

06.00

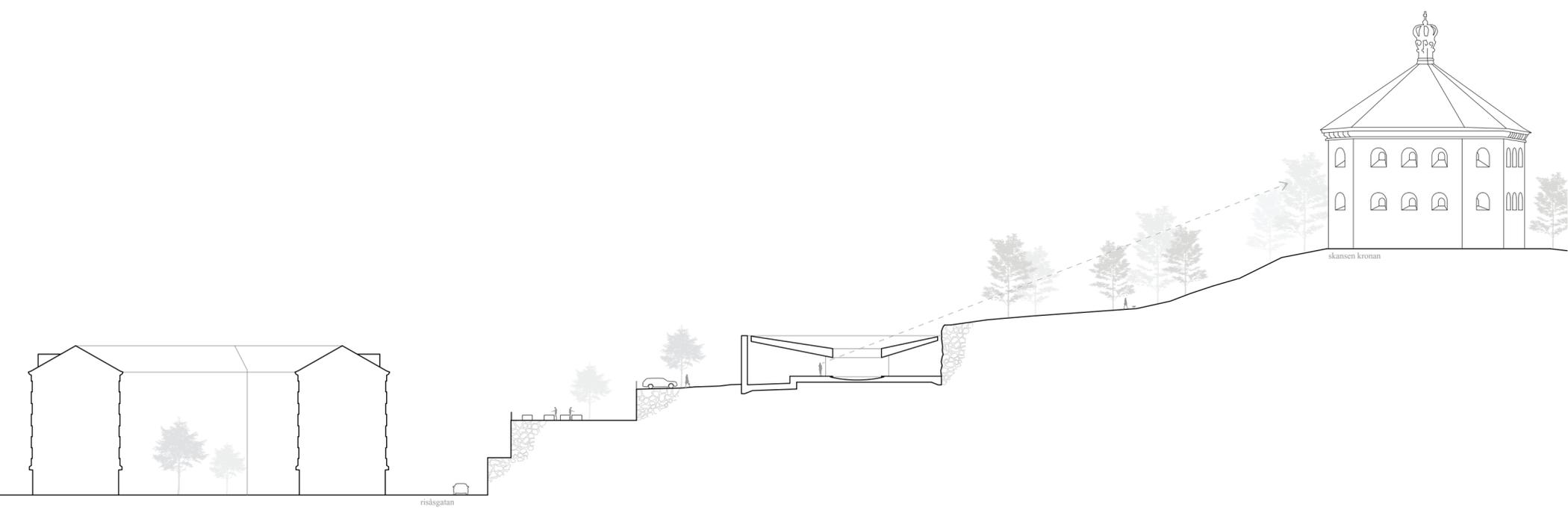
dawn. skansberget is empty.
the sun is rising over the rooftops in the east awakening the
interior through the openings in the eastern wall

07.00

a couple of early city dwellers venture to the lower plateaus of skansberget to care for their beans and tomatoes. the staff is arriving for work



SITE PLAN 1:500



SECTION A-A 1:500



09.00

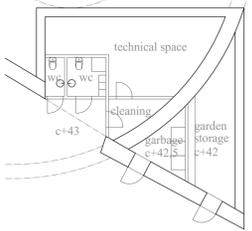
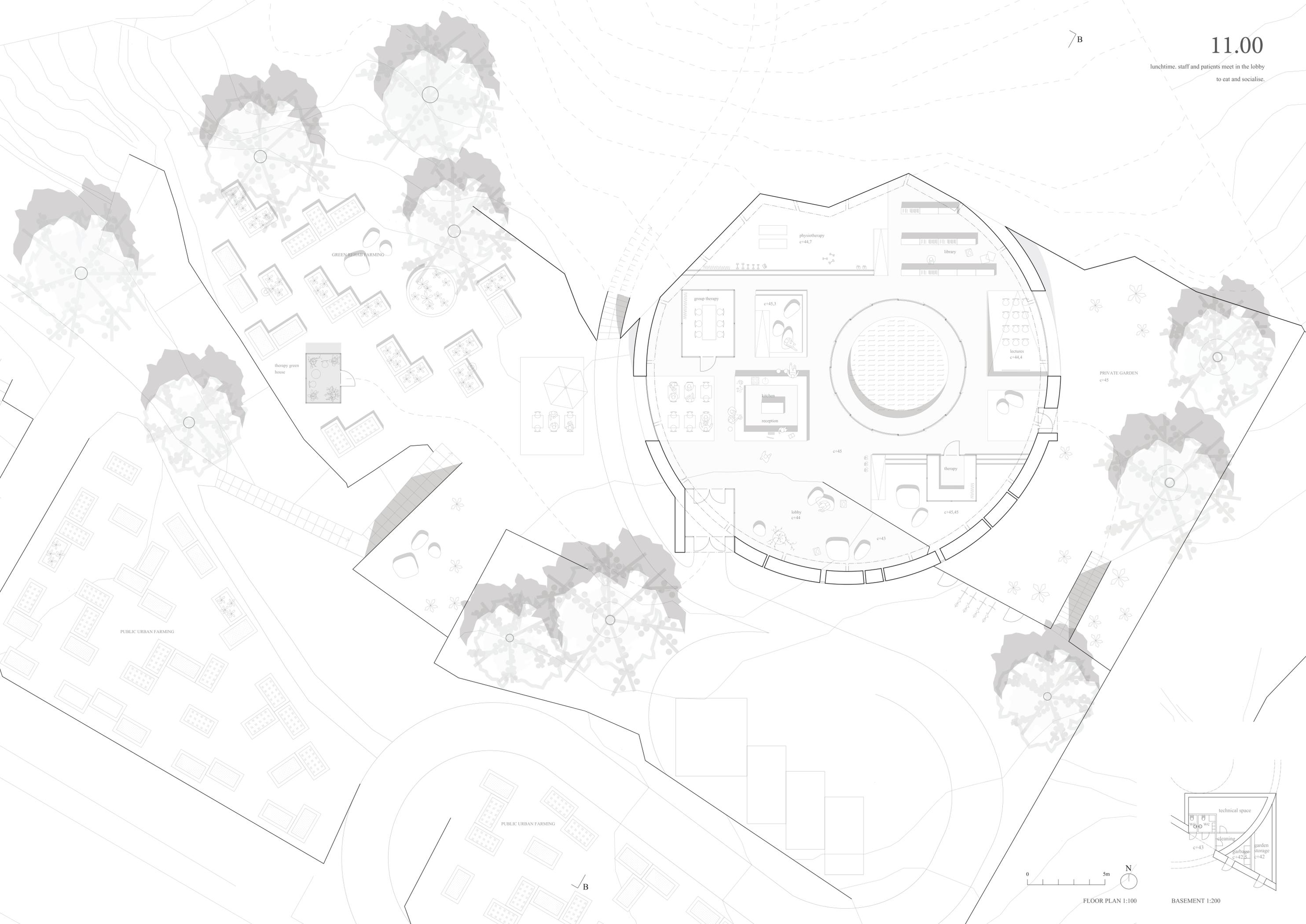
the lobby is coming to life. staff and patients are grabbing a cup of coffee. the stone wall in the back is illuminated by the warm morning light, beckoning everyone further into the building



10.00

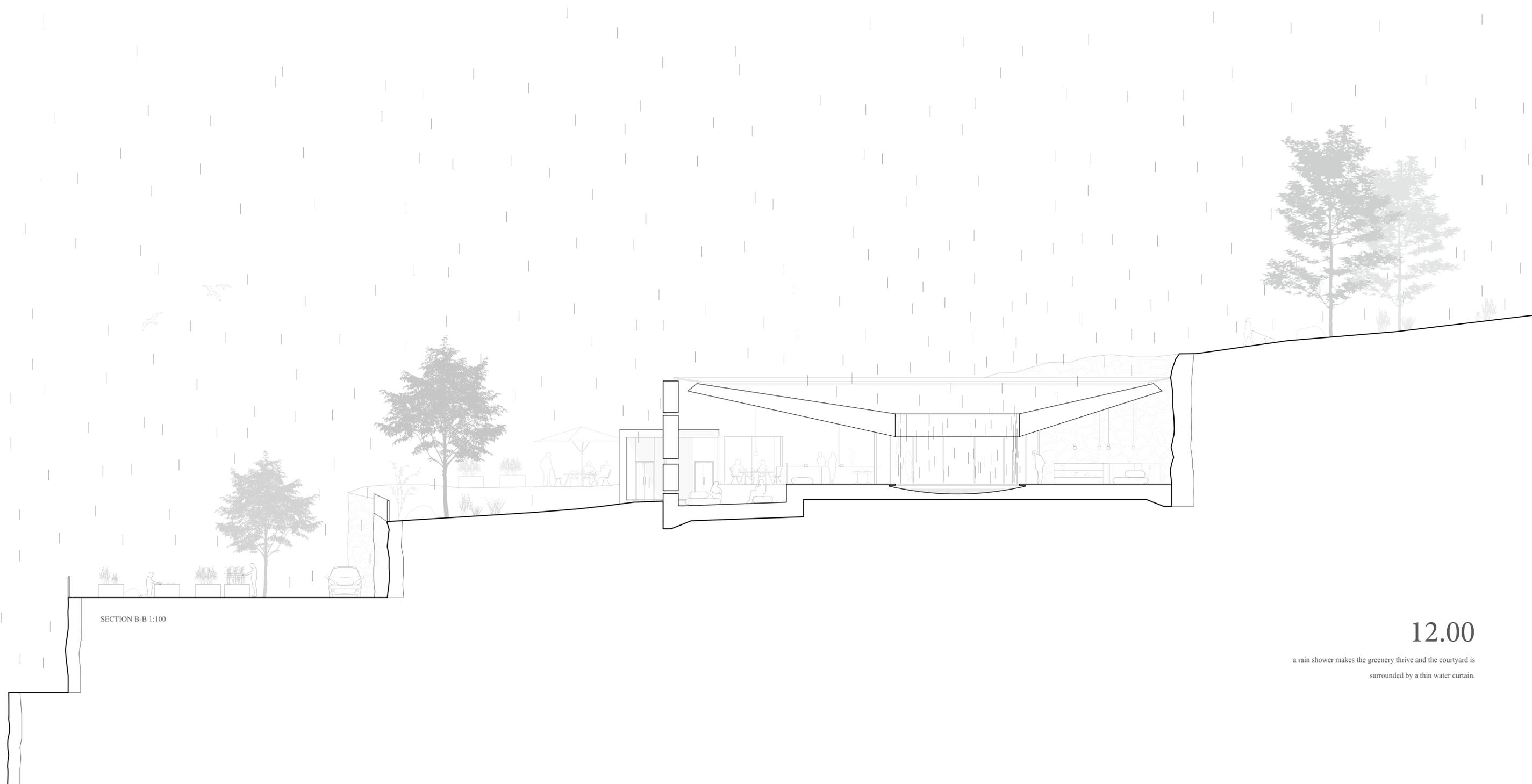
the day starts with physiotherapy. slow movement and reconnecting with the physical body. light from the courtyard illuminates the back of the building

lunchtime, staff and patients meet in the lobby to eat and socialise.



FLOOR PLAN 1:100

BASEMENT 1:200



SECTION B-B 1:100

12.00

a rain shower makes the greenery thrive and the courtyard is surrounded by a thin water curtain.

13.00

the small openings in the lobby wall are illuminated
by the mid-day sun



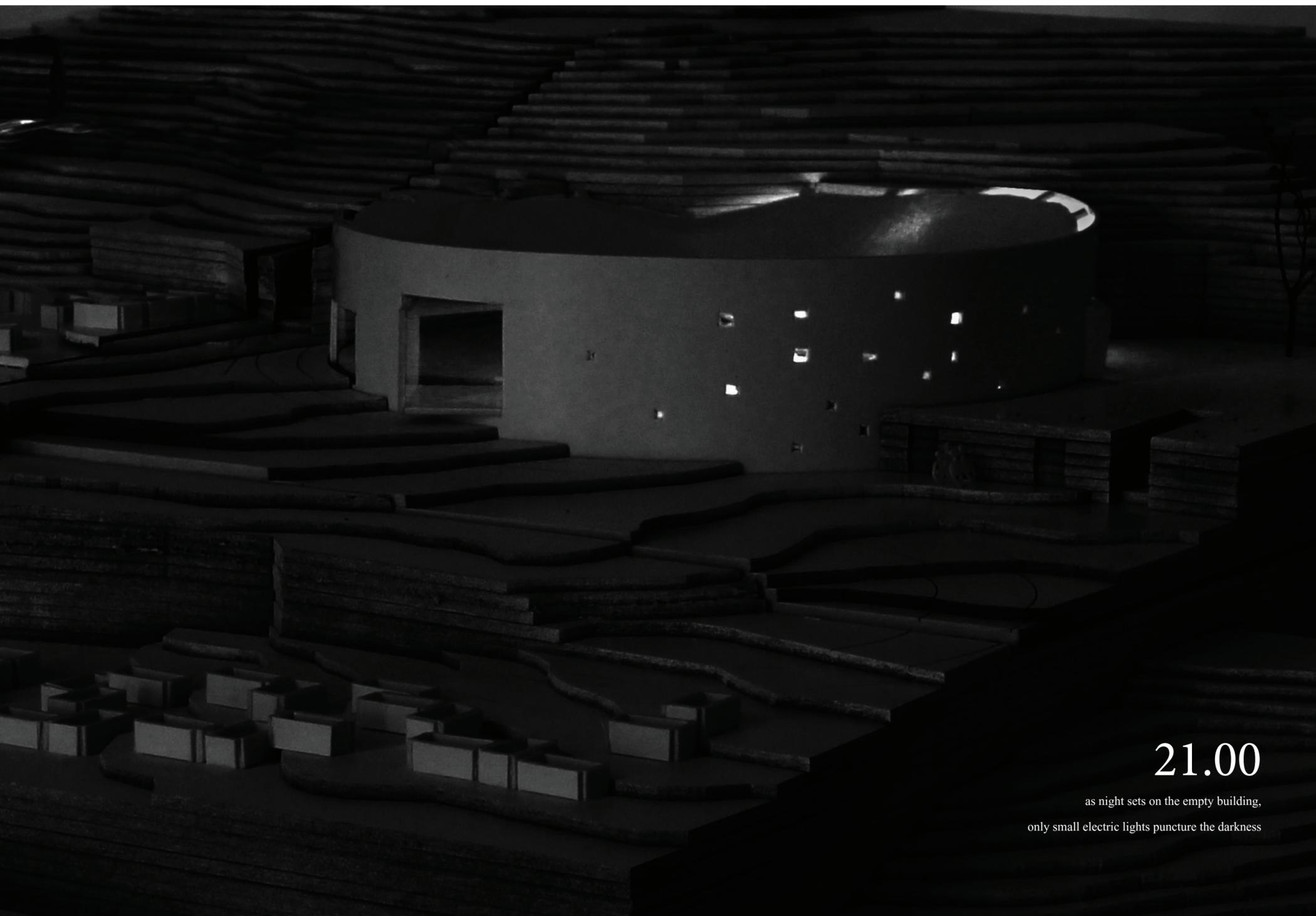
15.00

the raking light moving across the walls forms a
backdrop for the therapy rooms



17.00

patients are leaving and public visitors arrive.
the evening sun shines through the courtyard to light up the
lecture space where tonight's
public lecture on stress just started



21.00

as night sets on the empty building,
only small electric lights puncture the darkness

finding time

PROPOSAL FOR A STRESS REHABILITATION CENTRE

as society and our professional lives become more stressful an increasing number of people fall ill from the way we live. this is a proposal for a stress rehabilitation centre for people with burnout syndrome. the project is an investigation of how we experience time in architecture, trying to create

an environment where people can change their relationship with time by experiencing it sensually. the linear time perspective that dominates society contributes to the notion of time as something we can run out of and many may feel that they are losing in a race against the clock. a lot of architecture today is unnecessarily static. it contributes to the alienation from the subjective notion of time by counteracting any direct experience of changes in

our environment - such as cyclic daylight changes or the weathering and wear of materials. this proposal will serve as a hideout for people who experience negative stress and is also aimed at spreading knowledge to the public. the design emphasises social interaction in an introvert and protected space, where the passing of time becomes intuitive by linking a certain light pattern to a specific time of the day or year.

BACKGROUND

CONTEXT



CONTEXT
gothenburg is the second largest city in sweden. its urban population is growing, and with it stress-related disease and sick-leaves are increasing



LOCATION
skansberget is one of the large green areas in proximity to the city centre. the northeast slope is a popular recreational area, while the southwest part is more sparsely used



HISTORY
skansen kronan is a fortification and landmark built in 1689. originally the hill was owned by the crown and used as grazingland



HOUSING
in the beginnig of the 20th century the southern slope was developed for housing and the terrain terraced with large stone walls



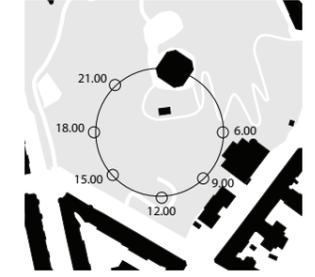
AN ABANDONED PLACE
on the southern slope a dead end is formed by the terrain. these levels are abandoned and covered in graffiti, used mostly for drug dealing.



PROGRAMME
on the lower levels of the terrain the municipality are developing a public urban farming project with raised plantations



CONNECTIONS
the top of the hill can be reached from two directions. by joining existing roads, a third path could be created from the south, activating the southern slope



SUN CONDITIONS
the site has great sun conditions all throughout the day. thanks to the high location no buildings shade the site

ENVIRONMENTS FOR BURNOUT PATIENTS



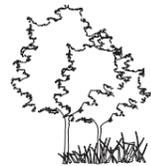
SHELTER
the environment should feel protective and shelter the patient from intense activity and noise



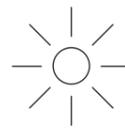
SENSUAL EXPERIENCES
sensual experiences help patients live in the presence and cope with their illness



EVERYDAY MOVEMENT
calm physical activity is vital and should be an integrated part of the patients environment



NATURAL ELEMENTS
being outdoors, or being sensually connected to nature while indoors, helps rehabilitation



DAYLIGHT
the positive effect of daylight on all kinds of rehabilitation is well established



SOCIAL INTERACTION
spaces for social interaction help patients find support and inspires collective rehabilitation

REFERENCES



1. 1932, Alvar Aalto, Pemas Sanatory, Finland



2. 1996, Richard Murphy, Maggie Centre Edinburgh, Scotland



3. 1999, Herzog de Meuron, Basel Rehab, Switerland



4. 2006, JDS+BIG, Helsingør Psychiatric Hospital, Denmark



5. 2012, NORD, Healthcare Centre for Cancer Patients, Denmark



6. 2011, OMA, Maggie Centre Gartnavel, Scotland

OFF CAMPUS
a location off hospital campus helps counteract prejudice and feeling of institutionalisation (2,5)

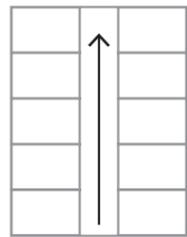
INFORMAL
the atmosphere is either informal (4,3,5) or even domestic (2,6). meetings with medical staff are casual and friends and relatives are encouraged to visit

SOCIAL INTEGRATION
more intimate zones are connected by well integrated social spaces (all) where patients can heal collectively

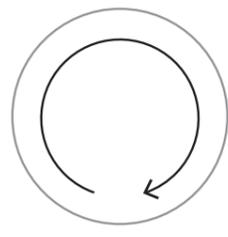
CONNECTION TO NATURE
the visual contact with nature is ensured, either through green courtyards (3,5,6) or by chosing a green location (1,4,6)

INTROVERT
introvert courtyards create a feeling of being sheltered from the outside world while still keeping a connection to the outdoors (3,5,6)

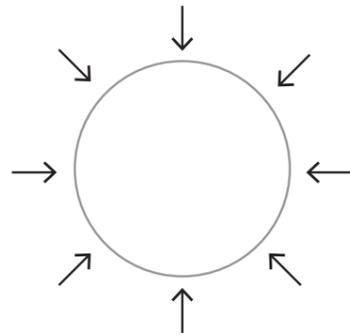
MATERIALS
materials and architectural elements associated with hospitals, are avoided in favour of natural, tactile materials (2,3,6)



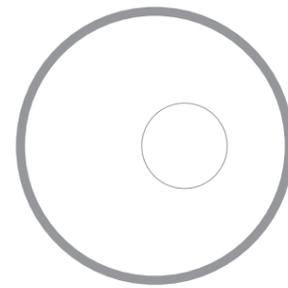
DEAD-END CIRCULATION
conventional health-care circulation - often based on long corridors and small enclosed spaces



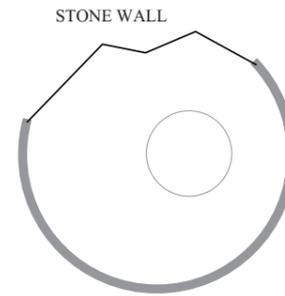
ENDLESS CIRCULATION
the circular shape allows endless movement with no dead ends. the different programmatic zones are organised in an open landscape



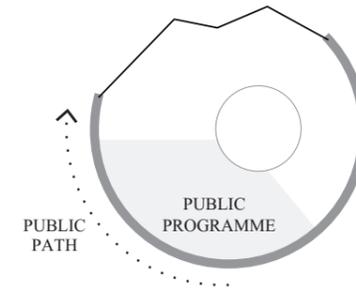
ALL CARDINAL DIRECTIONS
the circular shape offers a big variety of cardinal directions, enabling great sun conditions and bigger transformations in light



INTROVERT
an inner courtyard allows all spaces direct sunlight from two directions at different times during the day. it also creates a connection to the outdoors

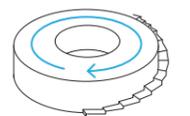
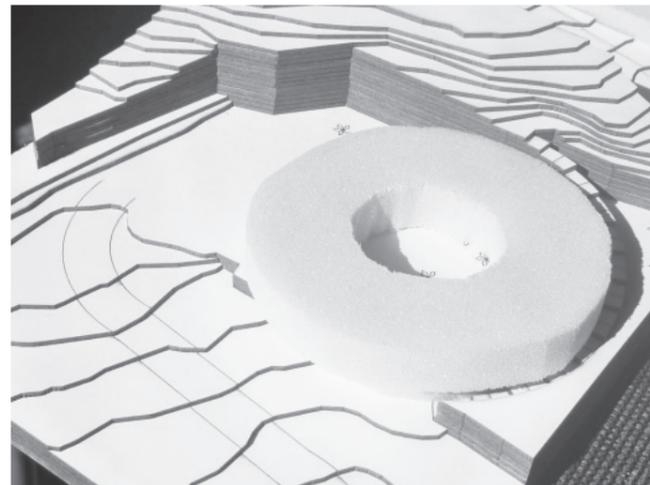


EXISTING STONE WALL
the circular shape is cut by the existing stone wall in the back of the site, forming a rough and deeply textured backdrop to the interior

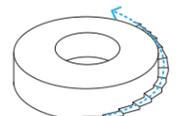


PUBLIC PROGRAMME
the main public functions are placed in the front of the building, connecting to the new public path to the top of the hill

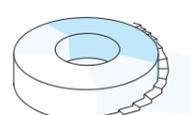
3 x SKETCHES



journey through rehab



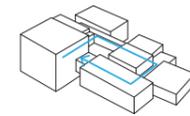
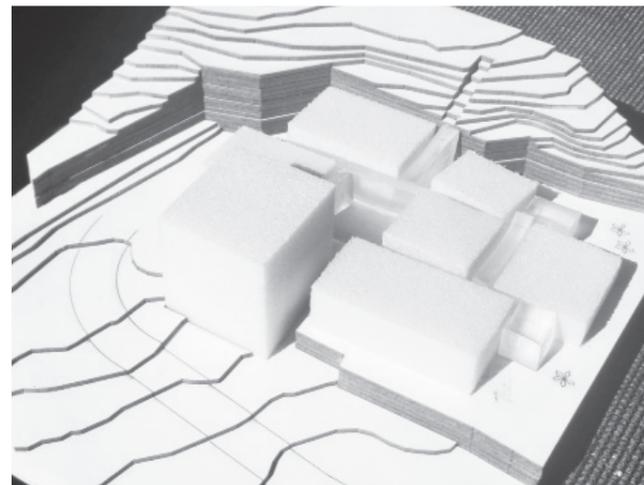
path to hill



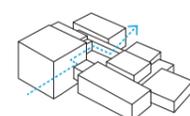
privacy

COURTYARD

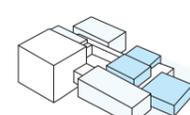
- + the building allows for circular movement
- + program reflects the movement of the sun
- + the hill is made accessible
- + easy to understand and orientate
- + the courtyard offers noise shelter and a private outdoor space
- difficult to integrate in the landscape
- all interior spaces have the same basic shape



journey through rehab



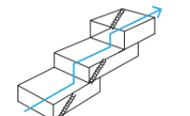
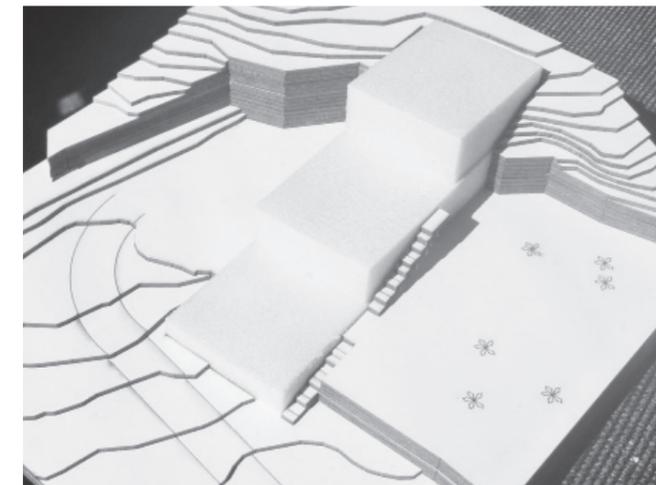
path to hill



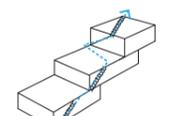
privacy

SEPARATE VOLUMES

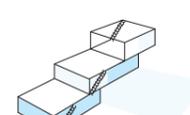
- + the building allows for circular movement
- + every volume can be easily adapted to the function it contains
- + the courtyard offers noise shelter and a private outdoor space
- doesn't include natural public access to the hill
- could come across as shattered
- difficult to orientate
- volumes shadow each other



journey through rehab



path to hill



privacy

STAIRWAY

- + the building could be a public attraction
- + the hill is easily accessible
- patient privacy is threatened by public access to roof and terraces
- the more private side of the building is only directed towards the southeast which limits the experience of light and cardinal directions
- main movement is linear

TIME + LIGHT

RAKING LIGHT



1980, Tadao Ando, Koshino House, Japan



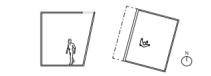
1968, Jørn Utzon, Bagsværd Church, Denmark



1990, Peter Zumthor, Kunsthaus Bregenz, Austria



1994, Steven Holl, St Ignatius Chapel, USA



opening along wall - raking light



contrast - sharp impression



RAKING LIGHT

- large contrasts
- big transformation over time
- variation in light effects



LIGHT RAYS

- large contrasts
- big transformation over time
- unpredictable light patterns

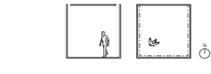
GEOMETRIC ABSTRACTION



1982, Shoji Yoh, Light-Lattice House, Japan



1988, Tadao Ando, Church of Light, Japan



abstract, geometric light



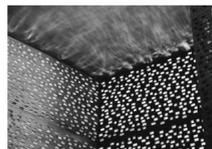
unexpected effects



big changes in light patterns



DIRECTIONAL POROSITY



2003, Peter Zumthor, Koharu Art Museum, Germany



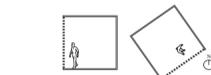
1995, Herzog & Meuron, Dominus Winery, USA



1300-tal, Alhambra, Spain



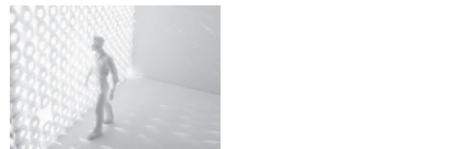
1985, James Carpenter, Sweeney Chapel, USA



light "texture" on surrounding walls reflects wall pattern



diffuse light



winter - raking light ceiling



light rays

LAYERS



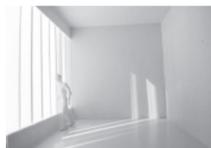
1984, Juha Lämsä, Myyräki Church, Finland



1962, Sverre Fehn, Nordic Pavilion Venice, Italy



1956, Alvar Aalto, Vuoksenniska Church, Finland



summer - raking light walls



light rays

OPENINGS



118, Pantheon, Italy



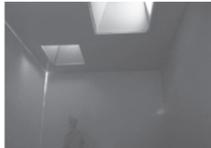
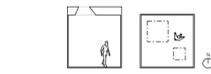
2011, Peter Zumthor, Bruder Klaus Chapel, Germany



1954, Le Corbusier, Notre Dame du Haut, France



2010, SANAA, Teshima Art Museum, Japan



small opening + thick wall = concentrated, directed light



angles - big changes in illumination of space

OPENINGS

- large contrasts
- big transformation over time
- frames and directs the view

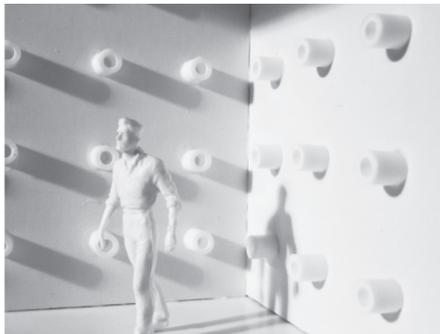
SURFACE TOPOGRAPHY



deeper topography - stronger contrasts



raking light reveals topography



SURFACE TOPOGRAPHY (+ raking light)

- large contrasts
- big transformation over time
- ephemeral effect

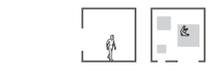
EPHIMERAL



1265 bc, Ramesses II's grave Abu Simbel, Egypt



1990, Tadao Ando, Water Temple, Japan



ephemeral darkness



shallow - close

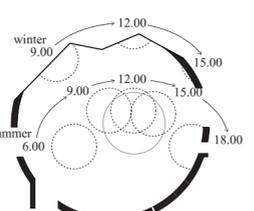


deep - more distant, more introvert

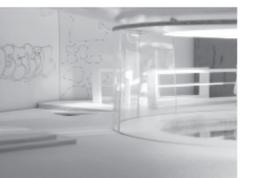


framed - distant & directed

OPENING: ROOF



7.00 reception

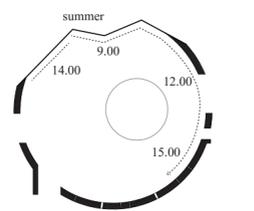


12.00 library



17.00 lecture area

RAKING LIGHT



9.00 backdrop from entrance

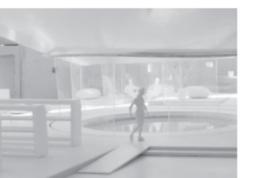
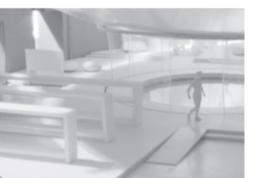
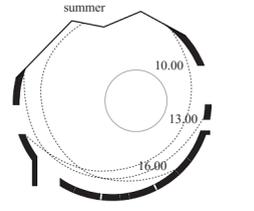


12.00 library - transparency of courtyard

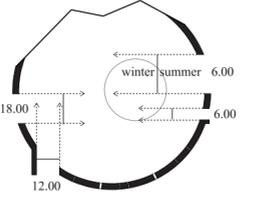


15.00 single patient therapy

LIGHT RAYS



OPENINGS: WALL



6.00 backdrop to courtyard from entrance

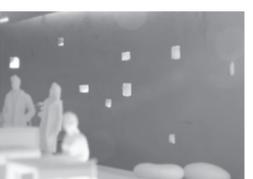
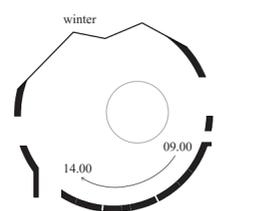


12.00 reception & dining area

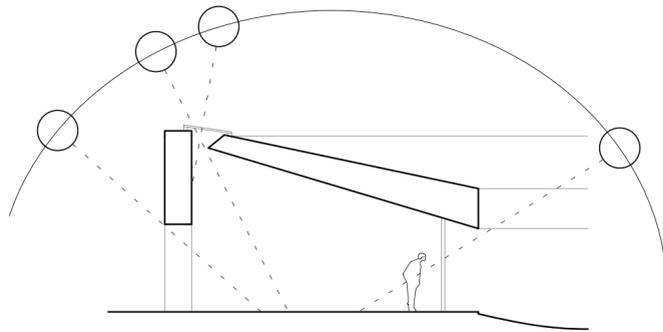


18.00 dining area

OPENINGS: SMALL & DIRECTIONAL

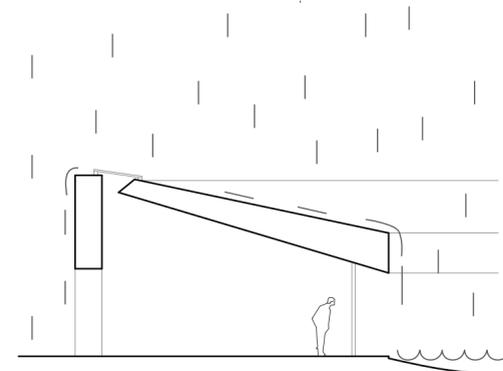


SECTION STUDIES



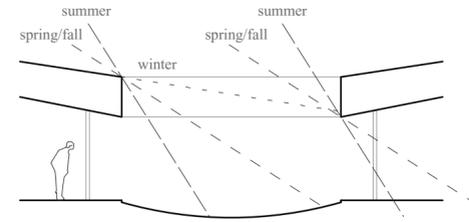
WEATHER: SUNNY

due to the circular shape the cross section is similar all throughout the building, while the difference in cardinal directions creates a variation in light patterns



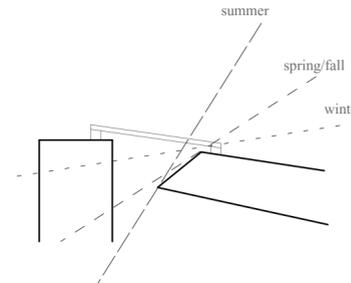
WEATHER: RAINY

when the sun doesn't shine the experience of rain is enhanced (and used for weathering) by allowing rain to run down the outer facade and directly from the roof into a pond in the courtyard, creating a thin water fall along the edges



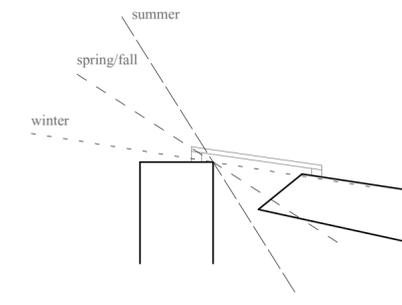
COURTYARD LIGHT

the light from the courtyard roof opening spreads further into the building during winter. at the end of december however, it will be too low to enter the building at all, resulting in ephemeral darkness



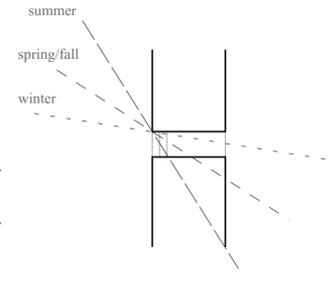
RAKING LIGHT

the raking light along the inside of the wall reaches further down in the summertime. in winter only diffuse sky light will illuminate the wall



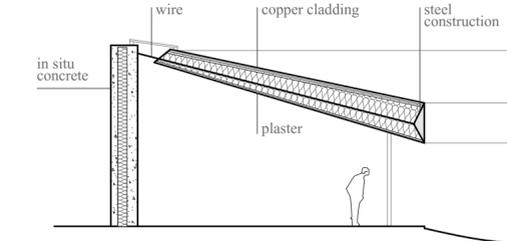
LIGHT RAYS

the light ray effects are also only present in summertime. the thin dimension of the roof at the edges prolongs the effect.



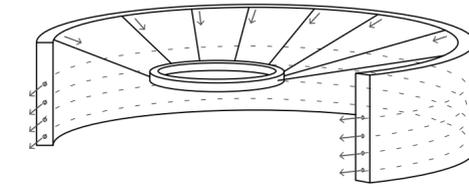
SMALL DIRECTIONAL LIGHTS

the small openings in the lobby wall are narrow and directional, limiting the time when light can shine through



CONSTRUCTION

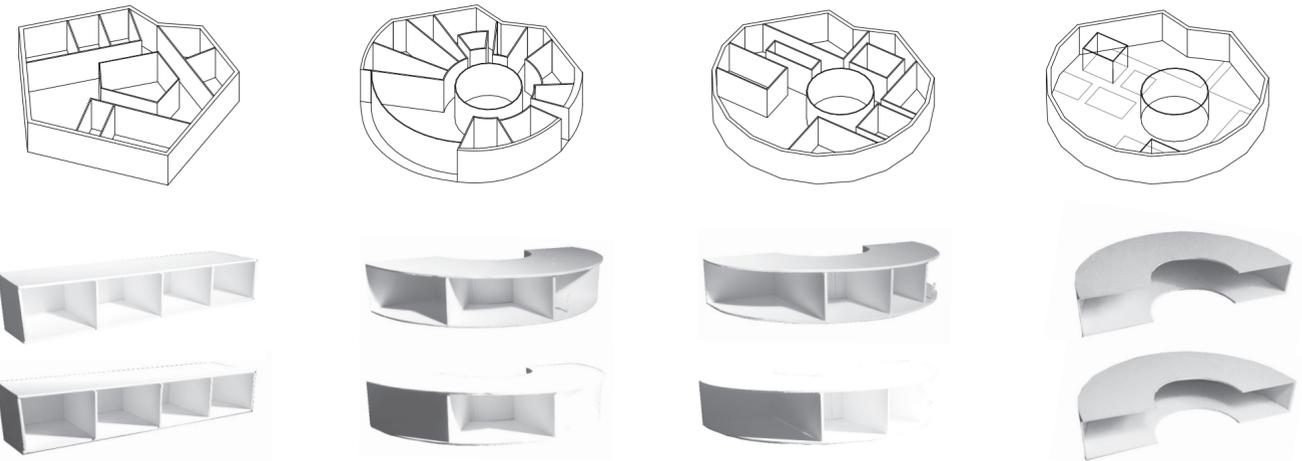
thick concrete walls carry the load of the roof, which is self-bearing to keep the main space open. the roof is constructed like the wheel of a bicycle with wires carrying a heavy circular steel construction at the centre



POST-TENSIONING

cracks are avoided by post-tensioning the concrete. the circular shape makes it possible to create a horizontal pressure which is even along the entire wall. the upper part of the wall is tensioned by the weight of the roof.

PLAN LAYOUT



STRAIGHT OUTER / PARALLEL INNER WALLS

- all rooms have the same cardinal directions
- all rooms have the same shadow pattern at the same time

CURVED OUTER / RADIAL INNER WALLS

- all rooms have different cardinal directions
- all rooms have similar shadow patterns at different times

CURVED OUTER / PARALLEL INNER WALLS

- all rooms have different cardinal directions
- every room has a unique shadow pattern

CURVED OUTER / NO INNER WALLS

- every programmatic zone has a unique shadow pattern
- the change in light can be viewed from the entire building at once

COURTYARD



SQUARE

- the square shape does not correspond to the curved outer walls, making it more of a foreign object in the building

OVAL

- the asymmetry of the shadow is a result of both the position of the sun and the asymmetry of the shape

CIRCULAR

- the asymmetry of the shadow is only a result of the angle of the sun making it more apprehensible



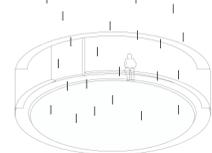
OASIS

- reflects the seasons
- blocks the view
- does not contrast to the buildings surrounding



HARD SURFACE

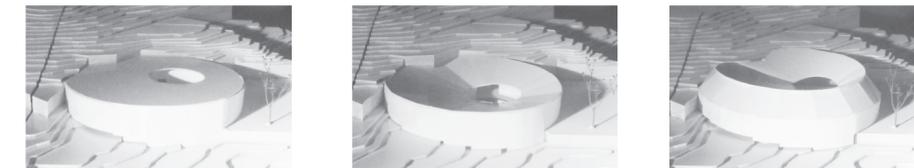
- the floor integrates the courtyard with the interior circulation space
- lack of natural elements for rehabilitational effects



WATER

- utilises the weather and seasons
- offers a different experience than the rest of the hill
- creates light reflections

ROOF DESIGN



FLAT

- does not add to the expression of the facade, the interior or the experience of the courtyard

LEAN-TO

- collects rain water to the courtyard
- creates variation in the interior
- simple graspable shape when seen from the top of the hill

PITCHED

- divides the interior space and takes focus off the courtyard
- separates the building from the terrain



VERTICAL OPENING

- results in raking light on the ceiling in wintertime
- difficult to overview the movement of the raking light
- requires a gap in the outer wall making it less introvert



HORISONTAL OPENING

- results in raking light on the inside of the wall in summertime when the light from the courtyard spreads the least
- easy to overview the movement of the raking light during the day
- illuminates the topography of the stone wall

LOAD-BEARING PRINCIPLE FOR ROOF



LOAD BEARING INNER WALLS

- the most conventional method to support the roof
- breaks up the main space and ruins overview



PILLARS AROUND COURTYARD

- the whole roof can be viewed from the interior
- the pillars break the light from the roof opening and the free fall of rain water



SELF-BEARING ROOF

- the whole roof can be viewed from the interior
- different thickness adds to the complexity of the roof

TIME + MATERIALITY

STAINING



1993, Peter Zumthor, Therme Vals, Switzerland



verdigris stains on concrete



1998, Gion Guyon, Reinhardt Museum, Switzerland



STAINING:
VERDIGRIS + RAIN

- weathering but not decay
- big transformation over time
- process accelerated by rain and solar radiation

WEAR



wooden furniture

RUST



1996, Steven Holl, Sarphatistraat Offices, Netherlands



weathering steel



1964, Eero Saarinen, John Deere HQ, USA



WEATHERING: COPPER

- big transformation over time
- corresponds to the roof of skansen kronan
- causes staining of other materials
- enhances the sound of rain

POLLUTION



1997, HdM Eberswalde Bibliothek, Germany



1955, Marcel Breuer, De Bijenkorf, Netherlands



1986, Jim Stirling, Braun HQ parking, Germany



POLLUTION: ROUGH CONCRETE

- big transformation over time
- deep surface topography collects pollution, water, mold etc.
- reflects the conditions of the site

DECOMPOSITION



bioplastic



natural wood new/old

CYCLIC



graffiti



thermochromic paint



CYCLIC VEGETATION: IVY

- big transformation over time
- reflects the seasons
- cyclic changes

REFLECTION



2010, Tham Videgård, Tree Hotel, Sweden

CONCRETE TEXTURE & HUE



diffuse skylight



direct sunlight

ROUGH WOODEN FORMWORK

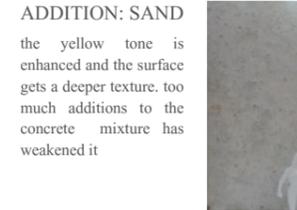
- the texture enhances the raking light, transforming the wall
- the vertical topography of the wood reveals the angularity of the light
- the natural yellow tone of the concrete is brought out by the warm direct sunlight



diffuse skylight



diffuse skylight



diffuse skylight

ADDITION: SAND
the yellow tone is enhanced and the surface gets a deeper texture. too much additions to the concrete mixture has weakened it



direct sunlight



direct sunlight

ADDITION: BLACK PIGMENT & GRAVEL

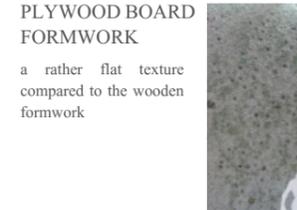
the gravel shows on the surface as small sparkling dots. large amounts of pigment is needed to colour it



direct sunlight



diffuse skylight



diffuse skylight

PLYWOOD BOARD FORMWORK

a rather flat texture compared to the wooden formwork



direct sunlight



direct sunlight

AFTER TREATMENT WITH BRUSH

results in a texture similar to plaster



direct sunlight



direct sunlight



direct sunlight

AFTER TREATMENT WITH BRUSH

a very deep texture almost resembles a stone surface



direct sunlight



direct sunlight

PLAIN CONCRETE

the natural yellow tone of the concrete is enough to enhance the warm sunlight



direct sunlight



WALL ELEVATION
1:200

OPENING: VIEW
the lecture area overlooks the private garden and offers a view of the stone wall as it continues on the outside

OPENING: PASSAGE
a shortcut into the building for patients who want to avoid the public lobby

OPENINGS: SMALL & DIRECTIONAL
the pattern of small openings in the lobby wall are just big enough to get a glimpse of the outside

OPENING: ENTRANCE
the main entrance is a deep passage that creates a physical and mental distance between the inside and the surrounding

OPENING: VIEW
the large opening in the dining space wall overlooks the green rehabilitation farming and the outdoor serving area



CONCRETE: SAWED
WOODEN FORMWORK

the inside of the building is cast with a rough formwork of sawed fir. it results in a deep texture that catches the raking light



FACADE 1:200



CONCRETE: PLAIN
WOODEN FORMWORK

the facade is cast with a plain wooden formwork which creates a smoother texture. it clearly shows the weathering, while it is still textured enough to catch moist and pollution and provide friction for mold and climbing vegetation