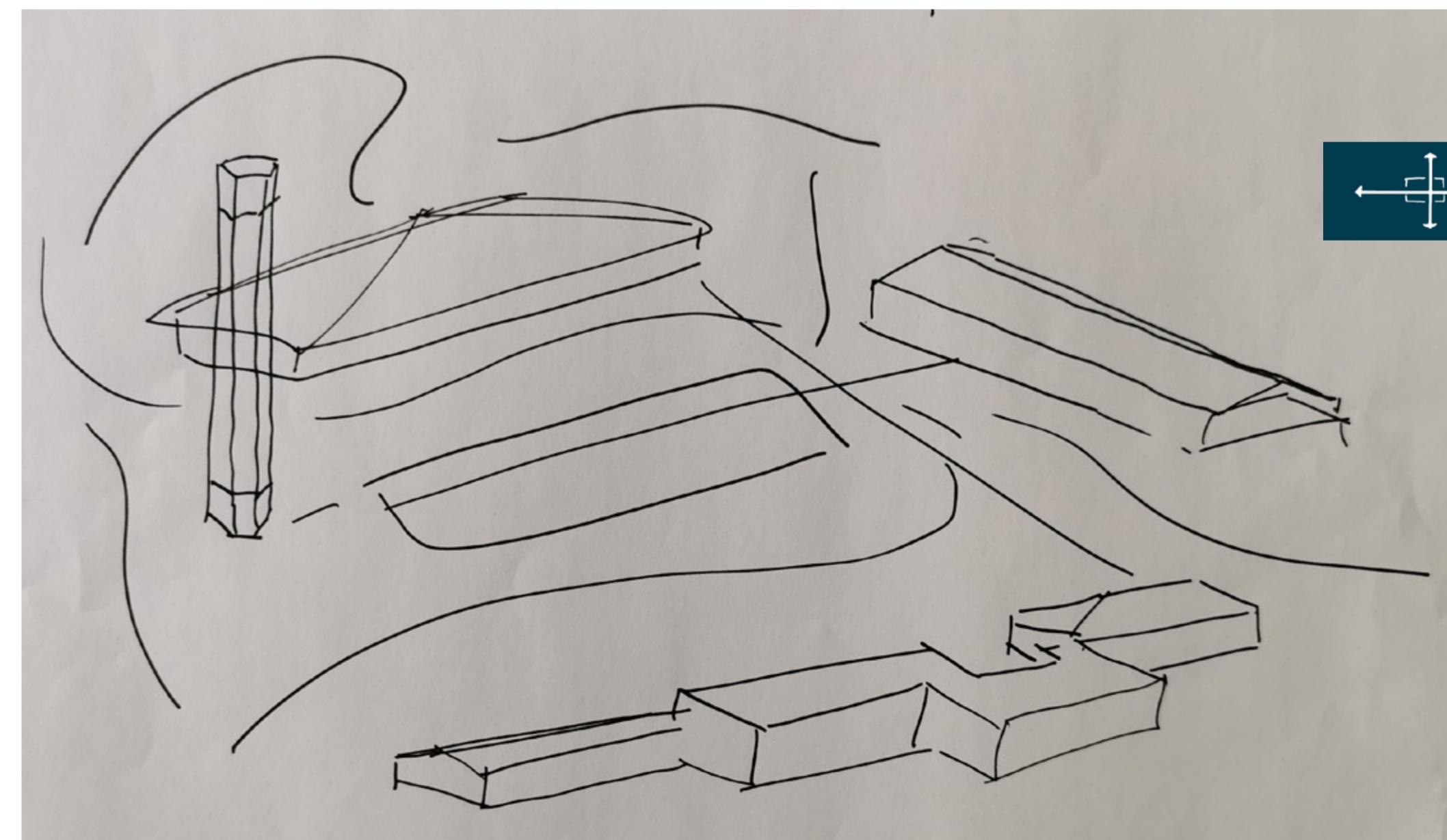
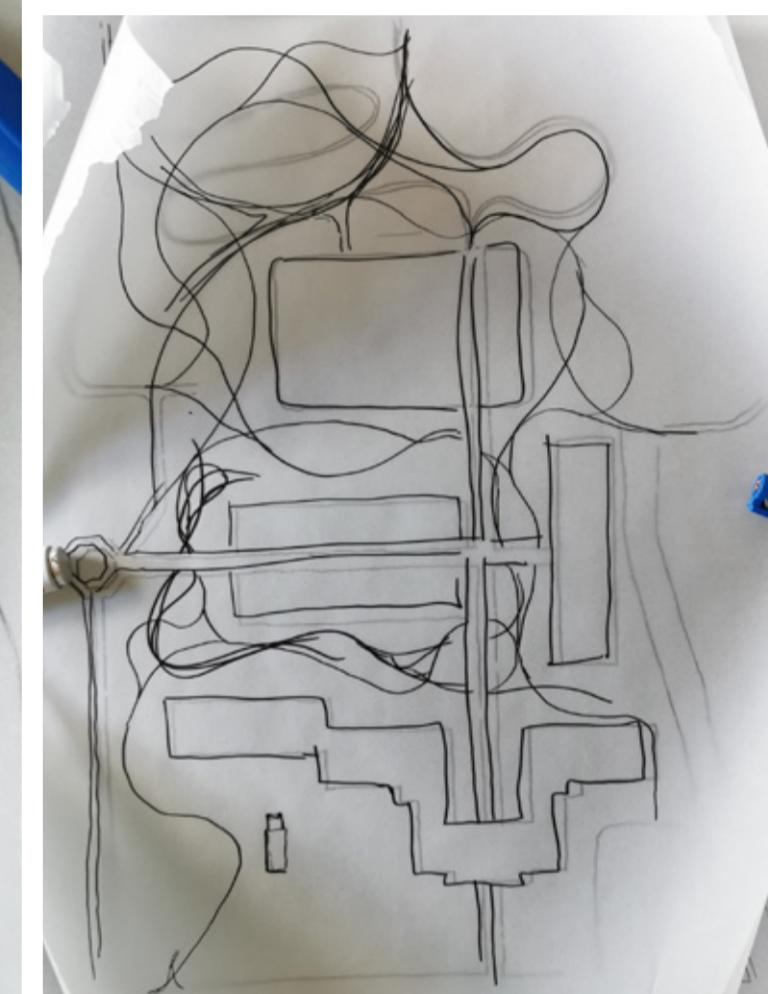
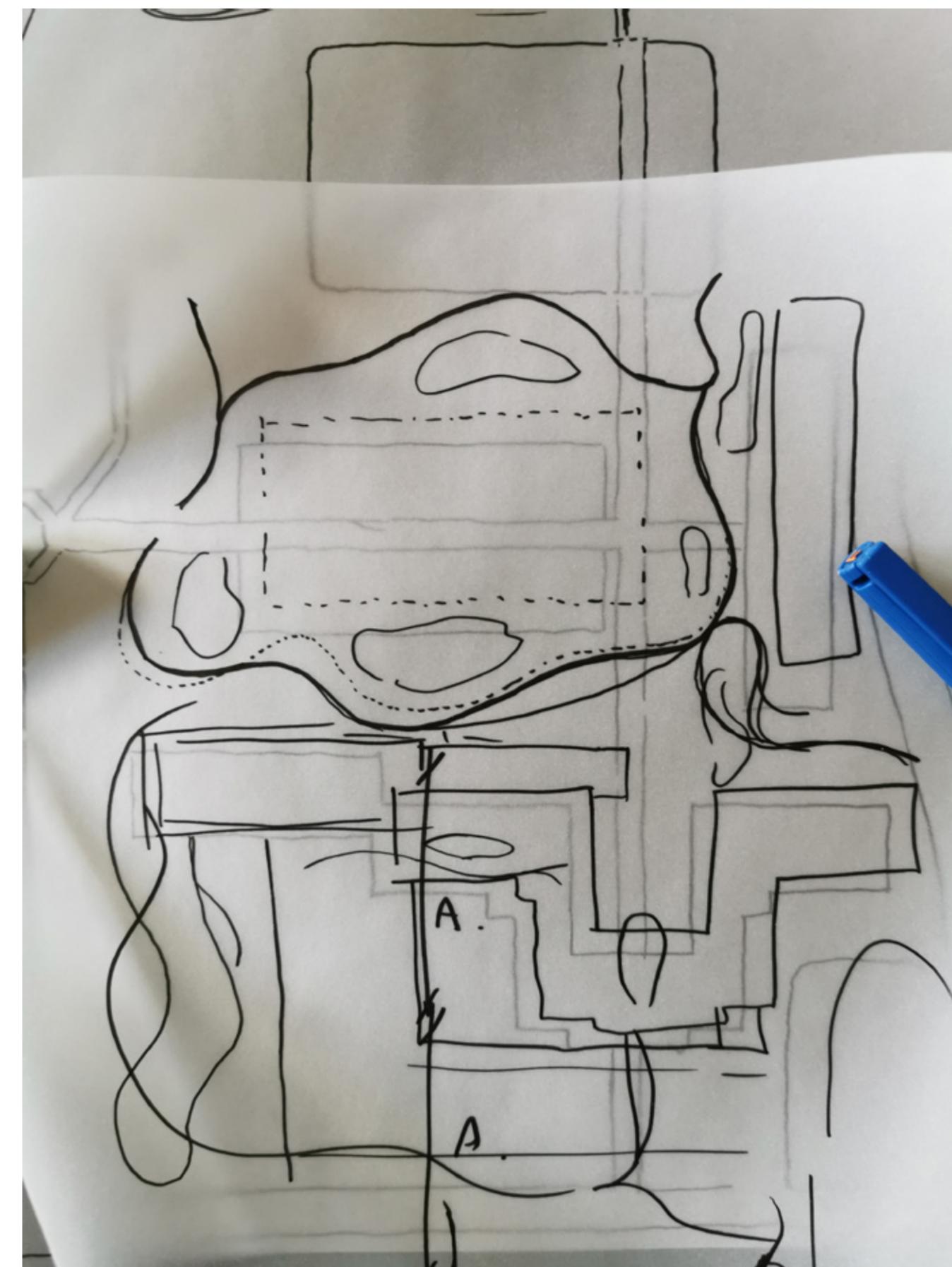
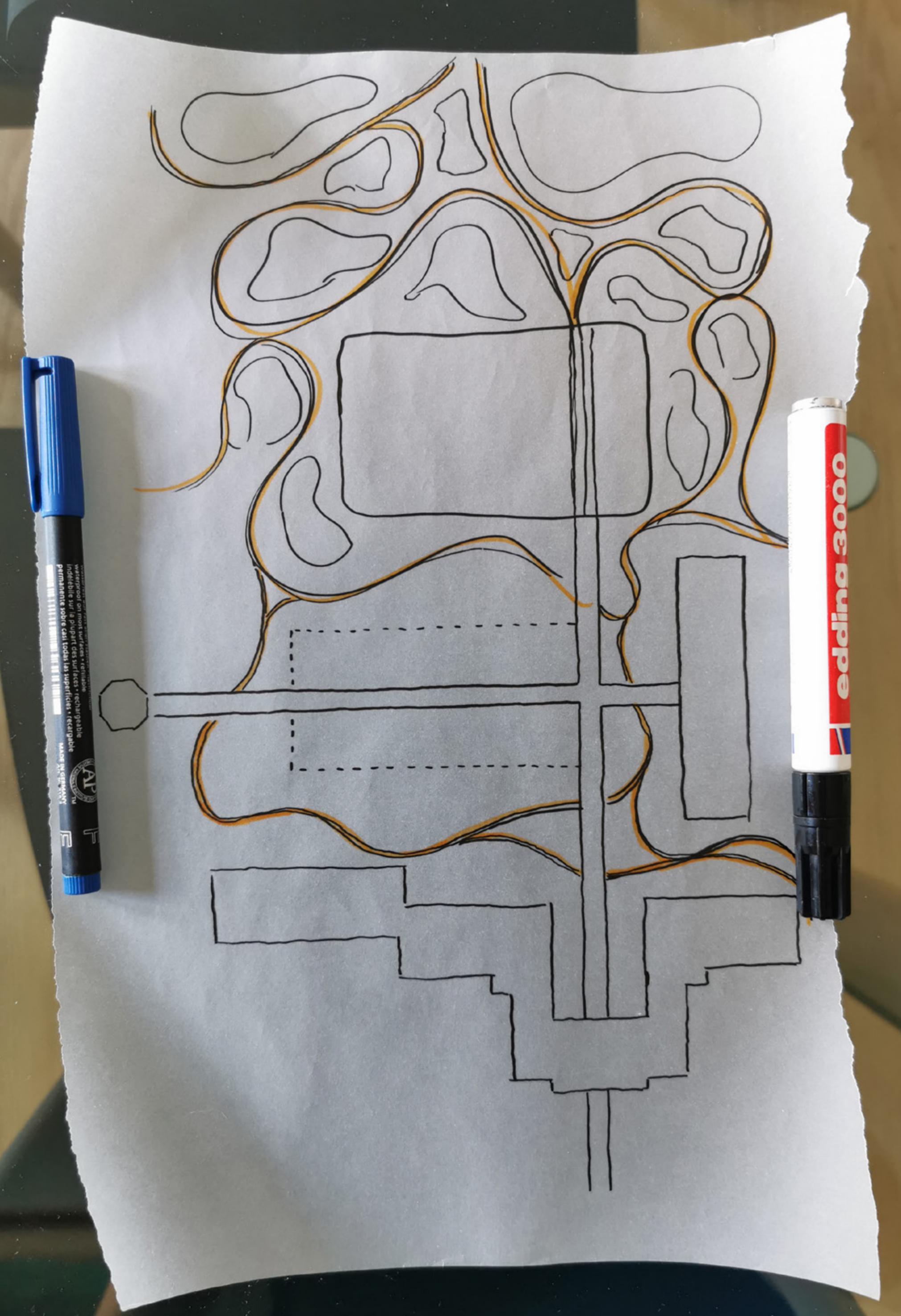


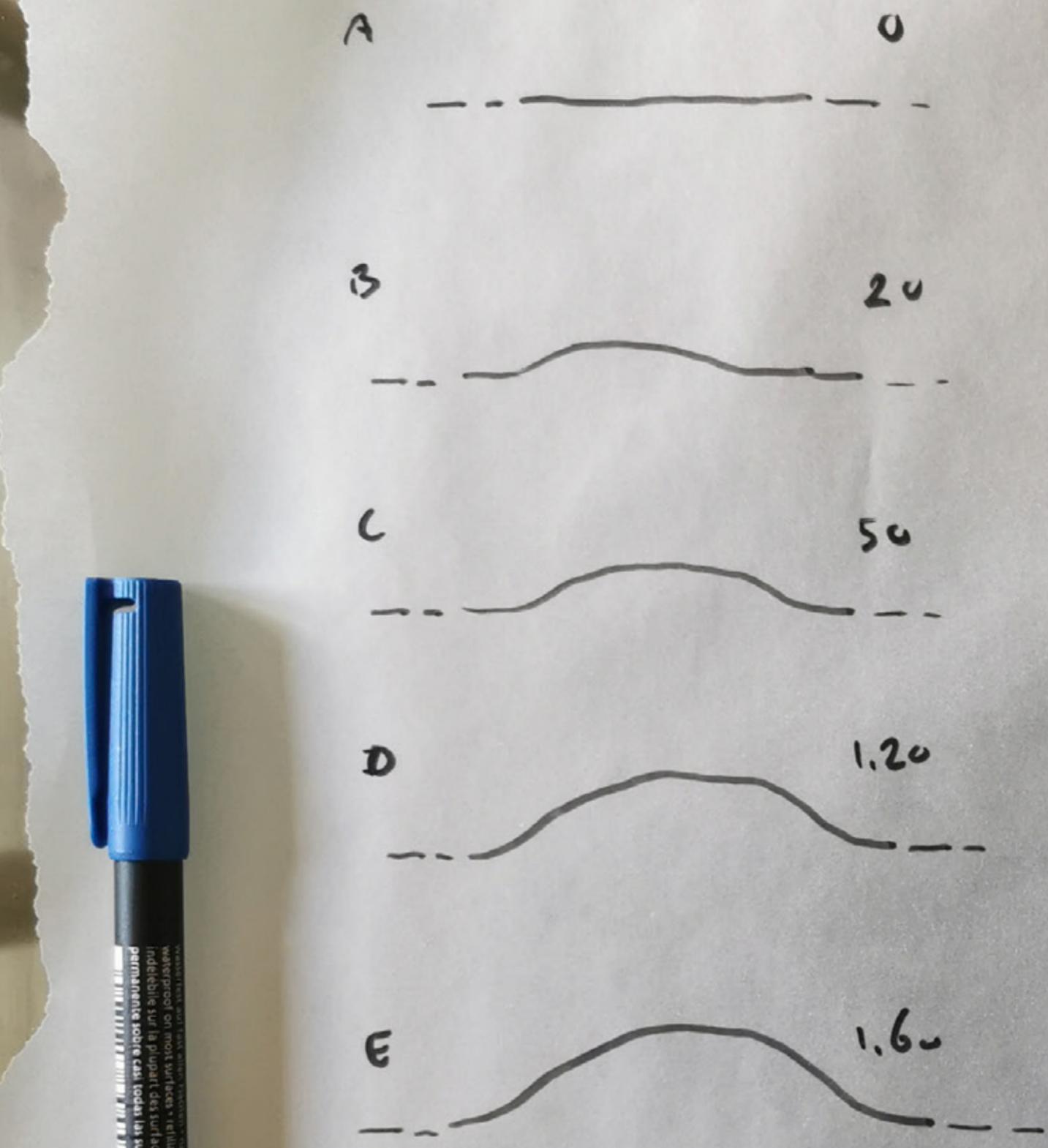
- \* 3 laagz zoids origineel
  - \* voorverfijfd hout gescreed  
bij gebouwen van beton
  - \* transparantie & meer openheid  
in plaats gesloten  
Licht maximiseren.



### public space design

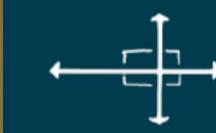
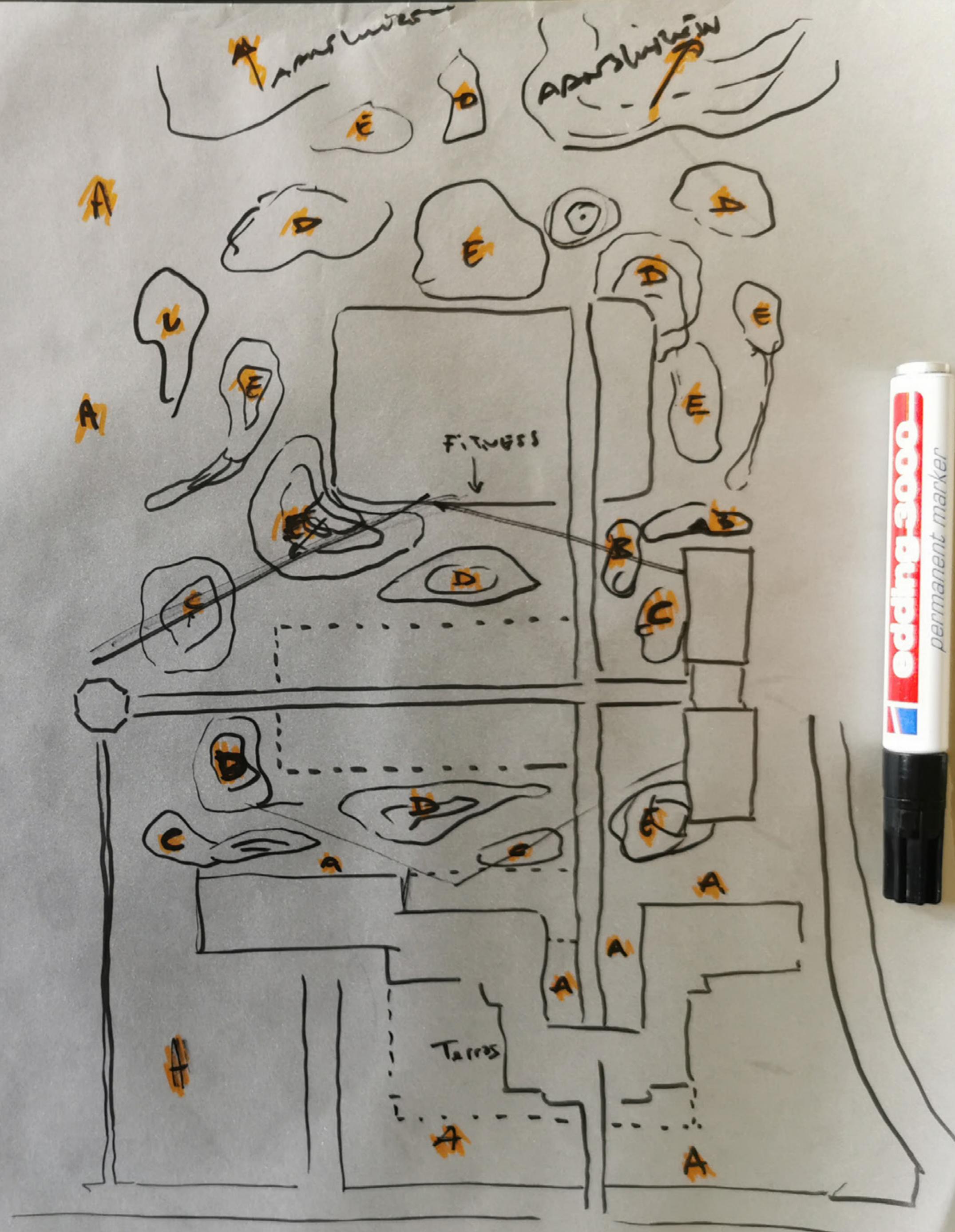
To soften the transition from the surroundings, which are mostly forest, a tranquile organical scene of pathways is being tested. This option leads to a natural and intertwined feeling when walking towards the court yard. Between the voids that appear along the paths, space is created for trees, plants and flowers. This idea will stimulate the biodiversity of the place. Think hereby of the stimulans for birds and bees.

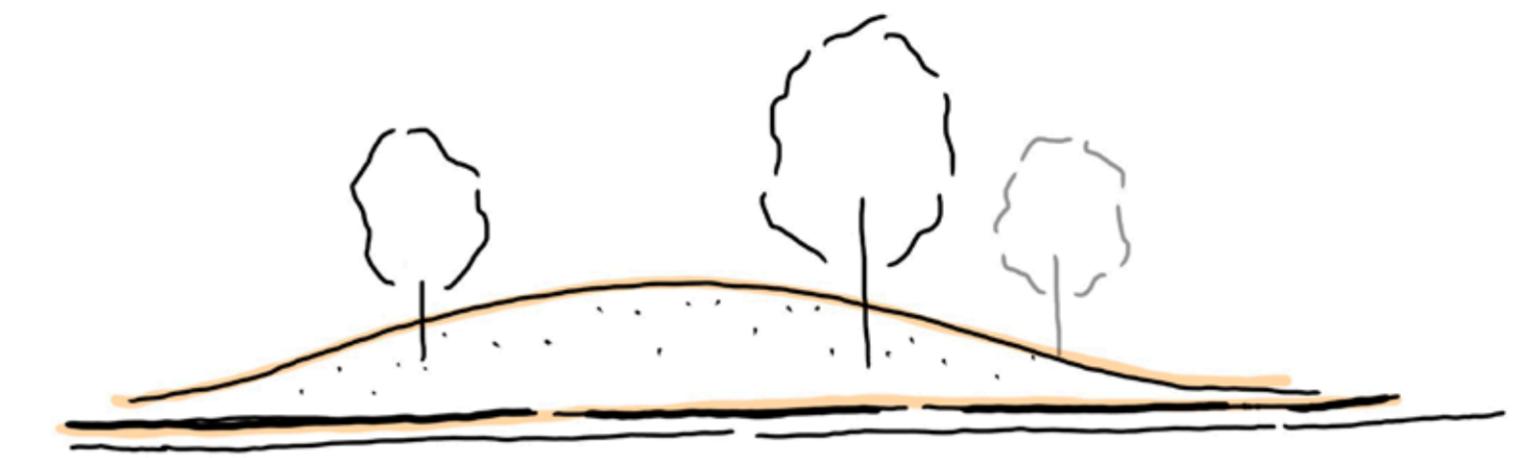




### hilly landscape

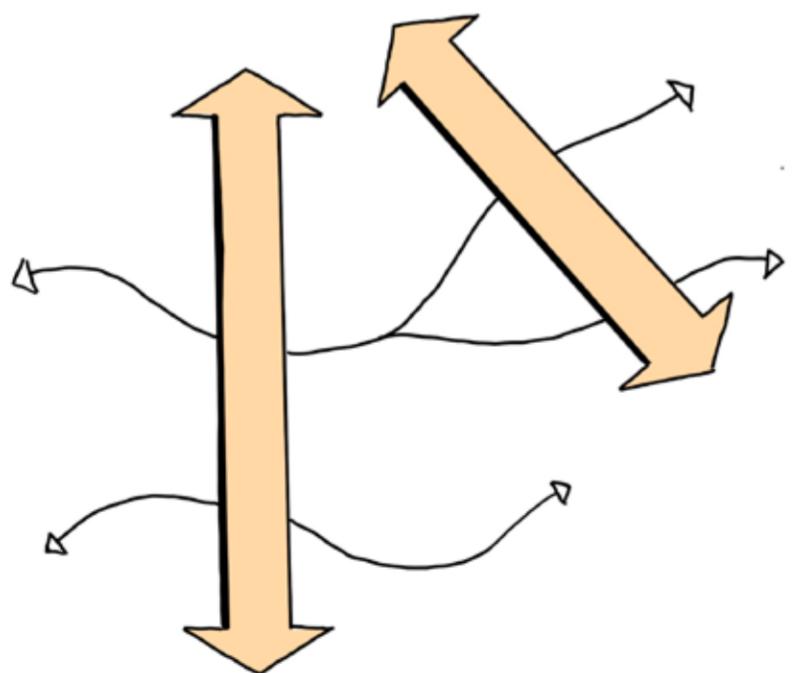
The hilly landscape has been set out in 5 different categories. The different categories in height switch along the place on the plot. The plot can be categorized in three different parts, each part knows a different level of hilliness. The space in between the Radioweg and the former hotel is formal design and allows to be the same as the original back in the days. From the space of the inner courtyard (this is the space between the 4 buildings) the hilliness begins. But still in a gentle way where the human can look over 1,20m high hills, this is done because I want to emphasize the human scale in combination of the feeling of emphasizing on architecture. Finally we have the space between the forest and sports pavilion. The character of this piece of landscape knows the most hilly landscape of hills about 1,60m high. Furthermore the connection to the existing forest has been made gradually by an ecological border.





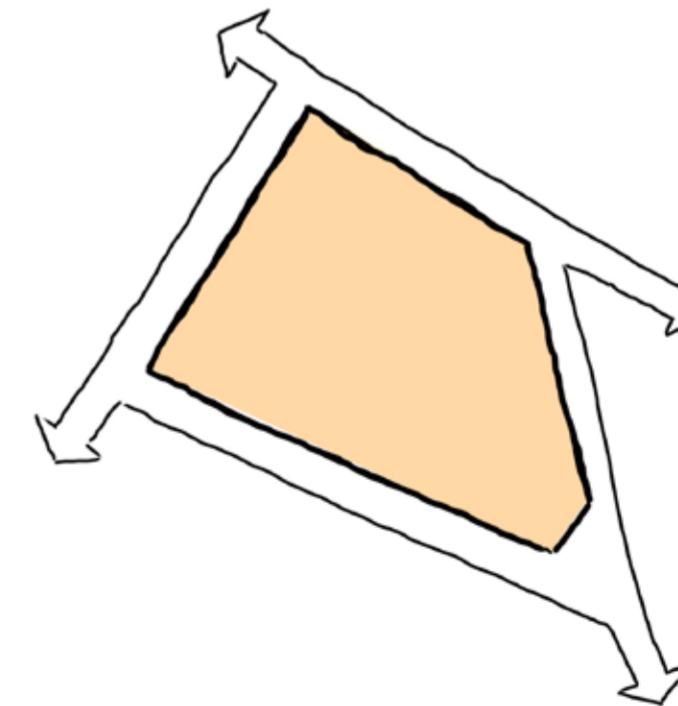
### SPACE FOR LITTLE HILLS

Flat surfaces and little hills alternate each other along your walk through the courtyard. It creates a constantly changing view.



### PUBLIC FRAMEWORK

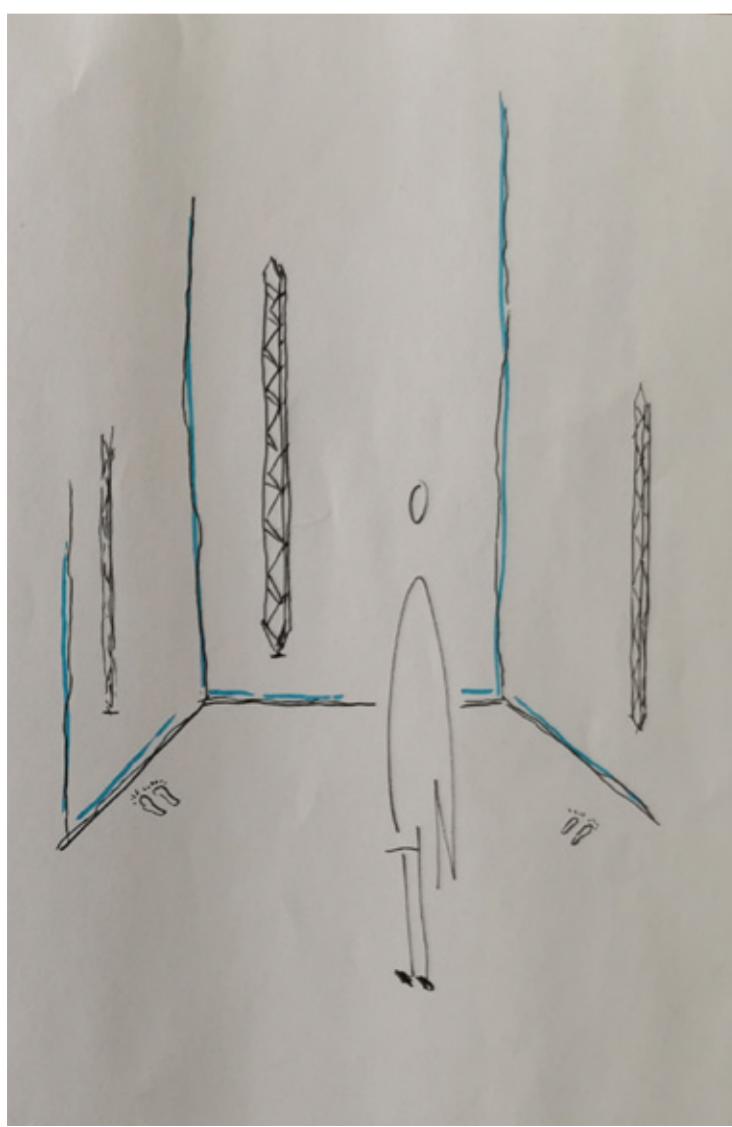
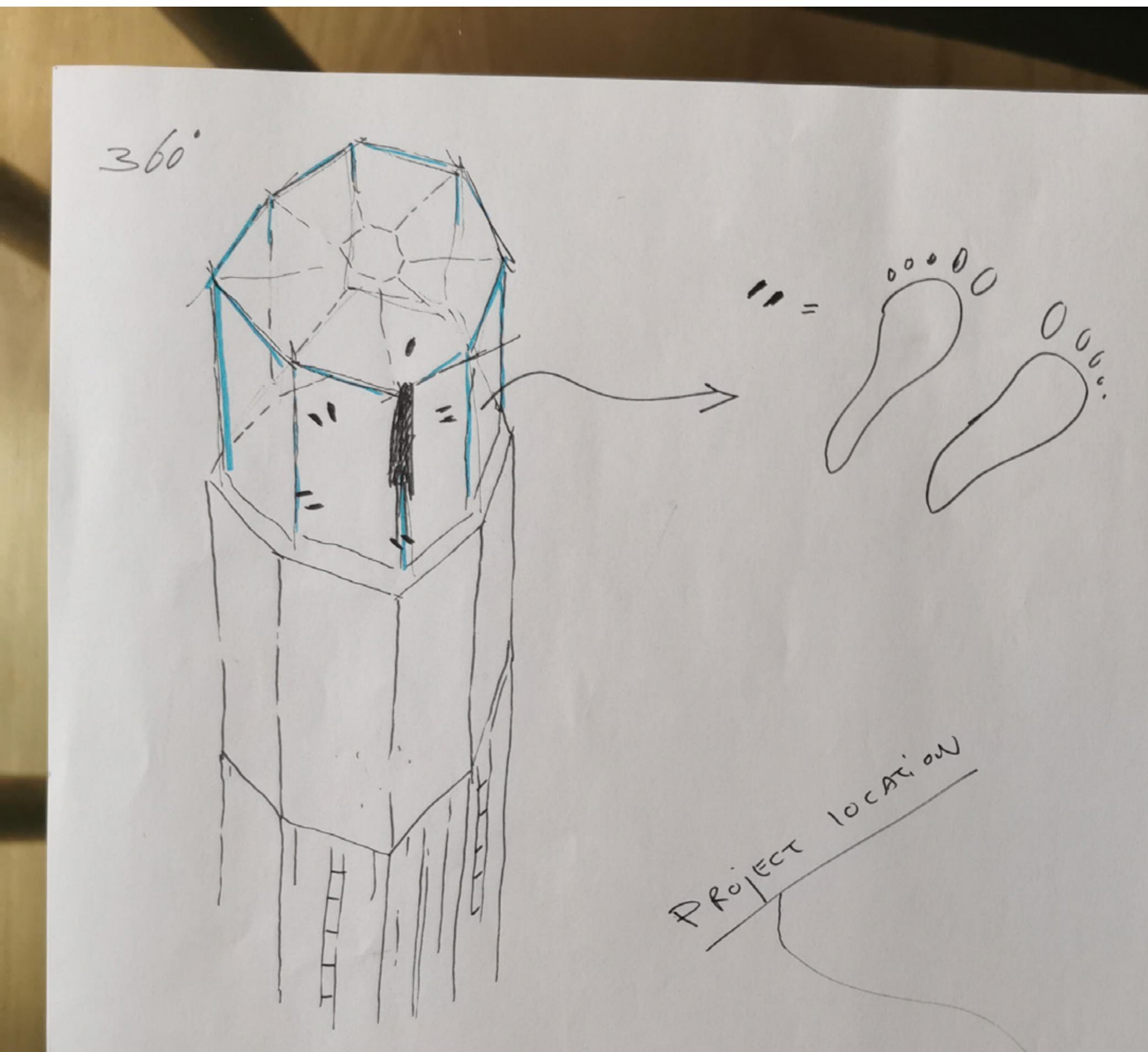
The public framework is the base of the plan and will be one flat plane as a rigid structure. Between this rigid structure smaller organic pathways will flow through.



### INNER GARDEN SPACES

By introducing a framework with main paths which are connected, more little garden spaces are being arised.



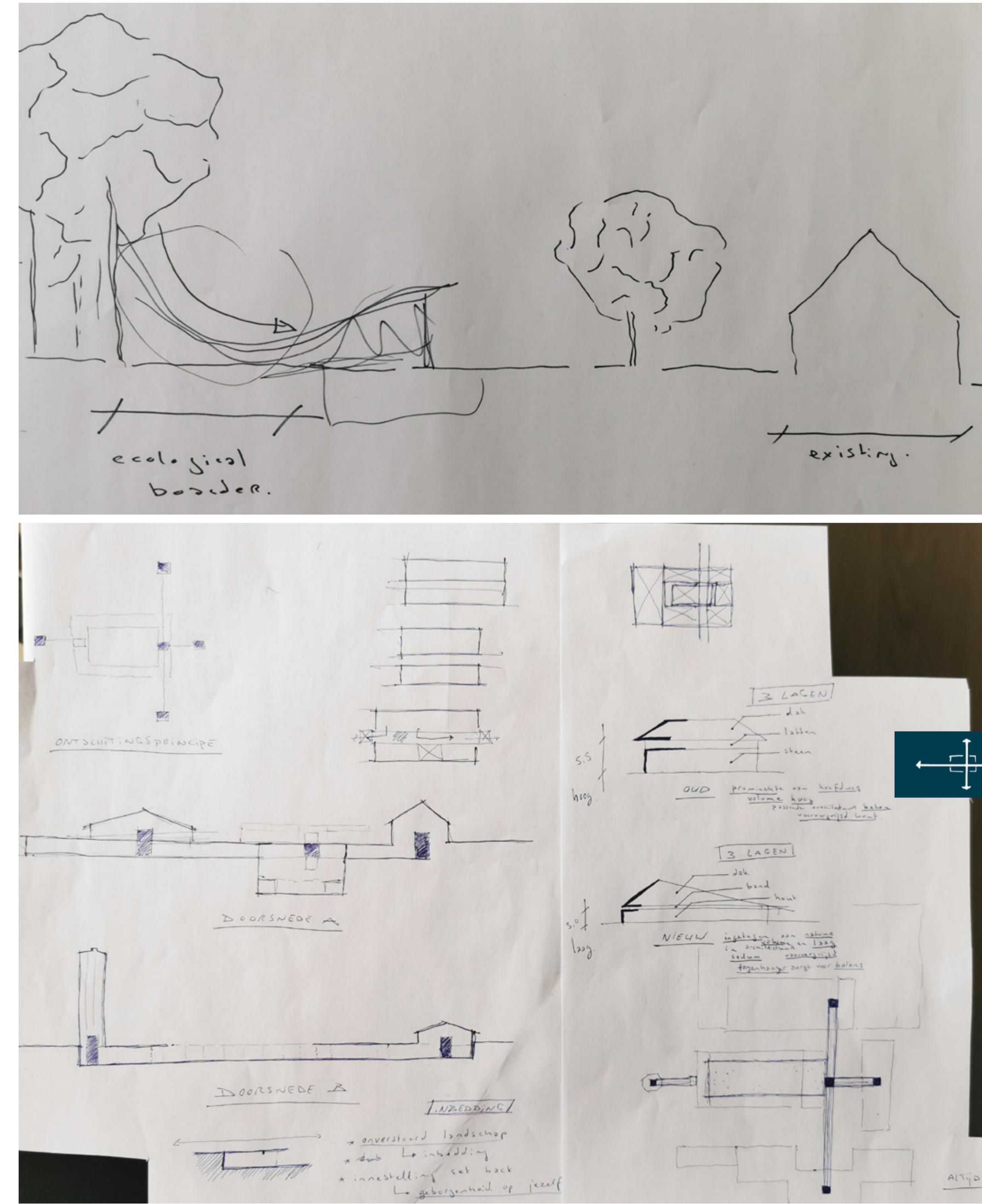


### Watch tower?

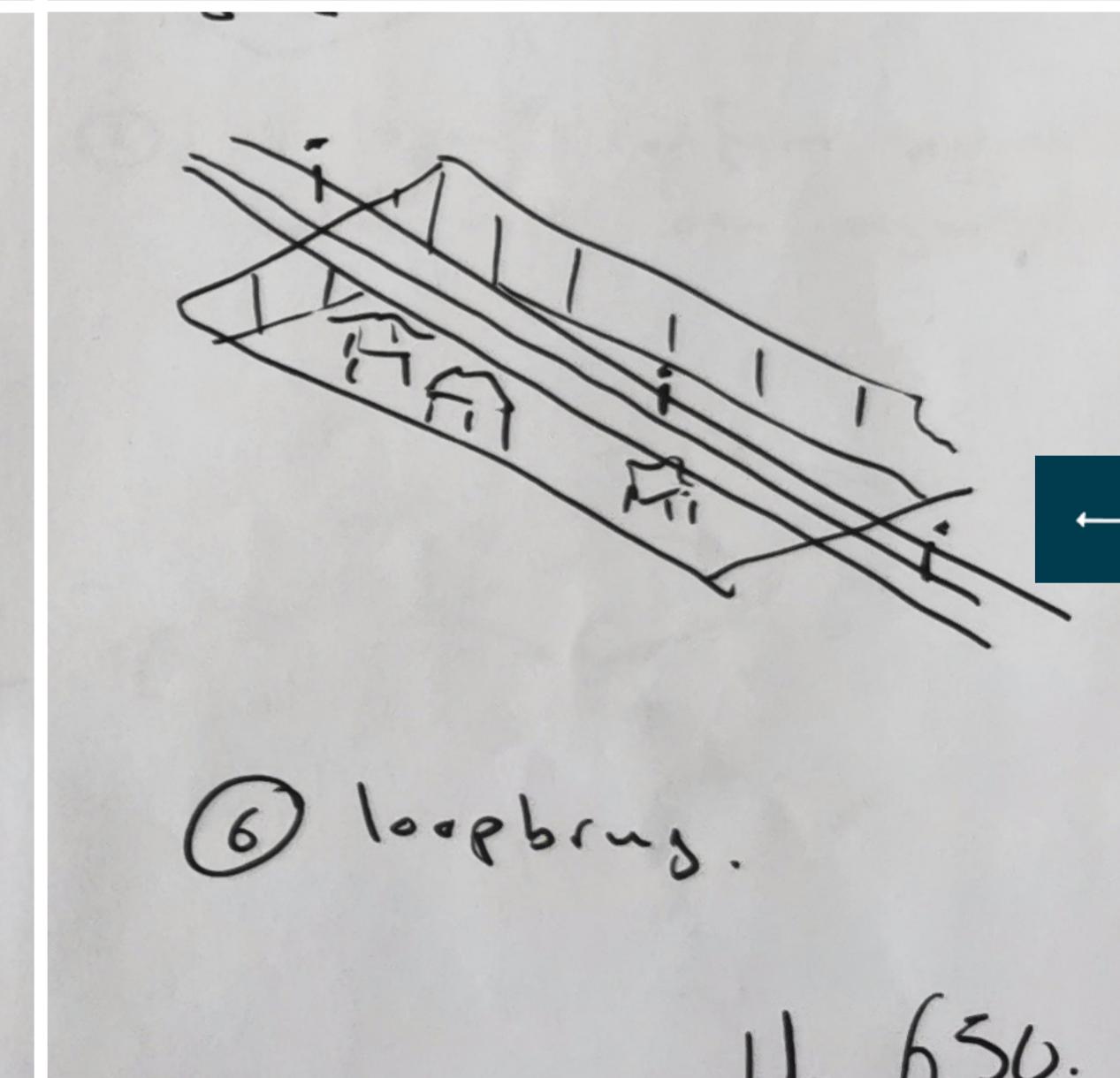
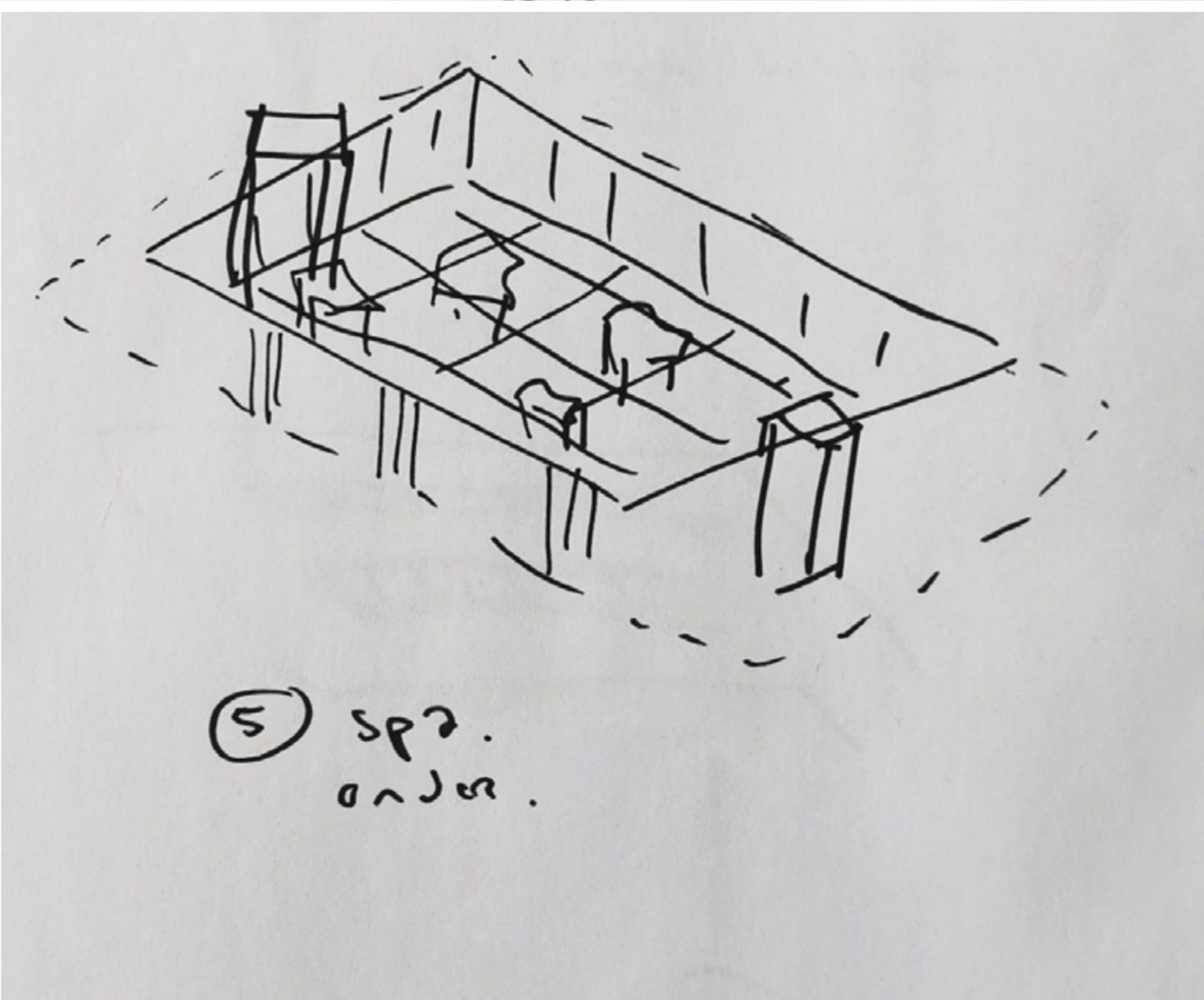
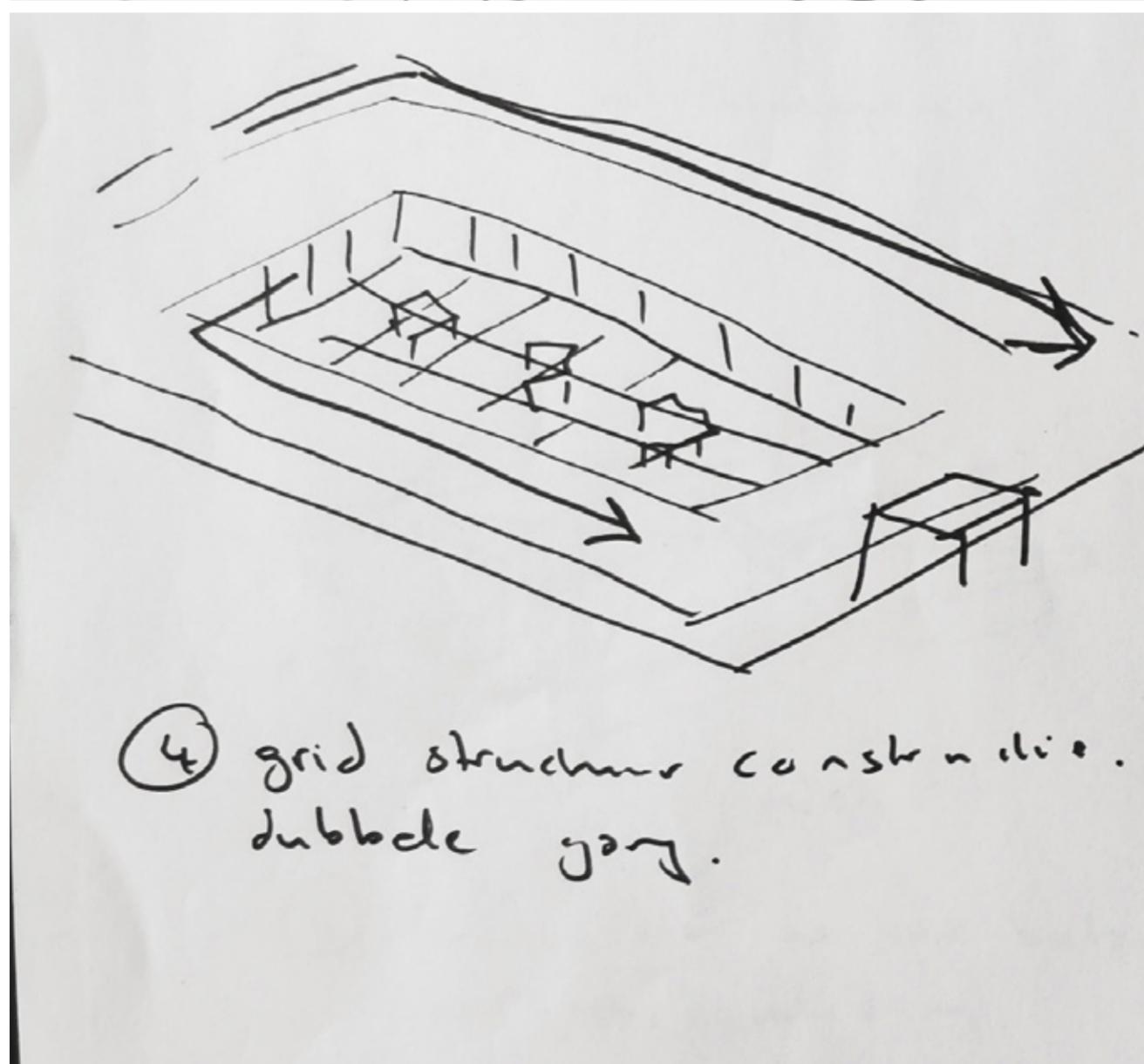
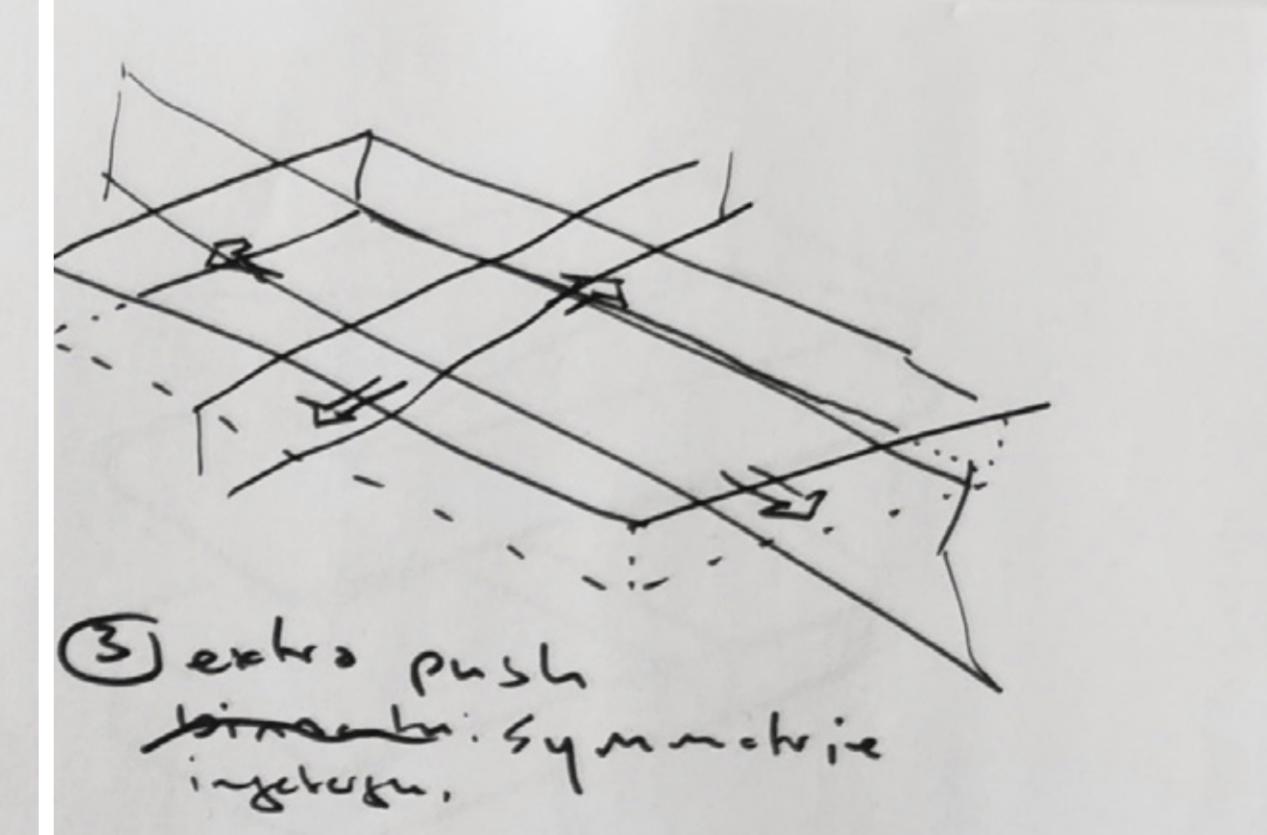
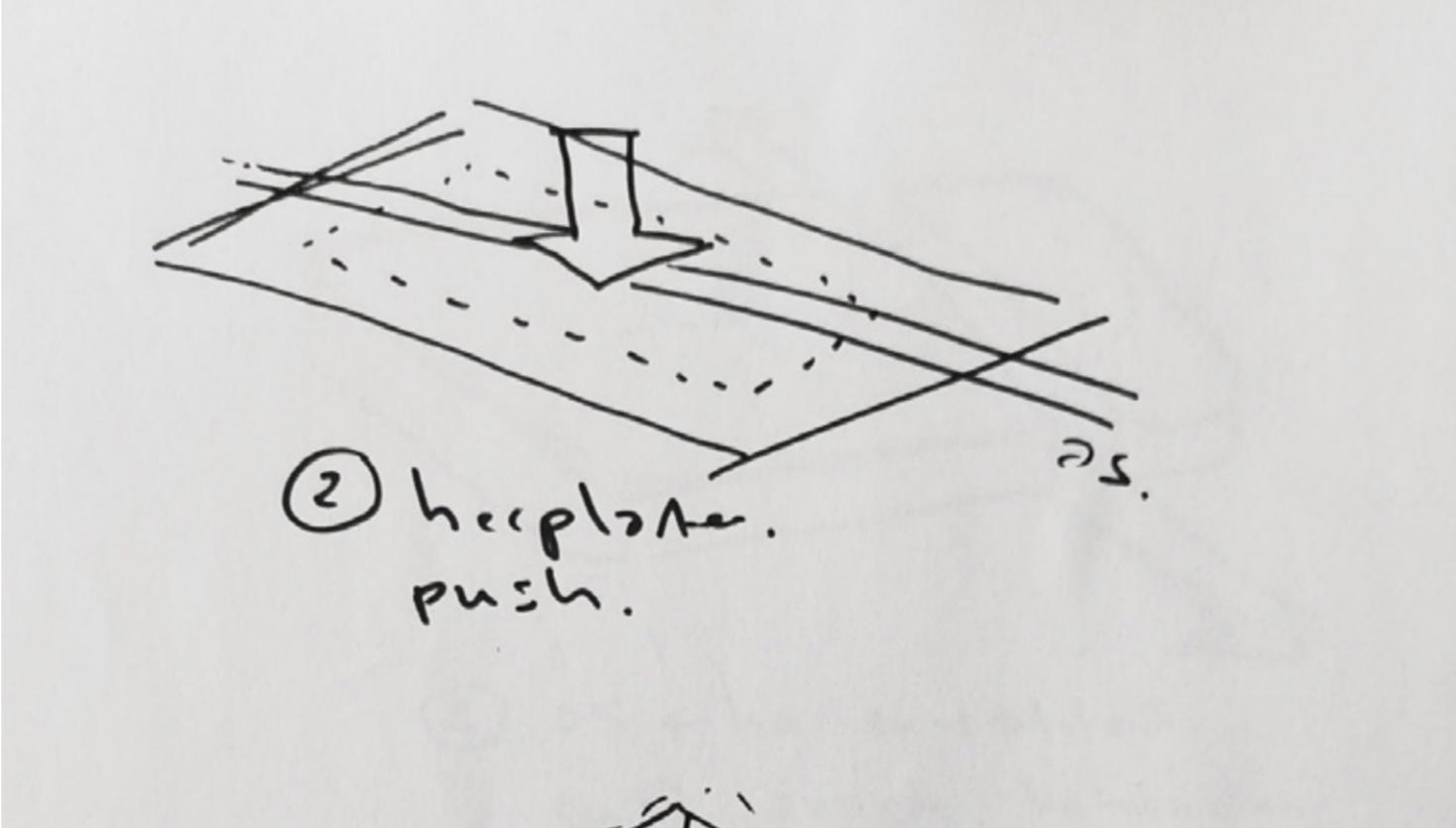
There has been considered to make the water tower multifunctional by creating a plateau of glass on top of it. From this point people can watch the former broadcasting towers of 212 metres high in the form of hollograms. However, I rejected this design thought because I want to respect the national monument as it is.

### Underground connection

In order to create accessibility and cohesion between each function, a hallway have been introduced. Furthermore, this hallway separates private and public functions, so the 'one day' visitors does not walk in private property of the guest.

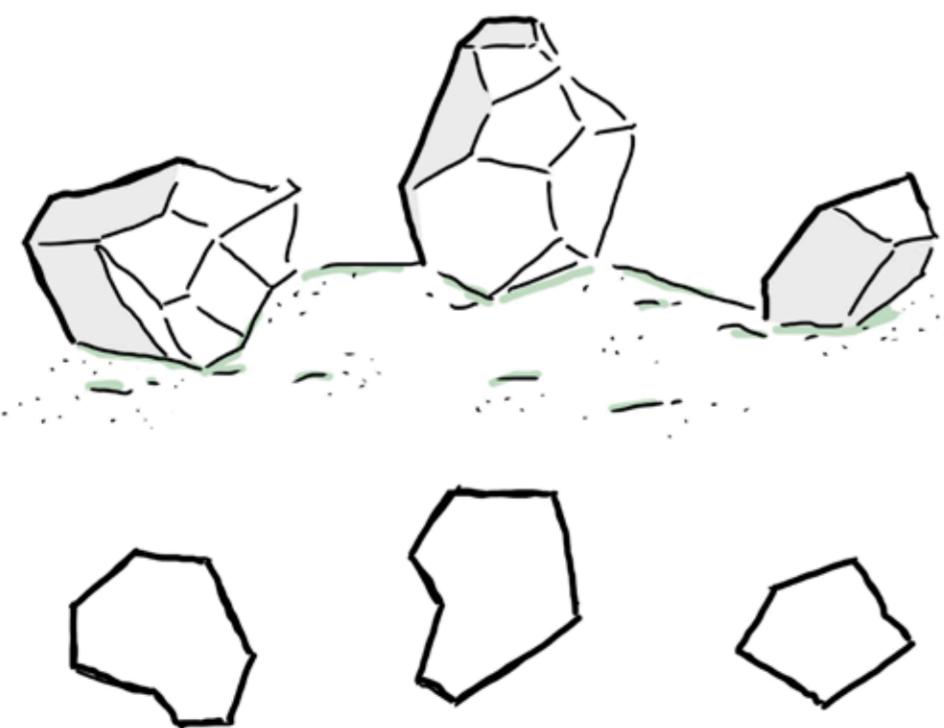


## + 9.3 Design steps of the rooms & spa



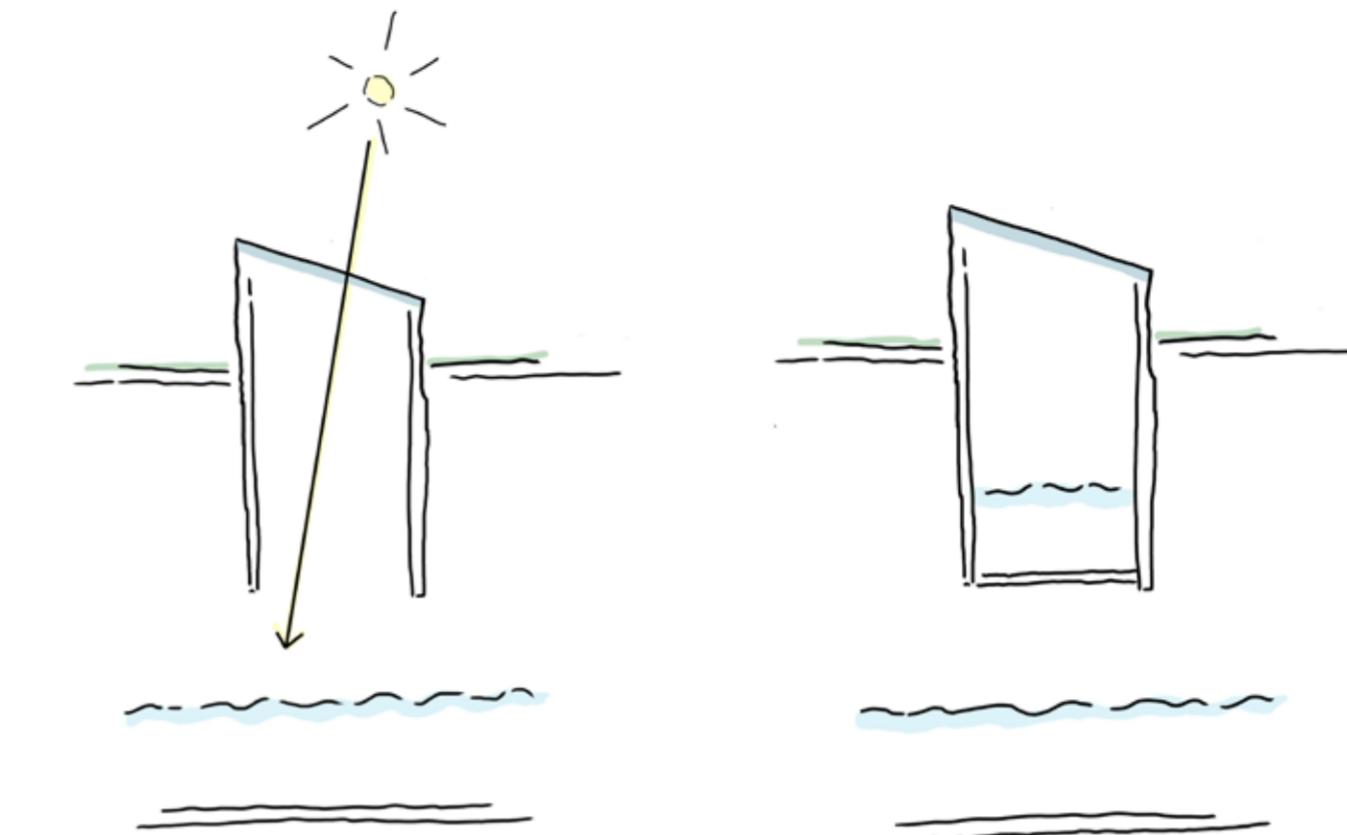


**inspired by stone garden in Bandung**



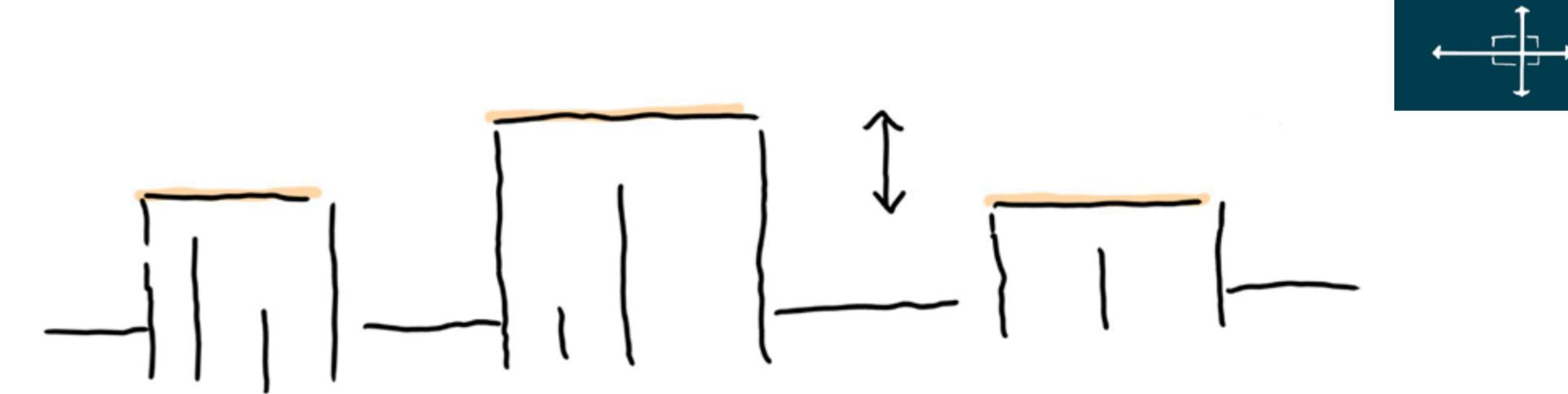
**ROCKS**

The robust shape of rocks is the base of the plan forms. The design is inspired by Stone Garden in Bandung. A place near to the former broadcasting station in Indonesia.



**TRANSPARANCY**

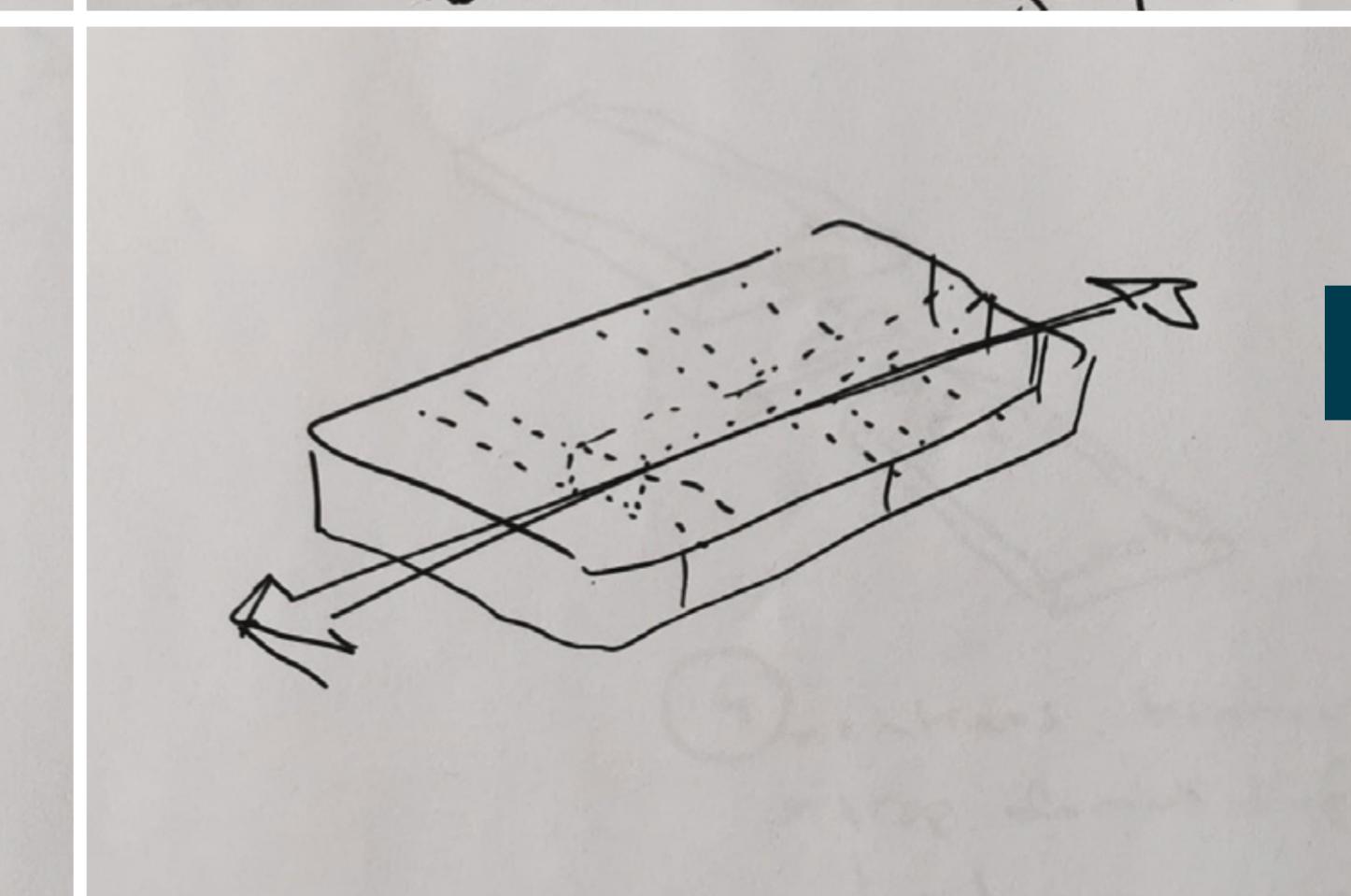
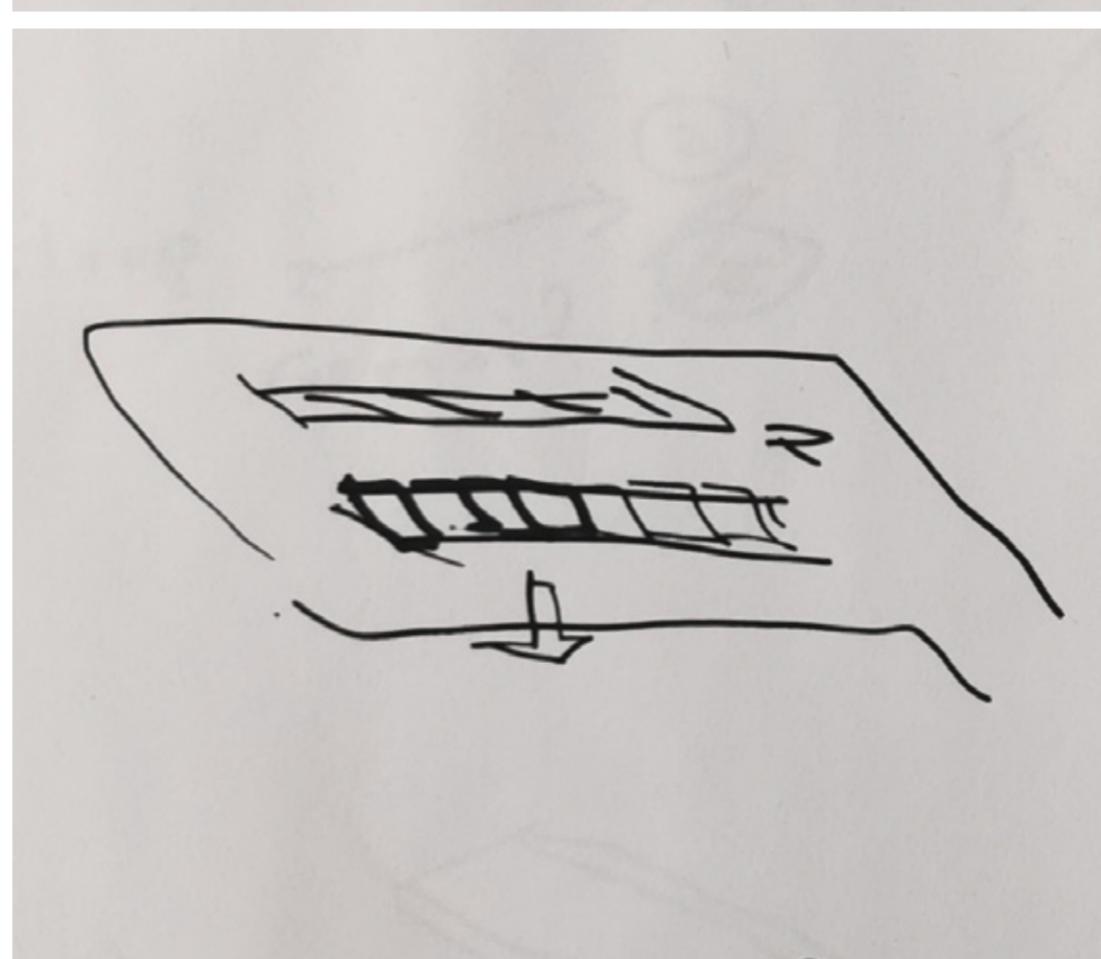
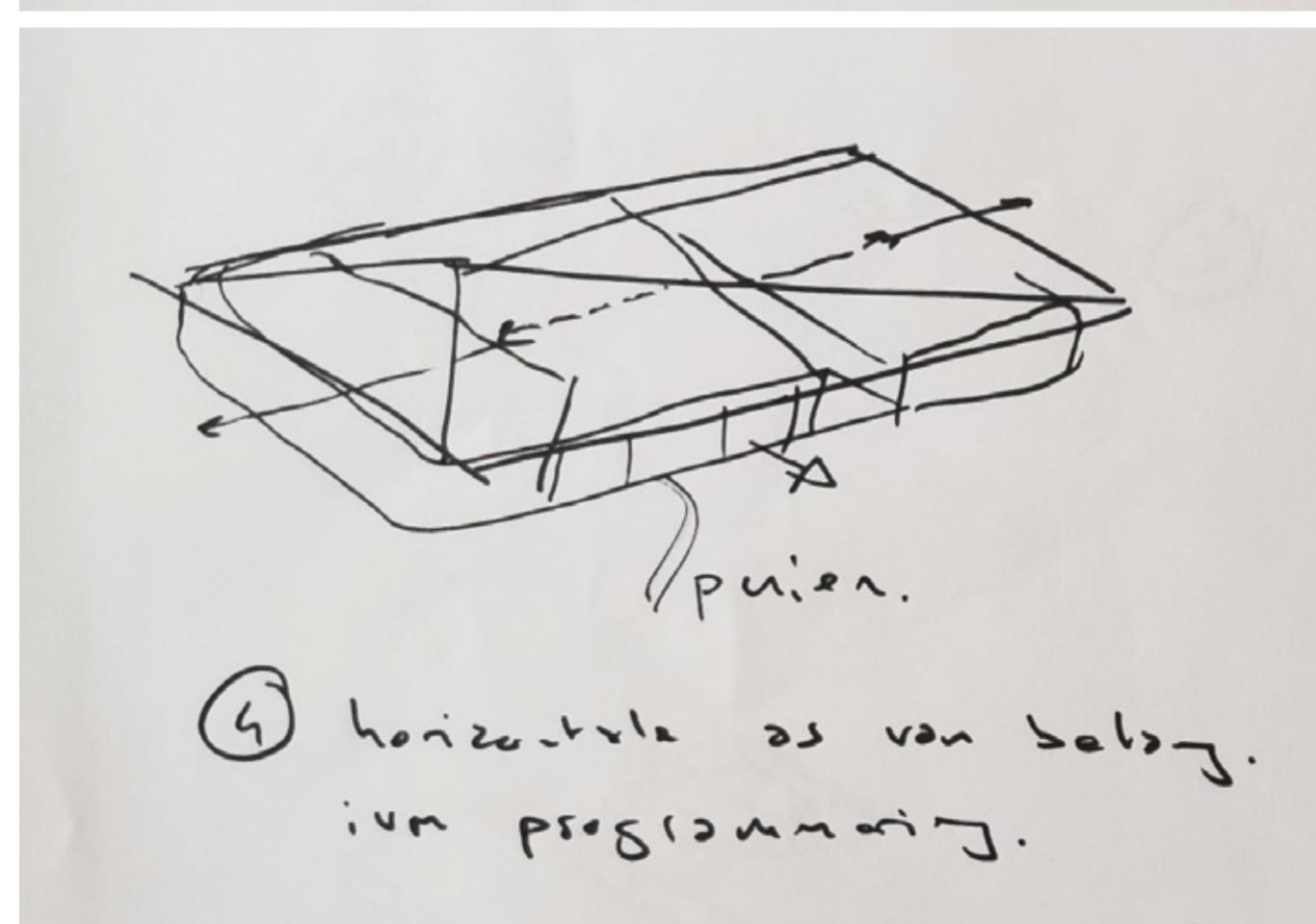
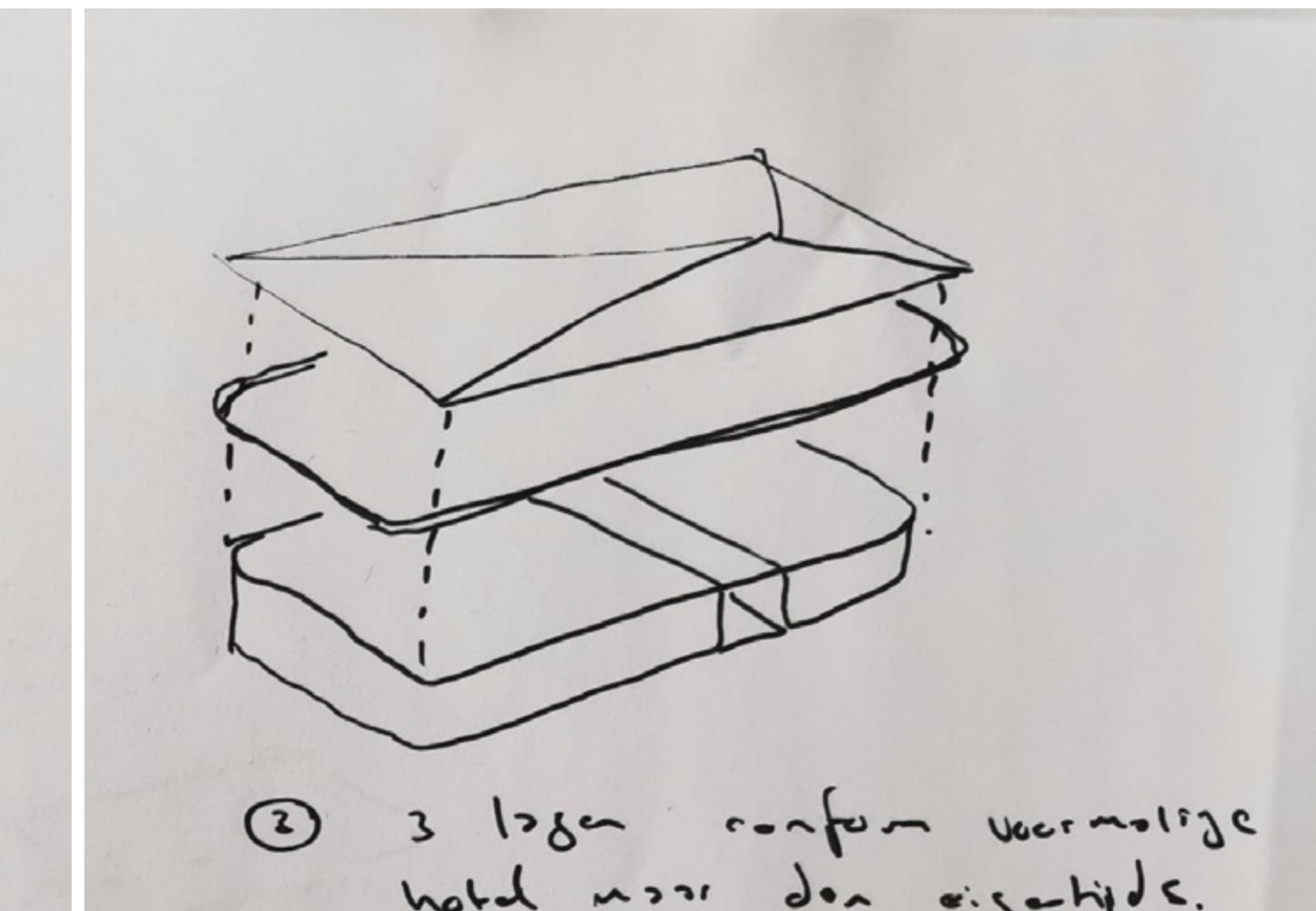
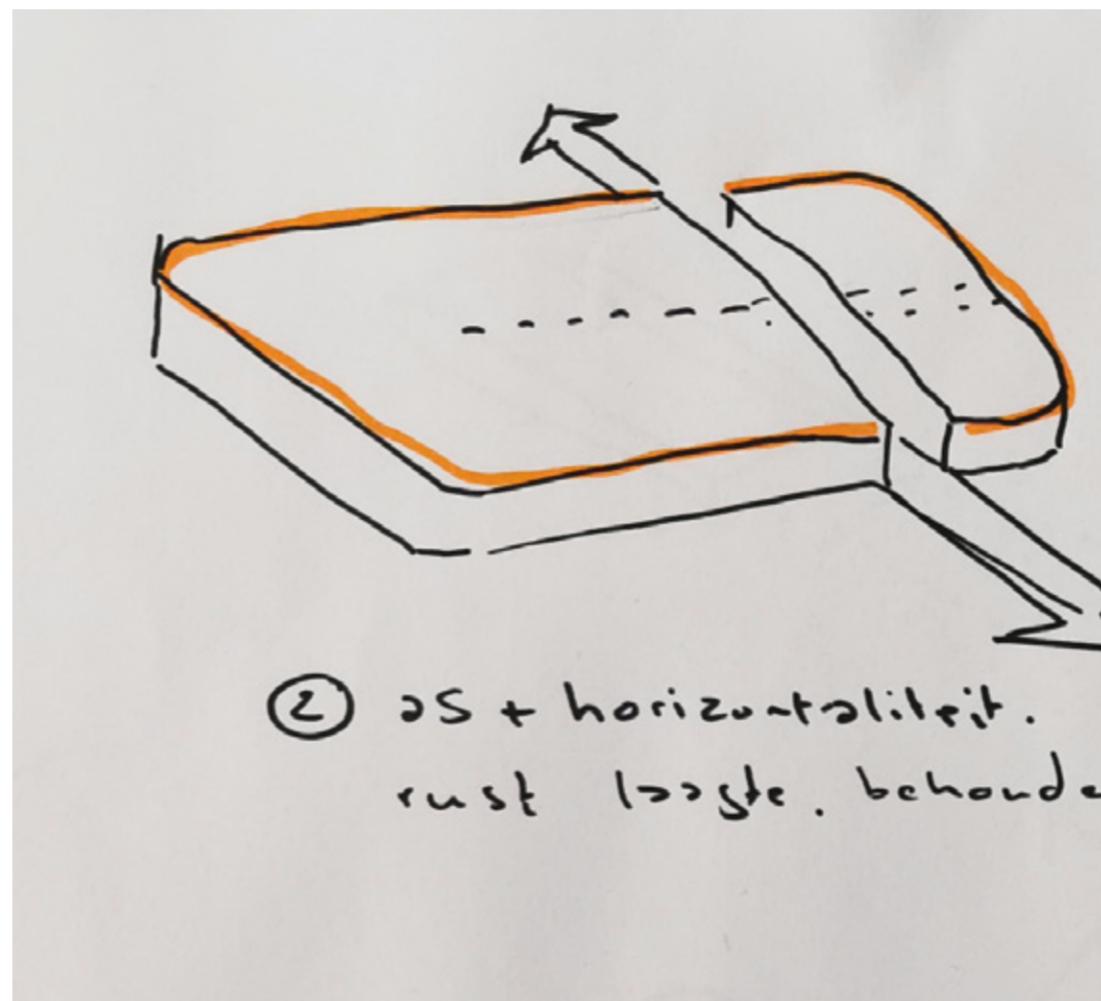
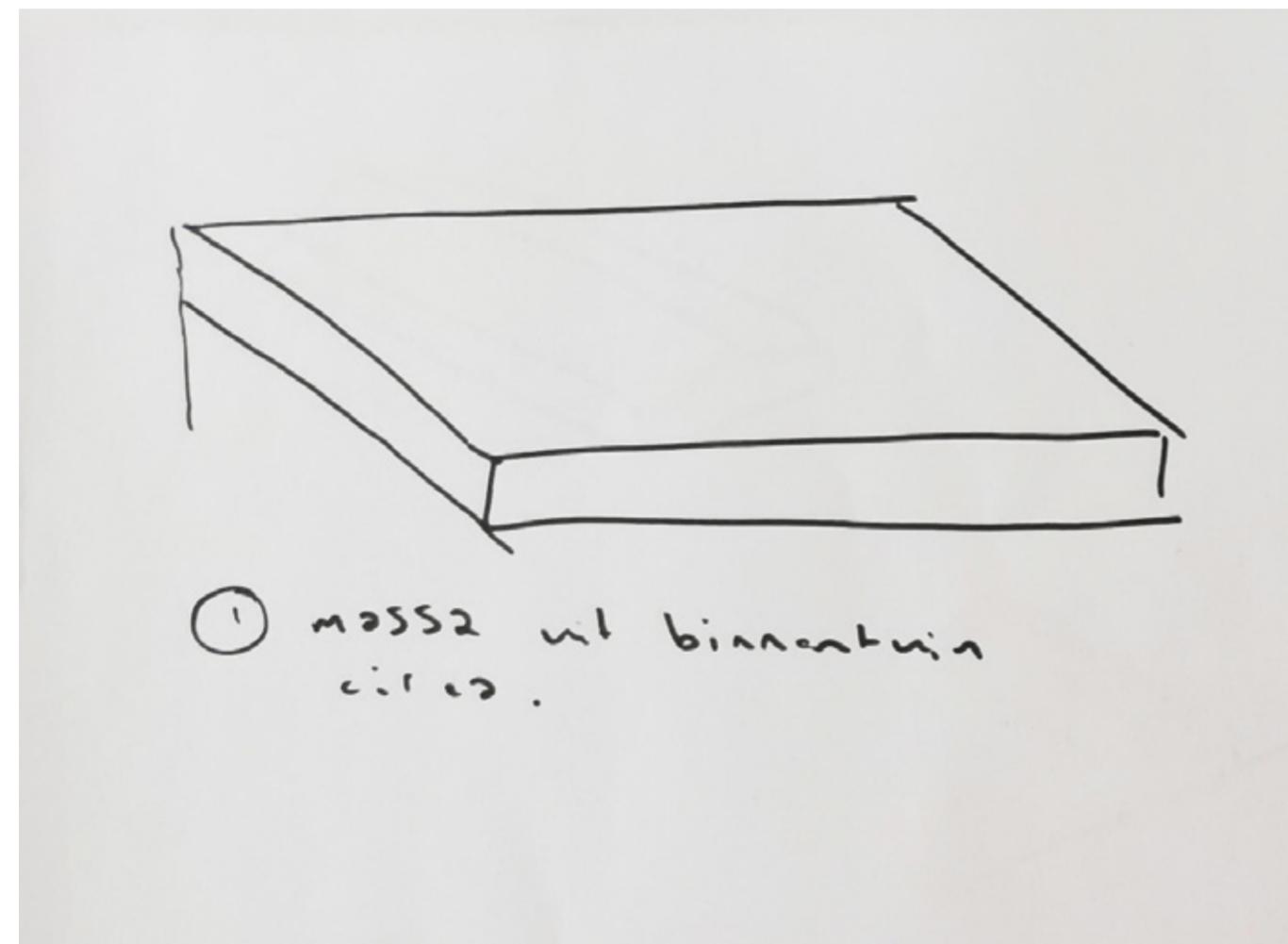
The glass roof allows light to enter the space of the little baths. Some of the rocks will be open, other will be closed.

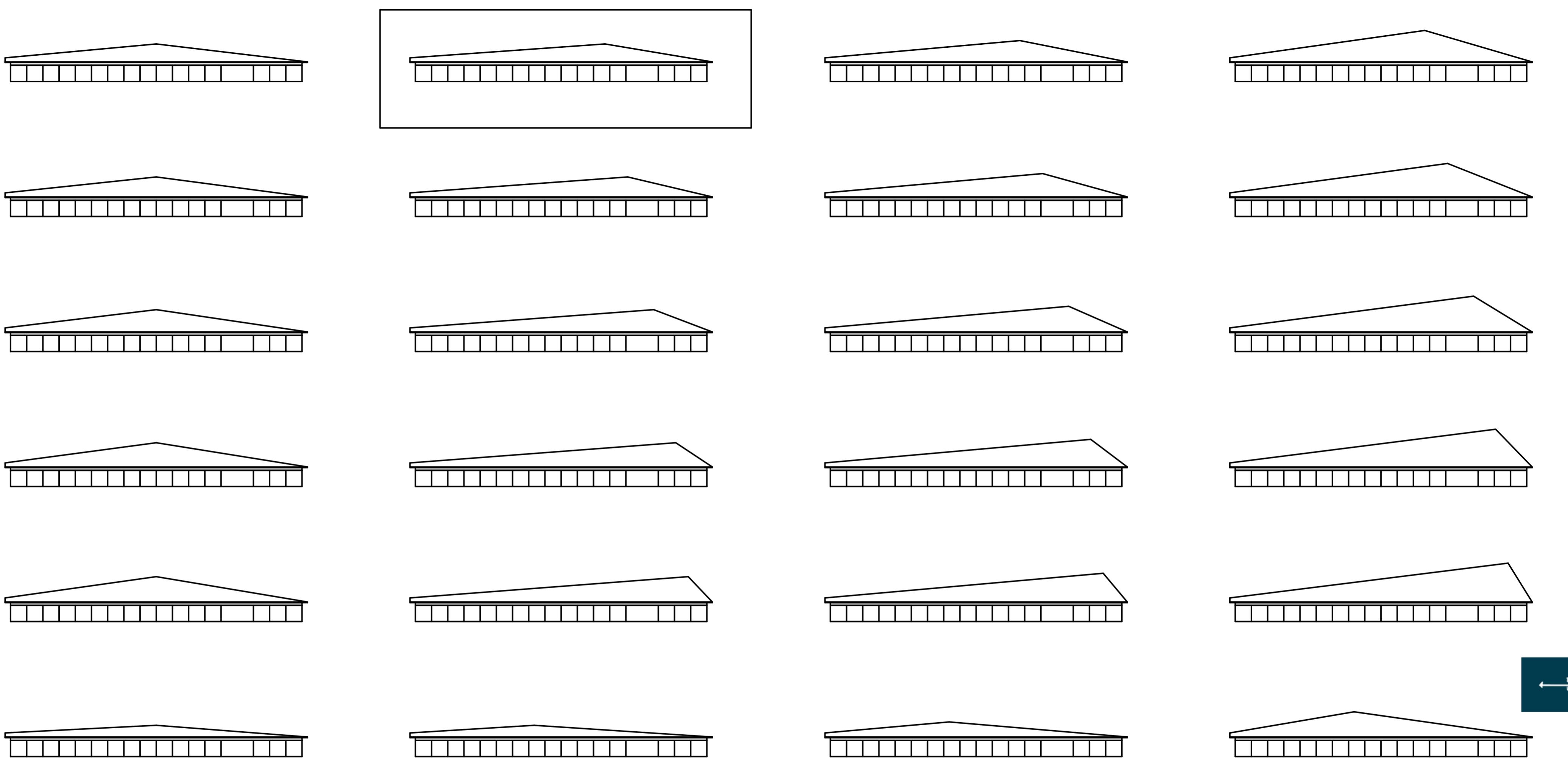


**VARIETY IN HEIGHT**

To create a natural landscape of rocks variety in heights will be given to the masses. It creates in a way more playfulness.

## + 9.3 Design steps of the sports pavilion





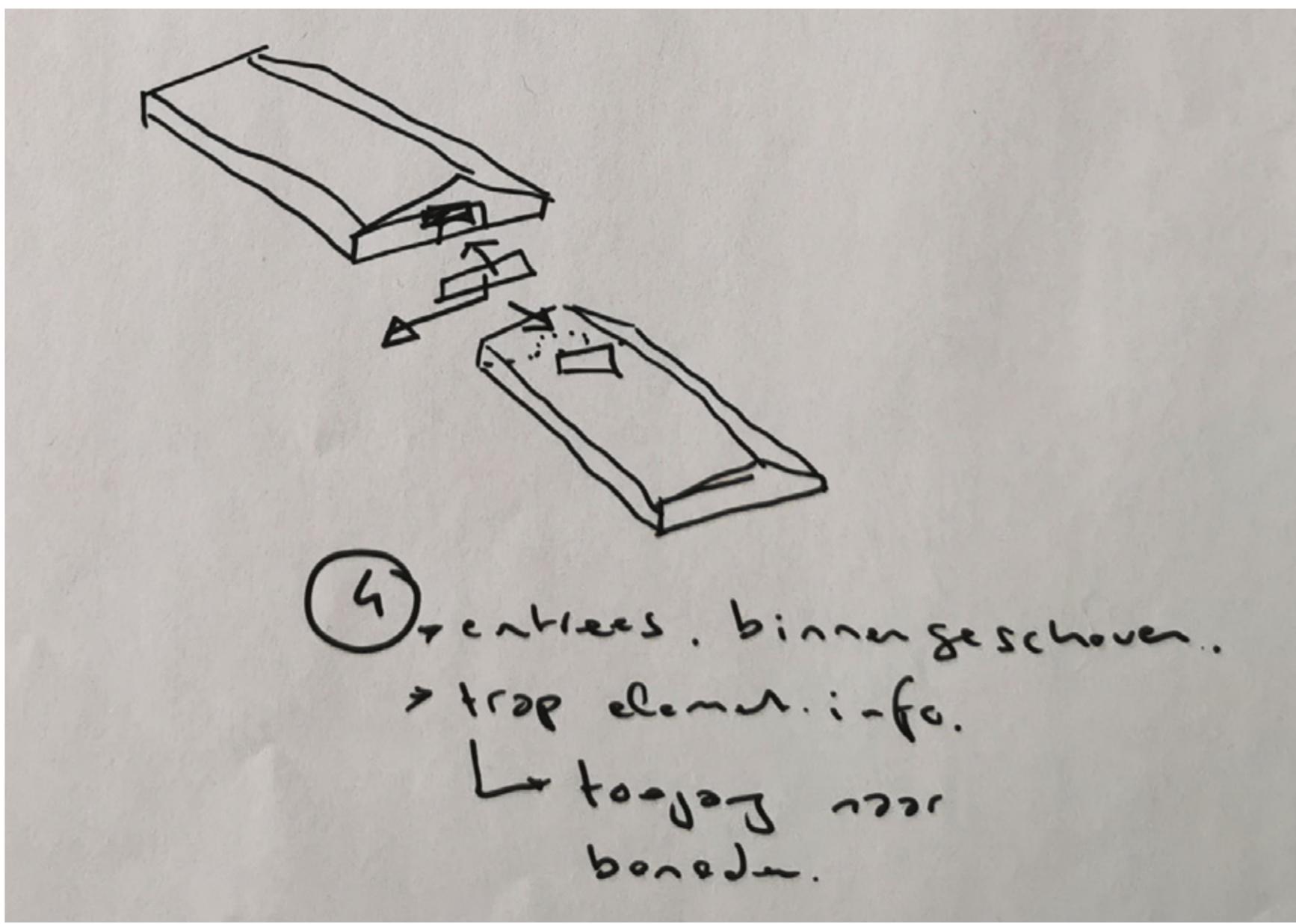
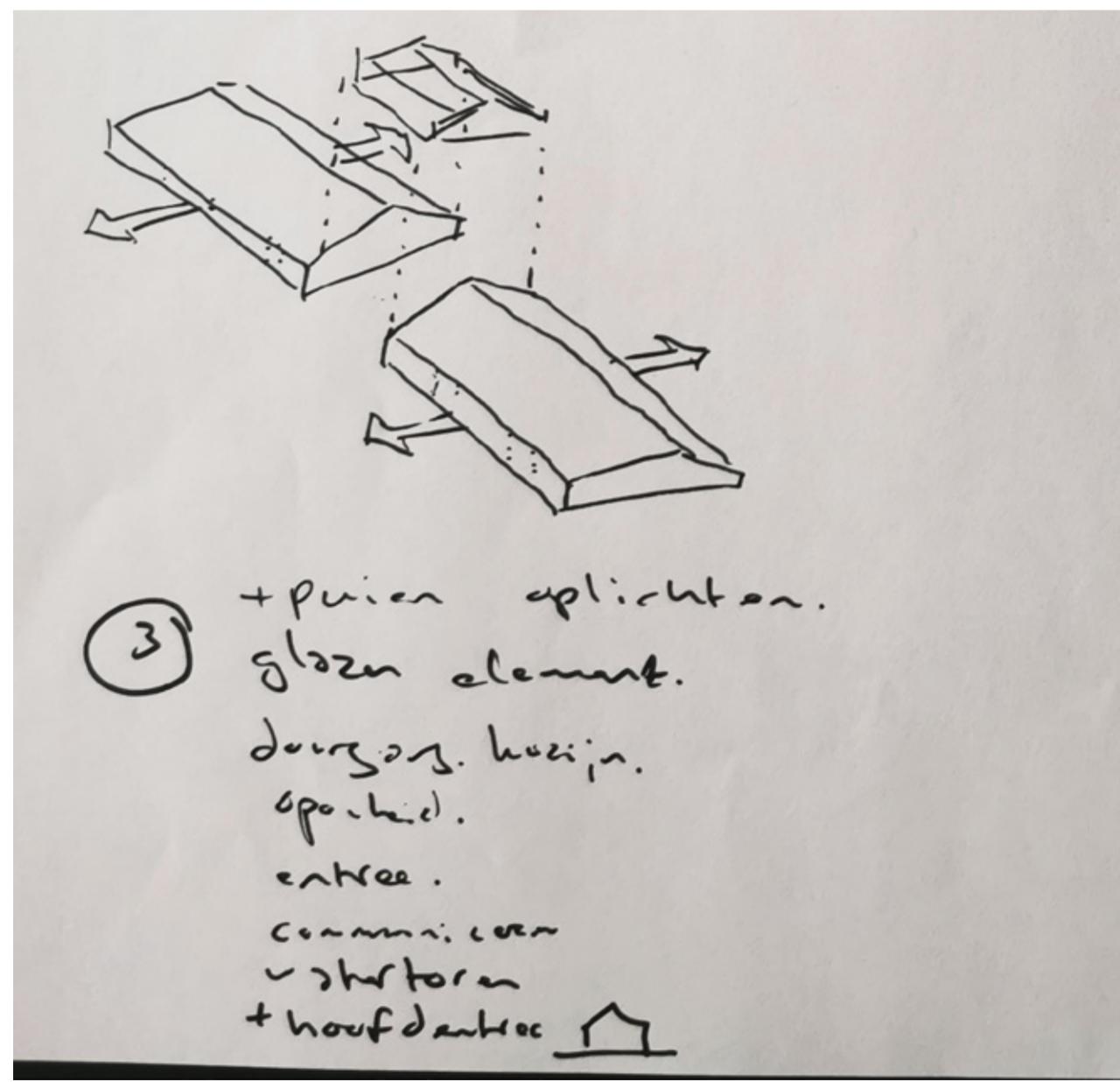
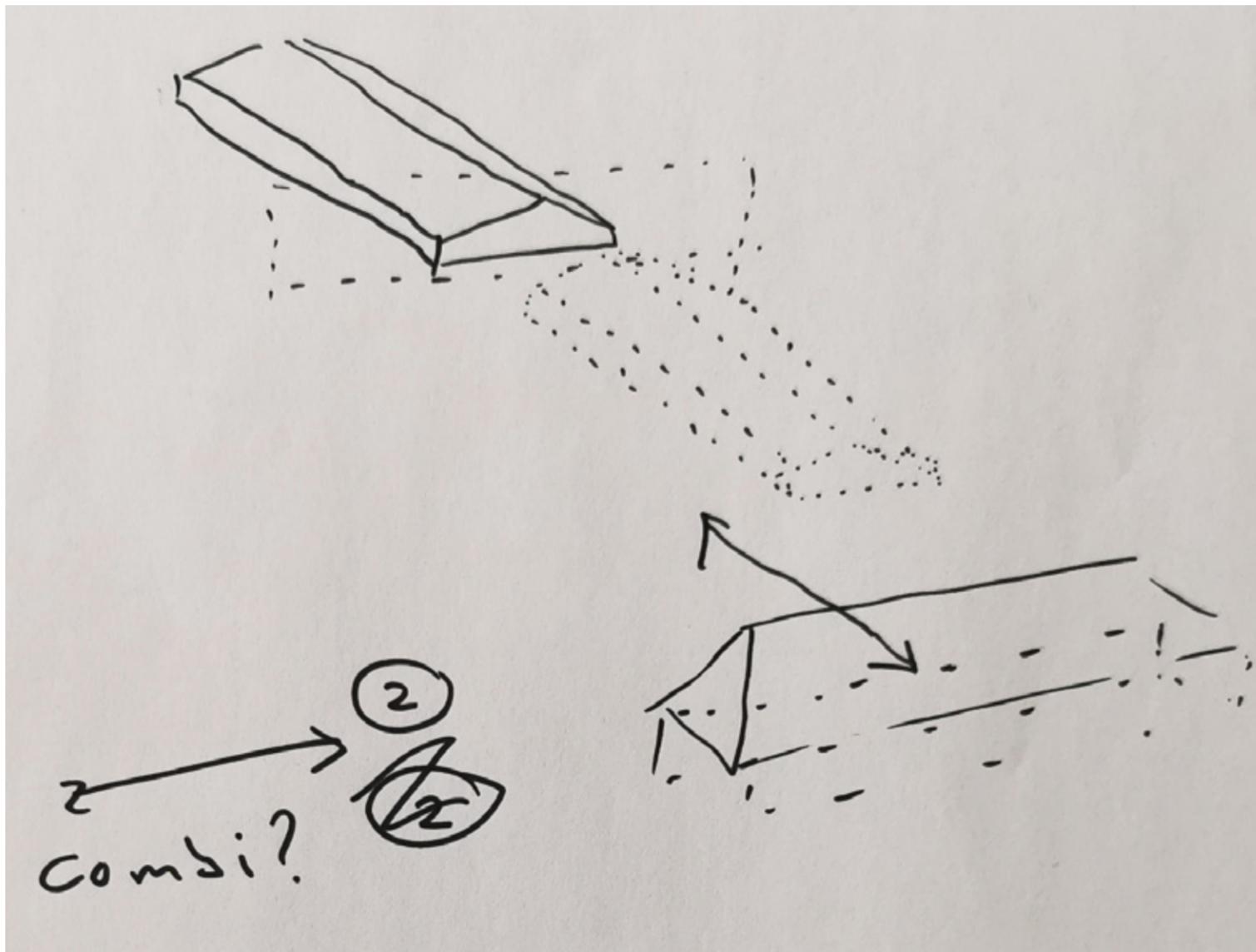
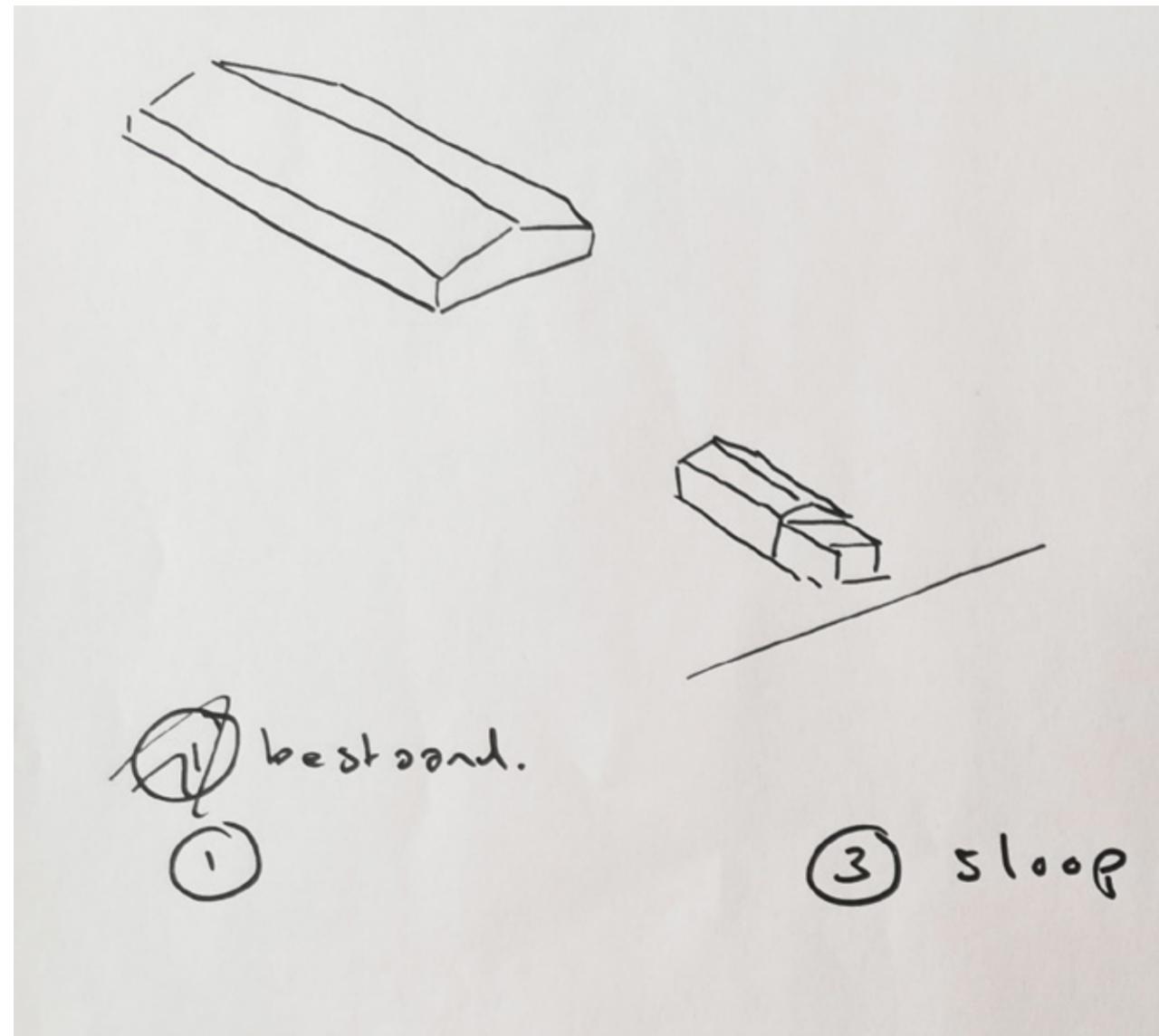
### Form studies

The form of the sports pavilion is made modest as the buildings which we find in the surroundings of Radio Kootwijk. Besides, the slightly sloped roof blends in a natural way with the roof of the existing shed. The low pavilion speaks the language of traditional contemporary architecture.

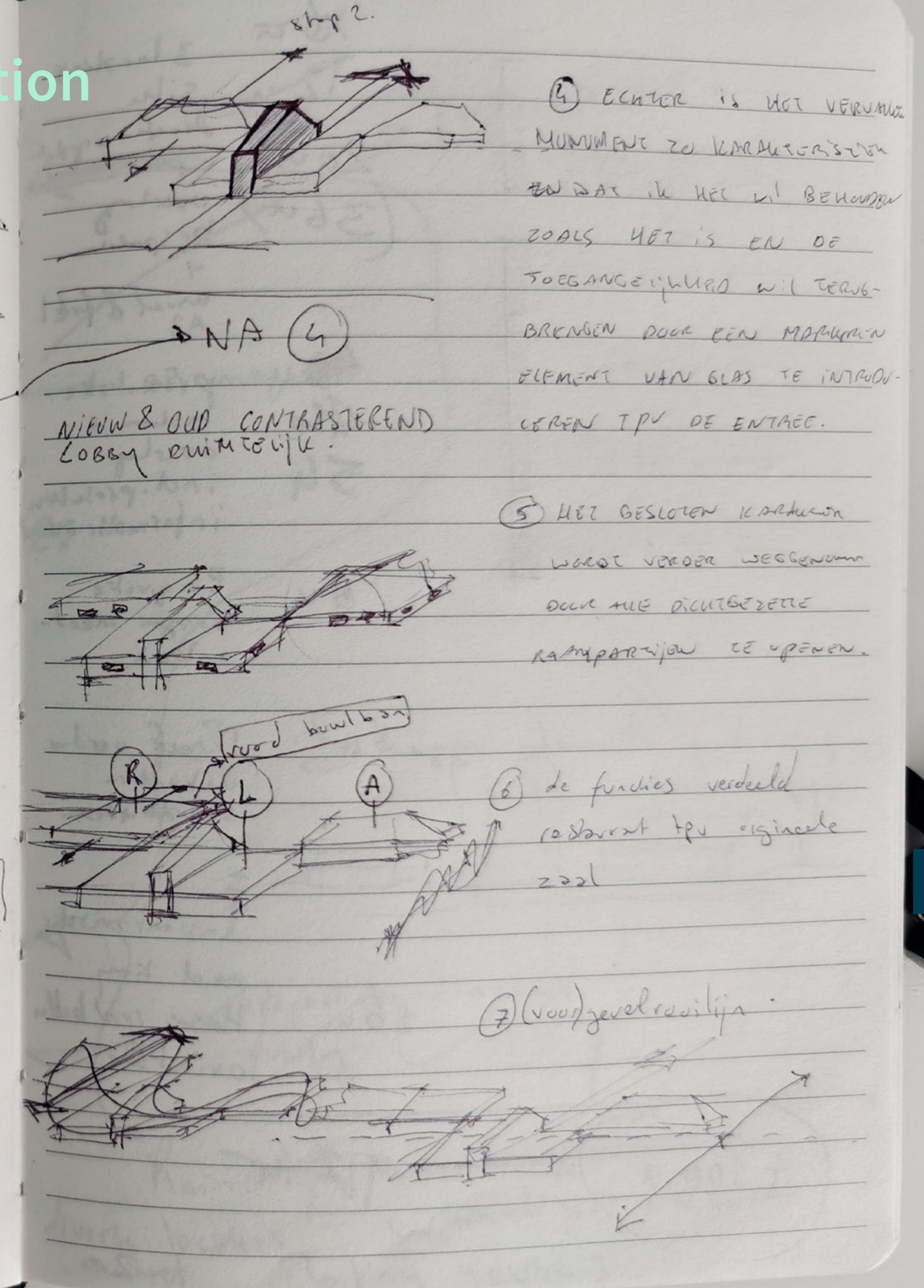
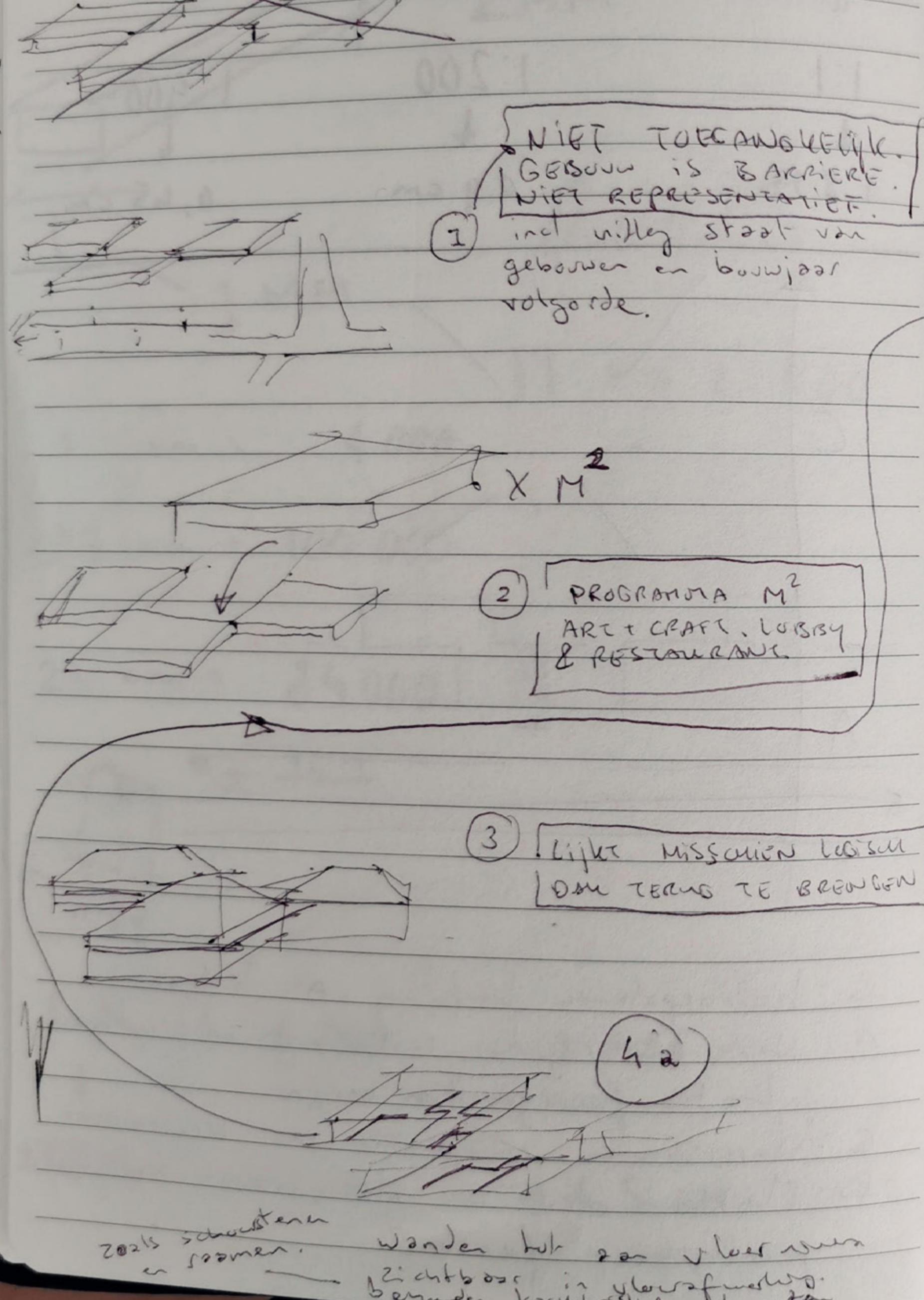
### Low pavilion

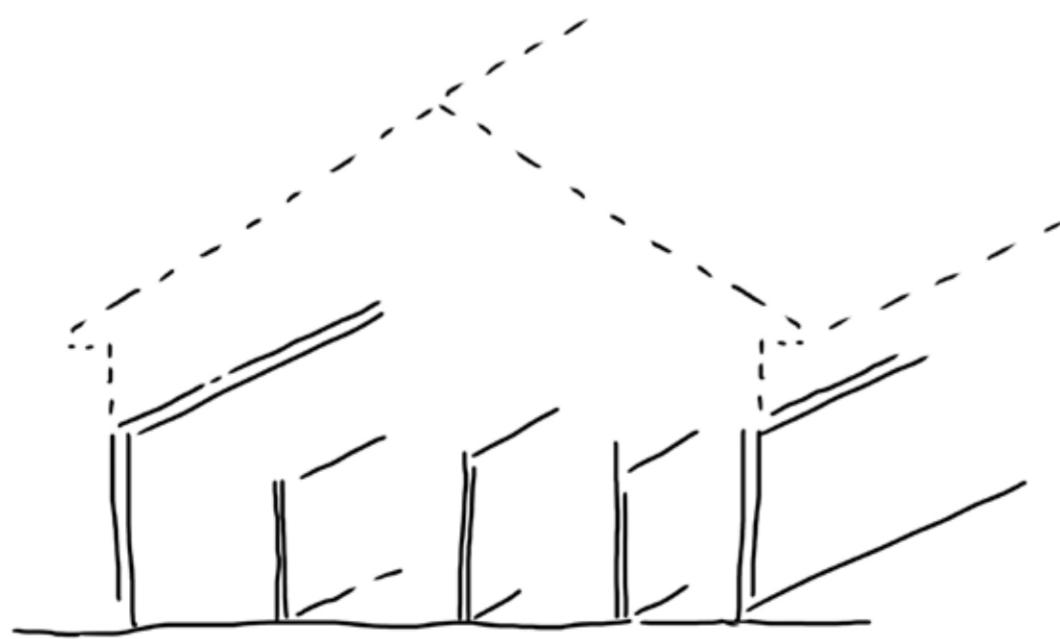
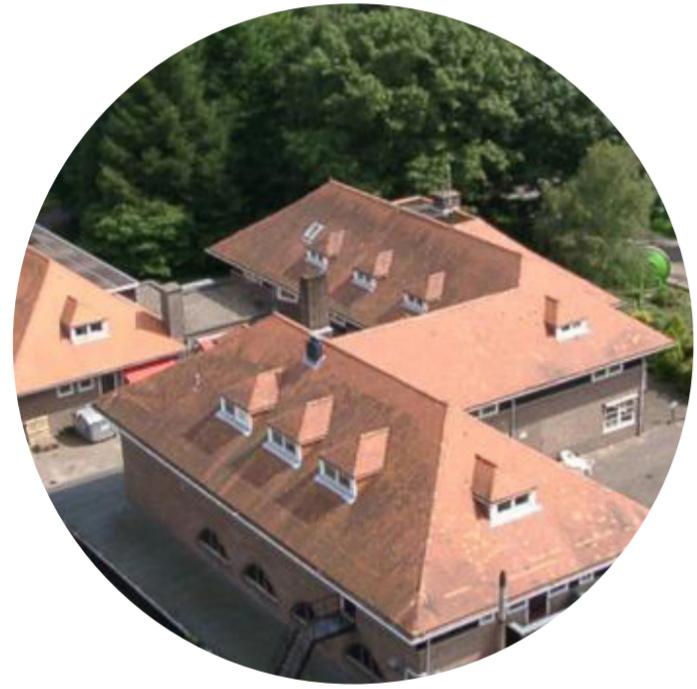
Because the pavilion is low, it is still possible to see the tree crowns in the back. This effect creates extra layerness for the point of view from eye level. This keeps the feeling that you are constantly in a wooded area. Furthermore it respects the nature because of its modesty. Furthermore, the pavilion knows because of its 3 layers human scale.

## + 9.3 Design steps of the auditorium



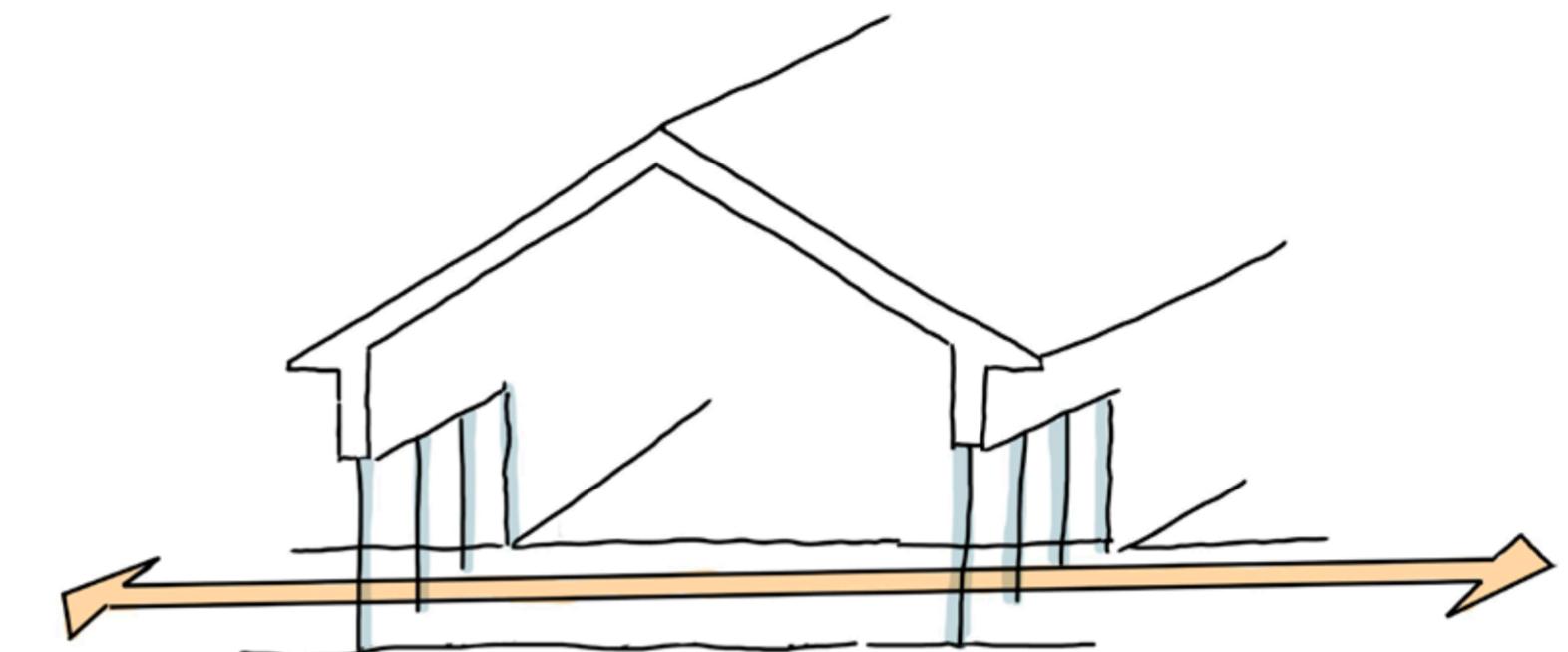
## + 9.3 Design steps of the transformation





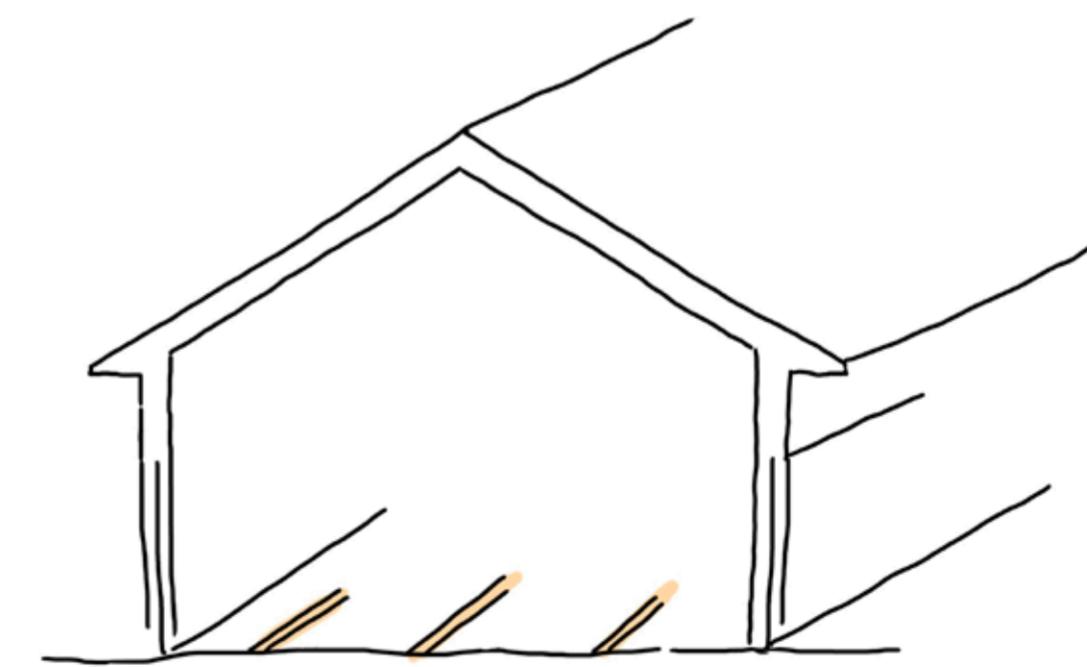
### EXISTING

The form of the former hotel isn't visible anymore, the walls are dilapidated and it gives a sense of closed architecture which isn't accessible.



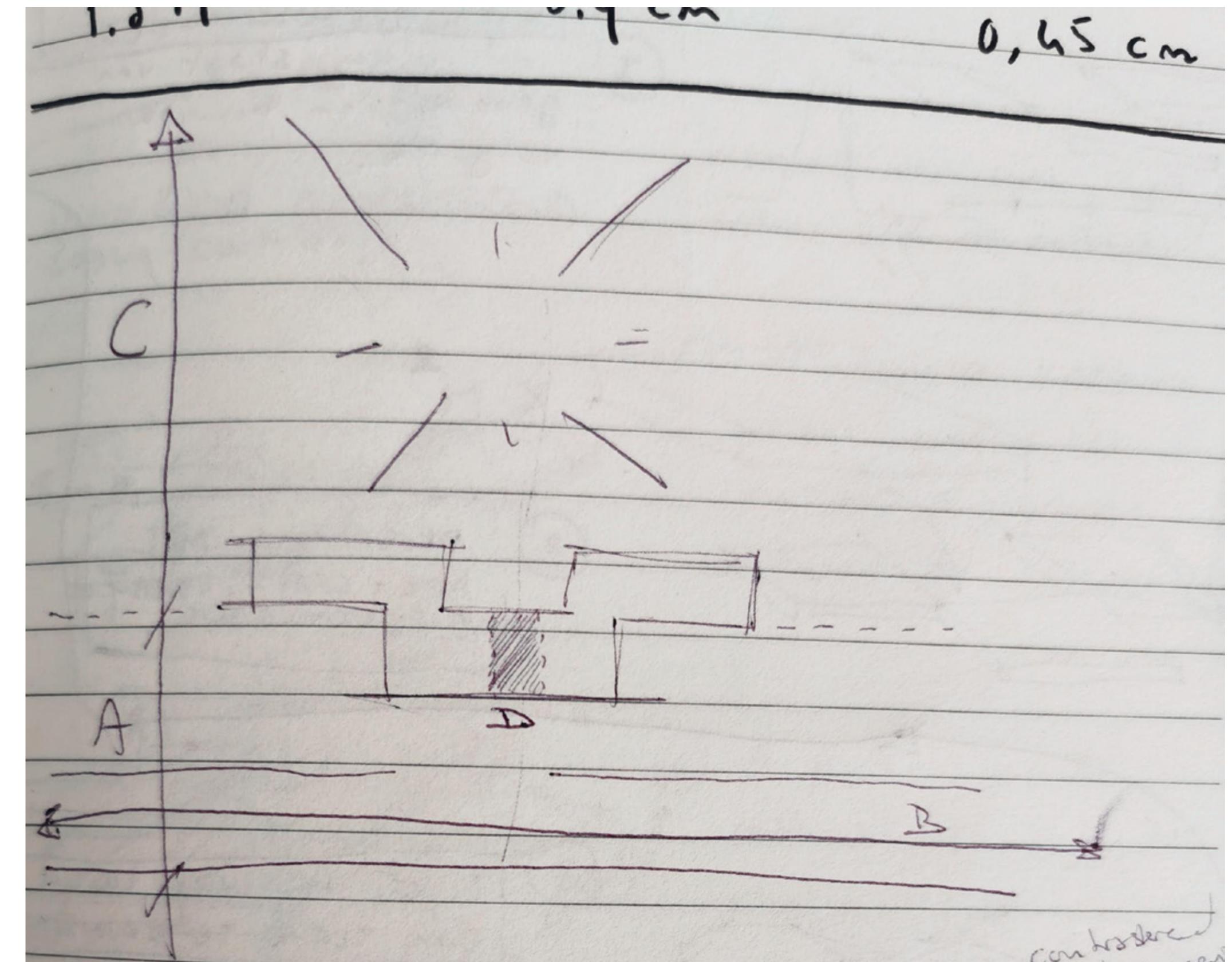
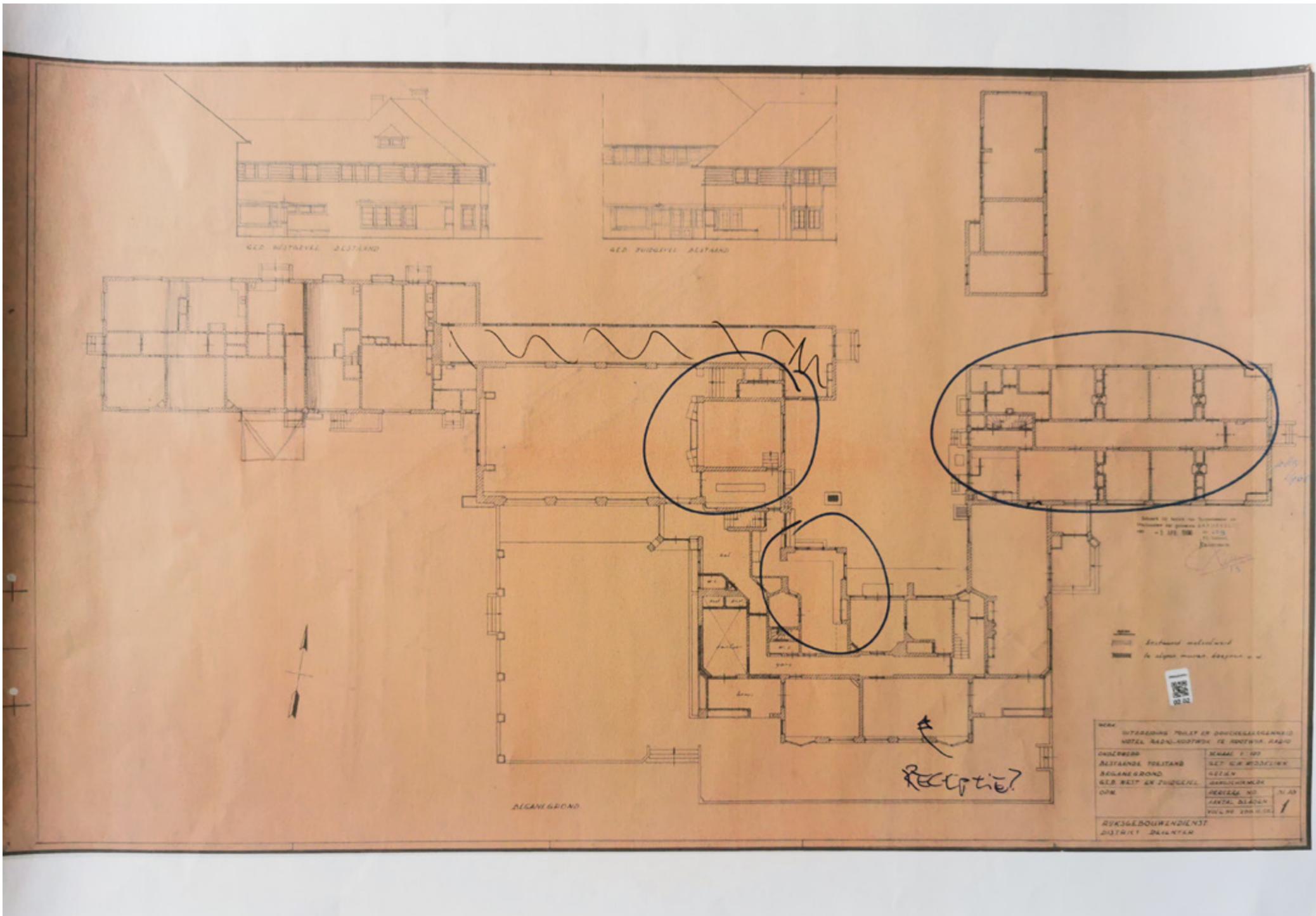
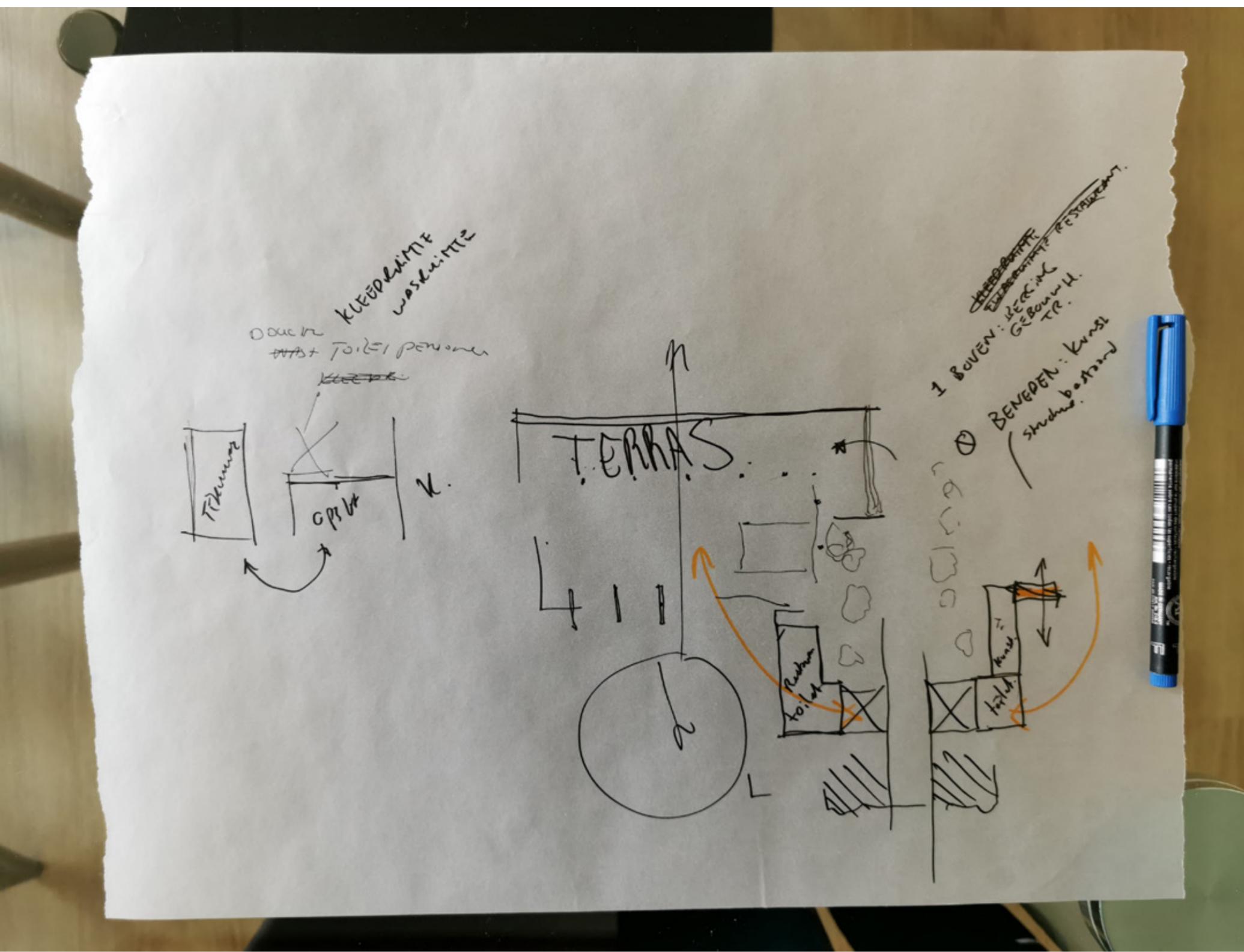
### TRANSPARANT PASSAGE

The architecture opens up by introducing a transparent passage of glass. This architectural frame is the first handshake for the visitor.



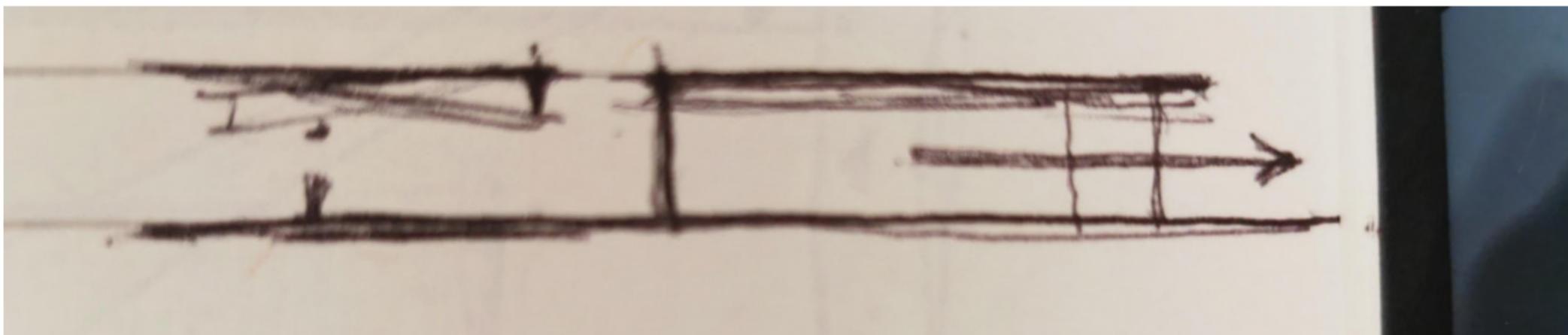
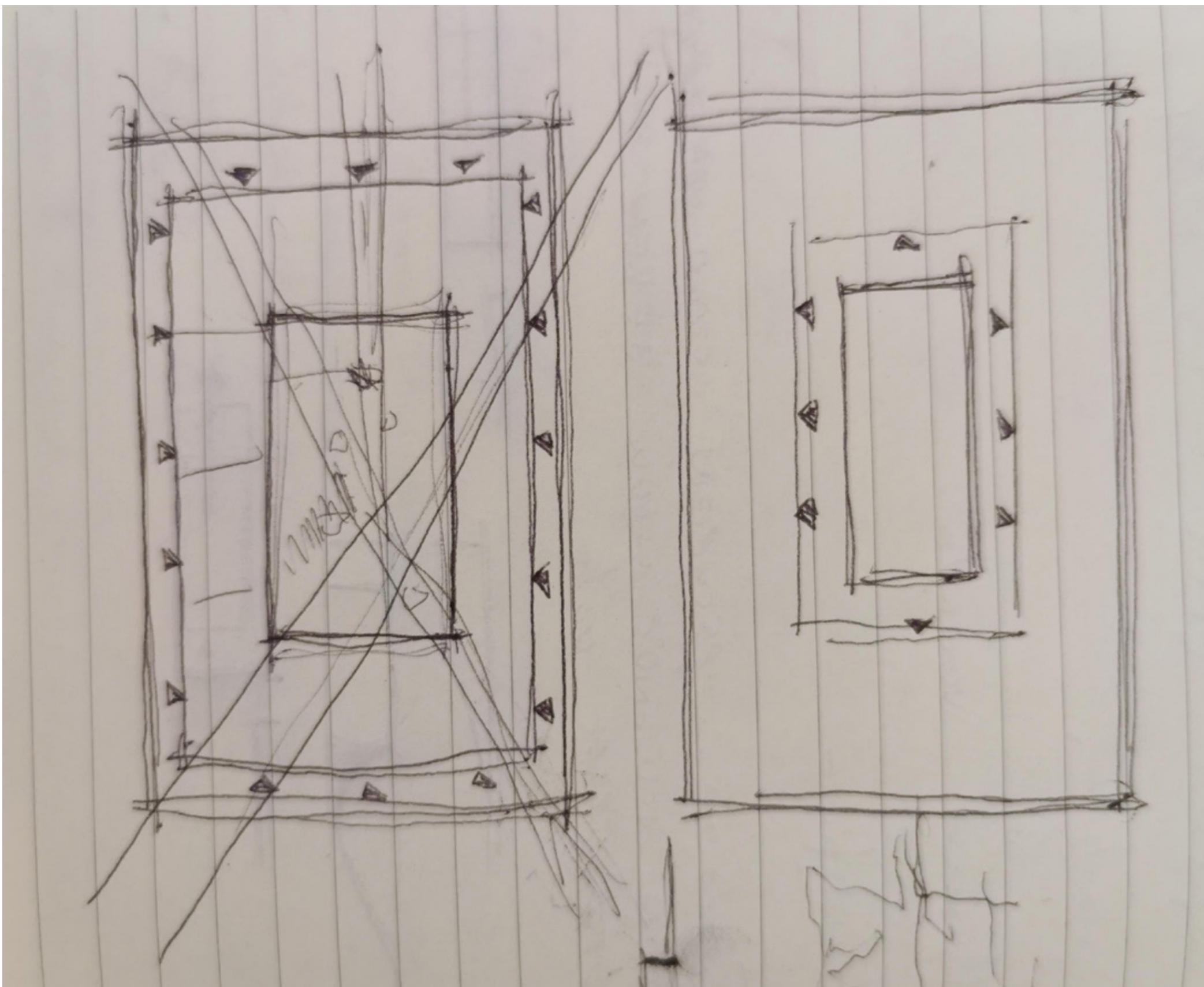
### FLOOR FULL OF IDENTITY

The dilapidated inner walls will be shortened down till the level of the new floor. The idea is to show the former plan layout on the new floor. This also maximizes the space, which is needed for the new functions.



B : beeldbepalende hoofdweg. AS hoofdlijn  
 A : slanke en rigide zijkanten organisch ingebouwd tot voor gevleugelde voorlijn.  
 C : verrassende compositie van architectuur  
 D : Markerend accent van glas, nadruk toegangshulp voor gebouw functie.

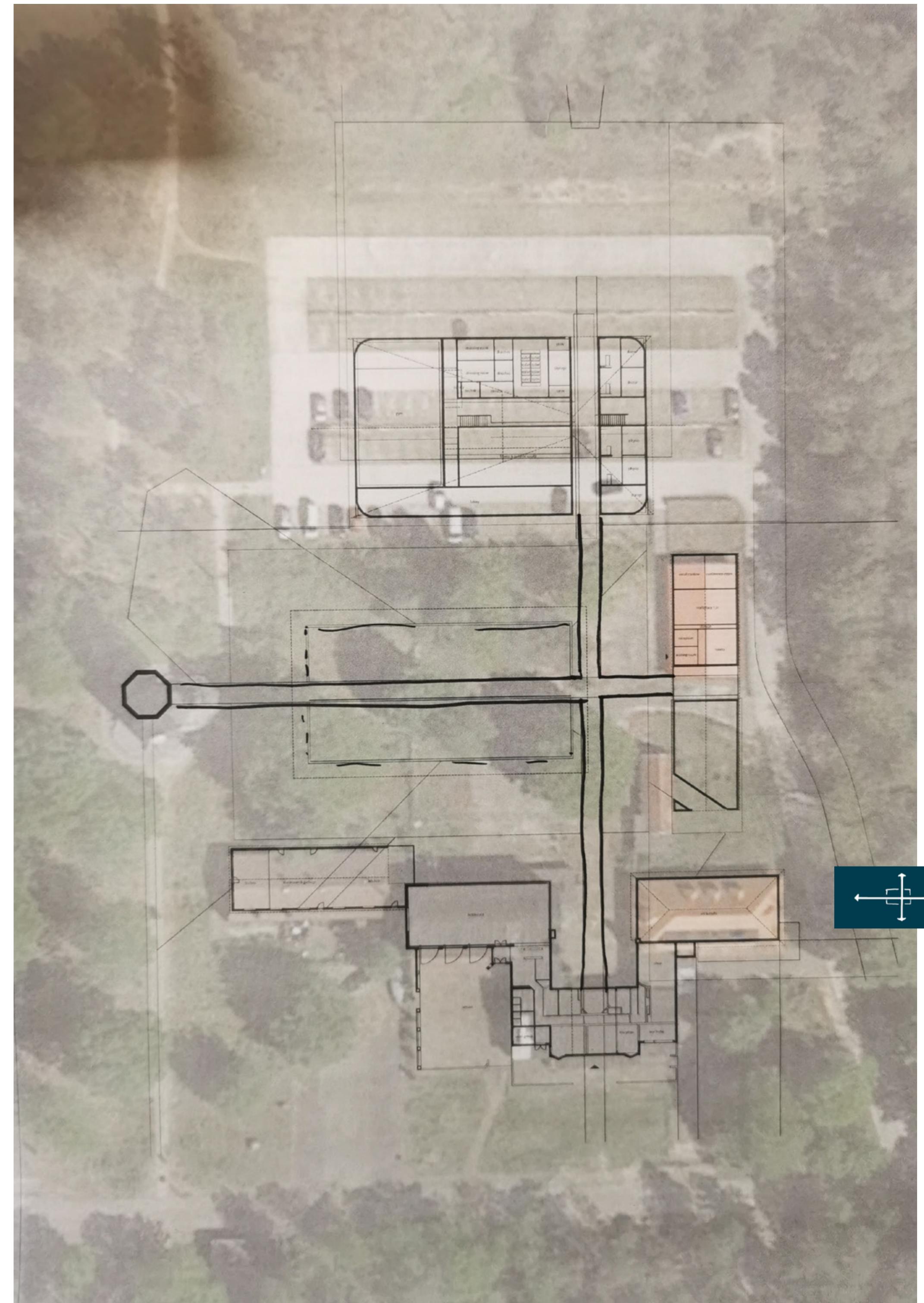


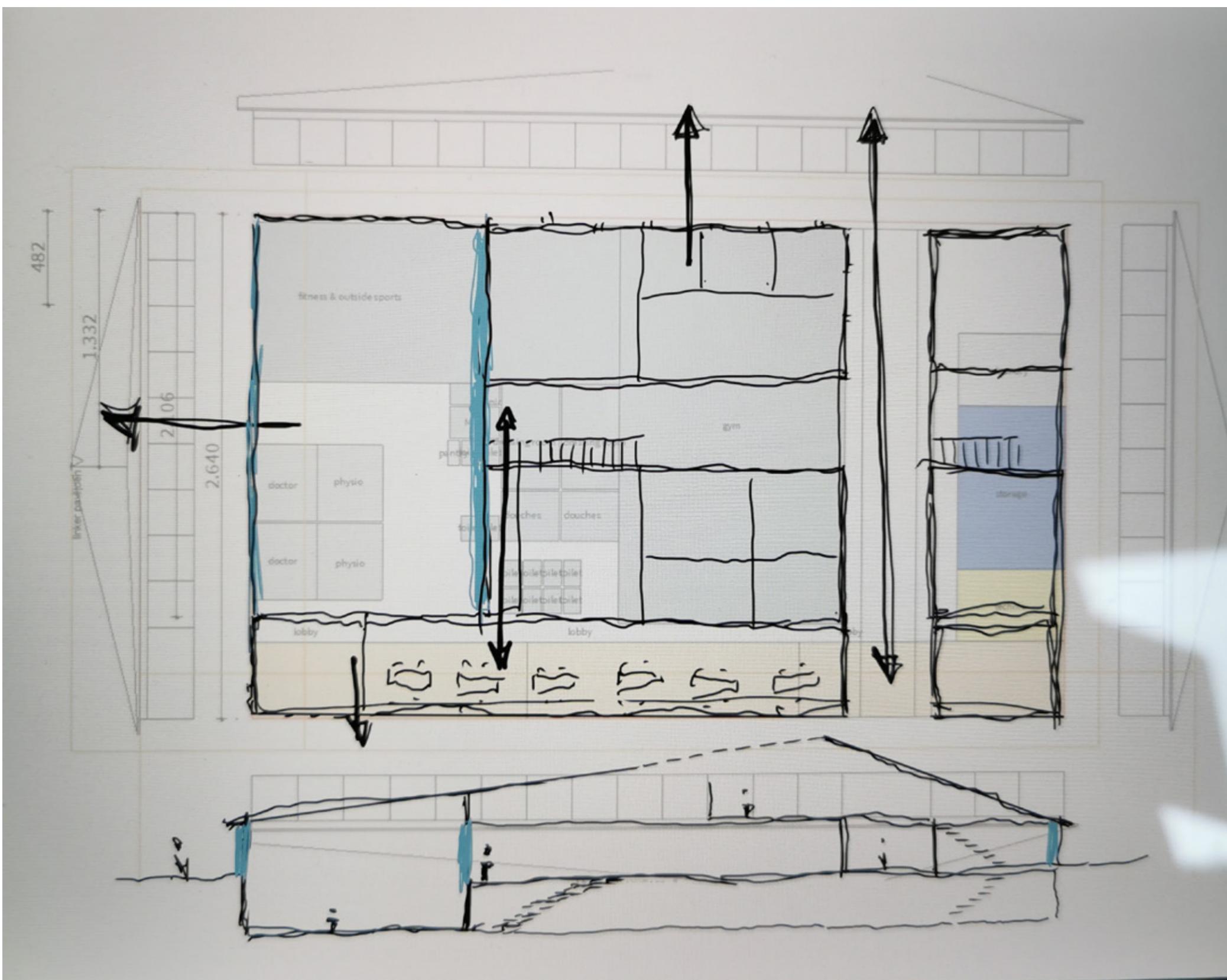


### 2 hallways

The rooms of the retreat are enclosed by two hallways. One hallway is completely inside, it functions as the routing to enter the room. Besides the guests, the cleaners can make use of this space. The other hallway is semi outside, a rhythm of columns and beams creates an overhang where people can sit and walk.

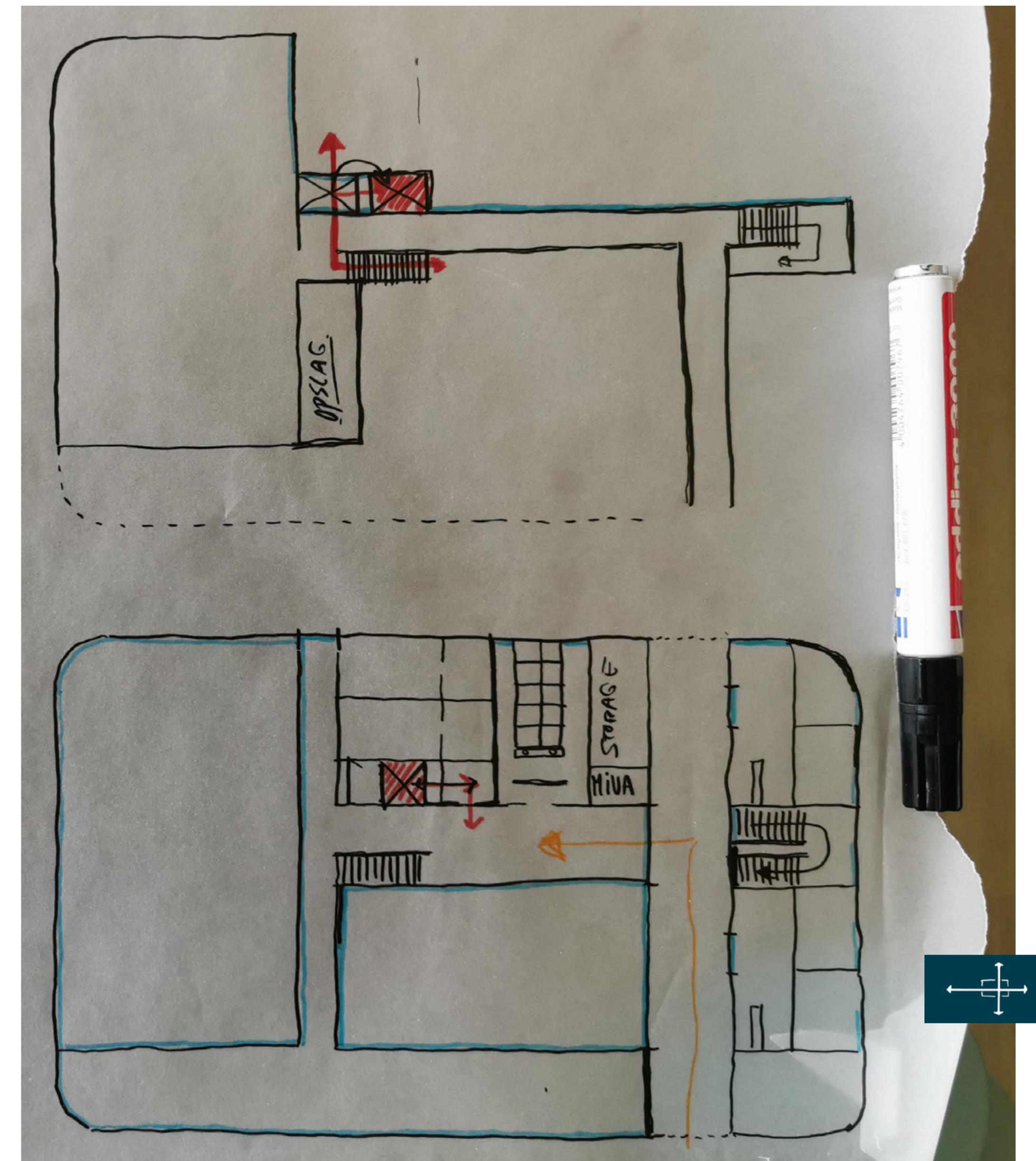
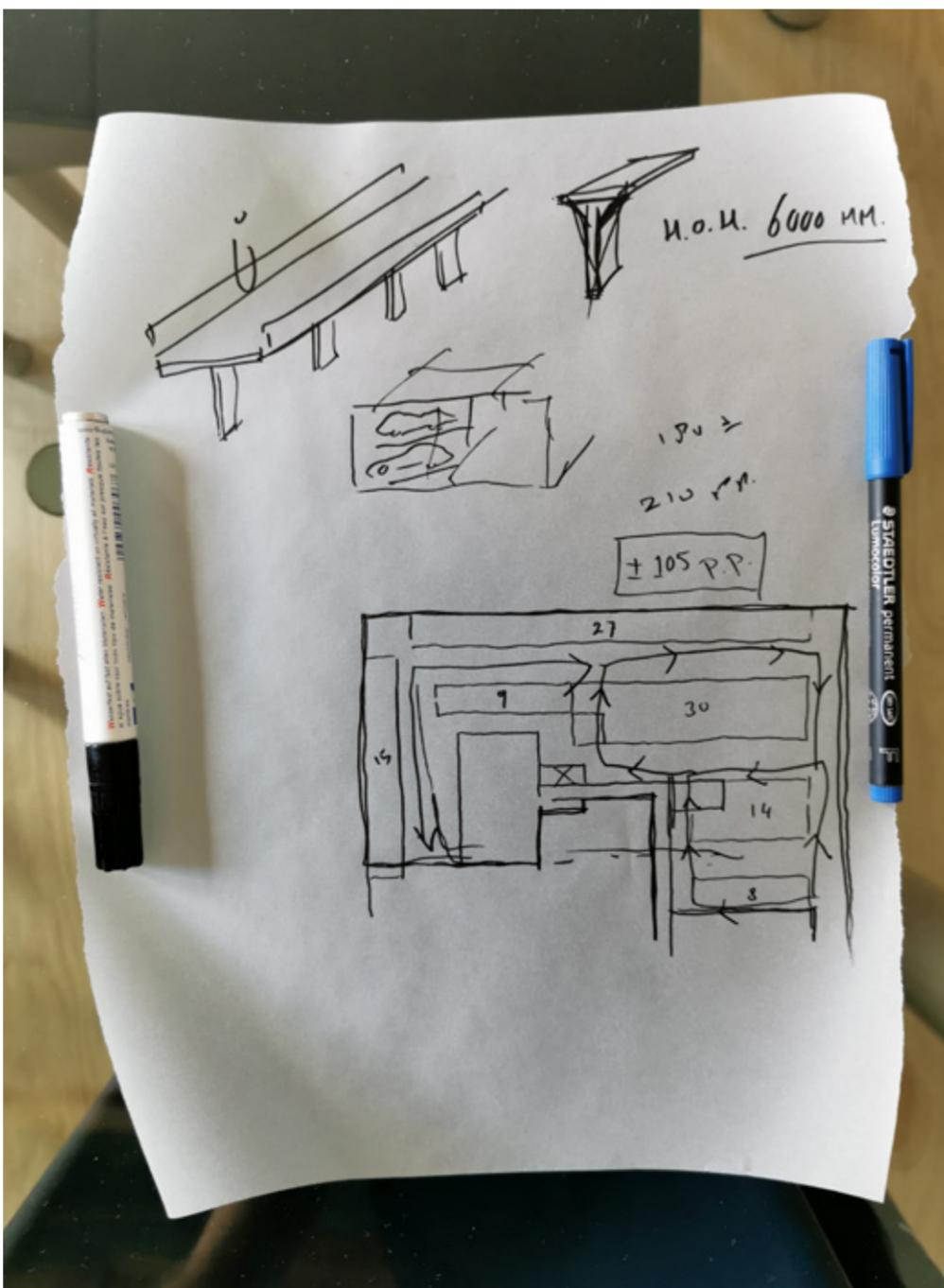
From here people can enjoy the view towards the garden.





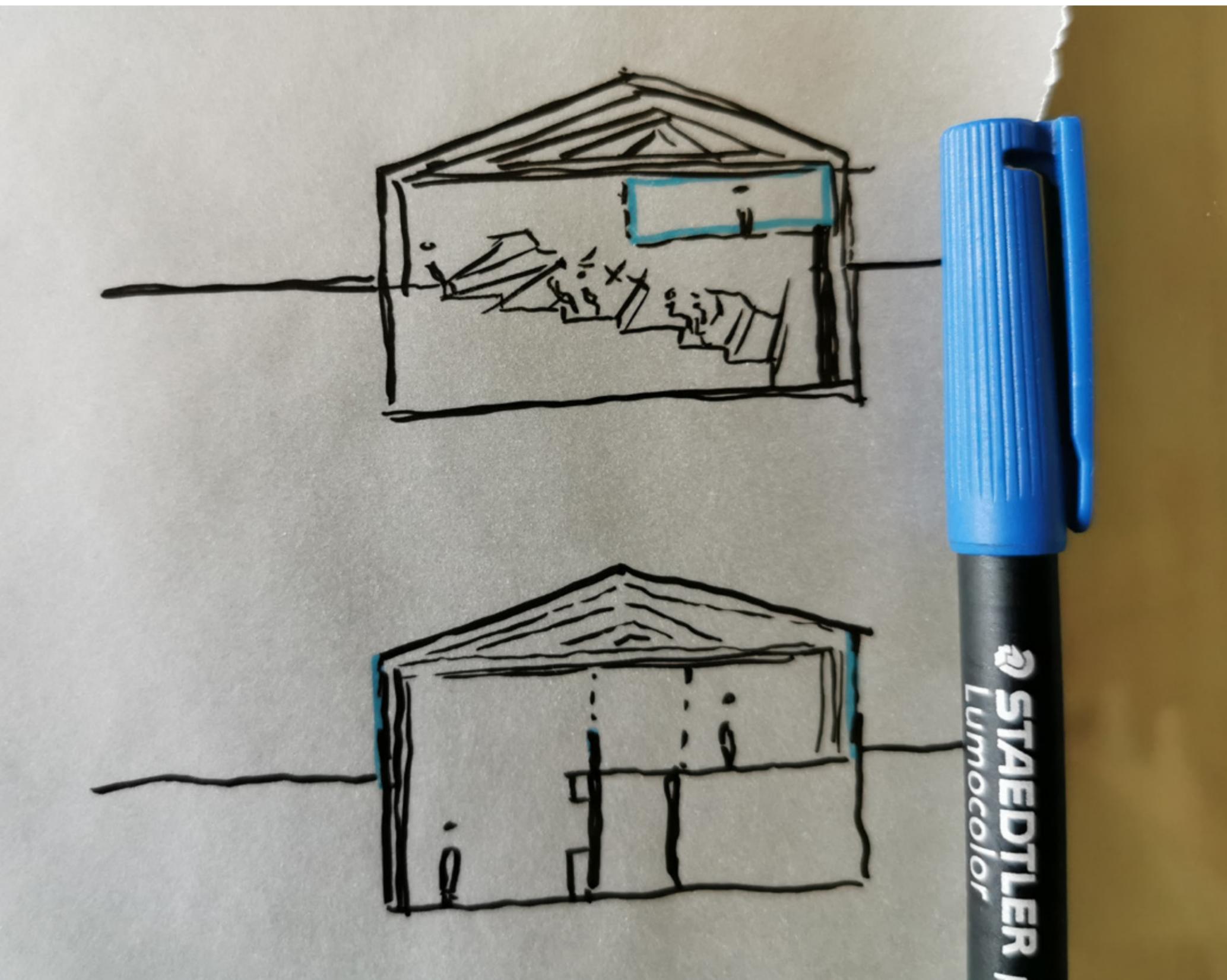
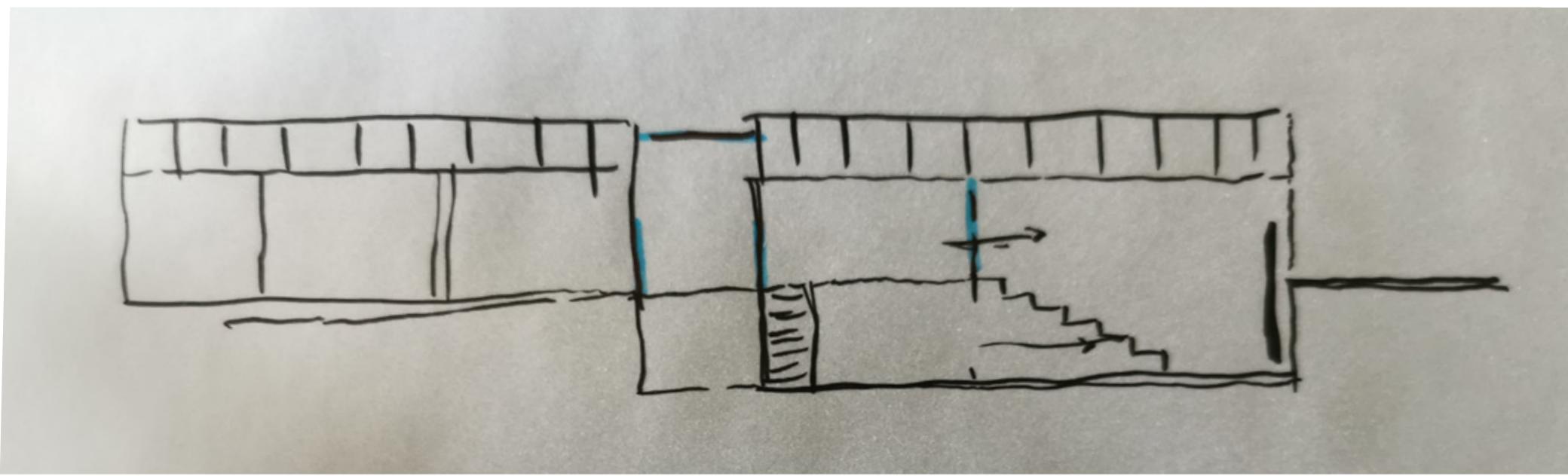
### Organization

By the use of different axes a clear language is designed in the plan. This is mainly created by one horizontal and one vertical axis. The horizontal axis is emphasized by a broad corridor which is the main route to the fitness and gym. From the ground floor level, there has been created a view towards the gym to emphasize interaction between spaces.



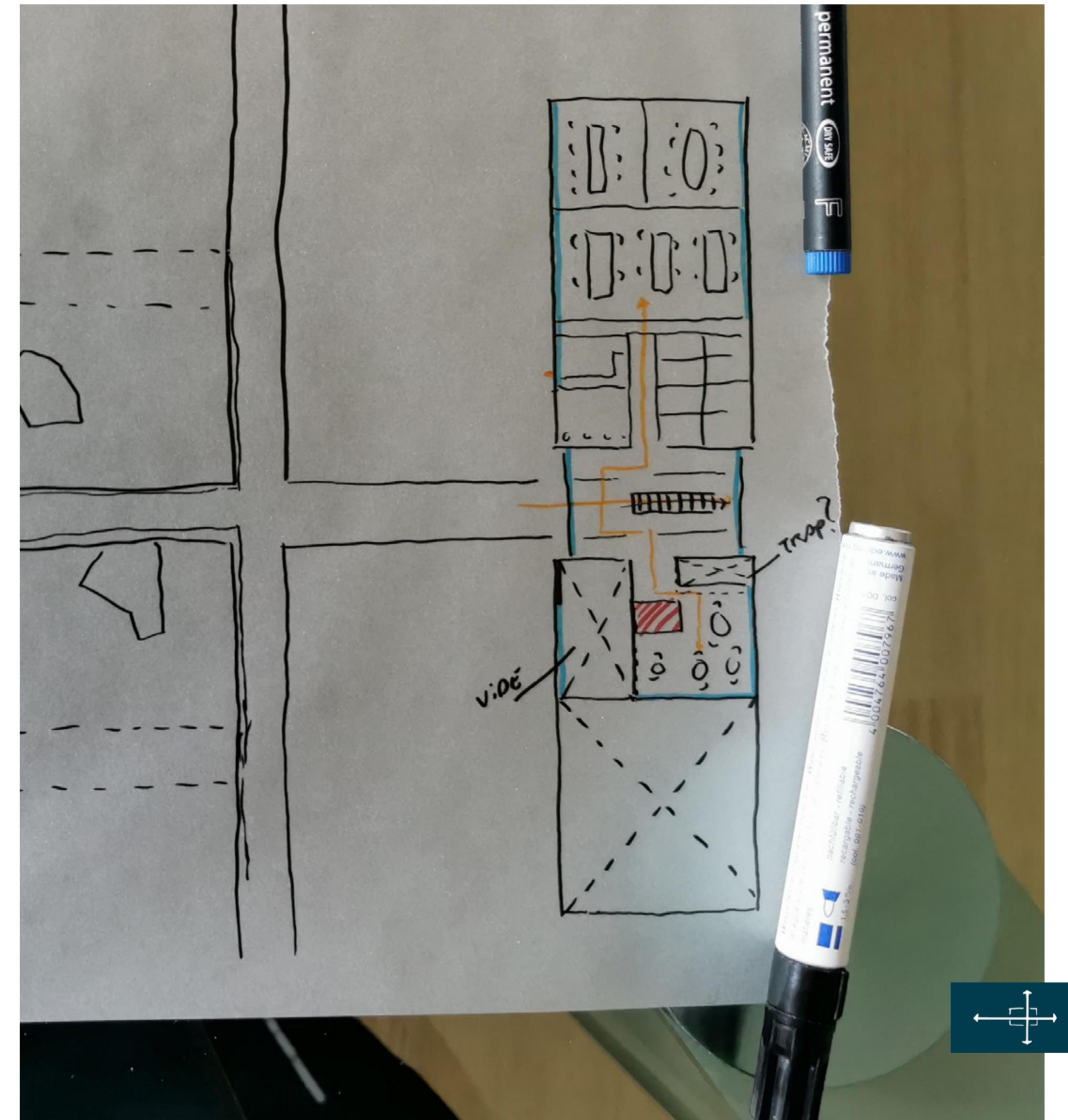
### Routing from the parking lot

The basement of the gym is partly connected with the underground parking lot which has about 100 parking plots. From the parking lot, the reception is accessible by taking the lift or stair. However, because the reserved storage space in the basement along the parking lot it is possible that the staff takes the luggage already at the basement.



#### Orientation of the auditorium

There has been made different design orientations in order to fit in the auditorium. To create as few barriers as possible and to generate a natural walk from entrance to auditorium, the stair of the auditorium is positioned against the mini lobby so there is still a connection from the lobby.

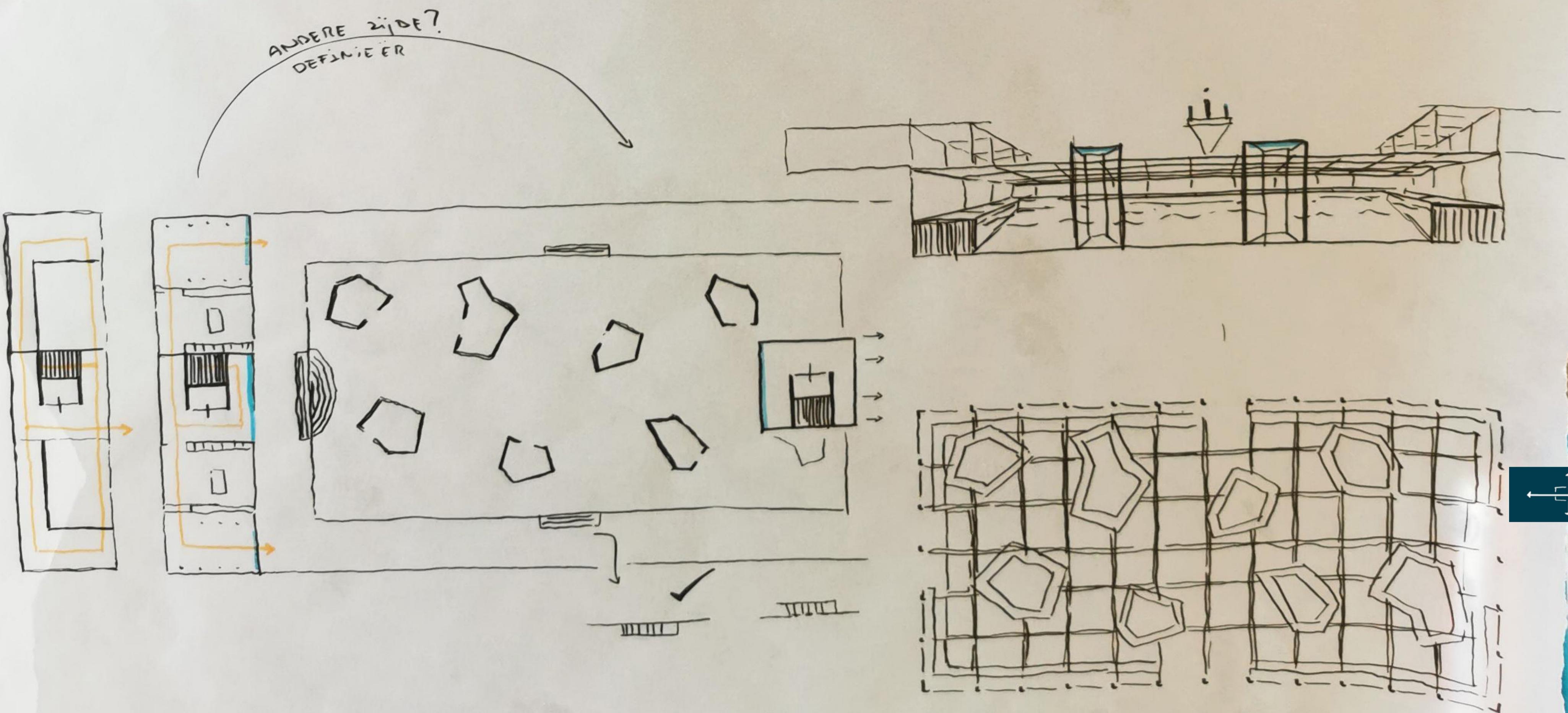


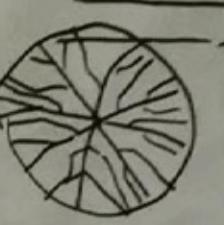
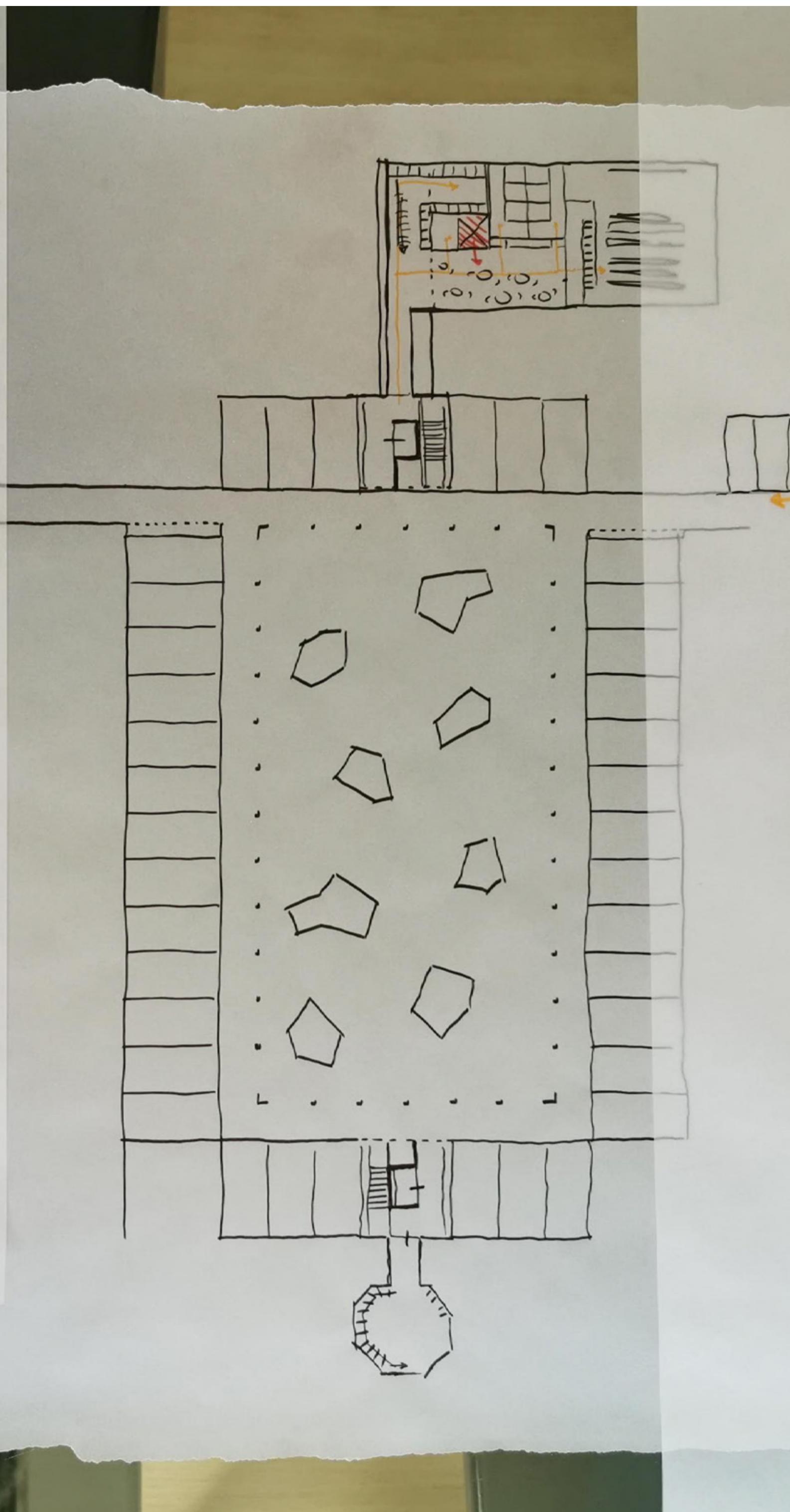
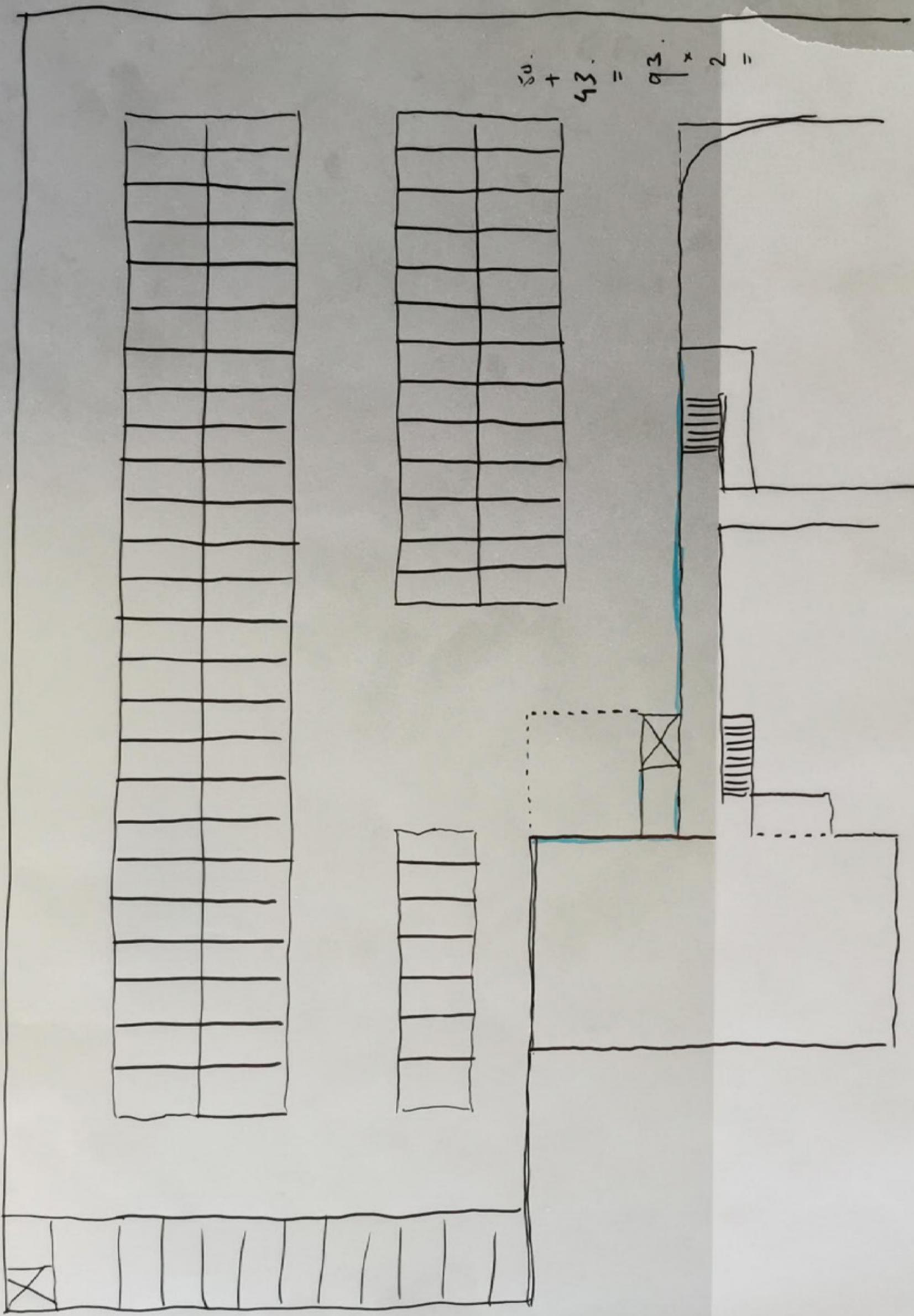
#### Symmetry

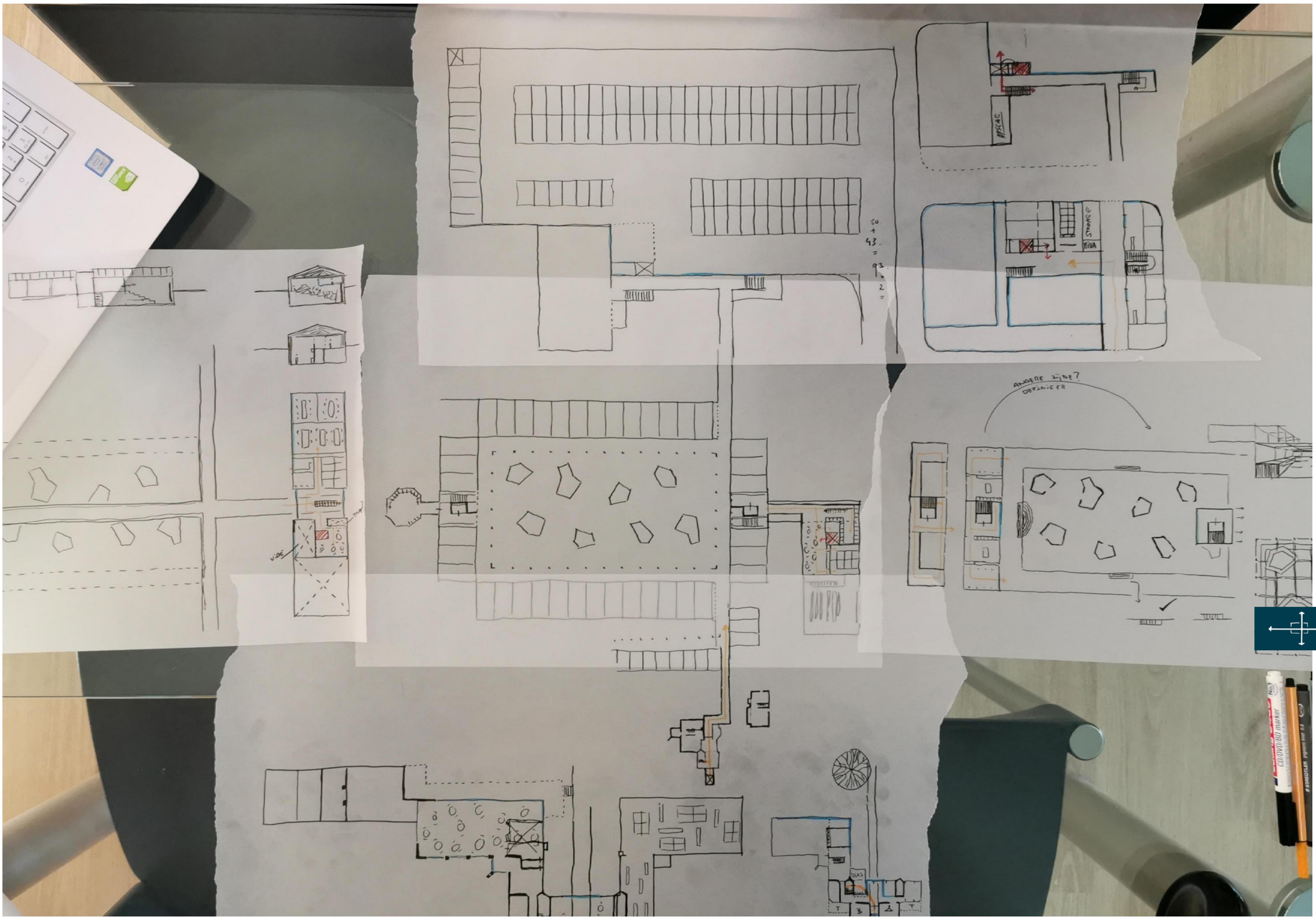
There is tried to make the plans as symmetrical as possible. However, the functions on either side are different, the idea of symmetry is possible till a certain level. In this case the symmetry begins as the main volume, the box division of windows are not completely symmetrical and as logical the plans are also not completely symmetrical.

### Accessibility of the spa

The spa is accessible from two sides, this is from an entrance at the west side and one at the east side. The west entrance is only accessible for staff of the retreat, think hereby about the lifeguard. The east entrance is more spatial and allows the guests to make use of. From here the lockers en dressing room is accessible.

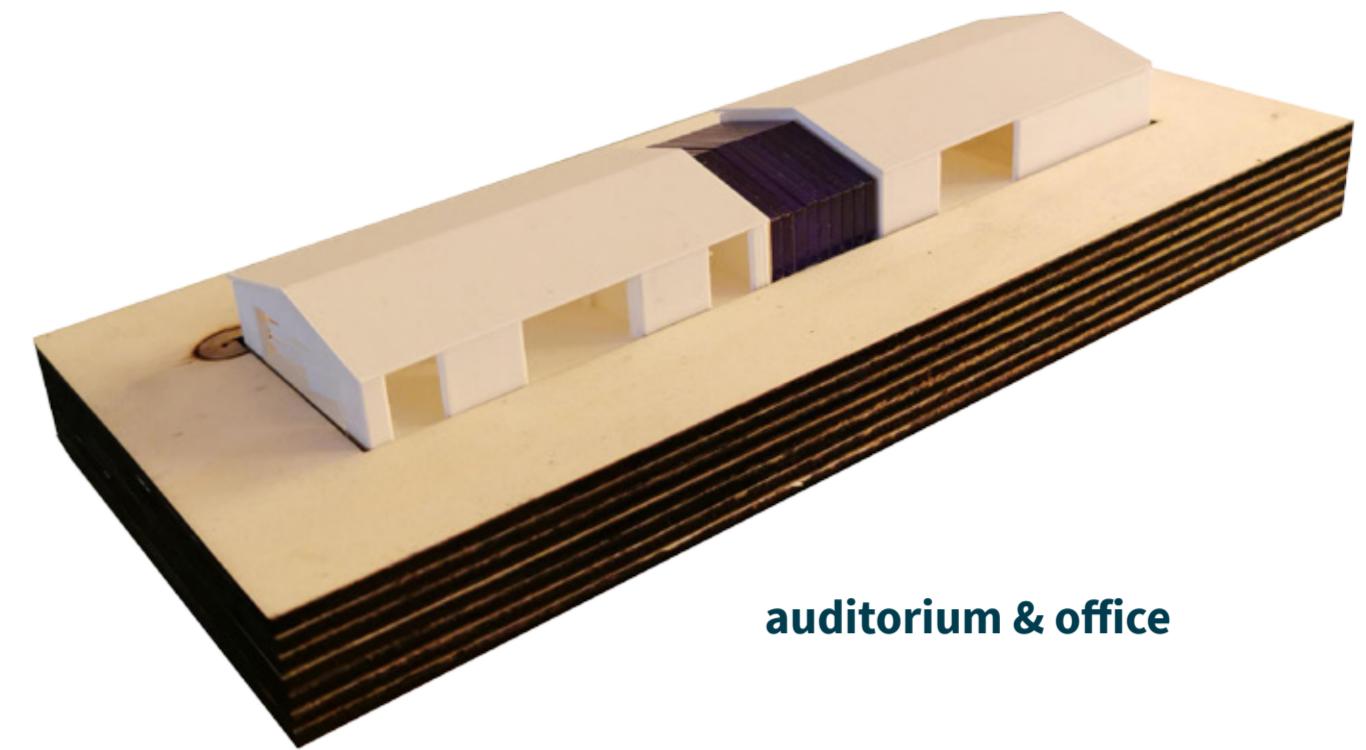




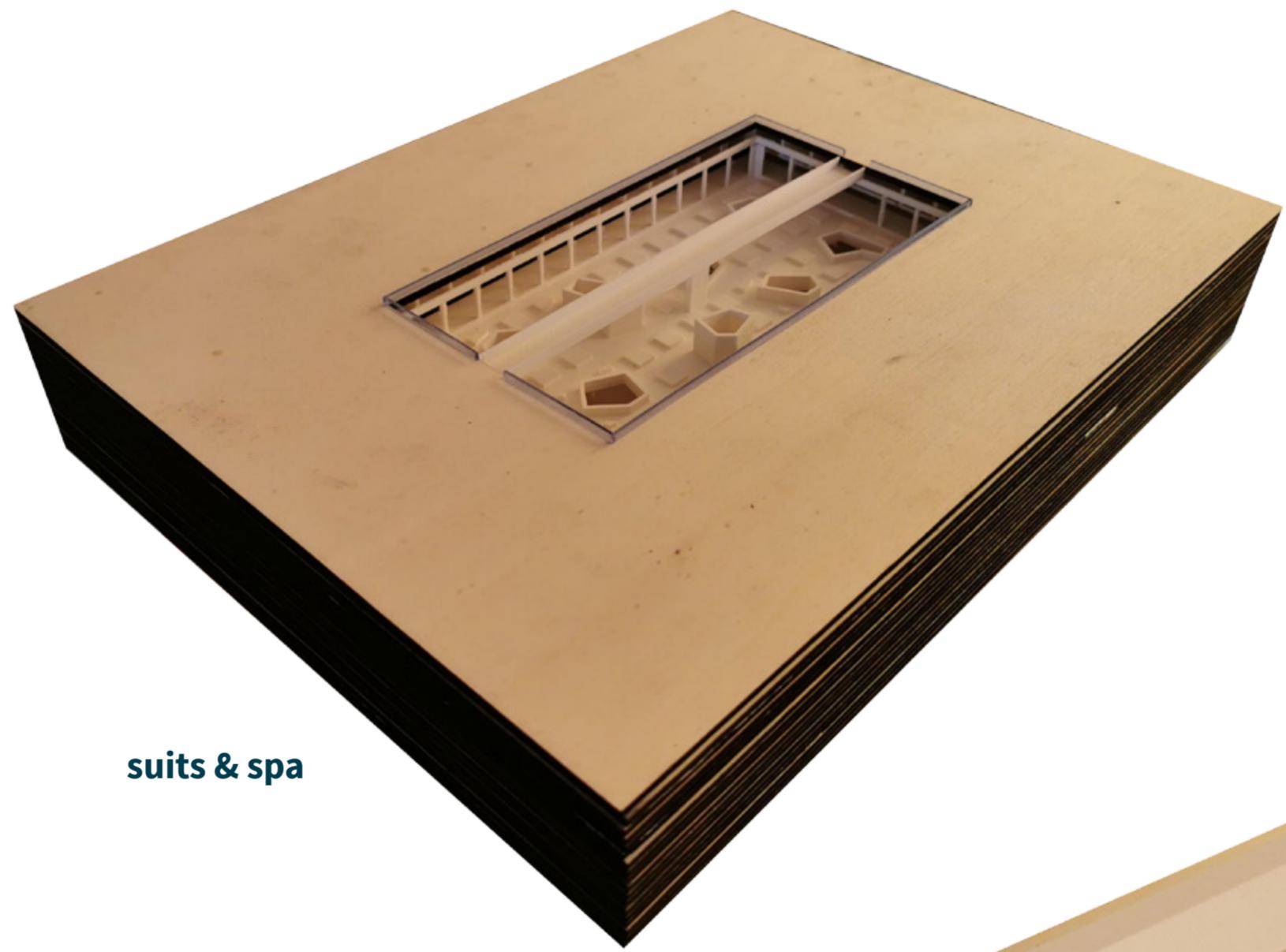




sportspavilion



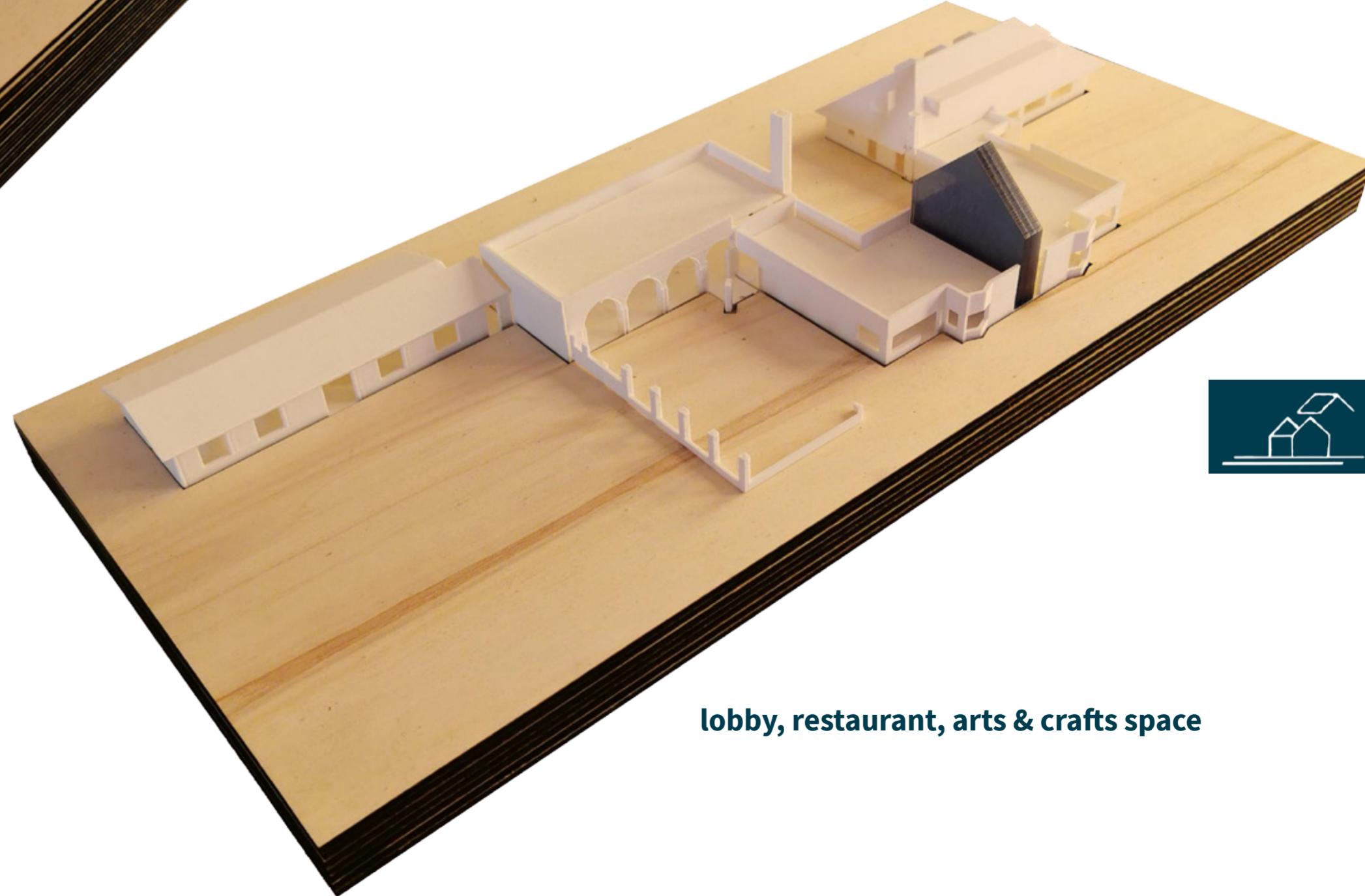
auditorium & office



suits & spa



watchtower



lobby, restaurant, arts & crafts space



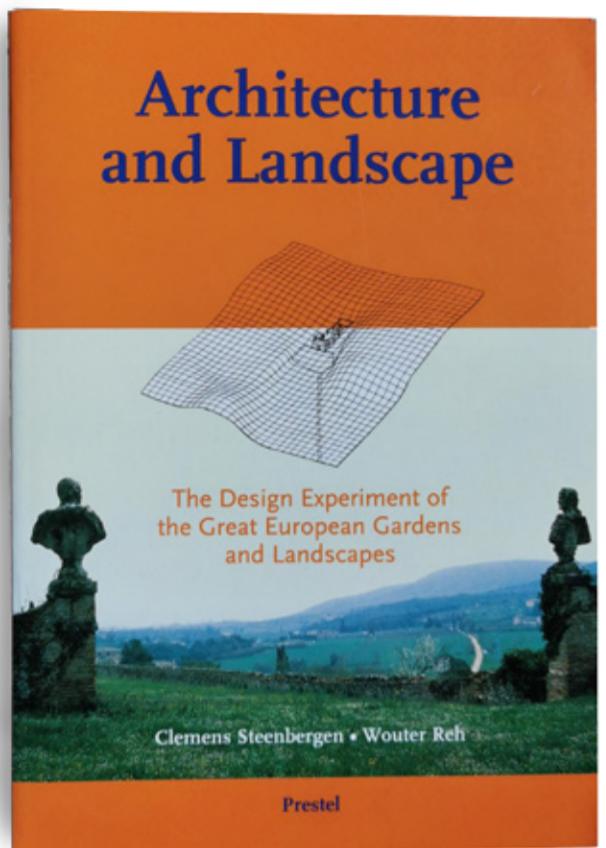
Week	Data	Periode	Acties	Bijzonderheden	Leerpunt	Overleg moment begeleider	Nadruk
17 t/m 26	26 apr. - 04 jul.	Leerjaar 3	Start zoektocht naar richting voor een potentieel afstudeeronderwerp	Eerste instantie: buitengebied, voedsel, consumptie etc. Niet tevreden en te weinig richting wat betreft de diverse onderwerpen om grip te behouden aan fysiek gesprek met docenten.	Ondanks drukte van werk en andere lopende studio's gebalanceerd gefocust blijven op alle lopende werkzaamheden.	Divers	Zoektocht fascinatie
27 t/m 34	05 jul. - 29 aug.	'zomperiode'	Diverse hypotheses over richting op een rij gezet. Opgescreven met een wetspin hebben om zelfstandig een start te maken met concrete project specs. Ervaar diagram dat mij alermal fascineert.	Voorname gesprek met familie wat een interessante casus is die bij me past, bevindingen op papier gezet (aanzet project specs). Verder onderzoek El Bulli en zijn fascinante voedsel.	Werkelijke balans tussen prive en werk. Overhand werk moet je niet mee brengen...	Divers	Zoektocht fascinatie
35	30 aug. - 05 sep.	afstudeerjaar	El Bulli en zijn fascinante voedsel.	El Bulli en zijn fascinante voedsel.	Inspirerend hoe mensen als Ferran Adria met passie over hun vak praten. Ook de kijk naar zijn vak is vernieuwend en inspirerend met zekere raakvlakken met architectuur.	Jan-Willem + Pieter (klassikaal)	Werk aan je project specs
36	06 sep. - 12 sep.	afstudeerjaar	afstudeerjaar besproken met docenten.	Definitieve richtingskeuze afstudeeronderwerp (preventieve zorg en gezond toerisme). Book besteld en uitgespit, Gelukkig gezond!, memo's met inspirerende teksten opgeschreven.	Aardbev en vis niet met gekaarten, niet andere mensen: let op welke verbanden die legt. Zorg dat er logica in je denkwijze zit.	Jan-Willem + Pieter	Werk aan je project specs
37	13 sep. - 19 sep.	afstudeerjaar	afstudeerjaar	Visuele 'plan van aanpak' gemaakt (schetsmatig) gebaseerd op de tekstele project specs. In beeld gebracht zorgselstroomogram.	Jezelf intrezen in boeken en andere teksten creert nieuw inzicht waar je op verder kan bouwen.	Jan-Willem + Pieter	Werk aan je project specs
38	20 sep. - 26 sep.	afstudeerjaar	afstudeerjaar	Project specs waard nodig verder aangescherpt. Onder andere verder ingelezen in gebruik van gymnasiums en stad van Delphi.	De kracht van het beeldend maken van tekst. Een beeld zegt soms meer dan 1000 woorden.	Pieter	Verfijn in project specs + research
39	27 sep. - 03 okt.	afstudeerjaar	afstudeerjaar	Project specs waard nodig, gebaseerd op feedback van voorgaande week. Project spec 'radio%20kootwijk' is nodig.	Proberen de referentie van typologien tot iets te brengen waar je iets aan hebt. Proberen in plaats van enkel te observeren ook te constateren.	Verfijn in project specs + begeleiding	Verfijn in project specs + research
40	04 okt. - 10 okt.	afstudeerjaar	afstudeerjaar	Locatieonderzoek door Radio Kootwijk te bezoeken. Er zijn onder meer foto's gemaakt van de cassus. Contact gezocht staatsbosbeheer. Project spec opgestuurd naar Hakan Nummeli.	...	Pieter	Locatie onderzoek + focus research presentatie
41	11 okt. - 17 okt.	afstudeerjaar	Research presentatie	Conclusie Hakan Nummeli staat niet open voor begeleiding.	Research day heeft me laten besef dat ik nog concreter moet worden in de doelgroep die ik kies.	Jan-Willem + Pieter (klassikaal)	Regelen van begeleider en verder onderzoek
42	18 okt. - 24 okt.	afstudeerjaar	afstudeerjaar	Contact opgenomen met Erik Moedersheim. Doelgroep aangescherpt. Potentie hoe de potentiële van Radio Kootwijk in beeld te brengen. Eerste gedachten over concepten op papier gezet en klassiek gepresenteerd. Nu de afwijzing van Hakan direct contact opgenomen met Moedersheim/Moonen (project specs zijn meestuurder).	Direct in mogelijkheden denken als iets niet lukt zoals verwacht.	Jan-Willem + Pieter (klassikaal)	Mogelijke potentie Radio Kootwijk
43	25 okt. - 31 okt.	afstudeerjaar	afstudeerjaar	...	...	Herfstvakantie, geen begeleiding	Gesprek Erik voorbereiden + mogelijke potentie Radio Kootwijk
44	01 nov. - 07 nov.	afstudeerjaar	afstudeerjaar	Gesprek voorbereid en gevorderd Erik Moedersheim (Moedersheim/Moonen). Laserprinten van de diverse multiplex platen en voor een deel in elkaar gezet. Boeken Clemens Steenbergen gekocht.	...	Jan-Willem	Focus op een duidelijke verhaallijn in relatie tot alle informatie tot nu toe.
45	08 nov. - 14 nov.	afstudeerjaar	afstudeerjaar	Structuur procesmodel aangescherpt met een meer logische verhaallijn. Beschreven wat ik nodig heb om de gehele structuur tot nu toe nog duidelijker te krijgen. Uitwijken van de ontbrekende stukken. Sparen winterschool ideeën.	Deze week evaerde ik een moment dat ik het licht heb gezien. Ik heb gewerkt aan mijn beargumentatie en mijn verhaallijn aangescherpt. Hierdoor overzie ik het geheel, werk ik gerichter en met meer plezier.	Pieter	Onderzoek en concepten
46	15 nov. - 21 nov.	afstudeerjaar	afstudeerjaar	Interview gehouden met woonblok. Structuur en de stukken tot nu toe gepresenteerd aan Erik Moedersheim. Alle tekeningen Radio Kootwijk opgegraven. Contact voor bezoek sanatorium Zonnestraal. Eerste opzet van Winterschool gemaakt.	Proberen te denken in de beleving, wat wil je gebruiker later ervaren van begin tot eindtijdens de beleving. Weet wat je programma in vierkante meters is en hoe je dit wilt implementeren. Dit zal het ontwerpproces vruchtbaar maken.	Erik	Concepten: Meerdere concepten mogelijk, welke 3 concepten kies je?
47	22 nov. - 28 nov.	afstudeerjaar	afstudeerjaar	In het kader van Winterschool 4 Go pro's gereserveerd bij mediatech. Maquette materiaal voor concept presentatie gekocht. Verfijnen van diagrammen in het procesmodel. Kaart geschiedenis Radio Kootwijk in beeld gebracht. Concepten in beeld gebracht. Start maken hoofdmaquette concept presentatie.	De kracht van het maken van een tussentijdse hoofdmaquette, het zorgt voor inspiratie.	Jan-Willem	...
48	29 nov. - 05 dec.	afstudeerjaar	afstudeerjaar	Arbeidsmarkt voor studenten (voordat deel moet ik fyks naar het archief toe). Makken definitievergrootte voor deelstelling concepten. Foto's maken maquettes. Opwenden posters, diagrammen en teksten. Volume aanzet aanscherpen en gehet tot nu toe innemen.	Proberen zo veel mogelijk te constateren uit informatie die er toe doet. Haar vervolgens conclusies uit die je projectknotsen ondersteunen. Maak je programma (m2) concreet. Hierina meten maken met ontwerpen. Er kan al wel gezocht worden naar vorm en principes.	Jan-Willem + Pieter	Concepten
49	06 dec. - 12 dec.	afstudeerjaar	afstudeerjaar	Klassieke besprekking feedback, gefeliciteerd op mijn eigen stand van zaken. Data analyse gebouw en historie verder opegepast.	...	Jan-Willem + Pieter	Reflectie
50	13 dec. - 19 dec.	afstudeerjaar	afstudeerjaar	Potentiële project locaties bepaald op basis van lokale onderzoeken, ontwerp methode vastgesteld voor leegstaande en gesloten gebouwen (grond en gebouw).	Winterschool format en taak richting definitief vastgesteld.	Erik	Ontwerp methode
51	20 dec. - 26 dec.	afstudeerjaar	afstudeerjaar	Er zijn diverse functies gekozen op de 12 gezondheid thema's. Deze functies zullen opgenomen worden in het ontwerp. De capaciteit van de reis is bepaald. Op basis van de capaciteit zijn er verschillende referentieprojecten in beeld gebracht die ik komende tijd qua oppervlakken (vierkante meterstels) gaan onderzoeken.	Door de lockdown is de afspraak voor het gemeentelijk archief verplaatst naar week 5.	...	Capaciteit en functies
52	27 dec. - 02 jan.	afstudeerjaar	afstudeerjaar	In beeld gebracht van vierkante meters van de spa, het restaurant, gezondheidspark en sport faciliteit.	De belang van het opstellen van een programma van eisen.	...	Oppervlakten (PvE)
1	03 jan. - 09 jan.	afstudeerjaar	afstudeerjaar	In beeld gebracht van vierkante meters van de foyer, hotel kamers, auditorium, art&craft ruimte, thuis en uitkijktoren.	De beleving door gebouwen heen in relatie tot verschillende ruimtefuncties.	Erik	Oppervlakten (PvE)
2	10 jan. - 16 jan.	afstudeerjaar	afstudeerjaar	Voorbereidend werk (organisieren digitale interface) voor mijn medestudenten tijdens Winterschool. In hoofdlijnen een beeld gevonden van de globale totale vierkante meters per functie. Ideeën over het categoriseren van projecten zijn gevonden. Winterschool heeft tot nieuwe interessante beslissingen en aanknopingspunten geleid.	Winterschool (bijzonder om vanuit een organiserende rol opdrachten uit te zetten en mee te denken met medestudenten van andere leerjaren)	...	Winterschool voorbereiden
3	17 jan. - 23 jan.	afstudeerjaar	afstudeerjaar	Laatste hand gelegd aan de referentie studies met de oppervlakken per ruimte functie (verhoudingsgewisse studie van verkeersruimte en spa).	...	...	Samenhang tussen ruimtefuncties en verhouding
4	24 jan. - 30 jan.	afstudeerjaar	afstudeerjaar	De functies in beeld gebracht in relatie tot publiek en privé. Er is begonnen om een gedetailleerd 3D programma van eisen te maken. Verschillende schetses hebben de revue gepasseerd en relatief tot kleurenplannen en ontwerpgedachten over de bestaande en nieuwe gebouwen.	...	...	Testen van kleurenplannen
5	31 jan. - 06 feb.	afstudeerjaar	afstudeerjaar	Gemeente Arnhem en Apeldoorn, microfiches ingezien. Voorbereidend werk voor het maken van de maquette 3D geprint van de bouwvolumenten. Gebruiken van diverse elektriplannen. Ontwerpgedachte ruimtelijk gemaakt aan de hand van verschillende schetsen.	Pre design maquette afgemakeld door te 3D printen en te lasersnijden. Vervolgens zijn er verschillende opties gemaakt hoe de functies op het plot geplaatst kunnen worden en keuze gemaakt welke opstelling het meest voorstellend is. Opwenden en presenteren van pre design. Volume, detail, reflectie en toekomstplannen.	...	3D PvE opgesteld
6	07 feb. - 13 feb.	afstudeerjaar	afstudeerjaar	...	De kracht van het testen met een plug and play maquette.	Jan-Willem + Pieter + Erik	Pre design maquette en posters
7	14 feb. - 20 feb.	afstudeerjaar	afstudeerjaar	Eerste abstracte vertelgangslijst gemaakte door het gesteld programma in 3D aan een schakelen (nog geen kleurenplaat). Dit heeft mij gevoel gegeven hoeveel programma er op het plot moet passen.	Feedback forward / studio day	Schaalgroei opgedaan door het gesteld programma in 3D te zetten en tegen elkaar aan te zetten.	...
8	21 feb. - 27 feb.	afstudeerjaar	afstudeerjaar	De laatste stand van de plot (het gebouw) is in 3D gemodelleerd.	Het modelleren van de bestaande gebouwen en een kijk van dichterbij laten je vooruitdenken, zo heeft het geholpen door tijdig het archief te bezoeken en belangrijke tekeningen te bekijken.	Jan-Willem + Pieter	Bestaande stand
9	28 feb. - 06 mrt.	afstudeerjaar	afstudeerjaar	Een aantal 20 aantallen is gemaakt voor het concreet kleurenplan van het geheel op schaalschets niveau.	...	...	voorjaarsvakantie, geen begeleiding
10	07 mrt. - 13 mrt.	afstudeerjaar	afstudeerjaar	Concrete programmeering vertaald naar een 3D kleurenplan plattegrond met alle ruimtefuncties van die.	...	...	2D Kleurenplan
11	14 mrt. - 20 mrt.	afstudeerjaar	afstudeerjaar	Uitbreidingsstudies gedaan naar het voorbeeld hotel.	...	...	3D Kleurenplan
12	21 mrt. - 27 mrt.	afstudeerjaar	afstudeerjaar	Plattegrond van de rechthoekige binnenplaats is verder geconcretiseerd en programmatic kloppend gemaakt. Het terrein is in 3D gemodelleerd.	...	...	Uitbreidingsstudie voorbeeld hotel
13	28 mrt. - 03 apr.	afstudeerjaar	afstudeerjaar	Keuze gemaakt om de waterlopen meer licht te geven door de gezondheidsfuncties en verblifsfuncties te combineren tpm de noordzijde.	Het maken van de kleurenplannen voor de noordzijde van het plot. Ontwerpprincipes worden gecreëerd op basis van de noordzijde.	...	Definieren van het noordgebouw (zoektocht tussen functie en form)
14	04 apr. - 10 apr.	afstudeerjaar	afstudeerjaar	Noordzijde gemaakte voor de noordzijde van het plot. Ontwerpprincipes zijn in beeld gebracht om de noordzijde tastbaar te maken. De ontwerpprincipes voor de noordzijde van het gebouw zijn teekenstuk verklaard. De ontwerpprincipes voor de gebouwen zijn teekenstuk verklaard.	...	...	...
15	11 apr. - 17 apr.	afstudeerjaar	afstudeerjaar	De ontwerpprincipes voor de gebouwen zijn teekenstuk verklaard.	...	...	...
16	18 apr. - 24 apr.	afstudeerjaar	afstudeerjaar	...	...	...	...
17	25 apr. - 01 mei	afstudeerjaar	afstudeerjaar	De praktijk portfolio wordt ingeleverd en de persoonlijke ontwikkeling word gepresenteerd.	Def. Design	Het belang van kritisch blijven op wat je ontwerpt.	Def design maquette en posters
18	02 mei. - 08 mei	afstudeerjaar	afstudeerjaar	Er zijn deze twee diverse foto's gemaakt en tekeningen ingescand van eerder gemaakte processchetsen.	...	...	Praktijk portfolio
19	09 mei. - 15 mei	afstudeerjaar	afstudeerjaar	Uit de feedback blijkt er te weinig samenhang in het huidig ontwerp te zijn. Ik wil het ontwerp (deels) aanpassen om meer samenhang in het project te krijgen. Hier zal wel een grote verschillende tekening komen.	...	Eerlijk naar jezelf zijn en accepteren dat je presentatie later gepland moet worden.	...
20	16 mei. - 22 mei	afstudeerjaar	afstudeerjaar	Er is gekozen om de examen presentatie te verplaatsen naar eind augustus. Er wordt gekozen om de examen presentatie te verplaatsen naar eind augustus.	...	...	...
21	23 mei. - 29 mei	afstudeerjaar	afstudeerjaar	...	...	...	...
22	30 mei. - 05 jun.	afstudeerjaar	afstudeerjaar	De laptop is aan de kant geschoven, deze week is er enkel geschat en nagedacht over hoe het stedenbouwkundig concept verfijnd / doorgevoerd kan worden in de architectuur.	...	...	...
23	06 jun. - 12 jun.	afstudeerjaar	afstudeerjaar	Alle plattegronden zijn schetsmatig verder gebracht. Samen vormen de plattegronden een integraal geheel.	...	...	...
24	13 jun. - 19 jun.	afstudeerjaar	afstudeerjaar	Deze week wordt de laptop weer bijgepakt. De schetsen worden vertaald naar 3D. Alle ontwerpvertrouwingspunten zijn bekend en besproken met mijn begeleider. Het idee van symmetrie mag nog wel verder doorgedacht, met name de plattegronden. De laaste stand van het project wordt besproken, de details en materialisaties nog wel verder gebracht worden. De landschappelijke padenstructuur wordt verder uitgewerkt.	...	...	...
25	20 jun. - 26 jun.	afstudeerjaar	afstudeerjaar	De verhalen van schetsmatige plattegronden naar gebouwen in 3D. Alle ontwerpvertrouwingspunten zijn bekend en besproken met mijn begeleider. Het idee van symmetrie mag nog wel verder doorgedacht, met name de plattegronden. De laaste stand van het project wordt besproken, de details en materialisaties nog wel verder gebracht worden. De landschappelijke padenstructuur wordt verder uitgewerkt.	...	...	...
26	27 jun. - 03 jul.	afstudeerjaar	afstudeerjaar	...	...	...	...
27	04 jul. - 10 jul.	afstudeerjaar	afstudeerjaar	De gebouwen worden 3D print klaar gemaakt en naar de printer gestuurd. De onderplaten worden uitgetekend en naar de laserprinter gestuurd. Het landschap is ingebouwd op school 1 op 400. Details en materialisaties worden gedefinieerd.	...	...	...
28	11 jul. - 17 jul.	'zomperiode'	'zomperiode'	Van schetsmatige gedachten naar volwaardige diagrammen. Aanzet creative aanzet voor de gebouwen.	...	...	...
29	18 jul. - 24 jul.	'zomperiode'	'zomperiode'	...	...	...	...
30	25 jul. - 31 jul.	'zomperiode'	'zomperiode'	...	...	...	...
31	01 aug. - 07 aug.	'zomperiode'	'zomperiode'	...	...	...	...
32	08 aug. - 14 aug.	'zomperiode'	'zomperiode'	...	...	...	...
33	15 aug. - 21 aug.	'zomperiode'	'zomperiode'	...	...	...	...
34	22 aug. - 28 aug.	'zomperiode'	'zomperiode'	...	...	...	...

# + 10.1 Literatuur

(2021). Opgehaald van OpenStreetMap: <https://www.openstreetmap.org/search?query=radio%20kootwijk#map=13/52.1761/5.8342>

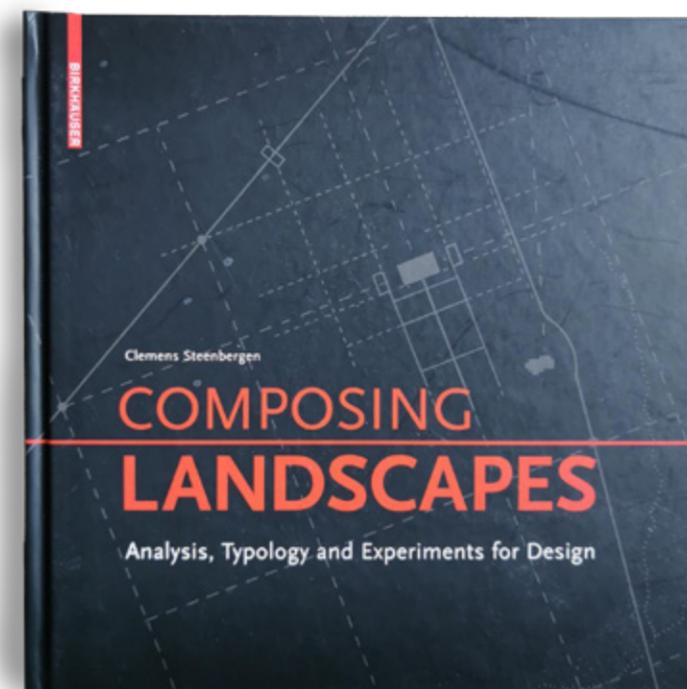
LH, b. (2016). Gouden reg

## + 10.2 Inspiration (interview + books)



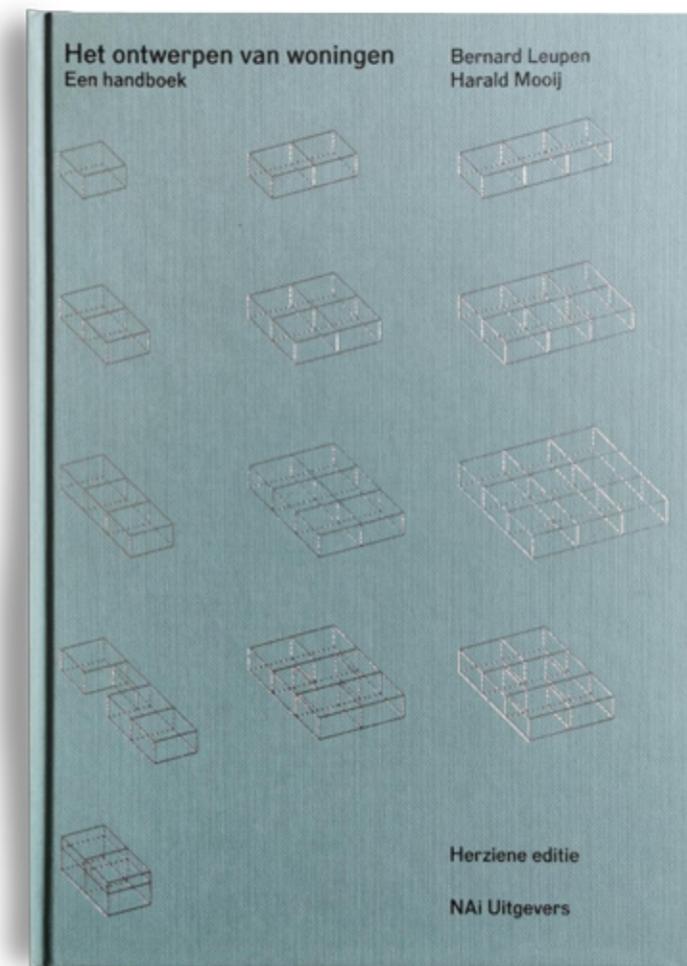
**ARCHITECTURE AND LANDSCAPE**

Wouter Reh, Clemens Steenbergen



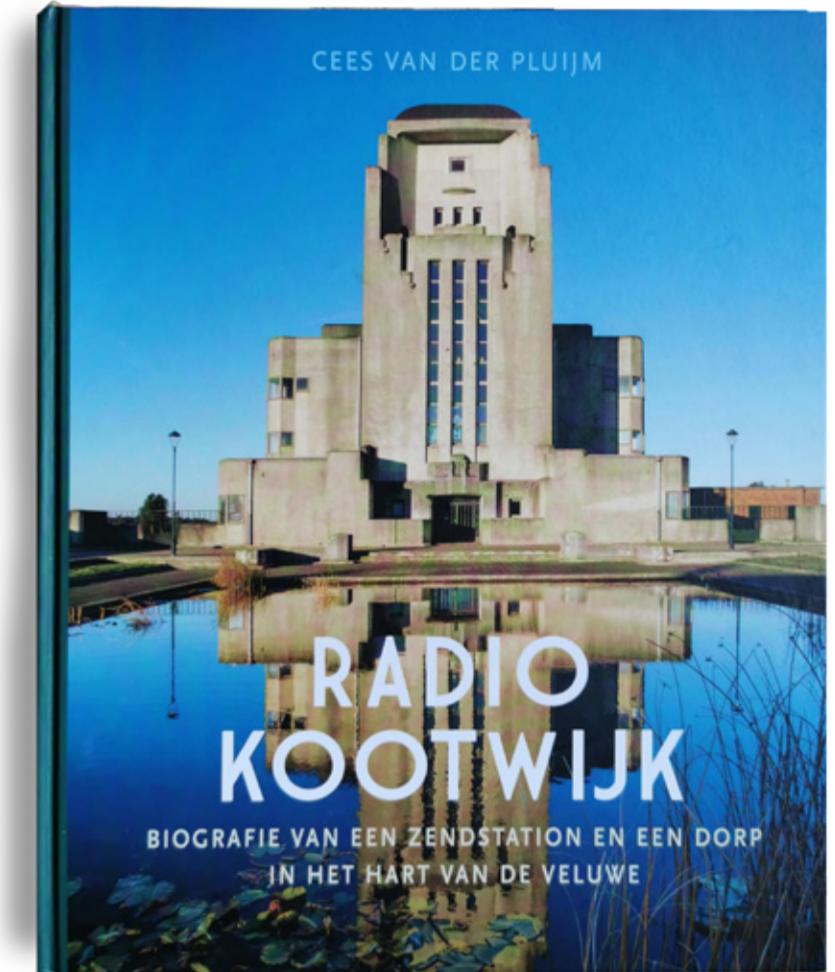
**COMPOSING LANDSCAPES**

Clemens Steenbergen



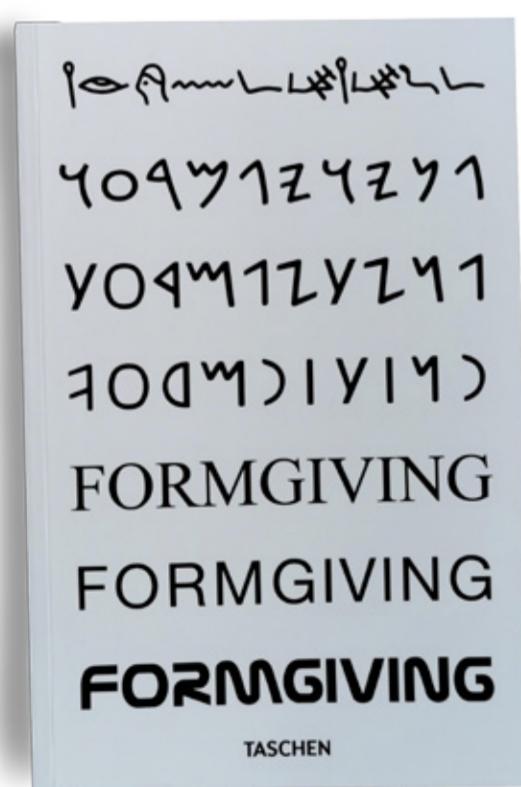
**HET ONTWERPEN VAN WONINGEN**

Bernard Leupen, Harald Mooij



**RADIO KOOTWIJK**

Cees van der Pluijm



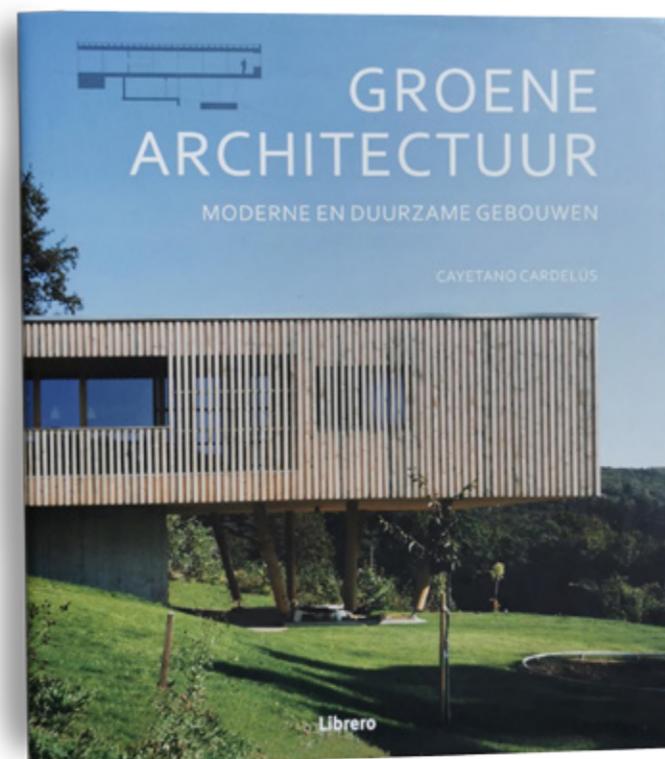
**FORMGIVING**

Taschen, Johannes Fiebig



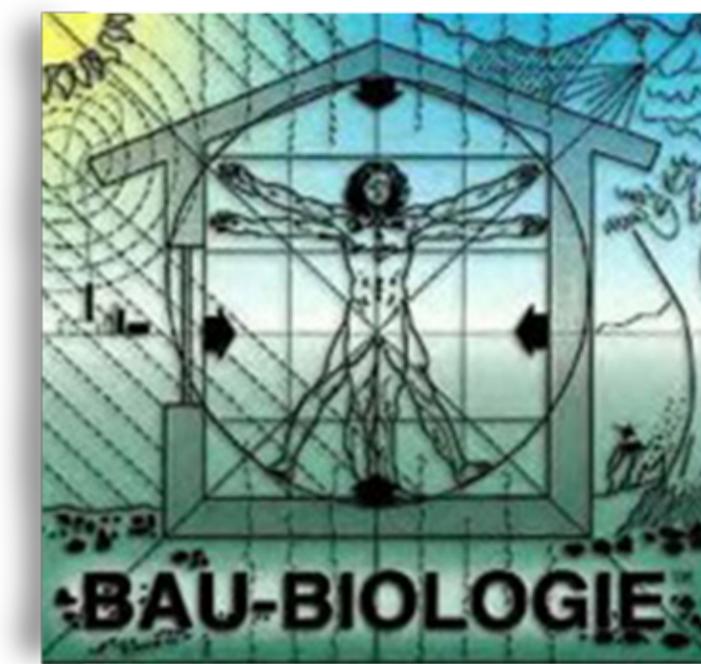
**DE GLAZEN BOERDERIJ**

Gerard Boven



**GROENE ARCHITECTUUR**

Cayetano Cardelus



**RICHARD BRUIJNE**

Interior architect; advisor about healthy living environments and specialist in the field of radiation indoors





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