

# LEVELS

- PSYCHIATRIC ECO-HOSPITAL IN VÄSTERVIK





# INTRODUCTION

## A new psychiatric hospital in Västervik

Västervik is a city on the Swedish east coast and the seat of Västervik municipality, with about 36 000 inhabitants. The municipality is a part of Kalmar County where it constitutes the second largest urban area after Kalmar.

Since 2012, the County of Kalmar has been working on a renewal for the psychiatric healthcare in the region. The work has been ongoing in Oskarshamn, Kalmar and Västervik where needs, analysis and program actions for a cohesive specialist psychiatry has been conducted in all locations. The goal is to offer care environments that can provide conditions for conducting a modern, patient-focused psychiatric care.

The county's specialist psychiatric activities include both outpatient and full-day care and is divided into three overall departments, General Psychiatry, Child & Youth-Psychiatry and Forensic Psychiatry.

The goal for the new psychiatry in Västervik is to geographically gather and coordinate Child & Youth as well as Forensic Psychiatry for the whole county while the General Psychiatry will have a catchment-area consisting of the municipalities of Västervik, Vimmerby & Hulthsfred.



CONNECTING ALVIKEN AND THE EXISTING HOSPITAL AREA IN VÄSTERVIK

## Proposed program

- Adult Psychiatric Outpatient Department
- Child (BUP) and Adolescent Psychiatric Care (ABC)
- Emergency Department
- Two Inpatient Wards
- Two Forensic Wards
- Administrative Court
- Shared Facilities

## Choosing of site

For the project, two options were given in choosing location for the hospital. The first option was to use the officially proposed placement at the existing hospital site while the other was a to explore a nearby farmland close to nature and the lake Kvännaren.

Building the new psychiatric hospital at the existing hospital area means a short distance to the somatic healthcare, which is seen as a strong argument for choosing this site. On the other hand, the hospital area has some troubling challenges when it comes to density. As the train rail, buildings and the cemetery are surrounding the existing site no expansions on a horizontal level are possible, meaning that development will have to happen vertically. This will result in a shortage of green spaces and challenges with

providing daylight, two qualities being pointed out as particularly important in the treatment of psychiatric diseases. At the same time the new vertical scale will have no connection with the surrounding buildings, opposing the small town-charm that characterizes Västervik. Choosing Alvikén as the location for the new psychiatry can instead bring the important qualities of closeness to nature, daylight and a human scale. At the same time, these qualities can be future-proofed as the built structure will have the possibility to expand and still keep those important values.

For shortening the distance between Alvikén and the somatic healthcare, a new bus-connection with small electric buses could go between the locations transporting patients and staff.



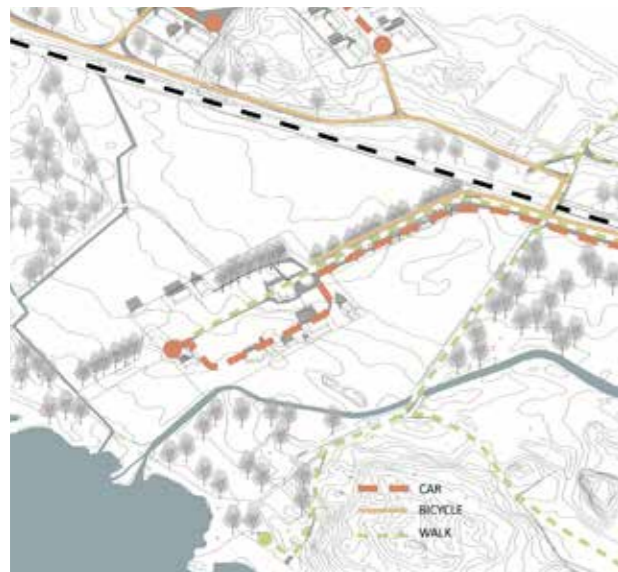
# SITE ANALYSIS & VISION



EXISTING ENVIRONMENT



FUNCTIONS



ROADS



GREEN STRUCTURE



HEIGHT DIFFERENCES



VITALITY ANALYSIS



SURROUNDED BY FORESTS



CLOSE CONNECTION TO LAKE



LOW SCALE BUILDINGS



CROPLAND



SURROUNDED BY FORESTS

IMPORTANT QUALITIES FROM THE SITE

## Vision

With a growing insight about the influence of architectural design in psychiatric healthcare, the hospital is providing spaces where patients are allowed to heal in a healthy, peaceful, safe and humanistic environment.

In the meeting with the psychiatric healthcare patients feel they're being seen, welcomed and can meet the staff on an equal level.

The patients are given control over their healing-process and have access to meaningful activities.

The design is supporting the wide variety in patients different needs, depending on condition and stages of the healing process.

The hospital connects to the context of the site and what makes it special. An atmosphere is created that feels less institutional.

The hospital is sustainable on all levels but also resilient to withstand changes over time, both organisational, from a changing climate or other influencing factors.

Good connections with the city and existing hospital are being provided and plan for further possible development is taken account.

The hospital is an attractive and safe workplace, where staff can meet and exchange knowledge and experiences between different departments.



# CONCEPT & STRATEGIES

## LEVELS

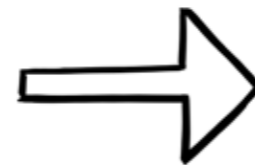
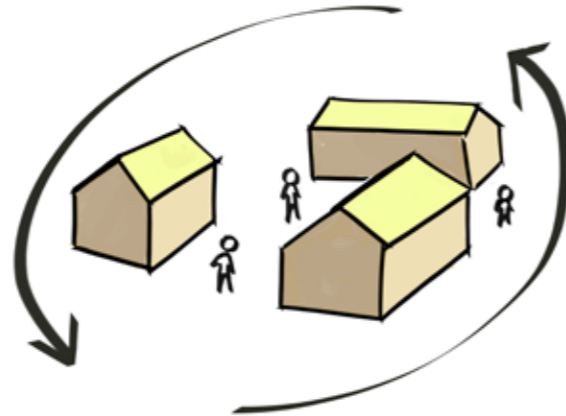
In the psychiatric healthcare there's a wide range of different needs and behaviors as there is a great variation in different conditions. The needs for the patient are also changing during the healing-process in where the patient takes step by step in getting better. The concept of Levels takes hold of this process, where the architecture is supporting the patients healing process in providing a variety of spaces.



- Access to a diversity of spaces, both in- & outside
- Levels of transparency
- Levels between in- & outside
- Levels of openness
- Ward units in different sizes
- Alternative pathways
- Different levels of stimulation
- Spaces for different levels of social interaction

## ECOVILLAGE

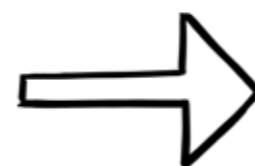
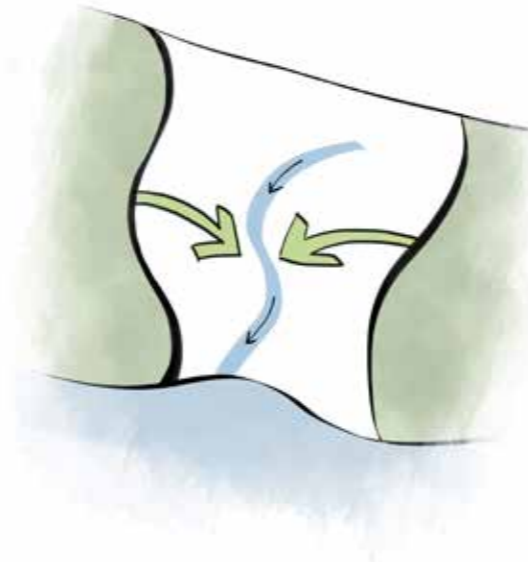
The concept of looking at the hospital as an Ecovillage derives from the goals relating to the agricultural context, creating an atmosphere that is non-institutional and a hospital that is sustainable in all possible ways.



- Sustainable and self sufficient systems
- Building typologies related to agricultural buildings to create a sense of familiarity and a small scale community atmosphere
- Village-feeling with separated buildings & entrances
- Greenhouse and cropland providing groceries for hospital food and café. Patients take part as a therapeutic and meaningful activity.
- A dog daycare-center where staff can leave their dogs are allowing patients to connect with animals
- Healthy, natural & local materials

## BLUE AND GREEN CONNECTIONS

Making the surrounding nature accessible for the patients and staff is an obvious possibility when placing the new psychiatric hospital in Alviken. At the same time a strategy for a more humanistic environment is to break down the scale of the hospital. Two outdoor connections are therefore dividing the hospital in smaller parts, creating attractive outdoor spaces and connections to nature.



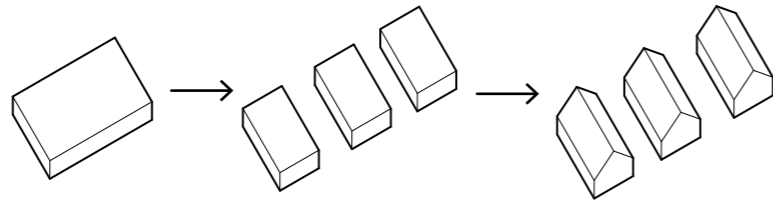
- Blue & green "paths" are making outdoor spaces easy accessible
- All inpatient rooms have a direct view to nature
- Easy access to outside greenery through low scale buildings
- Weather protected spaces
- Inside greenery
- Framed views to nature
- Meditative use of water
- Restored natural landscape



# MASSING CONCEPT

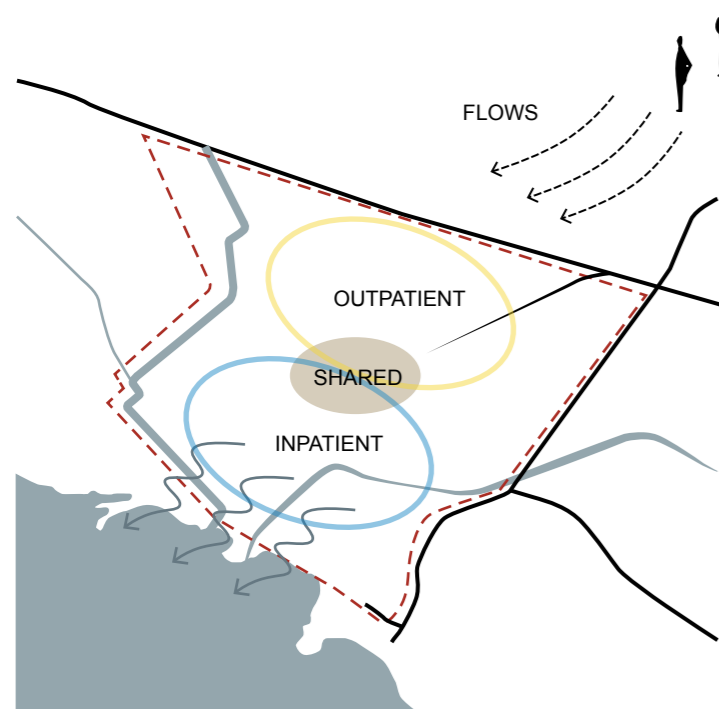
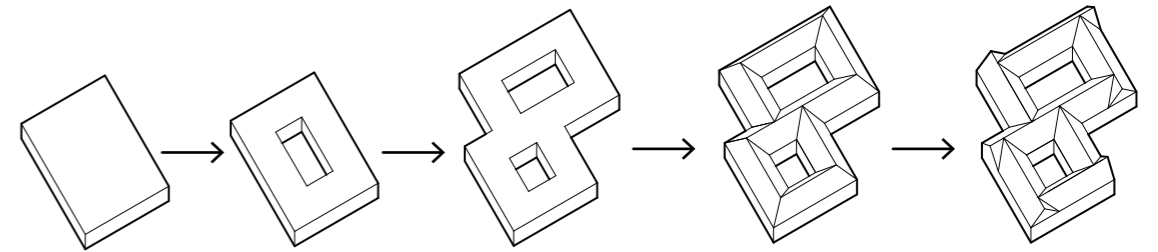
## Typology of Shared Facilities

1. Block is broken down to a human scale
2. Sloped roof gives a village feeling



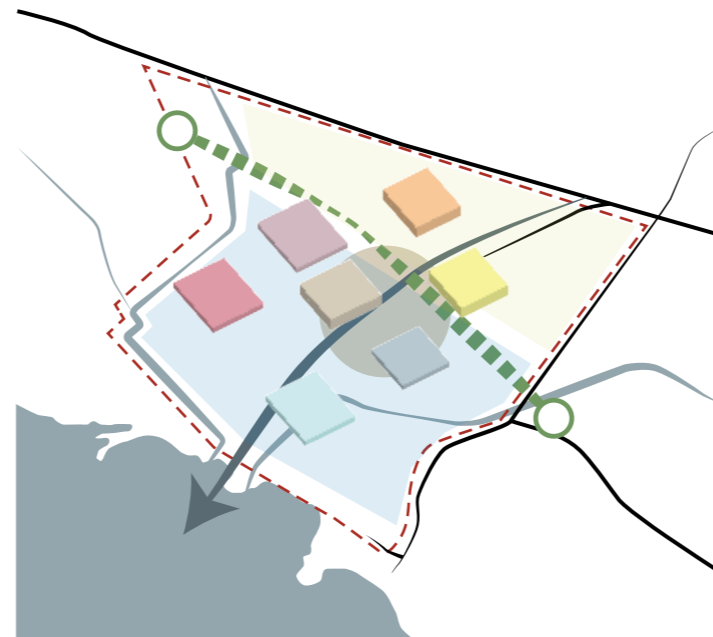
## Typology of patient wards

1. Private yards
2. Departments are broken down to smaller units
3. Sloped roof gives a village feeling
4. Gables are emphasizing entrances and public or active spaces.



### 1: Correspond to the site

Outpatient wards are located at northeast facing the city and the main connections. Inpatient wards are facing the lake to give them a more peaceful environment.



### 2: Blue & Green

The facility is divided by a blue and a green connection to make nature more accessible. To make patients easily get close to the nature, inpatient wards have one floor. The shared facilities and outpatients wards have two levels.



### 3: Considering nature. Organizing the yards

The inpatient wards are organized so that all inpatient rooms have a direct view to nature. The inpatient wards and shared facilities shape courtyards that gives inpatients access to outdoor spaces of different sizes.



### 4: Adjusting angles

The buildings are organized in two angles to adjust to existing trees and creeks at the site. The buildings are also organized to create a visible entrance square.



### 5: Connect the buildings

To shape the different yards and make the communication easier, the buildings are all connected with indoor communication paths.



### 6: Final massing design

The massing is adjusted functionally and to create a variety in the outdoor spaces.

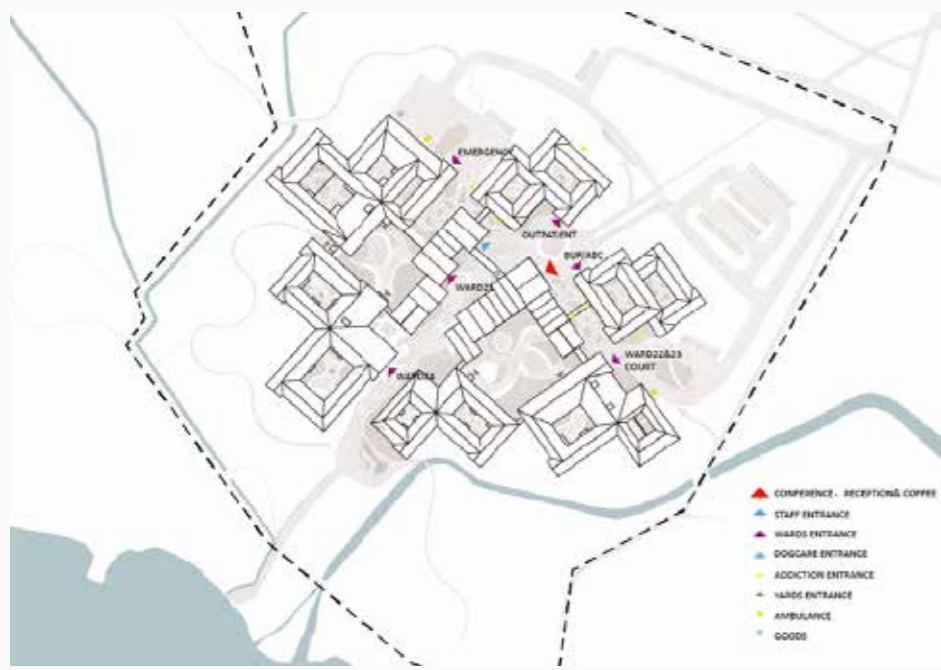




*A blue connection is connecting the main entrance area with the lake. Ponds for cleaning greywater and open stormwater management is creating an interesting and calming atmosphere along the path. Down at the lake health promoting activities such as kayak and fishing are arranged for the patients.*



### ENTRANCES



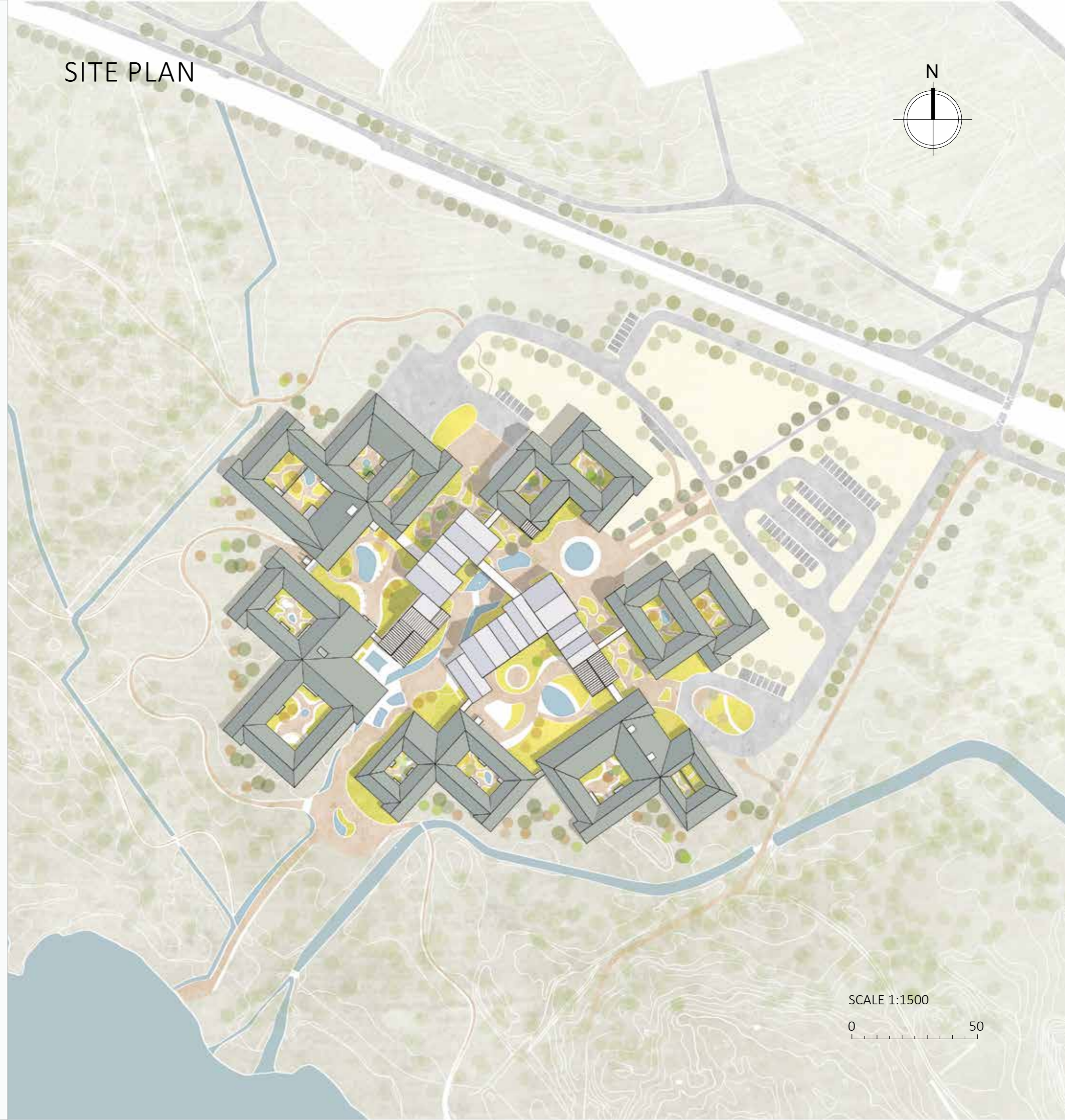
### VEHICLE FLOWS



### CONNECTIONS



## SITE PLAN



SCALE 1:1500

0 50



# FUNCTION & FLOWS

GROSS AREA (BTA)  
 PLAN 1: ca 14500 m<sup>2</sup>  
 PLAN 2: ca 3570 m<sup>2</sup>  
 TOTAL: ca 18000 m<sup>2</sup>  
 (excluding basement level)

## Entrances

In order to keep a calm and human scale, all departments have their own entrance. Clearly visible from the entrance of the site is however a main information center, where visitors can find guidance or have a snack at the café.




## Neutral corridors

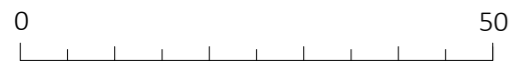
The inpatients and the forensic patients each have access to a common courtyard. Neutral corridors are surrounding the yards and link the departments together. From the neutral corridors patients can access common facilities, and in the case for the inpatient wards, a path to the forest.

## Emergency & custody

Patients transported by ambulance are taken to the ambulance hall next to the emergency department. From the waiting area in the emergency visitors have a good view towards a calming yard.

Patients placed in custody have a separated entrance connected to the forensic department. There they have access to a courtyard and can access the court without being seen by other patients.

-  SECURITY SLUCES
-  INPATIENT MOVEMENT OUTSIDE OF DEPARTMENTS
-  FORENSIC PATIENTS MOVEMENT OUTSIDE OF DEPARTMENTS



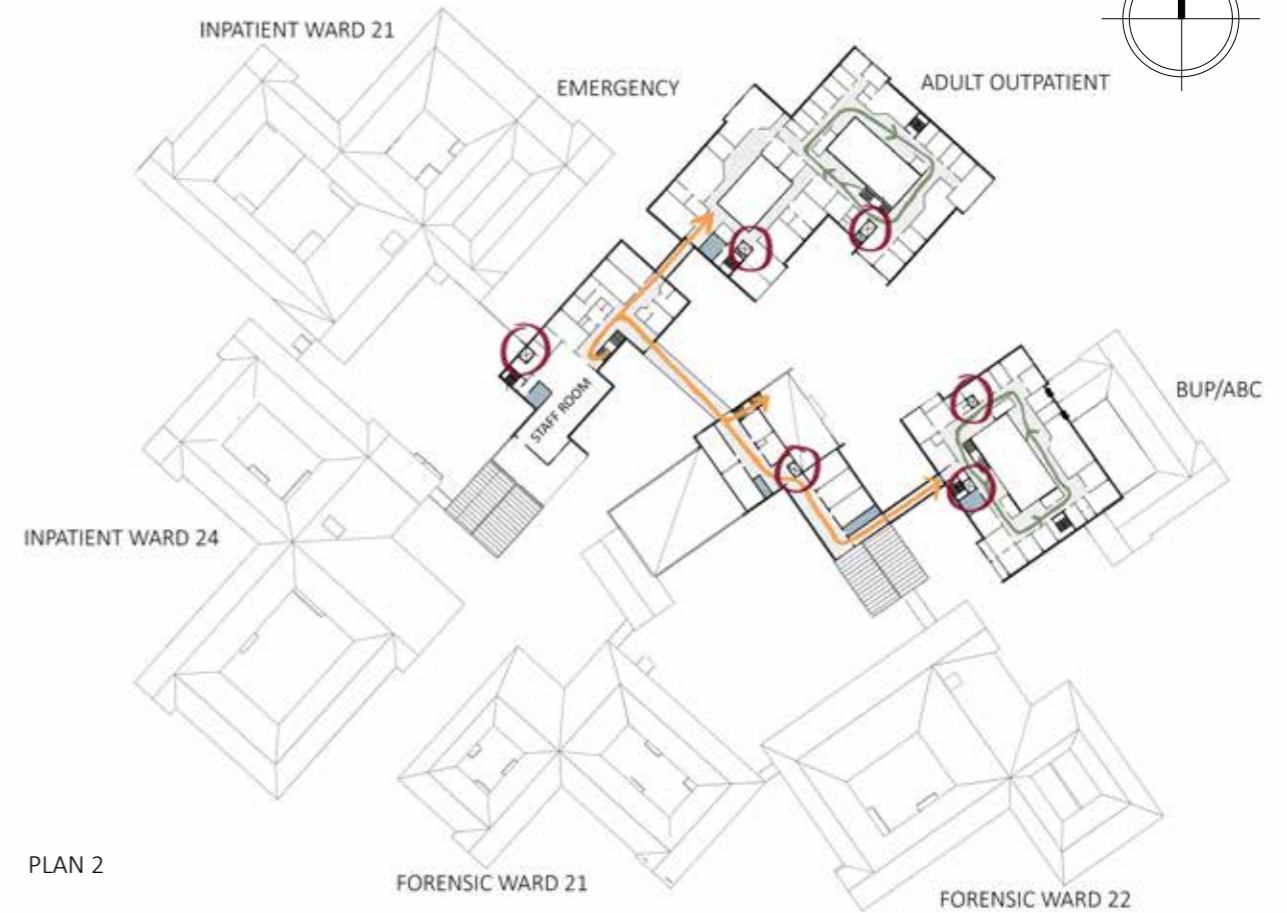
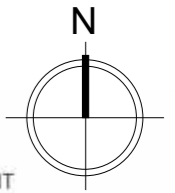
SCALE 1:800



FUNCTIONS AND FLOWS, PLAN 1



# FLOWS



## Staff

From the blue path the staff can access the common changing rooms centrally located in the facility. A light stair is leading up the the staffroom connected to a terrace facing south. From the staff room the staff can then reach the different departments. Sharing staff room and other funtions such as gym and bathhouse supports knowledge sharing and a community feeling among the staff.

## Goods

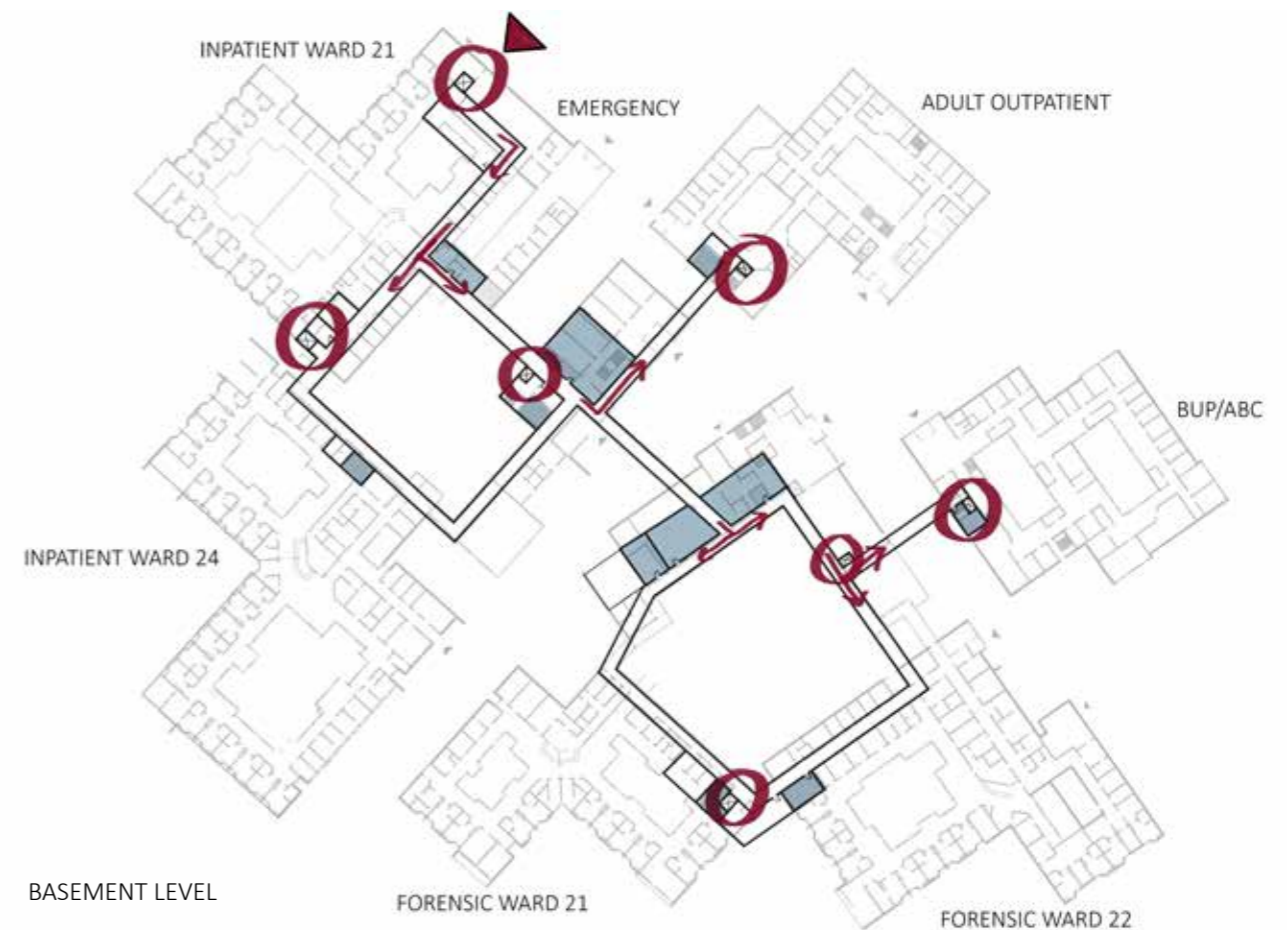
The basement level is primarily used for technical spaces and transporting goods trough the hospital. From there a number of elevators can supply goods to the different departments.

## Safe circulation

All patient spaces are organized around courtyards with cirkulation possibilities. This gives the patient a possibility to choose alternative pathways and a feeling of not being cornered.

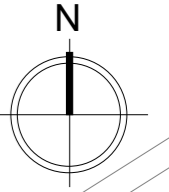
- STAFF FLOWS
- OUTPATIENT MOVEMENT
- VISITOR MOVEMENT
- ELEVATORS AND GOODS FLOW
- TECH SPACES
- COMMUNICATION SPACES

SCALE 1:1500





# PLAN 1



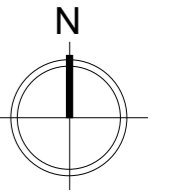
- INPATIENT ROOMS
- PATIENT SPACES
- VISITOR SPACES
- CARE SPACES
- ADM, CONFERENCE
- SUPPORT FUNCTIONS
- TECH






0 50  
SCALE 1:600





# PLAN 2



-  PATIENT SPACES
-  CARE SPACES
-  ADM, CONFERENCE
-  SUPPORT FUNCTIONS
-  TECH

0 50  
SCALE 1:600





# SECTIONS

## Examples of in- & outside relations

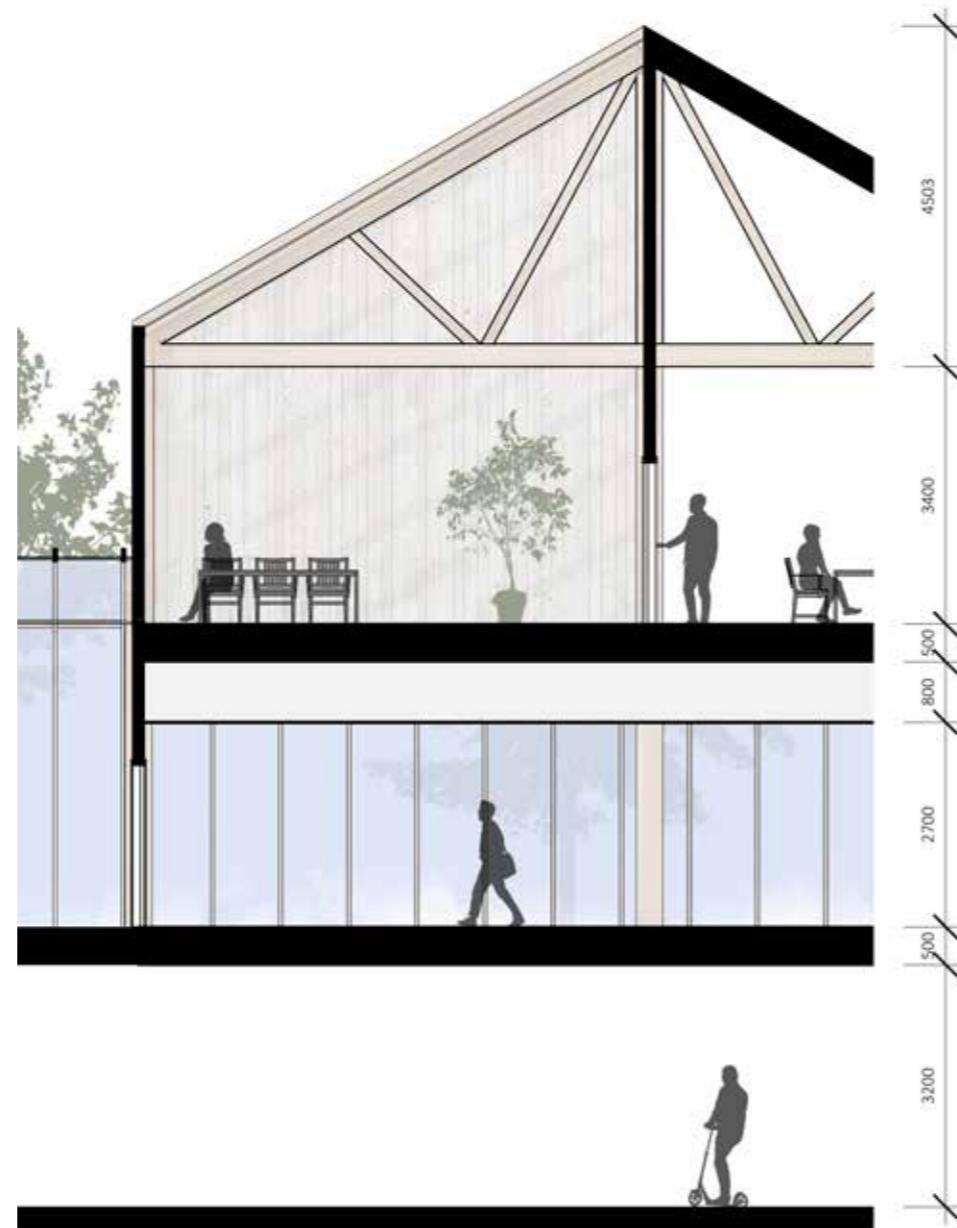
1. A sheltered terrace connected to the dining area is giving the patient access to outdoor space also in bad weather.
2. The staff area is connected to a generous outside terrace, shadowed by a pergola.
3. The corridors and waiting areas in the outpatient wards are organized around yards, providing rich light and views to greenery.



① INPATIENT, 1:100



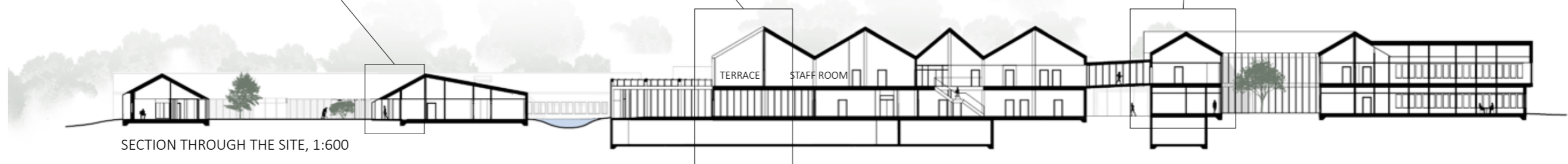
SCALE 1:100



② SHARED FACILITIES, 1:100



③ OUTPATIENT, 1:100



SCALE 1:600



# FACADES

## Ecovillage atmosphere

As Småland is Sweden's foremost forest-region wood is chosen both as a construction and cladding material, as it's also has the quality of being renewable and healthy. Inspired by barn typologies the wooden facades brings a pleasant ecovillage-atmosphere to the hospital area.

## Wayfinding & variation

Along the blue path, three slightly different facade-characters relates to different functions for easier wayfinding as well as they bring variation to the outdoor spaces.



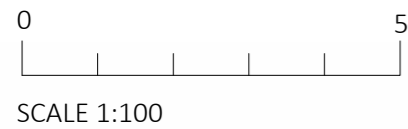
INPATIENT



SHARED FACILITIES



OUTPATIENT



ELEVATION THROUGH THE BLUE PATH





# ACTIVITIES

## Healing activities

As an important part of the healing process and health promotion, the patients have access to a number of activities.

All of the patients have the opportunity to access a greenhouse, where fruits and vegetables are growing all year around. Inside the greenhouses you also find reading spaces and a smaller library. The patients also have access to a gym, shared by the staff.

In the courtyards, on walks or in activity rooms dog therapy is being offered. A dog care center reached from the blue path takes care of dogs that staff can leave there in the morning.

The forensic patients also have access to a bathhouse shared by the staff.

The green and blue path is connecting to paths in the surrounding nature. In the southeastern part running and walking activities are arranged for the patients.

Following the blue path down to the lake, also kayak and fishing-activities are being arranged as part of therapy.



MUSIC



READING



GARDENING



OUTDOOR SPORTS



GYMMING



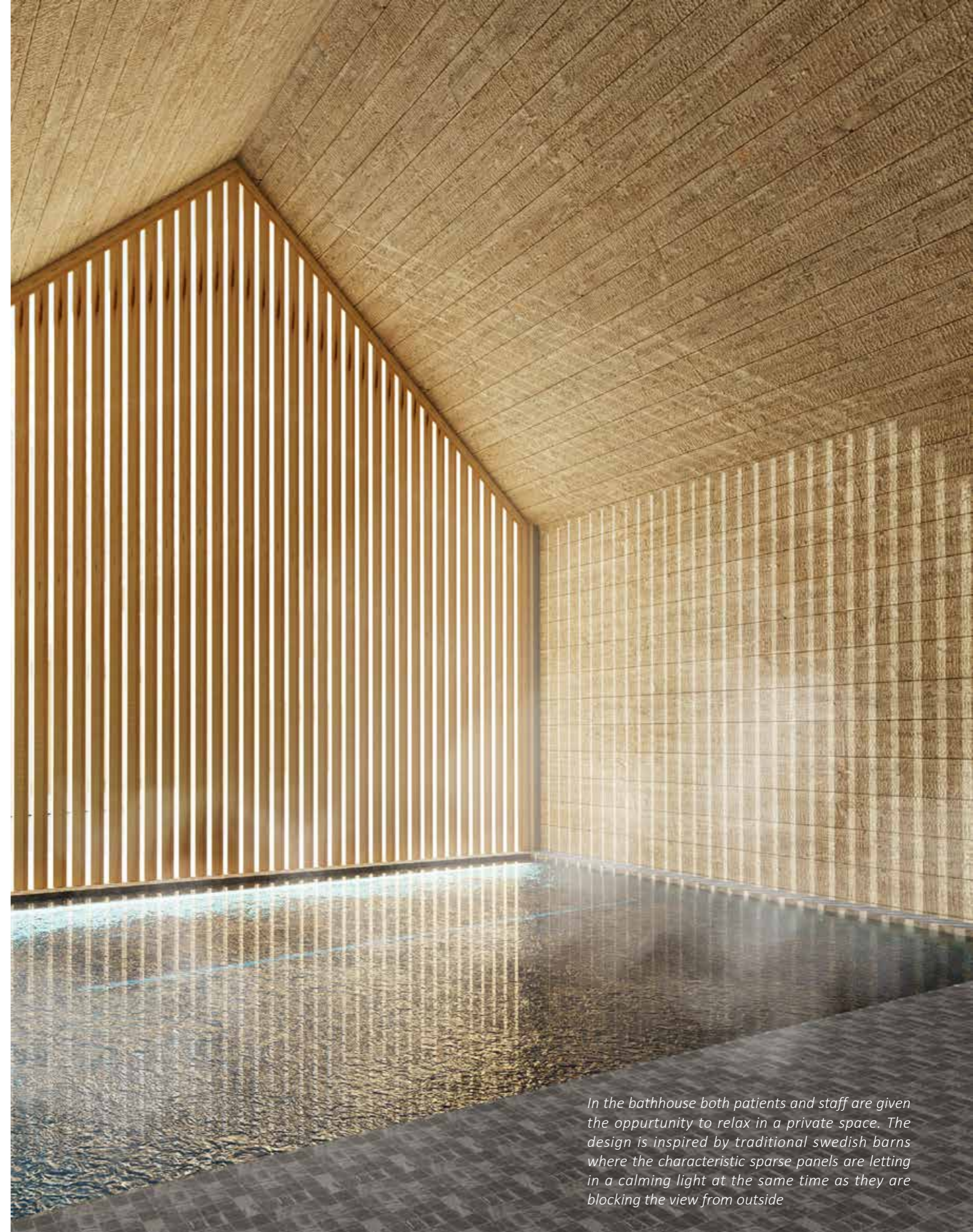
DOG THERAPY



SWIMMING



KAYAKING



*In the bathhouse both patients and staff are given the opportunity to relax in a private space. The design is inspired by traditional Swedish barns where the characteristic sparse panels are letting in a calming light at the same time as they are blocking the view from outside*



# OUTDOOR SPACES

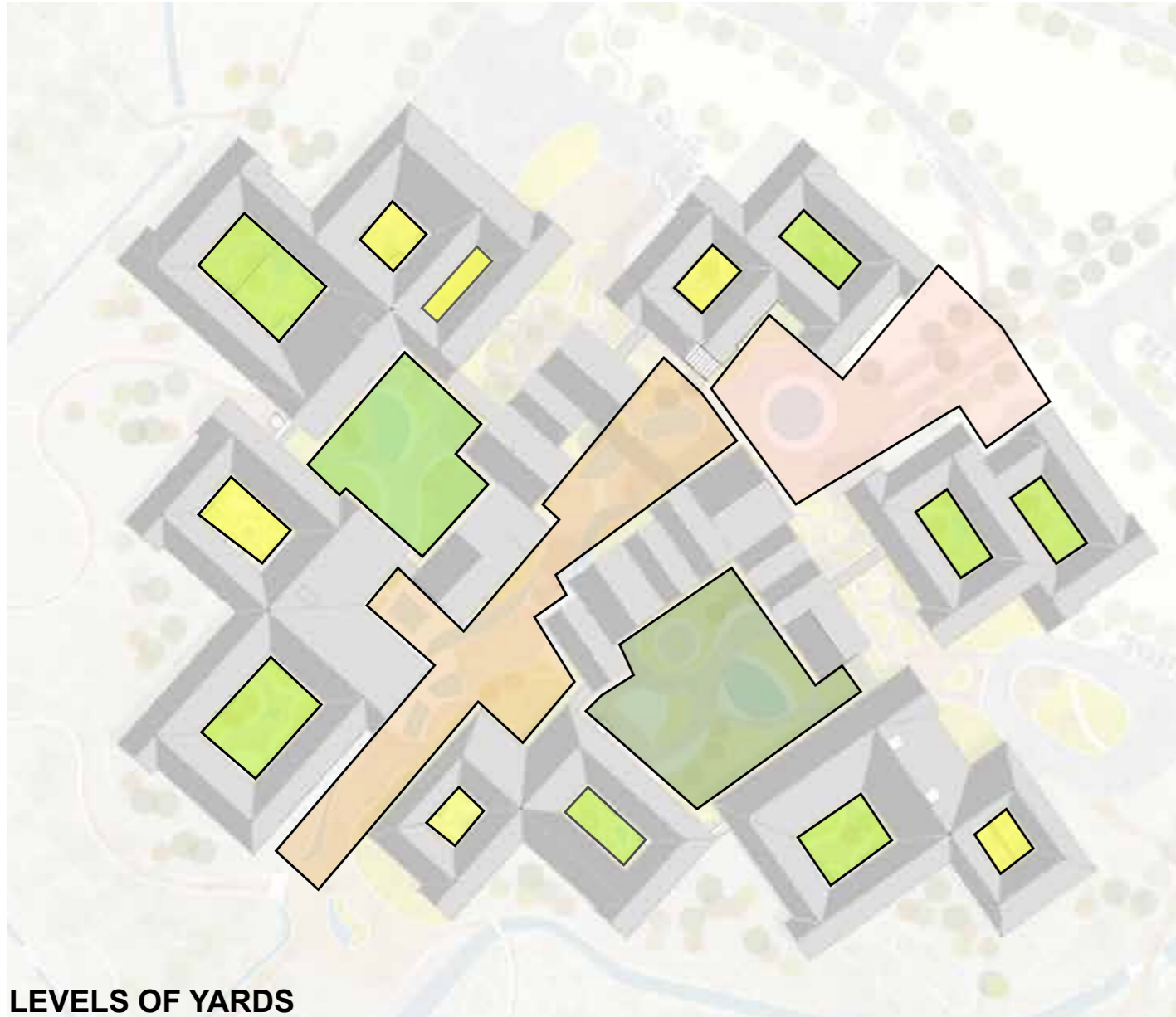
## Characteristics & activities

The yards and outdoor spaces differ in size, level of openness and atmosphere. The green and the blue path is crossing in the entrance square, which is the most public space. Along the blue path you can find a variety of spaces linked to the different entrances.

The forensic and inpatients courtyards provide patients with outdoor activity spaces where patients can do

farming, sports games, performing, holding exhibitions and meet dogs from the dog daycare center.

Every ward has two yards with different sizes. In both yards you can find both more social and private spaces, but the bigger one is designed to support a higher level of social interaction. The smaller is a little bit more private and peaceful. All of the yards have organic shapes, which gives a sense of nature.



## LEVELS OF YARDS

### OPEN

Entrance Square

### SEMI-CLOSED

Forensic Courtyard

Inpatient Courtyard

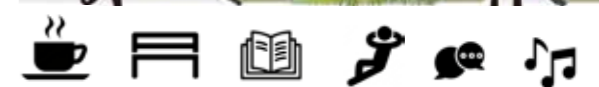
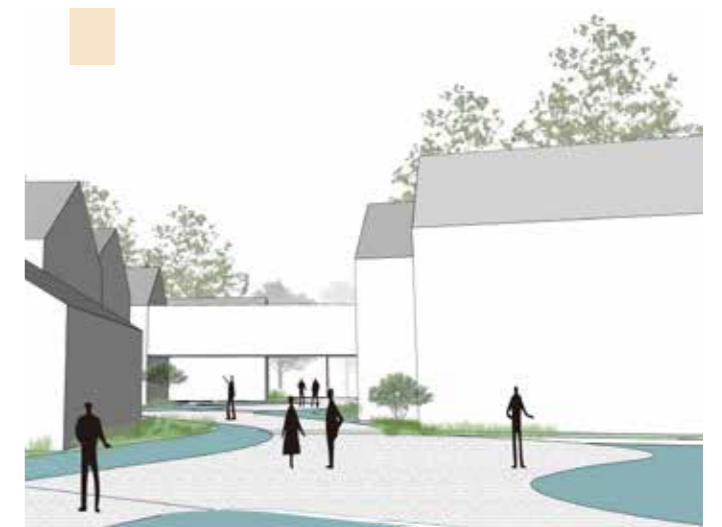
### CLOSED

Communication Yard

Private Yard

### SEMI-OPEN

Blue path









# THE INPATIENT WARD

## A zoom in on inpatient ward 24

The inpatients wards are sectioned into two units to create calmer environments, with possibilities for sectioning if needed. The different units have different sizes to provide different levels of privacy and need for overview.

From a neutral passage the medicine room and storage can be accessed without having to enter the ward. A small light shaft lets daylight into the medicine room and teamstation.

From the central teamstation the staff have overview over both units, which makes it possible for good overview even when fewer staff are available.

The patient rooms are organized around a courtyard where alternative ways of walking is lowering the risk for fuss in the corridors. The yards can be accessed from several parts of the unit so that the patients can control their level of social interaction.

On the corners the activity rooms are providing a variety of activities. One of these rooms can be turned into a temporary dayroom if one patient would need to be isolated. From the dayroom a small outside space can then be accessed.

Just like home the patients can have access to their own kitchen. For safety they are being placed close to the teamstation.





# THE INPATIENT WARD

## A variety of spaces for different needs

Around the courtyard patients can seek up a variety of different dayroom-spaces with different levels of nature contact, lightness and social interaction.

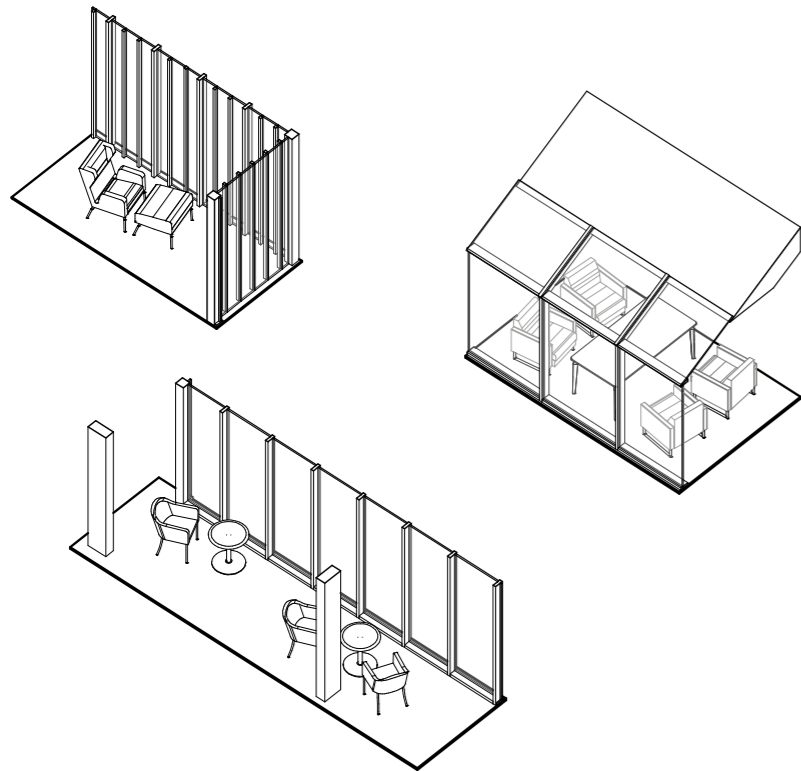


DIAGRAM OF DIFFERENT DAYROOM-SPACES



VIEW FROM A DAYROOM-SPACE



SECTION OF INPATIENT WARD 24, 1:200



SCALE 1:200



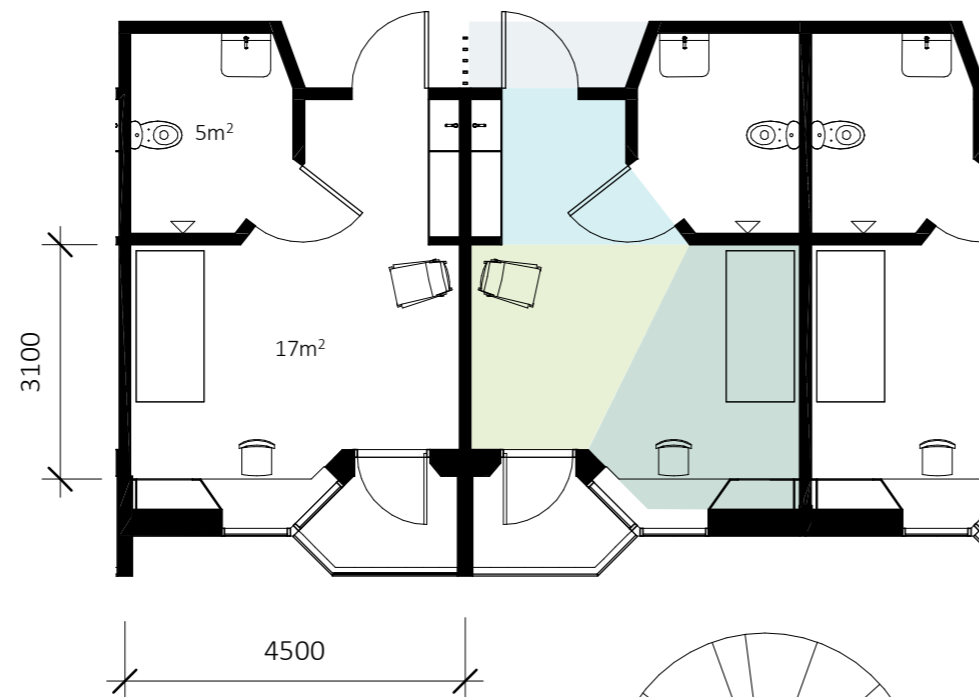
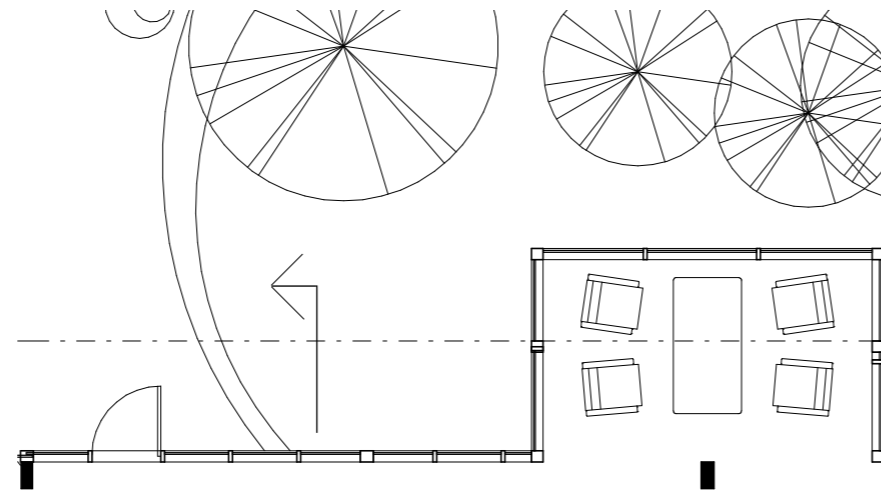
# THE INPATIENT ROOM

## Levels of privacy

The room is sectioned into four different levels of privacy. In the semi private space directly outside the patient room a screen shows a unique picture for the inpatient room, making it easier to find.

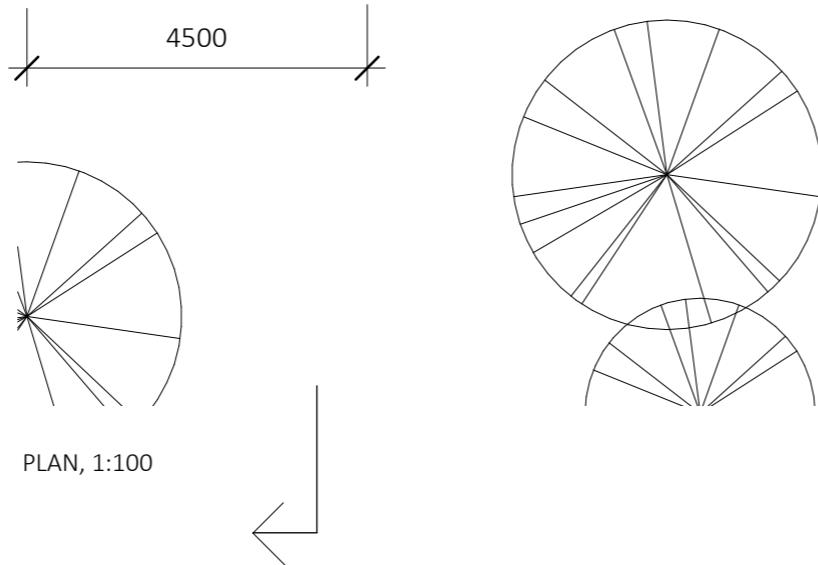
A patch in the door can be used by the staff to look into the room without having to open the door. From the entrance of the room the staff have a good overview over the room as the patient still have their own private corner.

In the most private space a shelf and poster stip allows the patients to put up pictures and belongings to create a more homelike environment. On the balcony patients can talk privately with relatives or just come closer to daylight and greenery without having to leave the room.



- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4

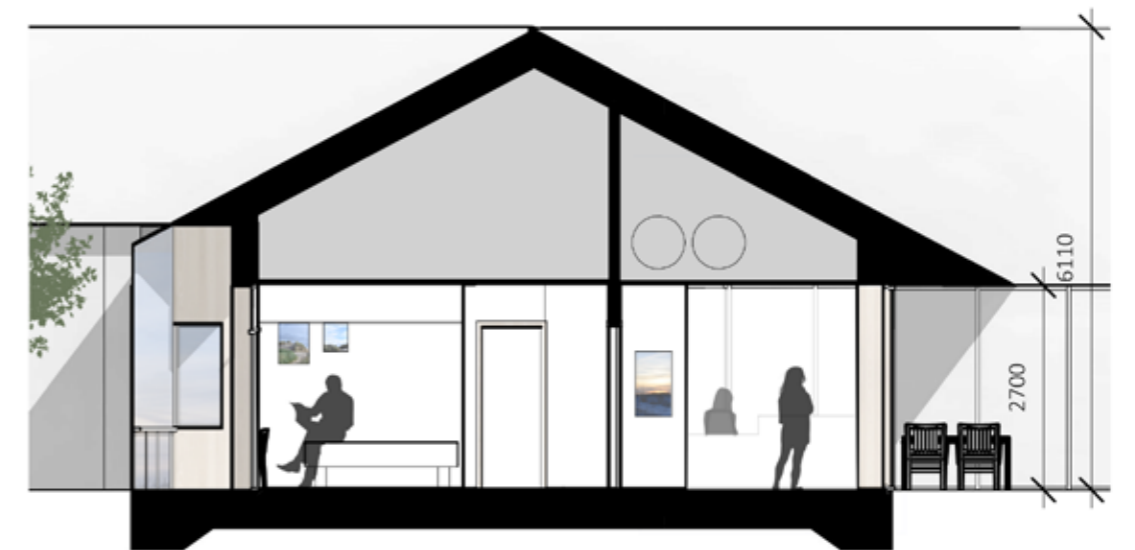
DIFFERENT LEVELS OF PRIVACY



PLAN, 1:100



VIEW OF AN INPATIENT ROOM



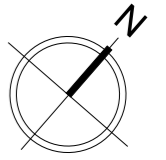
SECTION, 1:100



SCALE 1:100



# THE OUTPATIENT WARD



## A zoom in on Adult Outpatient Ward

The patients are greeted by the receptionist when they enter the building. If they don't want to be overheard a private booth is connected to the reception office.

The receptionist has an overview of all the waiting areas in both plan 1 and plan 2. The patients are able to choose their waiting area around the courtyard with a variety of seating options.

The consultation rooms and staff area are separated so that patients and staff can meet in a neutral space.

## Flexible administrative working units

The staff has small spaces for documentation in the consultation room but mainly use the flexible working units for the rest of their work. The units can support different variations in their layout depending on the requirements from the staff.

## Generic spaces

The plan follows a 4,5 meter grid while the windows has a regularity that repeats every 0,9 meters. This creates a highly flexible floorplan that can meet the many changes that happen in a hospital over time.



PLAN, 1:150



# THE OUTPATIENT WARD

## Reception

At the reception patients have access to fresh water or a taste of the fruits produced in the hospital's own greenhouses.

The reception desk is made visible by a contrasting wood paneling. Visible from the entrance is also the light stairs inviting the patients up to the second consultation floor.



PERSPECTIVE FROM THE OUTPATIENT ENTRANCE



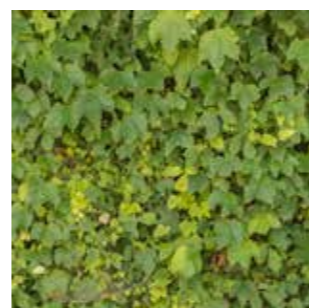
ACOUSTIC CEILING  
"TRÄULLIT"



WOOD DETAILS: ASH



EXPOSED WOOD STRUCTURE:  
SPRUCE



GREEN WALL



LIMESTONE



WOOD FLOORING:  
HEARTPINE

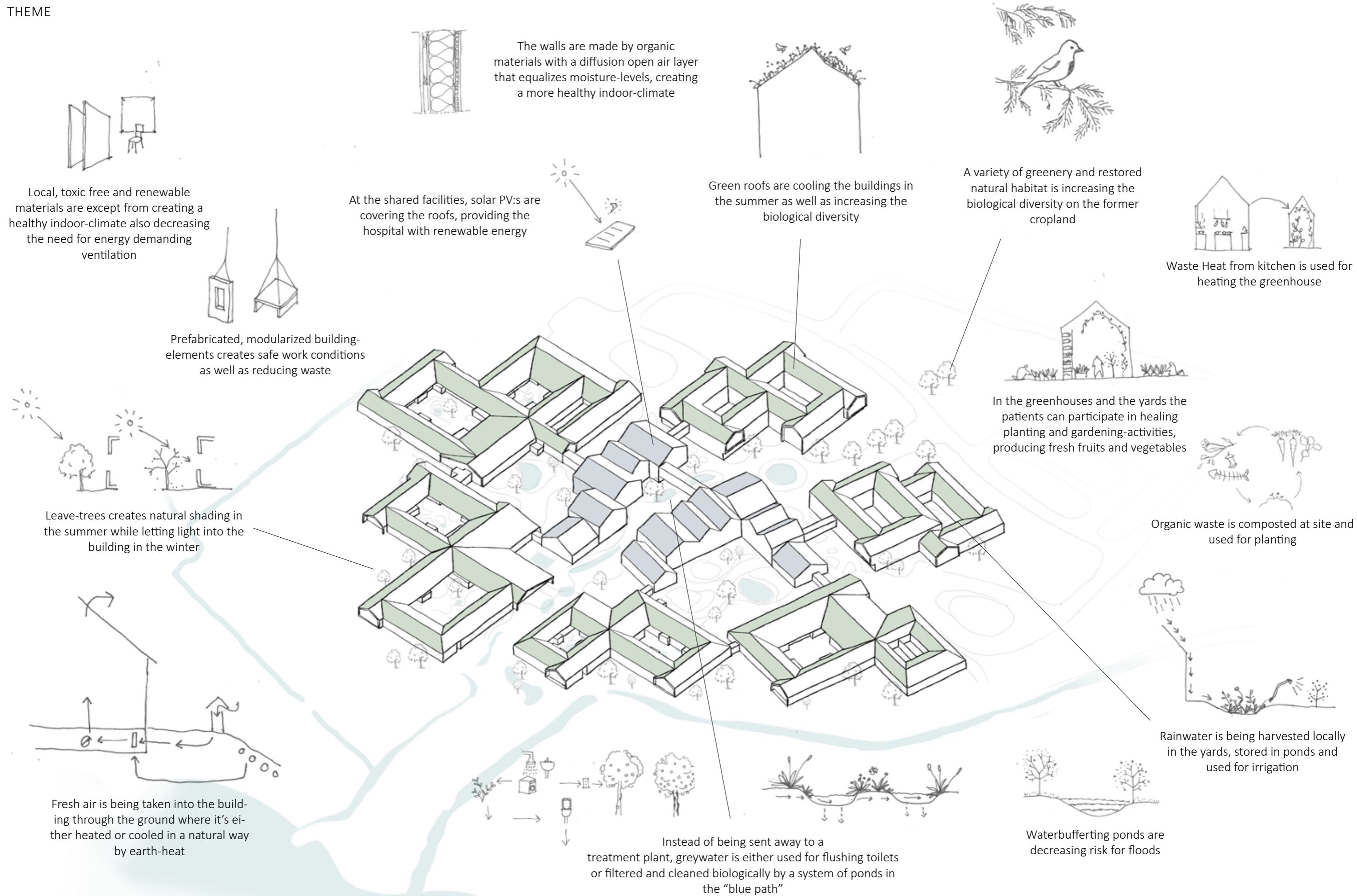


LINOLEUM



# SUSTAINABILITY

THEME





# PSYCHIATRIC CARE / RESEARCH INFORMED DESIGN (EBD)

## THEME

### GOAL:

- Designing a building that supports the patient's healing process

### STRATEGIES:

#### Contact with nature

- Maximising views to nature & greenery **1**
- Providing generous outdoor spaces for the patients **2**
- Emergency department waiting room with calming view to garden **3**

#### Provide ample daylight

- Providing daylight while minimizing insight.
- Thinking of the sun's direction. No inpatient rooms facing north. **5**

#### Avoid long corridors

- Combining them with other functions. Make pathways interesting & diverse **6**

#### Provide positive distractions

- Provide views to moving water, trees & the weather

#### Orientation & wayfinding

- Creating views from corridors that supports orientation
- Using the gables of the buildings to show the entrances **4**
- Using the blue and green path to lead patients & visitors to the different entrances
- Easy readable plan

#### Access to privacy to increase willingness of interactions with others

- Working with single patient rooms **8**
- Provide multiple choices of where you can go as a patient

#### Reduce social density

- Multiple choices of social spaces
- Division of room functions
- Flexible division-possibilities in rooms.

#### Reduce noise-levels

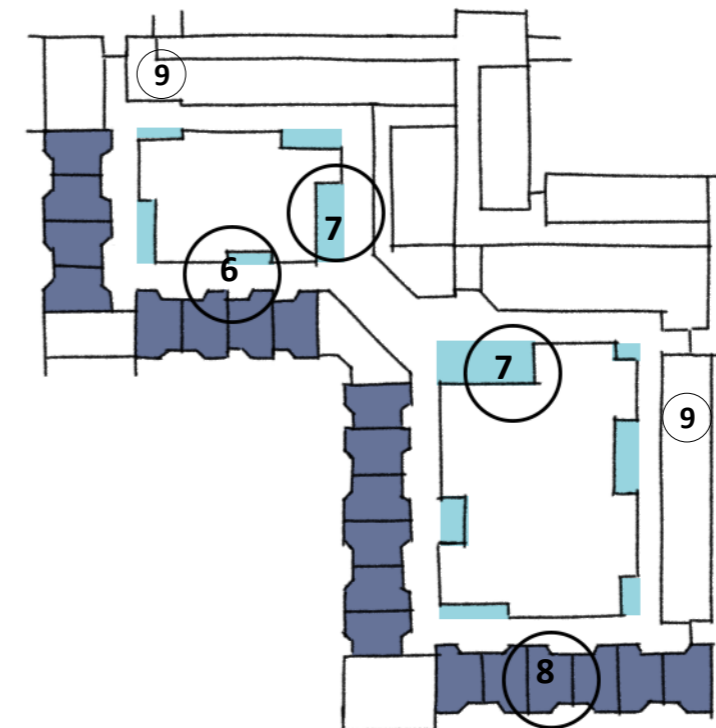
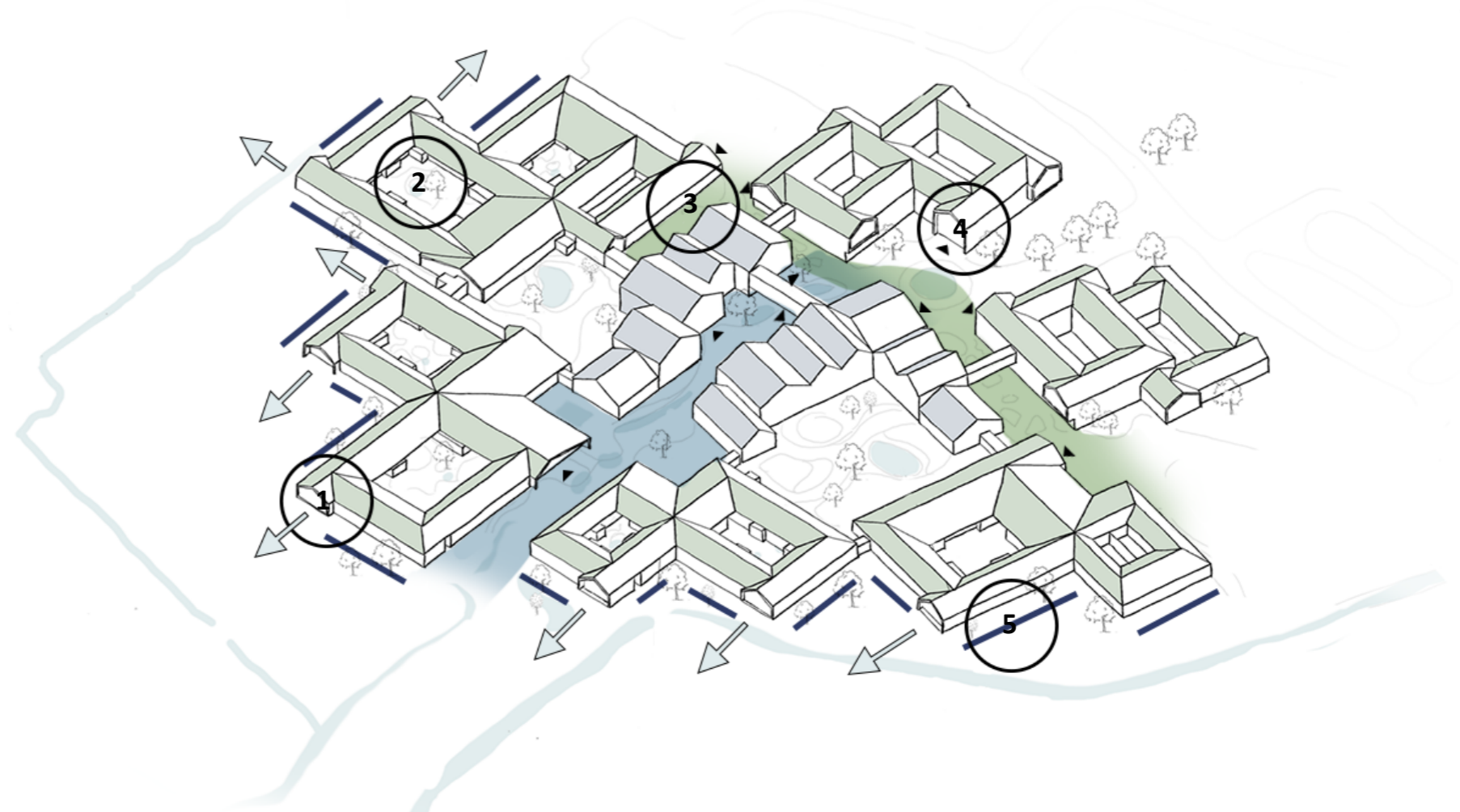
- Dividing big rooms in smaller spaces. Provide calm alternatives for patients. **7**
- Using soundabsorbing materials

#### Preventing falls

- Placing the bed near the bathroom
- Good visibility into patients from corridors & working stations

#### Decentralised working stations

- Supplemented with tables for communication and social support between the staff **9**



Examples how we have worked with Research Informed Design in the project



# FUTURE PROOFING

THEME

## DRIVERS FOR CHANGE



PHYSICAL



ECONOMY



FUNCTION



TECHNOLOGICAL

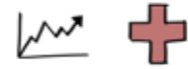


SOCIAL



LEGAL

## STRATEGIES



Relocating the psychiatric hospital to a site where it can expand at the same time as providing great access to nature will ensure an ideal healing environment for a long time ahead.



As the different layers of the buildings have different life spans, separating and making them accessible supports easier maintenance and changes.



A wooden pillar and beamsystem provides possibilities to support many different layouts.



Grid and modular facadesystem that can support changes in layout



Multifunctional rooms and spaces that can support changing needs



Resilient building structure for extreme weathers (stormwater, durable materials)



Foodproduction-possibilities & rainwater-harvesting, energyproduction



# HEALTH PROMOTION

THEME

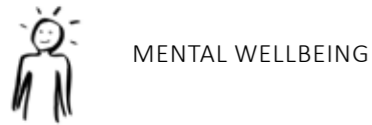
## ASPECTS OF HEALTH PROMOTION



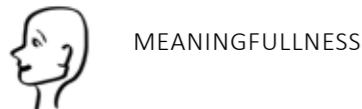
DAILY FUNCTIONING



BODY FUNCTIONS



MENTAL WELLBEING



MEANINGFULNESS



QUALITY OF LIFE



SOCIAL PARTICIPATION

## TARGET GROUPS

INPATIENTS

OUTPATIENTS

STAFF

VISITORS

COMMUNITY

## STRATEGIES



**Choices** - Patients are supported to take charge of their life & healing process by providing choices of where you could go & do.  
- Inpatients



**Stairs** - Visible, attractive & light  
- All



**Relaxation** - Accessible relaxing rooms, quiet spaces, ancillary room  
- Inpatients, outpatients



**Bath** - Relaxing bath and sauna  
- Inpatients, Staff



**Greenhouses** - Garden therapy in the yards and greenhouses  
- Inpatients



**Pathways** - Varying pathways with views to nature/water  
- Inpatients, Outpatients, Staff, Visitors



**Eating** - Easy accessible spaces for eating outside; dining room close to courtyards, sheltered seating places in the courtyards, balconys/terraces  
- Inpatients, Staff



**Access to Nature** - Access to nature & outside spaces in all seasons with weatherprotected spaces  
- Inpatients, Outpatients, Staff



**Physical activities**  
- Inpatients: sport activities in courtyards, gym, sporthall, bath, pingpong-table, walks or run in group in nature, kayak and fishing at lake  
- Outpatients: encouragement to go outside in the forest, walks or run in group with staff in forest. playground (BUP)  
- Staff: gym, bath, sauna, easy accessible walking/running paths



**Dog Daycare** - Dogs are used in therapy for the patients. Staff can leave their dogs at the dog daycare.  
- Inpatients, Outpatients



**Healthy transportation** - Safe, attractive and accessible-bicycle and pedestrian paths  
- Staff, Inpatients, Outpatients, Visitors



**Active spaces** - Airy activity rooms with high ceilings and large windows  
- Inpatients

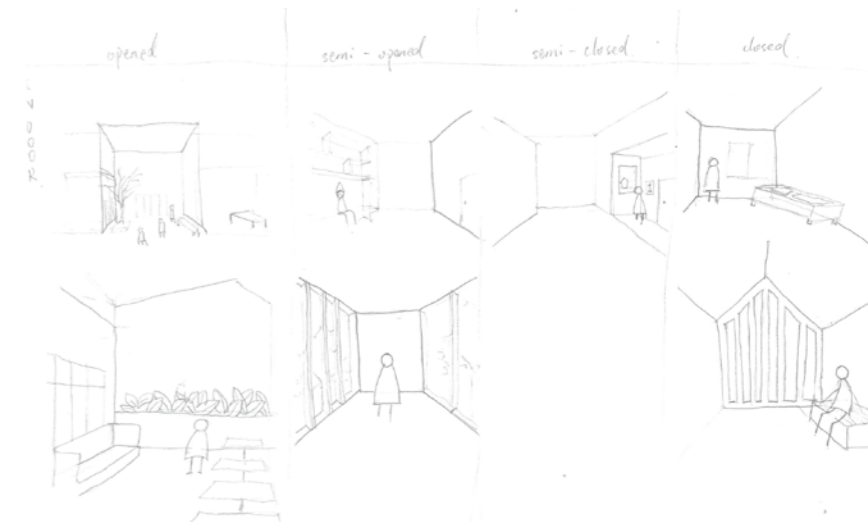
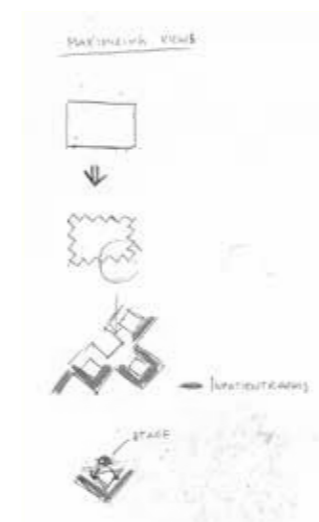
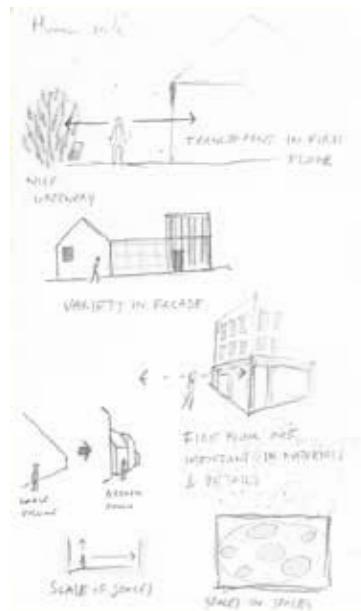
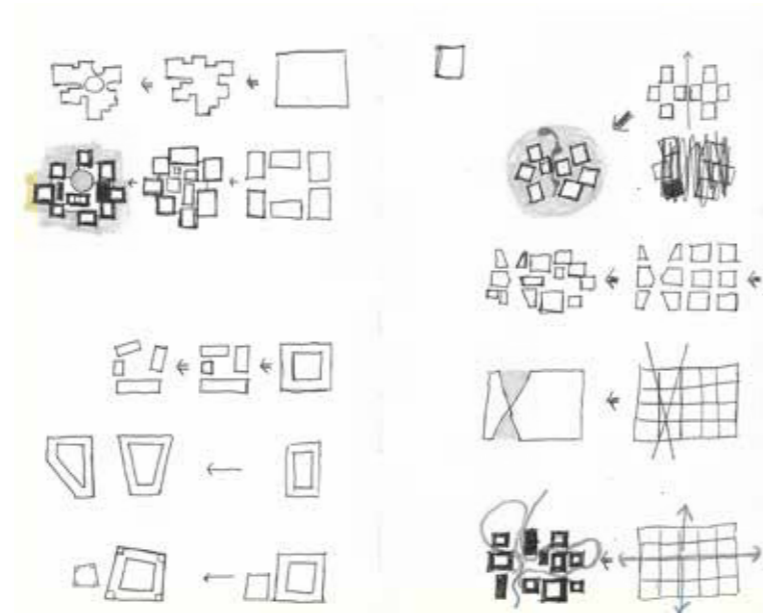
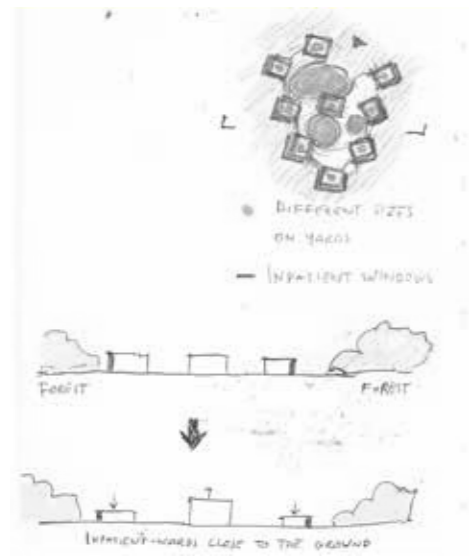


LAKE KVÄNNAREN

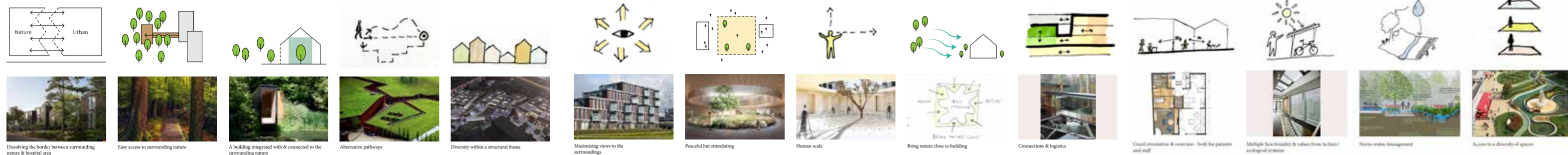


# WORKING PROCESS

## SKETCHES AND GOALS



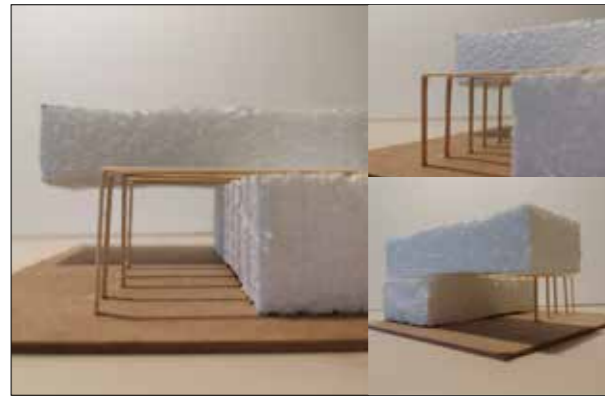
## STATEMENTS & GOALS FOR BUILDING-DESIGN



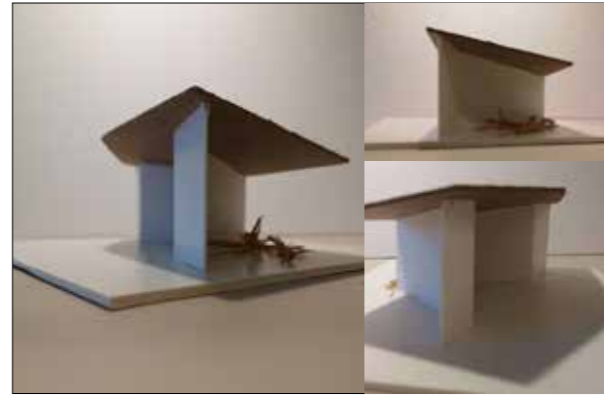


# WORKING PROCESS

WORKSHOP - ATMOSPHERE MODELS



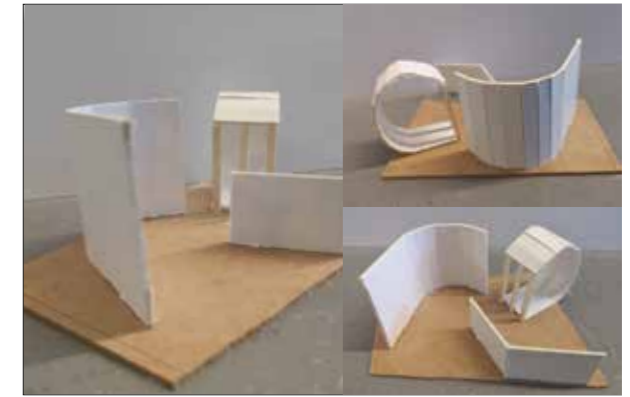
Inside/ Outside. Visible structure



Shelter under roof. Inside-outside. Angles



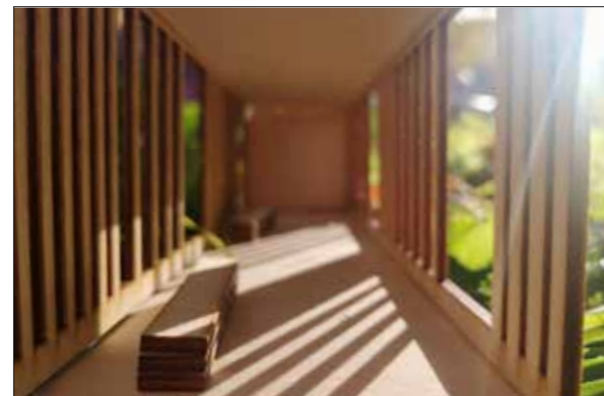
Stairs. Roof-terrace.



Outdoor activity. Private -> Semiprivate



Nature accessibility



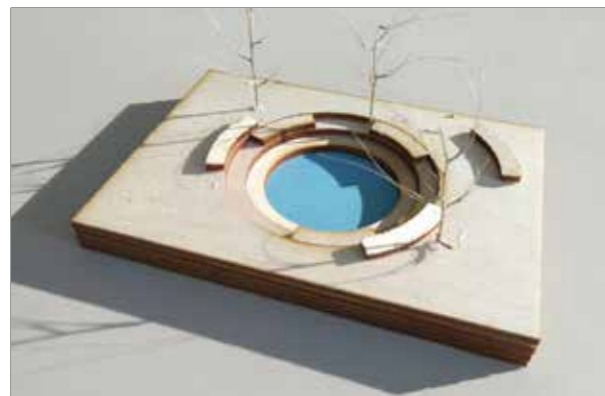
Private - Public. Levels of transparency



Sensory room/ Bath. Inspiration: Barn



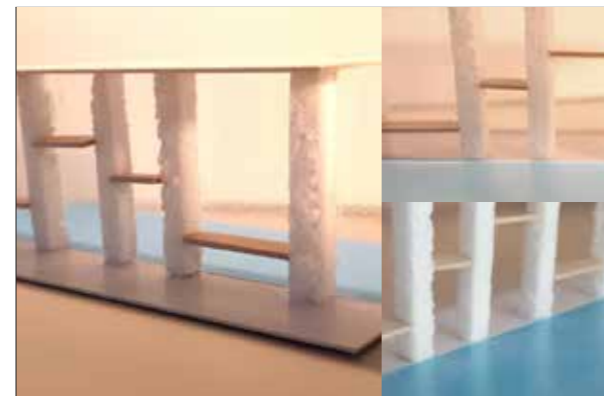
Framed views. Integrated furniture



Simple shapes. Stormwater



Movement along a "blue path"



Seeing and hearing water. Integrated seating



Private - Public. Rythm in facade



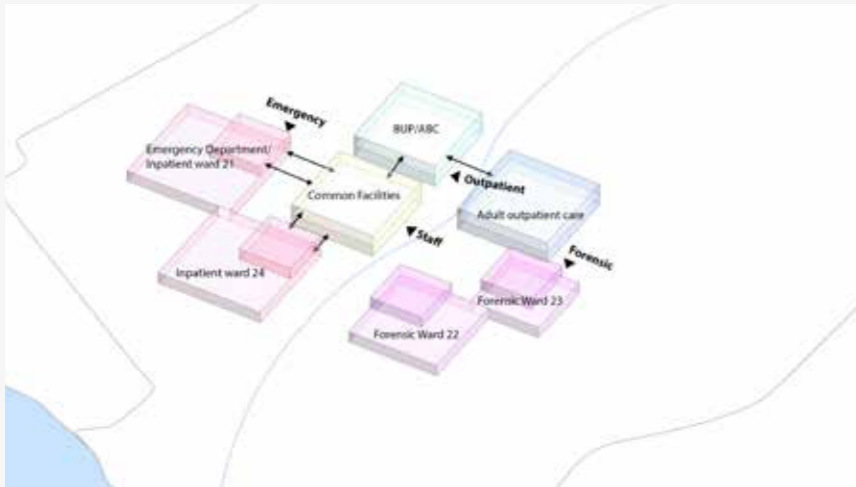




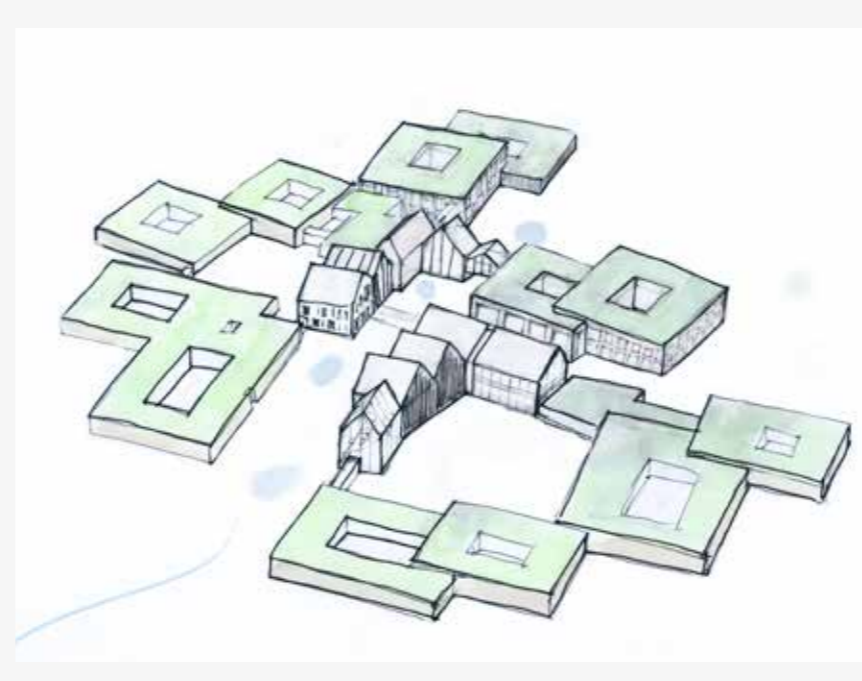
# WORKING PROCESS

THE MASSING CONCEPT PROCESS

## INSPIRATION PHASE - CONCEPT CRITIQUE



## INNOVATION PHASE - SKETCH CRITIQUE



## IMPLEMENTATION PHASE

