



Towards long-term health.

Chalmers school of architecture
Department of architecture and civil engineering
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Abstract

Living with a chronic illness, recovering from long term sickness or seeing someone close to you cope with health issues has a direct impact on how we view ourselves as individuals and our surrounding environment. It's a situation that can make us feel vulnerable, in a lack of power will disturb our ability to be in full control of our life. Suffering from mental illnesses will sooner or later lead to a state where our bodies are trying to self-regulate - meaning that we will naturally shift the view on how we experience certain environments and which type of space we require to feel supported, safe and secure. This so-called supportive environment could, although, look different depending on the individual's physical and psychological condition - meaning that the type of needed space will most likely shift from person to person and when our state of mind changes over time.

Theories in the field of landscape architecture say that there are in general eight different characteristics that could be found in supportive environments. This master thesis will identify and translate those characteristics into indoor spaces. The result are meant to visualize how this theory can be used as a guideline for creating spatial experiences where inclusiveness, wellbeing and healing is possible. Having this guideline in mind when designing could lead to a better understanding about how our choices affect the user and a greater knowledge about what a supportive environment actually looks like.

The aim of this master thesis is to design a place where people in need get help to cope with their emotional connection to long term sickness. The project will serve as an additional function to the already existing medical care system and explore through theories how health promotive elements in healthcare design could be used to create a healing, inclusive environment where people get the right tools for making life feel meaningful, fulfilled and manageable again.

Keywords : Supportive environments, Health-promotive design, psychology, mental health, , holistic care, wellbeing

1. Introduction

Background and problem statement in a regional to local perspective

The healthcare system today have a very objectified vision of who is healthy and who is not, which causes a confusion about what being healthy actually means. It can therefore be hard to get the right help when the mental side effects of being long-term sick are causing major social and emotional problems in people's everyday life, but not enough problems for getting another diagnosis. To not have the power to manage normal everyday tasks or find structure in life a longer period of time could have a serious impact on the overall wellbeing. A further development of care-facilities with a stronger focus on both body and mind, and its physical appearance and function in the urban environment could therefore be key for these people to live a good life (Arup, 2017).

Being sick in a longer period of time can cause several issues regarding the quality of life, time and money - both for the individual and the society as a whole. Chronic diseases in particular is one of the most common health issues in Sweden today and takes up the majority of the healthcare costs (Vårdanalys, 2014). But as the population grows older, the more issues and patients need to be treated. Today, the treatment methods are based on a very reactive system where the patient only get help when the damage is done although it's cheaper to pay for a long term care prevention program that would stop the situation from happening in the first place (Arup, 2017). The development towards a more holistic view of care is a strategy that is meant to ensure that the future can handle the rising pressure from the huge amount of sick patients. A system like that could reduce both costs and the time spent in traditional hospitals, which in the end will lead to a more effective care where the people can get the help they need to manage everyday tasks without sudden health downfalls.

This development will also result in a change regarding which shape and form care will look like in the future - meaning that more and more care will be moving outside of the hospitals and go towards being a more integrated part of our local public environment (Arup, 2017). This type of care could for example be facilities with functions that are not only meant to treat issues in a more local context, but also to *maintain* good health and wellbeing throughout life. This will therefore put certain requirements on how we as architects will design health facilities that support this development in the future - a development where care facilities are a implemented part of the urban environment and where its placement in the local context can effectively combine space, form and function to support wellbeing and add value to more users than just people with a diagnosis.

1.2 Purpose and goal

The purpose of this master thesis is to visualize how health promotive design can be used to create healing and inclusive environments where its form and function can help people to cope with their emotional connection to long term sickness. The project will have a local goal to make life feel meaningful, fulfilled and manageable to the user , and a regional goal to reduce rising pressure from severely sick patients by exemplify how a facility focusing on health promotion can take place in the public environment.

1.3 Thesis question

This master thesis will answer the following questions:

What can health-promotive architecture look like in the local public environment?

Which elements in our surrounding are acting as health promotive and how do we design with them to make healing possible for all users?

How can theories about healing lanscape architecture be translated into indoor environments and what would that space look like?

1.4 Method

The methods used in this master thesis are primarily *design by research*. This means that the program, the site and the majority of the design choices are going to have its foundation in the chosen and presented theories and research. Mapping, sketching and 3D visualisations are other methods that were used in the early process.

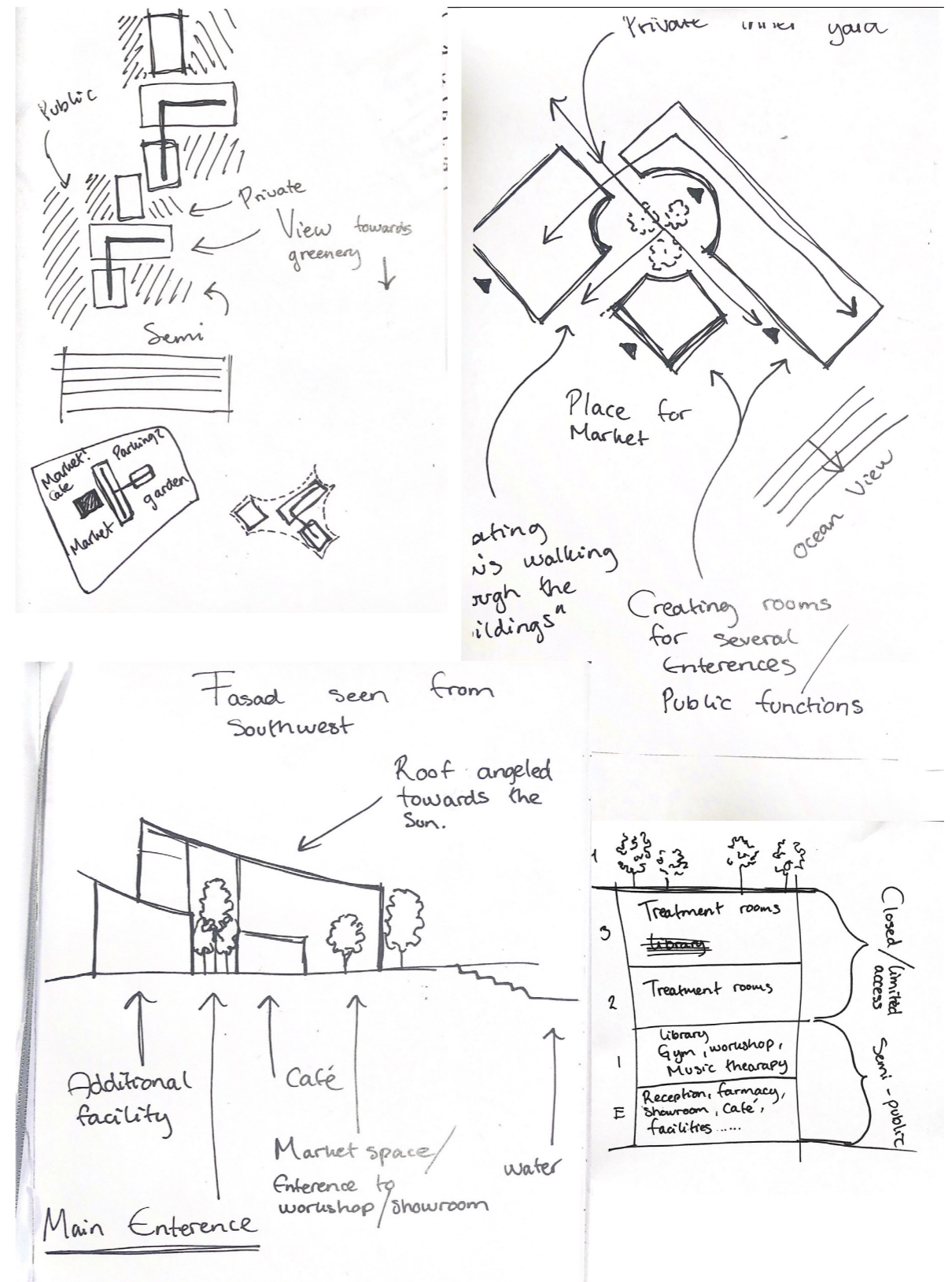
This master thesis is going to use two handpicked theories about how landscape architecture affects our mental wellbeing and what elements in it we need to make recovery from mental illness possible. These theories will be identified and translated into indoor environments with a purpose to experiment. The indoor spaces will be designed through eight different characteristics that according to the chosen theories can be found in supportive environments. The translation of the eight elements are going to be in form of creating the same *feeling and experience* as the original outside space, but recreated in an built indoor form. Natural elements such as sunlight and plants will be playing a part of the design in some spaces.

The project will result in a building with a decided program where three in depth spaces in different characters will be presented. These spaces will, in combination with a chosen function of the room, visualize how these theories can act as a guideline for creating a variation of spatial experiences that could possibly act as a supportive environment. The eight elements will be applied on the spaces are very different in their characteristics and will therefore be combined into three groups that will be applied on the three chosen spaces in the building. One for emotional participation, one for active participation and one for semi - common areas. The elements will by this method be used as a design tool in a space where they are the most suitable

1.5 Delimitations

This master thesis is going to use a handpicked amount of theoretical background in the field of landscape architecture that will stand as a strong foundation to all design decisions and chosen functions in the project. The final design is although *not* meant to bring new facts into the field of health promotive architecture, but will rather to show in an experimental way how theory can be translated and expressed in a physical form.

All presented statistic and background for the problem statements are taken from a swedish context in a specific time frame - meaning that the end result will only show a speculative vision of the near future.



Early sketches. This illustrations show the very first try to shape the building at the chosen site. The form of the facility and the outside rooms it created were extremely important to go hand in hand with it's urban location.

2. Theoretical overview

2.1

The vulnerability of sickness and the definitions of health

Being sick has a direct impact on our ability to keep control over our own bodies. It's a situation that can make us feel vulnerable, out of balance and in a lack of power. (Dahlöf Boyd, 2018) We are at that moment indirectly identified as medical objects where our bodies are dependent on surrounding factors to be fully restored. The definition of health could be seen in many different perspectives. From a medical point of view, health is defined as absence of sickness (Herzlich, 1973). This means that the body is seen as a medical object with measurements and values that decides whether you fit within the standards or not. You can by this definition for example be medically defined as sick but in good health or be objectively healthy but in poor health. Health in a salutogenic point of view is rather to see the human as a whole and take both body and mind into consideration, where health could be described as how we experience and choose to behave towards our condition. According to WHO, the definition of health could be described as the following

"Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity" World health organisation. (2023)

The organization points out that mental wellbeing in this meaning is not about absence of mental disabilities or disorder, but is rather about living a life where the individual can cope with normal stress, can work productively and can contribute to the community. Being in this so-called complete wellbeing could be described as when the individual has the resources to handle physiological, social and physical challenges (Dodge et al., 2012) This means that each time an individual meets a challenge, they are forced to adapt their resources to restore the imbalance that was made in their wellbeing. Time to time, these challenges can be too heavy to be fully restored by the individual himself or with help from the surrounding - which causes a disruption in the overall well being and level of experienced health.

2.3

Treatment methods and their effects on our wellbeing.

Creativity for stress relief

Being able to express ourselves in forms of art is a method that can be used to improve our overall wellbeing. Recent studies have shown that being creative regularly through art can positively influence the feeling of accomplishment, inclusion, confidence and can change the attitudes towards mental illness. (Van Lith et al, 2013)

Music therapy as a healing Treatment

According to the World Federation of Music Therapy (WFMT) , the concept of music therapy could be defined as such:

“Music therapy is the professional use of music and its elements as an intervention in medical, educational, and everyday environments with individuals, groups, families, or communities who seek to optimize their quality of life and improve their physical, social, communicative, emotional, intellectual, and spiritual health and wellbeing. Research, practice, education, and clinical training in music therapy are based on professional standards according to cultural, social, and political contexts”.

Furthermore, Recent reviews have found that music therapy may have positive effects on patients suffering from chronic pain. Results have concluded that the patients experienced better self management of pain, enhanced well-being on a psychological level, and stronger social connections after the treatment period was done (Low MY,2020). The concept has also been tried in a recent doctoral study from Karolinska forskningsinstitutet (Uggla, 2019) where the aim was to investigate the effects of music therapy on children who underwent HSCT (Hematopoietic stem cell transplantation). The result concluded that the children had a lowered heart rate 4-8 hours after the sessions (which is directly connected to a decreased level of stress), a greater sense of having control and an increased ability to cope with emotions during the time spent in hospital.



2.4

The environment's impact on our body and mind

No matter who we are, the surrounding environment is going to trigger emotional and physical processes in us. Even though our feelings are very personal, some common and specific elements in our surroundings could support the overall well being no matter who you are. Which kind of elements and environments that will act health promotive for you is although very connected to which kind of mental stage you are in in that specific moment, which means that the needed environment is different from person to person and will also change through time for you as an individual.

Two well known and basic theories within landscape architecture are the theories of Attention restoration Theory (ART) and stress reduction theory (SRT). According to SRT and ART, nature in itself is a healing source that is unconsciously lying in our minds. Landscapes with close access to water and where we can see the horizon are especially seen as restorative and safe because those aspects were important for survival through history. (Bratman, Hamilton & Daily, 2012). The ART theory argues that people have two types of attention - directed attention and fascination (Kaplan & Kaplan, 1995) Directed attention is used when we are concentrated on a given task, receiving unnecessary information or experiencing distractions from the environment around us - it takes effort and energy from the individual and resources are needed to recover. The theory argues further that the directed attention could be recovered and restored by incorporating these 4 experiences in nature environments.

1. *Being away: being distinct, either physically or conceptually, from the everyday environment.*
2. *Fascination: containing patterns that hold one's attention effortlessly.*
3. *Extent: having scope and coherence that allow one to remain engaged.*
4. *Compatibility: fitting with and supporting what one wants or is inclined to do.*

Another theory that has been developed recently is the supportive environment theory (SET). (Grahn et al 2014) This theory is not only explaining what kind of impact nature has on human beings in general, but is giving an explanation about the communication and interaction between an individual and its surroundings. The overall conclusion is that people need supportive environments for being able to develop their body (Senses, muscles, movements) and their mind (The ability to feel and think). A supportive environment also needs to feel meaningful, accessible and safe for acting as a health-promotive space to the individual. This so-called supportive environment could, although, look different depending on the individual's physical and psychological condition, meaning that the type of needed environment will most likely shift from person to person and when our state of mind changes over time. (Grahn et al 2010).

When people feel out of order or experience changes in their mental health, our bodies are automatically trying to self-regulate - this means that you will naturally shift your view on how you experience certain environments and in which type of space you require to feel supported, safe and secure. (Grahn et al 2010). These types of statements and following requirements can be described in the SET diagram below.

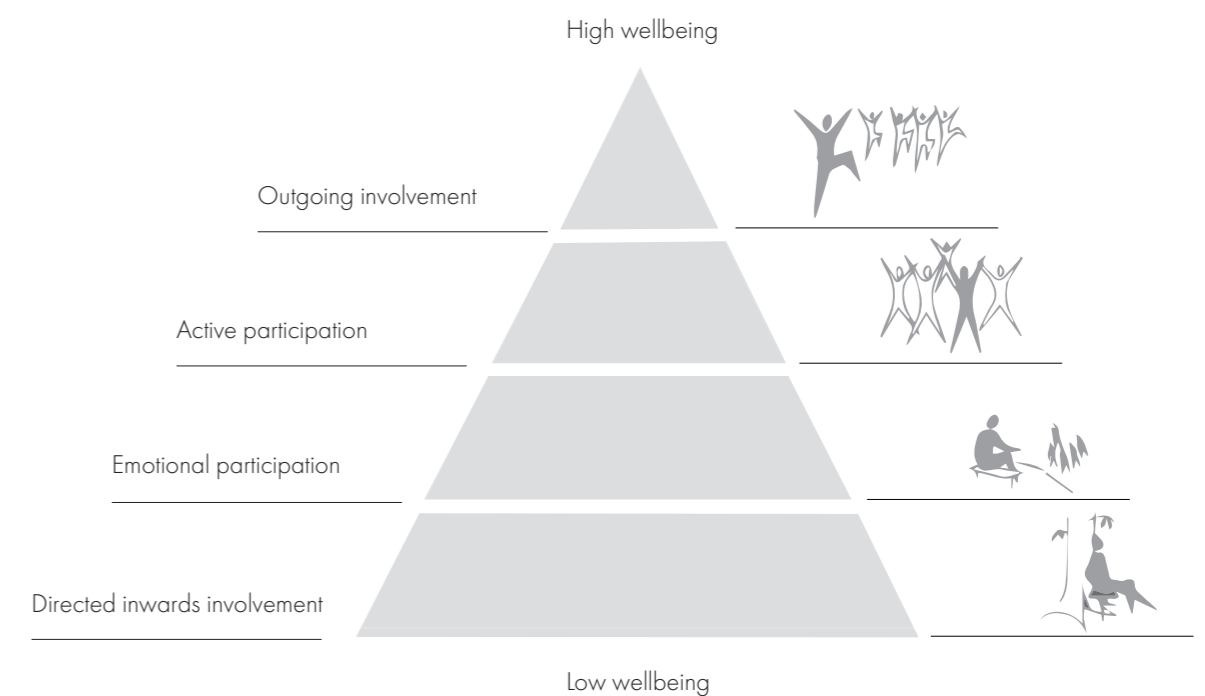


Figure 1. A renewed illustration of the concept of the supportive environment theory (Grahn et al 2014)

The diagram is divided into four levels that act as different executive functions. The lower two are symbolizing a higher need for a supportive environment that is requiring low effort activities - such as being alone or watching other people doing things. The upper two are categorized as less need for a supportive environment. When a person is in this state they have a higher capacity to do things that include active involvement and outgoing participation. The model could also describe the process of rehabilitation over time - which Grahn describes as three different phases.

2.5

Elements that can be found in supportive environments

There are in general eight different qualities that can be found in supportive environments. (Grahn et al 2010). Each quality doesn't need to be found in the same space, and each of them could be more or less beneficial regarding the needs of the person that is experiencing the environment at that moment. The different characteristics is the following:

1. *Serene - peaceful, silent, safe and secure.*
2. *Nature - fascination with wild nature.*
3. *Rich in species - variety of species of flora and fauna.*
4. *Space - like entering another world, a coherent one.*
5. *Prospect - open space with vistas.*
6. *Refuge - a sanctuary, a secluded place.*
7. *Social - a social arena.*
8. *Culture - signs of human labor and human values throughout history."*

Which of the eight characteristics that are most important have been discussed but further studies have shown that serene, nature, refuge and prospect are equally important dimensions of a supportive environment. A supporting environment also need to include the components "Being away, Extent, Fasciation and Compatibility to act restorative (Grahn et al 2018) The definition of what a restorative environment is could be described as:

"the process of renewing, recovering or re-establishing physical, psychological and social resources or capabilities diminished in ongoing efforts to meet adaptive demands" (Hartig, 2014)

3. The project

3.1 Project strategies

*“The strategies below show the most important **social values** and its overall purpose to the user”*

A place to handle your emotional connection to your sickness

A place where the individual is in focus and receives help in structuring the path to a better life.

A place for trust, support and empowerment

The place should encourage the individual to become independent, receive support in creating structure and balance in everyday life and promote the possibility of taking over control of their own life. This means that the patient must feel that they can be involved and influence, alternatively draw up a plan for their own care. As well as feeling support, time and closeness when needed, but at the same time having self-responsibility regarding one's own development. It should act as a reassuring network and strengthen the patient's dignity as a person and outlook on life.

A place for education and knowledge

The patient and relatives should have the opportunity to have an expanded understanding of their illnesses and how they maintain a balanced lifestyle to prevent emergency situations. This can be transferred in individual medical meetings, group exercises, lectures, workshops or self-reading for patients in between and relatives.

A place for being a part of a community

Belonging in a community of individuals who have similar diagnoses can maintain motivation to resume preventive care. This community would have an understanding, open-minded and encouraging atmosphere where everyone strives for the same goal.

A place for mindfulness, soul and body

The place should provide a humanistic view of man where body and soul are not separated. Health in this place is therefore not defined by the absence of bodily disease, but rather by the person's holistic experience of the comprehensibility, meaningfulness, and manageability of life.

A place to design your own treatment

Research shows that a number of treatment methods within anthroposophic therapy in combination with medical care can increase well-being, have a stress-relieving effect and increase the quality of life for people who suffer from various forms of mental illness. This form of care is about allowing the patient to heal, process or accept their illness with methods that the patient himself feels are pleasurable and create significant moments in everyday life.

“ The aim of this master thesis is to design a place where people in need get help to cope with their emotional connection to long term sickness. The project will serve as an additional function to the already existing medical care system and explore through theories how health promotive elements in healthcare design could be used to create a healing, inclusive environment where people get the right tools for making life feel meaningful, fulfilled and manageable again. ”

"The strategies below show the most important physical and environmental values "

A varied inside and outside environment

The outside and inside environment should take all visitors into consideration and allow them to choose an environment depending on their mental stage when arriving . The spaces should allow places that suit the most vulnerable and the most outgoing state of mind.

Symmetry

Symmetry represents order, we as humans crave order to help us make sense of the world around us, especially when we are sick. The floor plans and corresponding facades should therefore have a symmetrical expression and a visible construction that represent order, stability and readability of the inside environment.

Easy orientation

Color codes, easy flows and change of material should be used to create a dynamic inside environment that clearly shows the differences between spaces and its functions. Being able to localize is essential for feeling safe and in control when experiencing a new environment.

A fascinating inside and outside environment

Being fascinated is a key aspect for feeling restorative effects in our surroundings - meaning that the created spaces should contain patterns that hold one's attention effortlessly.

Flexible for future changes

The building should be planned so that parts of the volume can be rented out or closed off during specific times of the day if so needed. The groundfloor functions should be able to be used and feel welcoming for both patients, visitors or people passing by.

Easy orientation

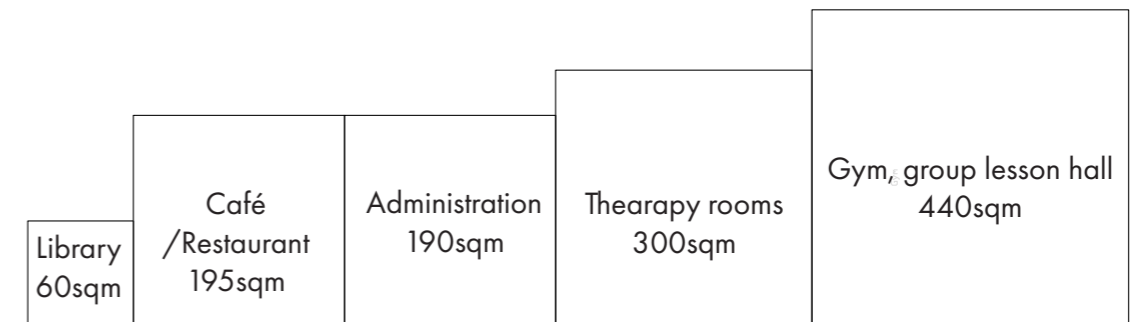
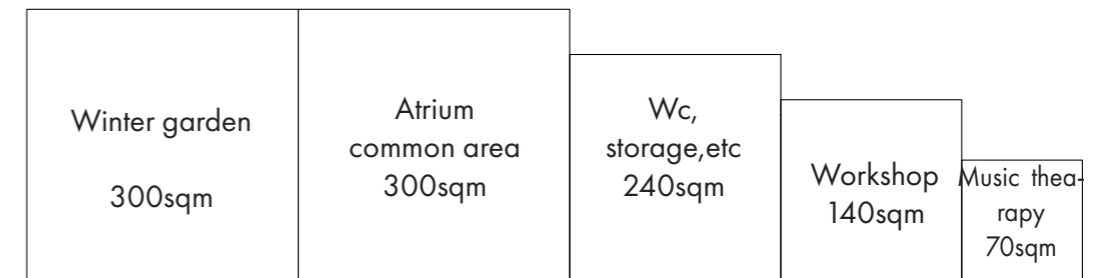
Color codes, easy flows and change of material should be used to create a dynamic inside environment that clearly shows the differences between spaces and its functions. Being able to localize is essential for feeling safe and in control when experiencing a new environment.

Allow other functions to take place

The building footprint and placement should allow space for the original plans for the square - that includes space for markets, trade, and public access to the water.

3.2
The program

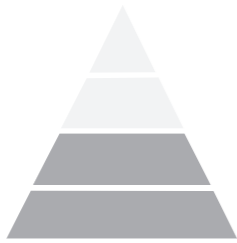


"The program contains hand pickled functions that through research has been proved to have a positive effect on people's overall wellbeing. The facility will not contain space for medical treatments, but will contain methods that for example could result in reduced pain or stress levels, lowered blood pressure or increased knowledge and social involvement"



3.3

Translating the SET theory into a combination of space, feelings and happenings

"The design of the different spaces within the previously decided program will be inspired by the SET theory and the eight characteristics from the landscape architecture - with a goal to give the visitor the ability to choose which environment and corresponding activity that matches their state of mind the best. The environments will therefore be designed with these leading environmental words in mind - with a goal to create inclusive health promotive spaces."

State of mind	Environmental elements	Space
 <p>Vonurable/ Emotional participation</p>	<p>Sheltered Silent Safe Secure Rich in spieces Facinating See but not be seen</p>	<p>The Winter garden Private rooms for conversation and thearapy.</p>
 <p>Inbetween</p>	<p>Light Common Harmony Dreamy</p>	<p>Library Waiting areas Corridors Semi public space</p>
 <p>Outgoing involmnet/ Active participation</p>	<p>A social space Open space Culture Dynamic Fashinatingg Mysterious Being seen</p>	<p>The Group lession hall The workshop The café The showroom</p>

3.4

The site

"Before choosing the site, a list of requirements was made. Three potential sites in different urban environments were found within the boundaries of Gothenburg city. All three sites checked the requirements, but the chosen one, Grönsakstorget, had the spatial room that was needed for further exploration in this project"

Highly accessible and strong connection to infrastructure

The future development of preventative care will change the patterns and amount of people requiring care in traditional hospitals. Therefore, the typology, placement and function of future care facilities needs to be demolished and strategically placed in cities with a stronger local identity, precence and connection to the community. (Arup,2017)

Close connection to complementary public functions

Real estate developers recognise that consumers who visit a medical clinic will also be shopping, eating and drinking, and seeking entertainment nearby. The next decade will see developers building upon this momentum to attract development to complement healthcare (Arup, 2017) These spaces will not only serve the medical needs of their patients but also suit the diverse needs of a multigenerational demographic, elevate the user (patient, visitor, employee) experience, drive local growth and regenerate areas (Arup, 2017).

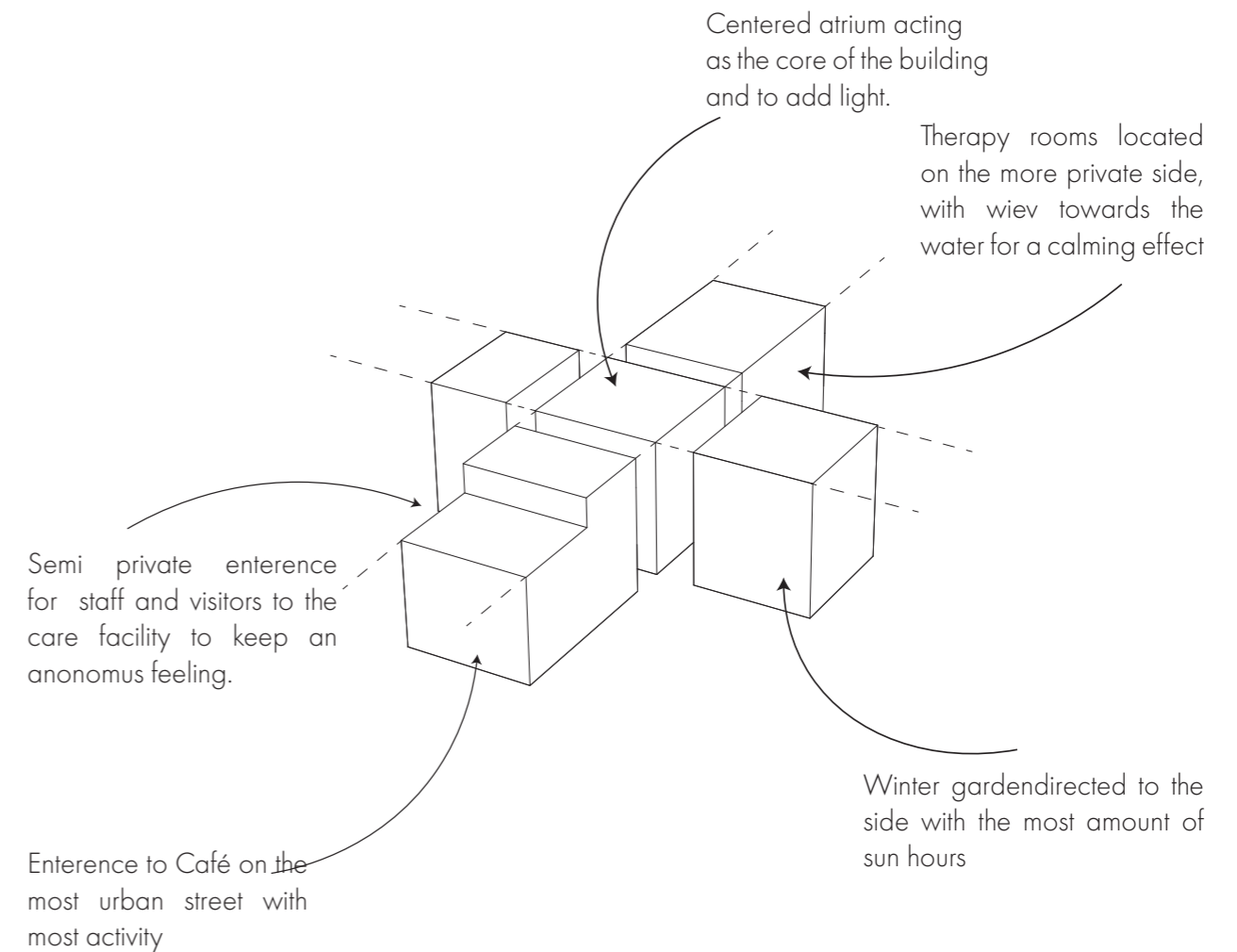
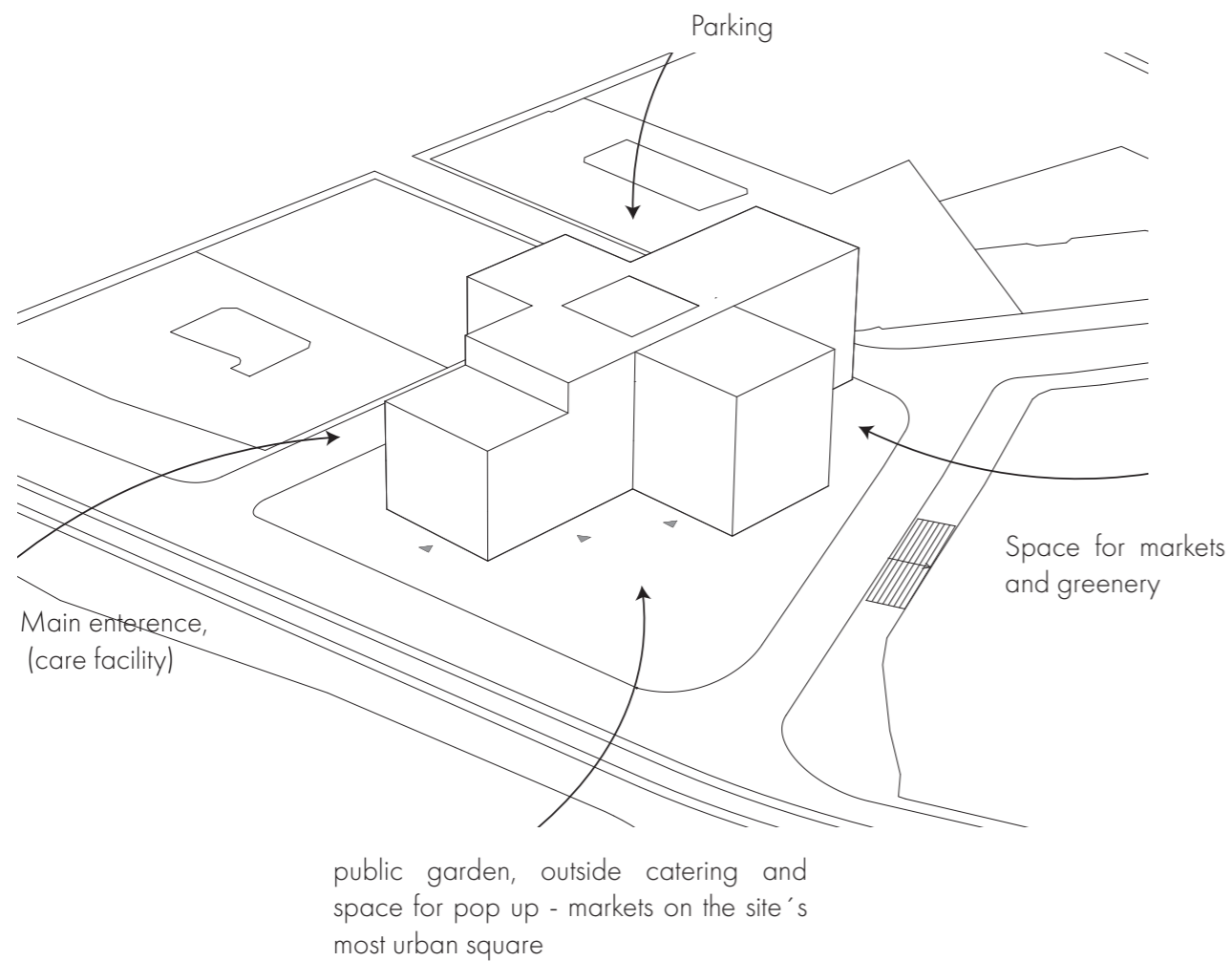
Anonymously placed in a socially and culturally neutral area.

Studies have shown that patients feel that they are treated differently, mostly negatively, when disclosing that they have or have had experiences of mental illnesses to the public. (Peterson, 2007) The public attitude towards people with mental illnesses have since history been different from people with physical disorders, and often vary between age, sex and origin. A rejection from the public could therefore lead to social isolation and discrimination towards the patient (Leff, Warner, 2006). The placement of the building should therefore be seen as a socially neutral and accepted piece on the street, used by both "sick" and "healthy" people in a non judgmental environment.

Placed in a safe and welcoming public environment.

Good care is not only about being able to get fast access to it, it's also about the level of experienced safety and happenings while being in that environment (Gold, 2012). Recent studies have concluded that the ability to have an overview over the site, close connection to public transport, surrounding lightning, and a non-messy green area close by are some key points for making people feel safe in public environments. The ability to see and be seen by other people day and night in a multi-functional area are also important factors for feeling safe from a social point of view (Göteborgs stad, 2016)

3.4 Shaping the building



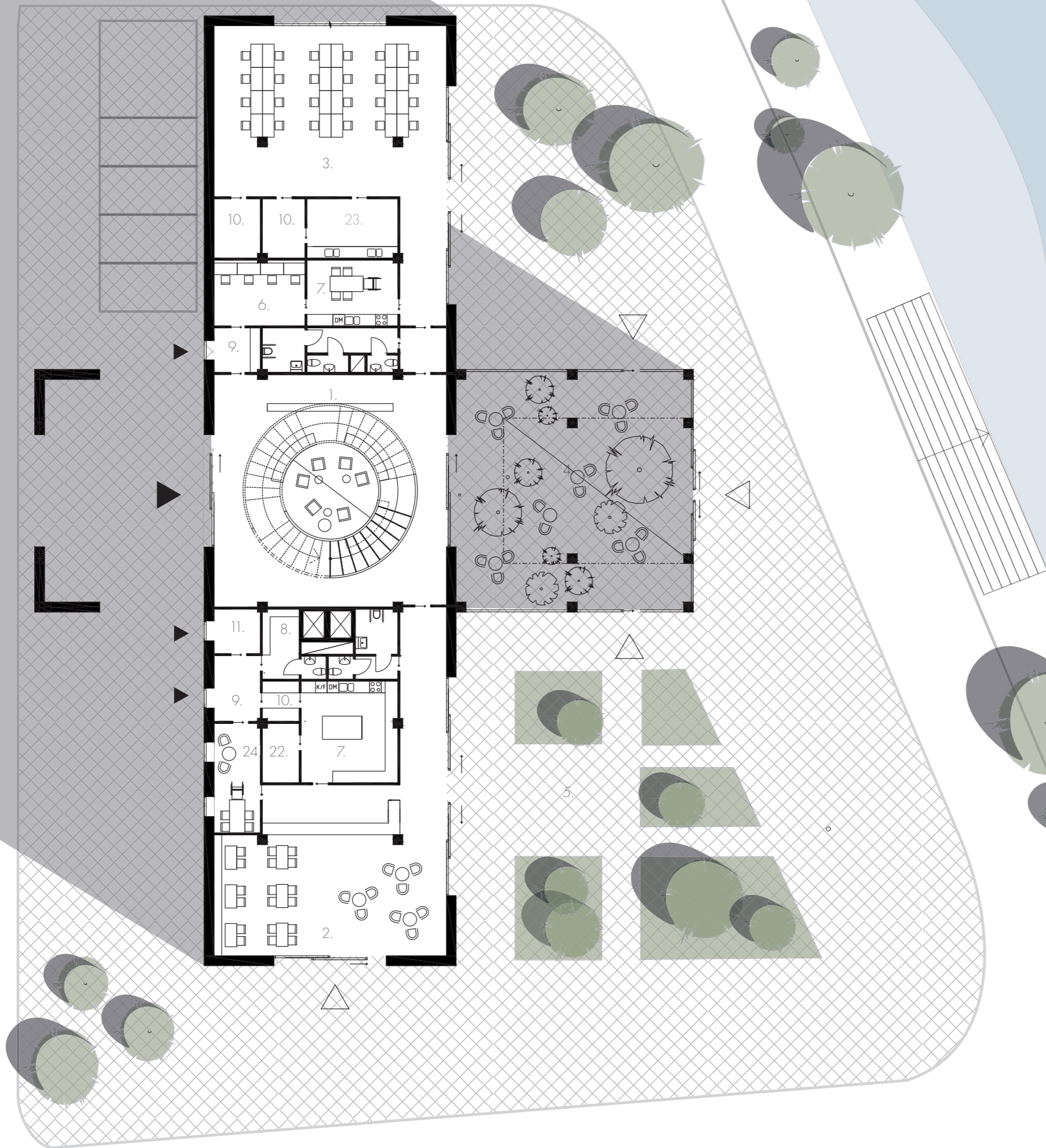
Wishes regarding the future development of Grönsakstorget from the Municipality of Gothenburg city have been announced and a public proposal by White Arkitekter has been made. The main changes in the suggestion aim to :

- Re - create space for markets and trade
- Re create points for social gathering
- Make the water accessible to the public

To not forget the original wishes for the space, this master thesis project will take these statements in consideration when developing the square for further exploration. Creating space for outdoor rooms were important to develop the final shape of the building and to make it an enjoyable and multifunctional public space for all.

The x shape of the building is creating four different rooms of different characteristics, two more private to the north with place for markets and parking, and two more public towards south - One to mark the main entrance and one that is functioning as a public garden and outside catering to the café next door. The two outer squares are tied together with the public stair that connects to the water. The sliding doors towards the workshop and café are meant to make the connection to the water and garden seamless and to invite visitors to go inside during open exhibitions or special occasions .





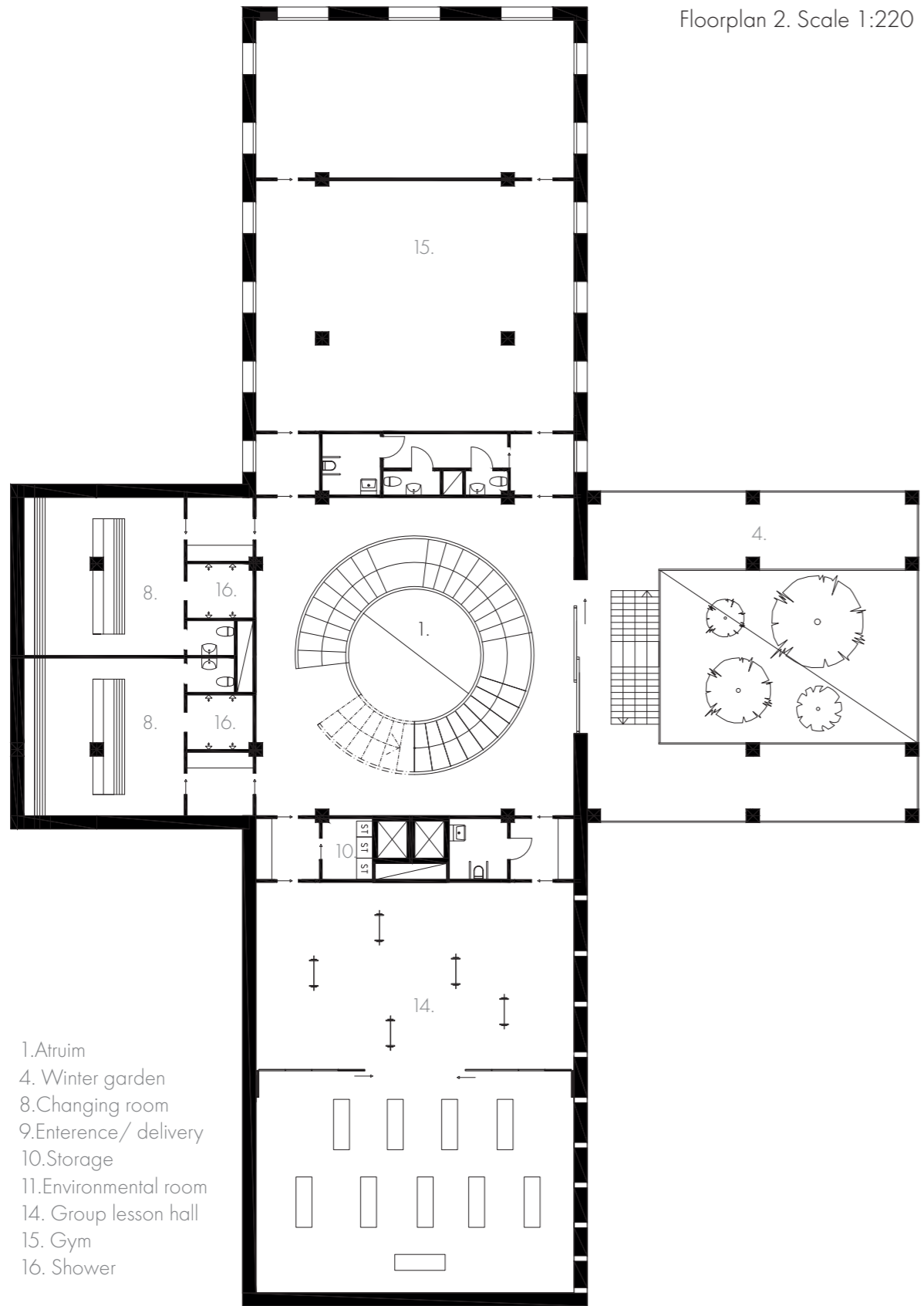
3.5 Groundfloor

The groundfloor contains the most public functions in the program - the entrance and reception for the care facility, the café and the workshop. The entrance to the care facility are located towards west - not hidden but not in the most urban part of the site to keep it's anomus feeling. the cafe are located towards the busiest street on the site and will elongate the already existing restaurant street towards south. The workshop are connected to the more private square of the site with a calmer wiew towards the water. The centered atrium are represenings the heart of the building where all horizontal flows and vertical connections are gathered. All shafts with ventilation, water, springwater and electricity are connected around the four walls of the atrium. The building's x - shape in combination with the connected shafts and centered allows the possibilities to close off or rent out parts or whole floors of the building without getting problems with privacy or lack of technical necessities.

- 1. Entrance/reception/ library
- 2. Café
- 3. Workshop
- 4. Winter garden
- 5. Outside catering/marketspace/public garden
- 6. Backoffice
- 7. Kitchen
- 8. Changing room
- 9. Entrance/ delivery
- 10. Storage
- 11. Environmental room
- 17. Entrance staff
- 22. Fridgeroom
- 23. Room for spraypaint/ cleaning brushes/ drying ceramics etc
- 24. Dining staff

- ▶ Main entrance, care facility and reception
- ◁ Main entrances facilies
- ▶ Staff entrance

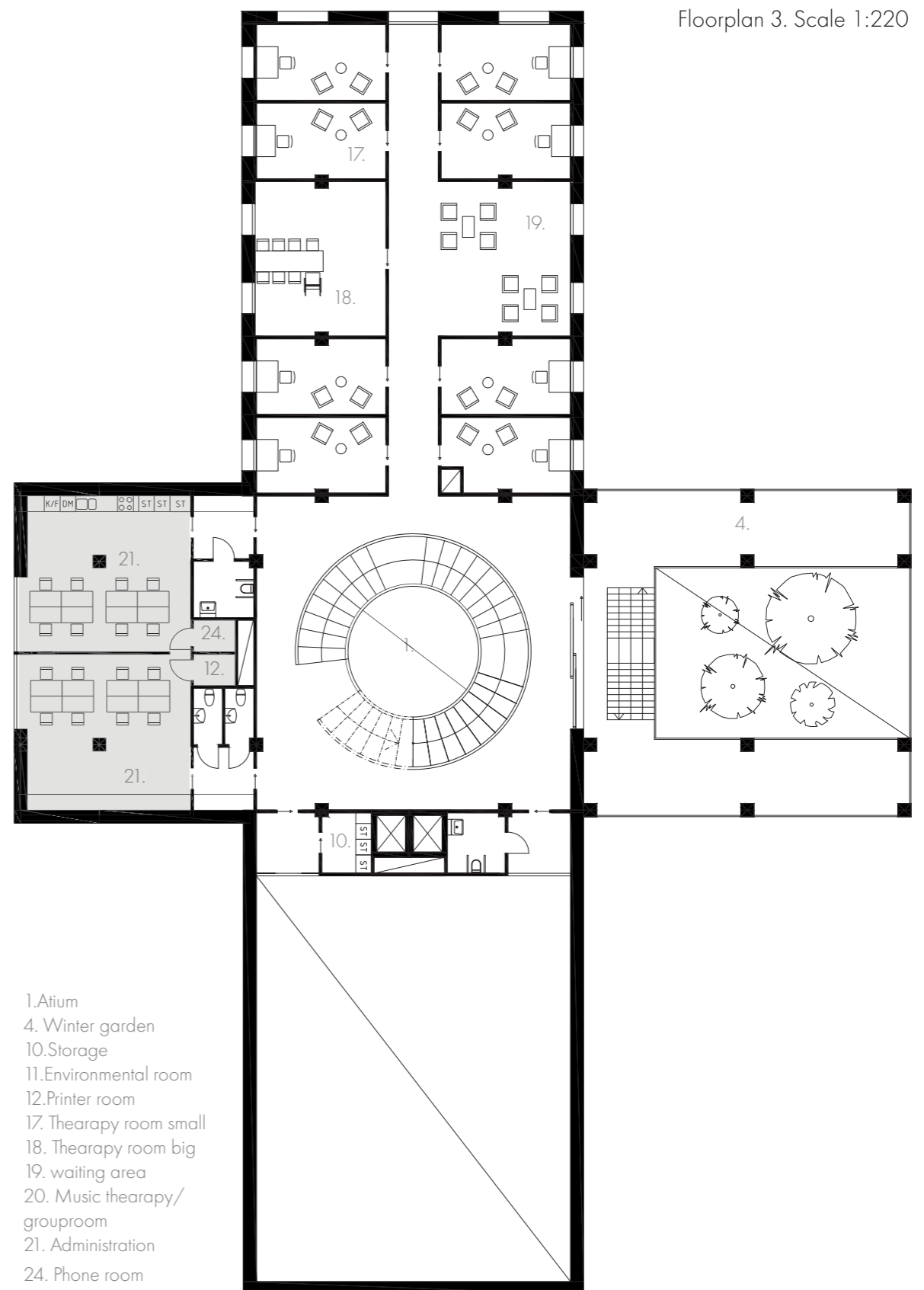
Floorplan 2. Scale 1:220



- 1. Atrium
- 4. Winter garden
- 8. Changing room
- 9. Entrance/ delivery
- 10. Storage
- 11. Environmental room
- 14. Group lesson hall
- 15. Gym
- 16. Shower

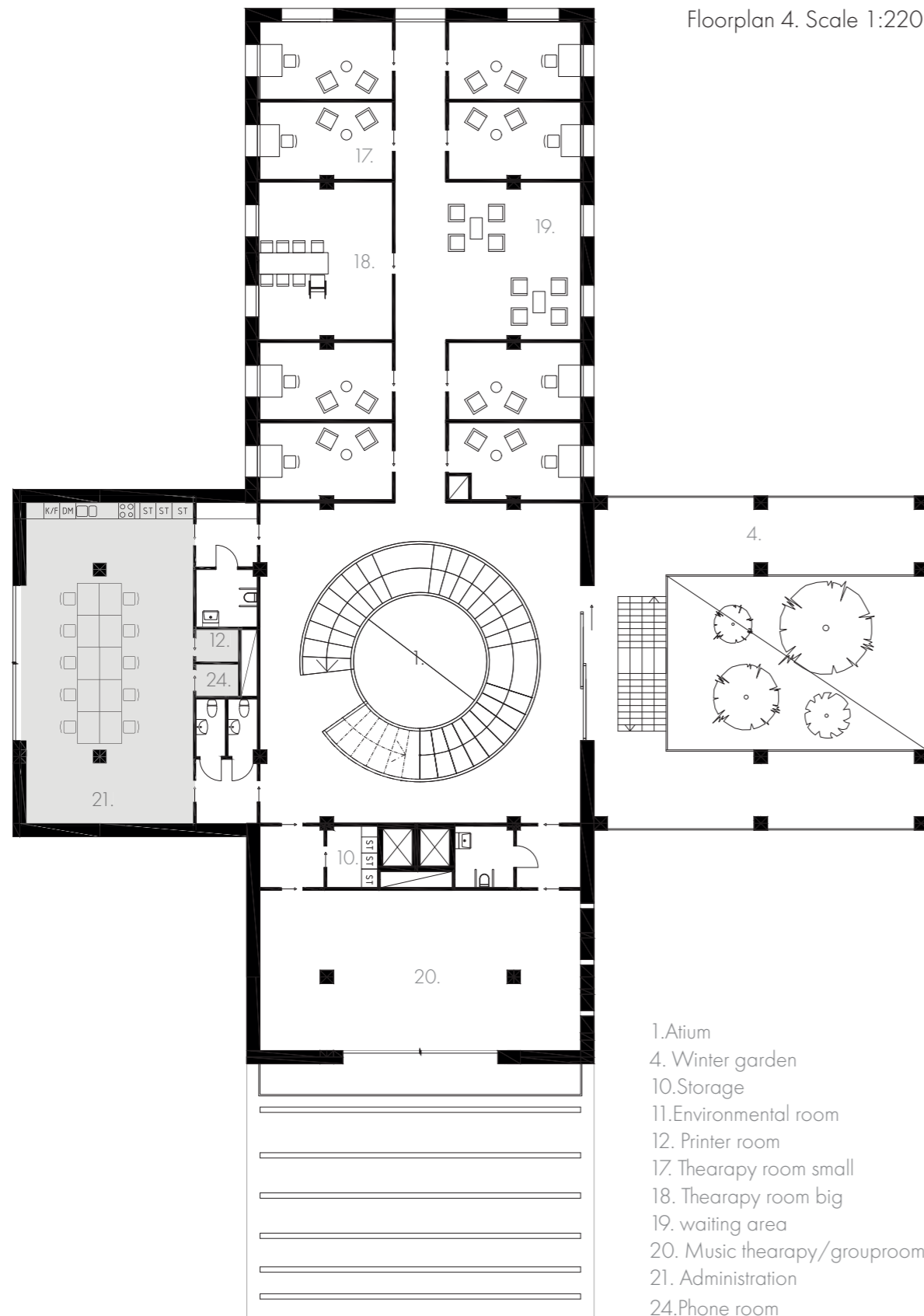


Floorplan 3. Scale 1:220



- 1. Atrium
- 4. Winter garden
- 10. Storage
- 11. Environmental room
- 12. Printer room
- 17. Therapy room small
- 18. Therapy room big
- 19. waiting area
- 20. Music therapy/ grouproom
- 21. Administration
- 24. Phone room

Floorplan 4. Scale 1:220



3.4 Fasad expression and materials

The facade materials are white plaster in combination with details in a walnut coloured wood. The plaster is meant to mimic the light expression of the surrounding buildings and the details in wood will incorporate a soft and warm touch to the building. Green roofs with climbing species will give life to the front facade through time and the winter garden will give a green contrast and shine on its own, just as it should.

Simplicity, heaviness and a sense of symmetry words that can describe the fasad. The heaviness is meant to express that this building is weather resilient and will stand here for a very long time - just as the classical buildings around it. The symmetry and simplicity feels satisfying to the human eye and can express a sense of order and comprehensibility.

“We as humans crave order to help us make sense of the world around us”



Section A-A. Scale 1:400



Section B-B. Scale 1:400



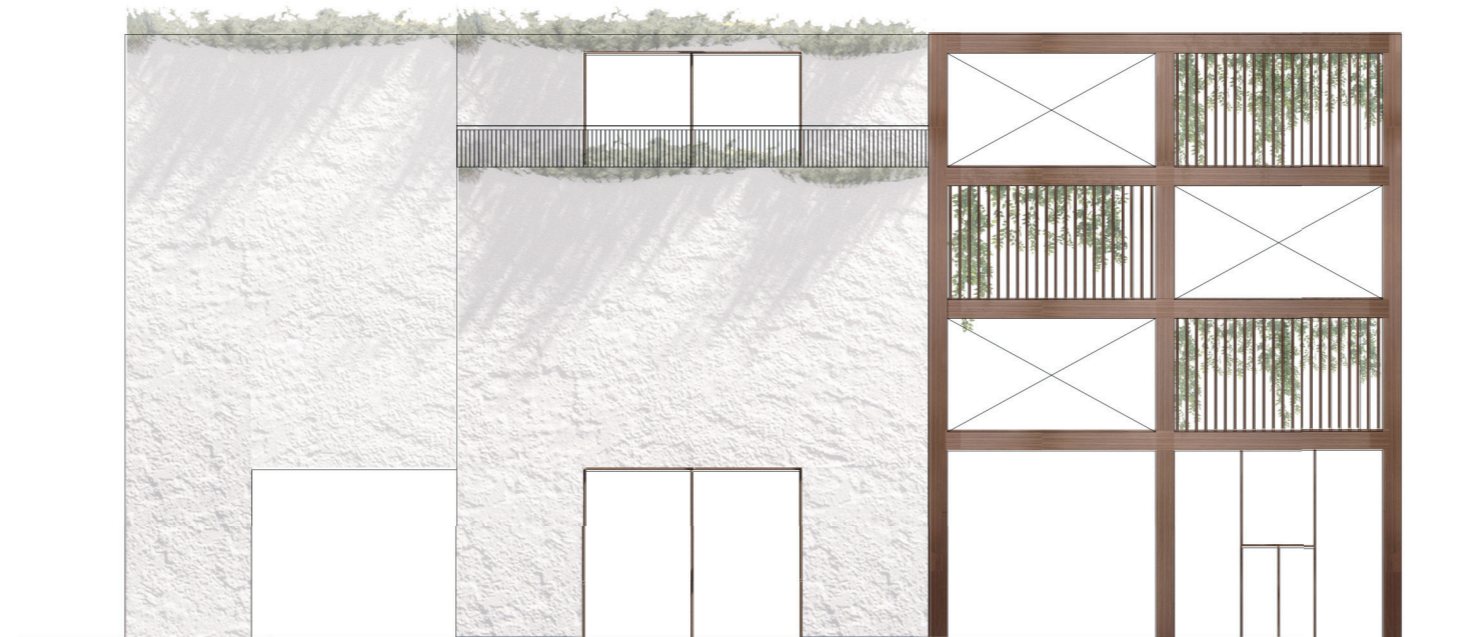
The illustration is showing the entrance to the café in the front, the entrance to the care facility to the left and urban garden to the right.



The illustration is showing the urban garden and fasad view facing south



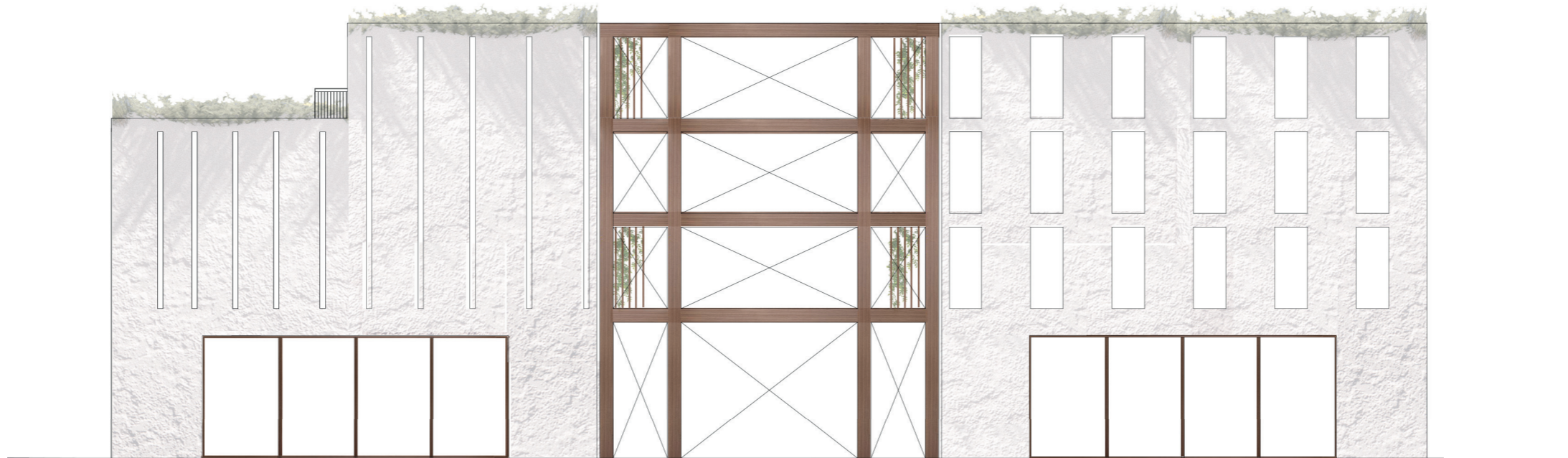
The illustration is showing the more private side of the building facing north. The outside square can be a place for pop-up markets or public exhibitions from the workshop located in the groundfloor.



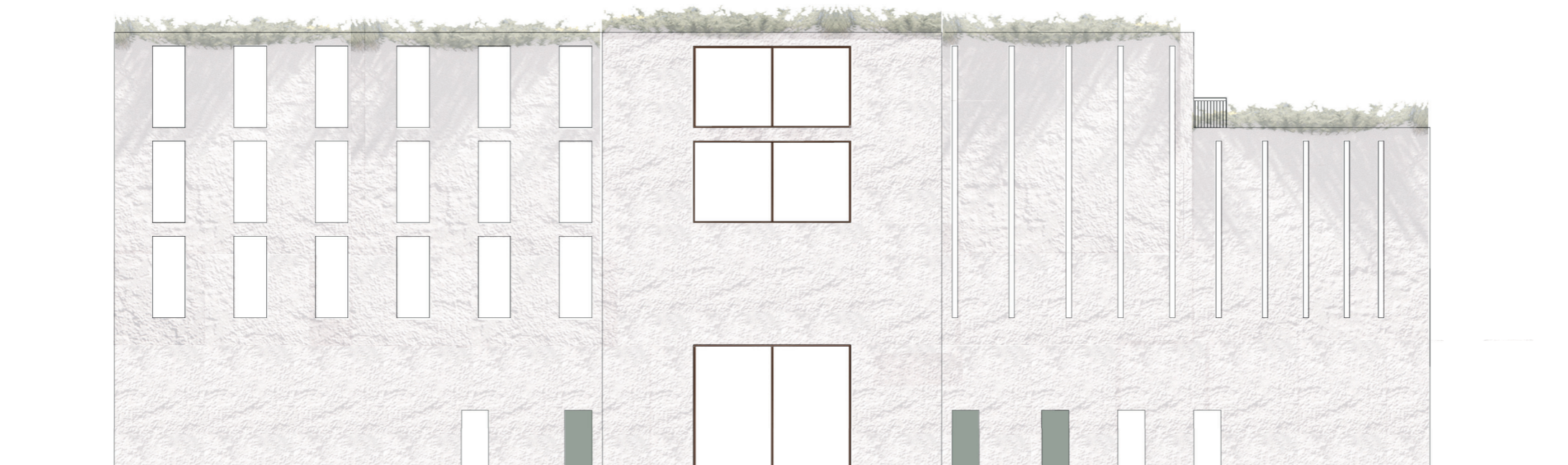
Fasad facing south. Scale 1:200



Fasad facing north. Scale 1:200



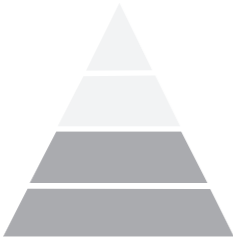
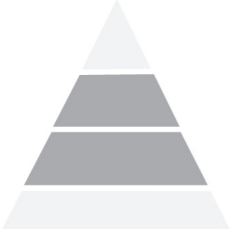
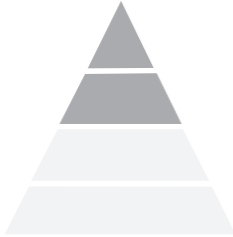
Fasad facing west. Scale 1:200



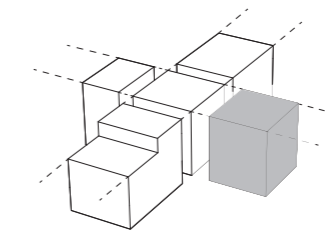
Fasad facing east. Scale 1:200

3.6 In depth environments

"By combining state of mind, environmental qualities and activity, three in depth design proposals from each category in the SET- diagram was made. These design proposals will illustrate an example of how a health promotive space could look like when designing for a specific mental state in mind. The specific qualities of the different spaces will be inspired from the eight characteristics that according to Grahn can be found in supportive environments. These qualities will be investigated and translated into indoor environments"

State of mind	Environmental elements	Space
 Vonurable/ Emotional participation	2. Nature 6. Refuge 5. Prospect	The Winter garden
 Inbetween	4. Space 5. Prospect 7. Social	The atrium.
 Outgoing involvment/ Active participation	7. Social 8. Culture 2. Nature	The Group lesson hall

3.7 The winter garden



Main concepts

" The main concepts for the winter garden is inspired from the basic needs for human survaval "

2. Nature

The ground floor will be designed in an organic and non-structural way to mimic the impression of a wild grown nature. The wintergarden should have a wide diversity in plants, a variation in height, colors and density to crete *fascination*. The impression of the room should feel like "entering another world" with elements and qualities that cannot be found in our climate zone. The chosen plants should be resilient and grown in succession - meaning that they can handle low temperatures, uncertain weather changes and floral during different seasons

6. Refuge

The space should give the option to be alone and taking shelter if needed. This will be in forms of "green boxes" and "hidden rooms" randomly placed within the area - made for reflection, thinking and to get the feeling of "being away".

5. Prospect

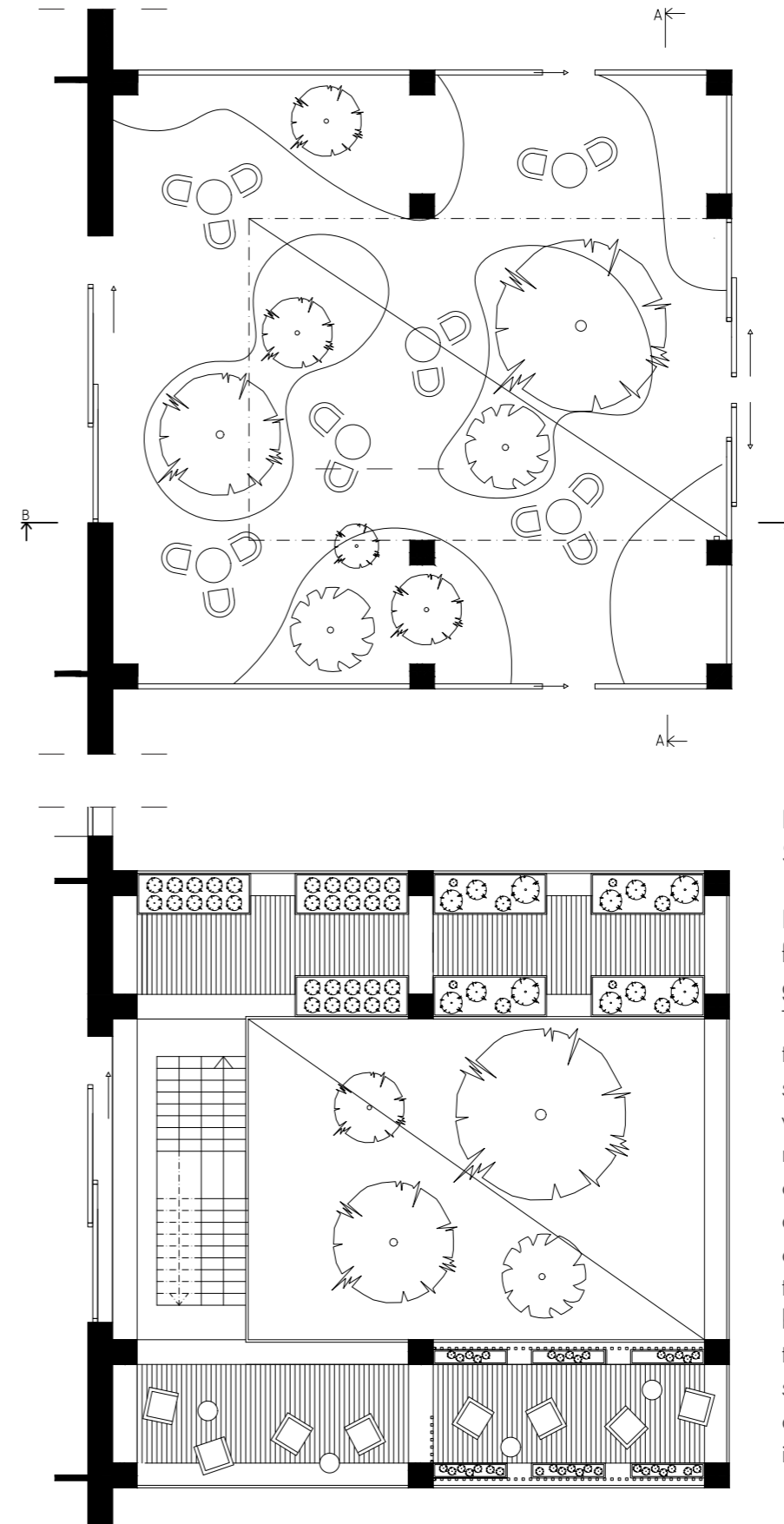
The room should be accessible from all parts of the building and should generate an overview of the surrounding. The visitor should be able to see what's going on outside of their "safe zone", be *emotionally involved* in other people's activities inside and outside of the garden and still have the choice to not be seen by others. The room should have clear sightlines towards water and nature closeby.

3.7.1

The Climate

The climate in the wintergarden is going to be a humid subtropical climate with a lowest degree at +10°C. This climate allows the greenhouse to be in use all the way from spring to autumn with selected greenery from humid forests or from semi- arid to arid areas. The species therefore require a similar temperature range, soil conditions and humidity to survive in the planned winter garden. A subtropical climate has a mid - temperature that is higher than in our tempered zone in the north but has a similar dynamic regarding the high degree shifts between day and night and throughout the seasons during the year (from 3- 18°C). This climate can be found in both humid and dry environments and the species vary therefore. Västra Götalandsregionen is defined as a humid tempered zone, therefore, the chosen environment will be humid as well.

The species will be chosen with three main criterias in mind - The first is about how well the greenery match the function of the space, the other is the how estetical pleasing they are and their effects on the experience of the room, the third is about the greenery 's own needs - how they grow , develop and resist sudden temperature changes throughout time. (Kawollek 2005)

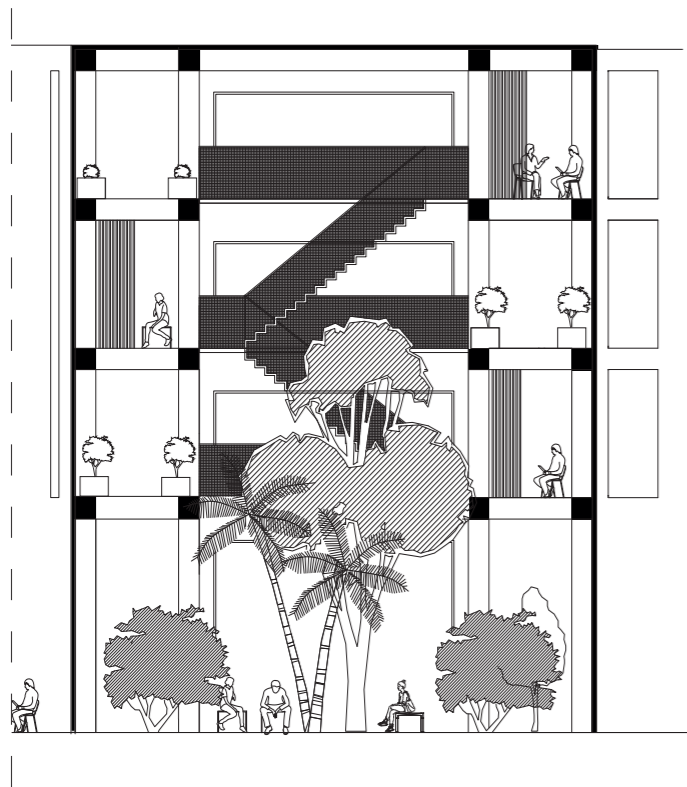


Detailed floor plan.
Scale 1:120

The ground floor represents the public floor of the winter garden, in this space, people from the outside are welcome to walk around, eat, drink coffee and enjoy nature. The levels above belong to the health facility and cannot be reached through the winter garden only to keep a sense of privacy.

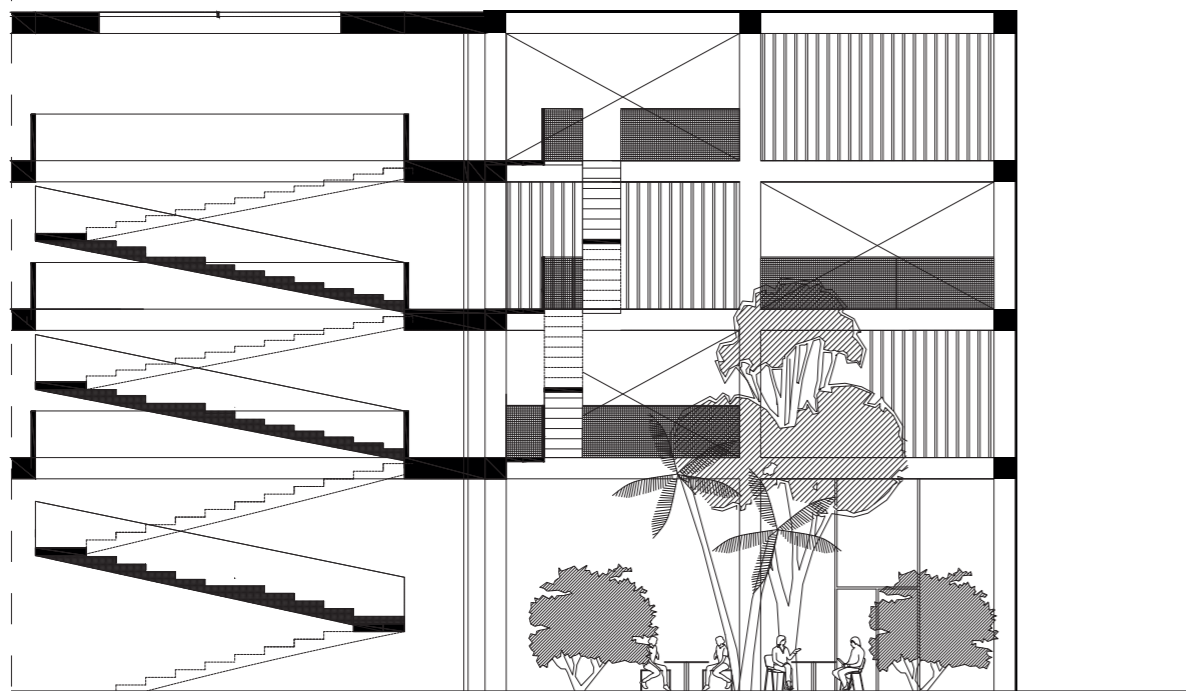
Detailed floor plan (2-4)
Scale 1:120

Floor 2-4 contains private functions with an only access going through the reception. The balconies allow visitors to relax and recharge, have space for farming fruit and vegetables and are together representing the "zen" zone of the building. The balconies and "hidden rooms" are created for the possibilities to hide from the public eye, but still having an overview of the surrounding by creating sightlines towards the water and down to the open space in the winter garden.



The garden can be reached in every level of the building from the common atrium. This allows it to be highly accessible no matter where the visitors are within the building and can work as a place to wait between therapy sessions, workout classes or to just relax and rest after difficult meetings. The placement of the garden will therefore not require an active choice for the visitor to be able to reach it, but will rather be a part of every floor of the building for always being present when needed.

Detail section B -B. Scale 1:140



Detail section A -A. Scale 1:140



The "green box" allows people to get the feeling of being away and see without being seen.



The winter garden. Groudfloor

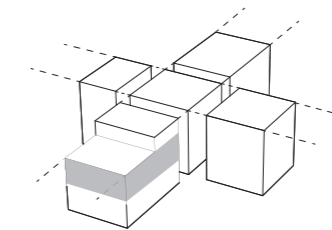


The winter garden. Seen from floorplan three

3.7 The group lesson hall

Main concepts

"The main concepts for the Dancing hall are chosen by their active characteristics"



3. Nature

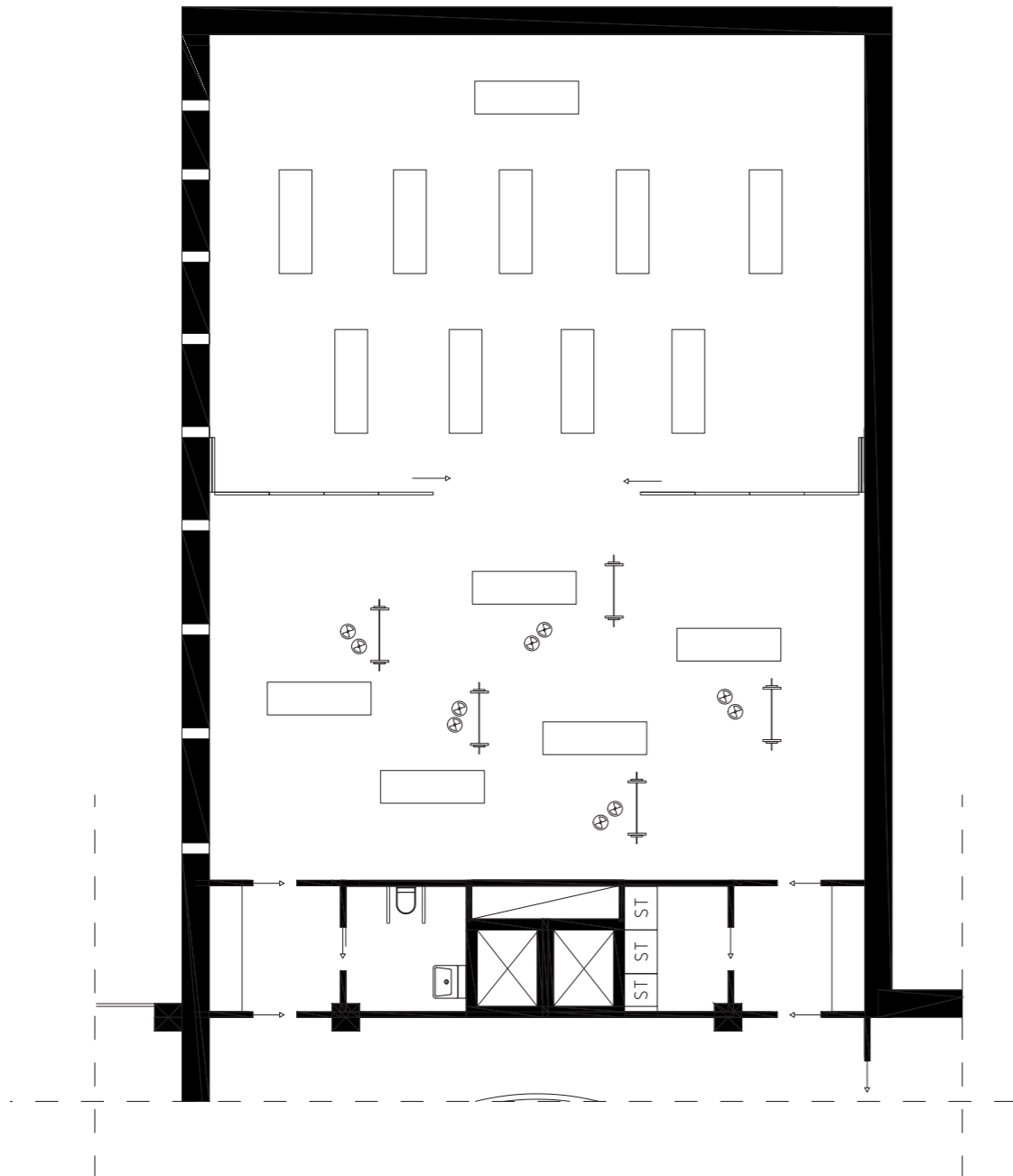
Being fascinated by wild nature are now transformed into *fascinated by light*. The cuts in the wall will create a dynamic pattern on the floor that will change throughout the day depending on the sun's position. The design of the roof is another way of creating fascination on cloudy days or in the dark winter months. The combination of wood and light will create a dynamic space and create the impression of a sky full of stars.

7. Social

The Group lesson hall should be an open space with double ceilings where people are heard and seen by others. The space should promote possibilities for *active participations* and social interactions in forms of music therapy, dance or other common classes.

8. Culture

The room should by its function be a place where people are free to express themselves. The endorphins of performing physical activity with other people will add value and happy memories to the user.



Detail floorplan. Scale 1:120

The group lesson hall are meant to have the spatial need for performing different forms of physical activity. The sliding doors will make the space more flexible when classes are meant to be more intimate or when different activities takes place at the same time. Storage for lockers , equipment, and bathrooms are located at the very beginning.



Detail section. scale 1:120

The section illustrates how the height of the ceiling enhance the spacious feeling of the room and how the sliding doors can act as a room divider. The group lesson hall are located just above the noisiest part of the bottom floor - the cafe - to not have issues with noise and other disturbances. The wooden "sticks" on the roof are connected to thinner beams that continues throughout the room .



View of the group lesson hall, seen from the entrance. The cuts in the wall are making a dynamic expression on the floors and the wall that will change through the day. The lights in the roof are meant to create the same effect but in artificial form - this to ensure that the room doesn't lose its qualities completely during cloudy days or in the darker winter months.



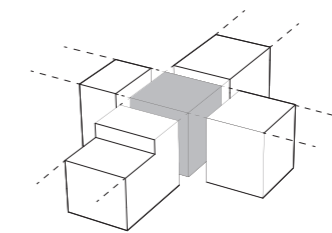
View of the group lesson hall when the sliding doors are in use. This is an example of how the room could be used when two different forms of physical activities occur at the same time. The materials in the room contain light concrete floors, light walls, semi transparent sliding doors and a walnut coloured wood to warm up the building. The overall expression should be light and airy, but with the dynamic tough from the roof and the windows.

3.7.2

The entrance and semi- common areas

Main concepts

" The main concepts for the entrance and semi common areas are to combine the characteristics that people enjoy the most"



4. Space

The common atrium is supposed to create a feeling of space and light when entering the building. The circular stair will act as a monumental piece that shows the height of the building. The wooden pattern will add warmth in the room promote the visitor to take the "slow" way through the building and activate the body.

5. Prospect

The entrance and semi-common areas represent the heart of the building, meaning that all vertical connections happen in this area. A clear core and symmetrical flows will make it easier for the visitor to find their way through the building and create the feeling of being in control even when entering unknown spaces. Sightlines towards the winter garden will give the visitor a sense of what is happening on the outside and navigate direction directly.

7. Social

The semi - common space is where everyone, regarding reason for coming to the facility, meets. This requires an environment that feels safe, light dreamy and can deliver a variation of ways to transport themselves through the building and at the same time deliver an easy access to hiding spots if needed.



View over the entrance and library area. The stair will act as a monumental piece when entering the room and invite the visitor to take the stair through the building. The organic shape are meant to have a calming and smooth expression. The height of the atrium and sightlines towards the winter garden will make the room spacious, light and calm. The centered reception will make people feel seen when entering the building and the staff can have a sense of control over the people that is walking in and out from the facility.



View over floorplan 2. This in-between room shows how the light concrete floors, white walls and warm wood and the light from above creates a feeling of harmony and lightness - even when being in the center of the building. The corners besides the stairs could be used as small gathering points after a workout or just as a meeting place. The picture illustrates a glimpse of the gym in the back and the entrance to the changing rooms to the left.



View over floorplan 4. This is the floor where the atrium stops and a glimpse of the sky will be seen. This will enhance the feeling of being in a safe and welcoming environment although being in the very core of the building.

4. Discussion

The fact that this is a project within architecture and the physical design is the most important in this master thesis, some difficulties occurred when some of the used elements were not directed to a physical space. The element "culture - signs of human labor" were especially hard to translate in a built form because of the fact that it refers to places where history have been made or where nature has been growing and used for a longer period of time. Translating this element in a better way could therefore require another site or another space than the group lesson hall in the building (for example the workshop) where signs of human labor could be physically present. In this project, the translation were rather referring to the non touchable values that could happen in the room, for example how dance and other types of movement together with other people can create a sense of culture and belonging in itself, than to an actual physical space. This mean that this element were interpreted differently than the other seven and could have been developed further if it was placed in another setting.

Regarding the decision to divide the elements into three different groups were in this project a method for being able analyse, translate and package a broad theory in to a smaller box of limitations. The physical space were in this way easier to design, more structured and have a more clear characteristic that make sense to the user. On the other hand it also led to a result that is only representing one type of environmental experience. Having a broader vision of the theory by instead combining several qualities with very different characteristics could have led to a more multifunctional room that could cover more needs than just one type of person in mind. This would probably result in a very different physical appearance than the presented result and would have been a more challenging task to accomplish, which make it a question for further exploration.

The three presented spaces have also been translated in different depths and levels. The winter garden could for example be seen as an outdoor space but with another climate. The elements are therefore not "translated" in the same degree as the other two environments, which could question the level of creativity and "translation" in that space specifically. Putting the same elements in another space in the building could therefore look completely different and would probably require more creativity when greenery in its pure form are not available.

Using theories from landscape architecture as an inspiration for designing spaces can be a playful way to come up with new design solutions or help the architect distance themselves with from personal preferences. Without these elements in mind - the spaces in this project would probably look nothing like the presented final result and more directed to personal taste and preferences. Although, this doesn't mean that the final suggestion is in any way better looking than what the result would look like without having the extra layer of theories in mind - but it is most likely an experiment that make the architect distance themselves further away from personal taste and put the user in first hand.

5. Conclusion

It's unknown if translating the SET and ART theory from outdoor to into indoor spaces can have positive effects on human wellbeing. It can however be stated that being aware of how different the environments affect people's wellbeing and what elements in our surroundings we need to make healing possible is important to being able to design spaces where the user feels safe, supported and secure. It can also be stated that the architectural expression in a space does affect the user and that landscape theories can be used as a guideline when designing places where healing should be possible. The exact benefits from that method will need further exploration and will therefore remain unknown.

Student background



Bachelor degree in Architecture 2018 - 2021
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5. List of references

ARUP (2017) *The future of healthcare ecosystems*

file:///C:/Users/46722/Downloads/Future%20of%20Healthcare%20Ecosystems%20(1).pdf

Anna María P, Ulrika K. Stigsdotter, Dennis P, Petra T, Patrik G (2018)

The qualities of natural environments that support the rehabilitation process of individuals with stress-related mental disorder in nature-based rehabilitation, (<https://www.sciencedirect.com/science/article/pii/S1618866717303552>)

Bradt J, Dileo C, Potvin N. (2013) *Music for stress and anxiety reduction in coronary heart disease patients*. *Cochrane Database Syst Rev*. 2013 Dec 28;2013(12):CD006577. doi: 10.1002/14651858.CD006577.pub3. PMID: 24374731; PMCID: PMC8454043

Dodge, Rachel & Daly, Annette & Huyton, Jan & Sanders, Lalage. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*. 2. 10.5502/ijw.v2i3.4.

Göteborgs stad, Socialresursförvaltning. (2016) Trygghet och öppenhet. Hämtad från: <http://stadsutveckling.socialhallbarhet.se/trygghet-och-oppenhet/> (2016-05-03)

Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health. *Annual review of public health*, 35, 207–228. <https://doi.org/10.1146/annurev-publhealth-032013-182443>

Herzlich, C. (1973). *Health and illness: A social psychological analysis*. (Trans. D. Graham). Academic Press.

Kaplan, R. & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge: Cambridge University Press.

Kawollek, W. (2005). *Pflanzen für den Wintergarten*. Stuttgart: Verlag Eugen Ulmer

Leff J, Warner R. (2006) *Social Inclusion of People with Mental Illness*, Cambridge University Press, ISBN 1139455397, 9781139455398

Low, M. Y., Lacson, C., Zhang, F., Kesslick, A., & Bradt, J. (2020). *Vocal Music Therapy for Chronic Pain: A Mixed Methods Feasibility Study*. *Journal of alternative and complementary medicine* (New York, N.Y.), 26(2), 113–122. <https://doi.org/10.1089/acm.2019.0249>

Myndigheten för vård och omsorgsanalys (2014) *VIP i vården? - Om utredningar i vården av personer med kronisk sjukdom (Rapport 2014:2)*
file:///C:/Users/46722/Downloads/Rapport-2014-2-VIP-i-v%C3%A5rden%20(1).pdf

Myndigheten för vård och omsorgsanalys (2017) *En primär angelägenhet. Kunskapsutvärdering för stärkt primärvård med patienten i centrum (Rapport 2017:3)*

file:///C:/Users/46722/Downloads/Rapport-2017-3-En-prim%C3%A4r-angel%C3%A4genhet.pdf

Patrik G, Ulrika K. Stigsdotter, (2010) The relation between perceived sensory dimensions of urban green space and stress restoration, *Landscape and Urban Planning*, Volume 94, Issues 3–4, 2010, Pages 264-275, ISSN 0169-2046,

Pálsdóttir, Anna-María & Stigsdotter, Ulrika & Persson, Dennis & Thorpert, Petra & Grahn, Patrik. (2017). The qualities of natural environments that support the rehabilitation process of individuals with stress-related mental disorder in nature-based rehabilitation. *Urban Forestry & Urban Greening*. 29. 10.1016/j.ufug.2017.11.016.

Peterson, Deborah & Russell, Lynne & Sheehan, Nancy & Surgenor, Gael. (2007). Experiences of mental health discrimination in New Zealand. *Health & social care in the community*. 15. 18-25. 10.1111/j.1365-2524.2006.00657.x. https://www.researchgate.net/publication/6588058_Experiences_of_mental_health_discrimination_in_New_Zealand

Stoltz, Jonathan & Grahn. (2021). *Perceived Sensory Dimensions: An Evidence-based Approach to Greenspace Aesthetics*. *Urban Forestry & Urban Greening*. 59. 126989. 10.1016/j.ufug.2021.126989.

Theresa Van Lith, Margot J. Schofield & Patricia Fenner (2013) Identifying the evidence-base for art-based practices and their potential benefit for mental health recovery: A critical review, *Disability and Rehabilitation*, 35:16, 1309-1323, DOI: 10.3109/09638288.2012.732188

Twardzicki, M. (2008) Challenging stigma around mental illness and promoting social inclusion using the performing arts. <https://journals.sagepub.com/doi/pdf/10.1177/1466424007087804>

Uggla, Lena (2019) *Music Therapy – an Intervention Effecting Quality of Life and Health in Children going through Hematopoietic Stem Cell Transplantation*. https://openarchive.ki.se/xmlui/bitstream/handle/10616/46679/Thesis_Lena_Uggla.pdf?sequence=3&isAllowed=y

World health organisation. (2023) Hämtad från: <https://www.who.int/data/gho/data/major-themes/health-and-well-being>

Figures

Figure 1:

Pálsdóttir, A., Persson, D., Persson, B., & Grahn, P. (2014). The Journey of Recovery and Empowerment Embraced by Nature – Clients' Perspectives on Nature-Based Rehabilitation in Relation to the Role of the Natural Environment. *International Journal of Environmental Research and Public Health*, 11(7), 7094–7115. <https://doi.org/10.3390/ijerph110707094>